



सत्यमेव जयते

Annual Report 2015-16



DEPARTMENT OF AGRICULTURE, COOPERATION & FARMERS' WELFARE
Ministry of Agriculture & Farmers' Welfare
Government of India
Krishi Bhawan, New Delhi-110 001

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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 population is engaged in agriculture and allied activities (census 2011) and it contributes 17.4% to the country's Gross Value Added (current price 2014-15, 2011-12 series). Given the importance of agriculture sector, Government of India took several steps for its sustainable development. Steps have been taken to improve soil fertility on a sustainable basis through the soil health card scheme, to provide improved access to irrigation and enhanced water efficiency through Pradhanmantri Gram Sinchai Yojana, to support organic farming through Paramparagat Krishi Vikas Yojana (PKVY) and to support for creation of a unified national agriculture market to boost the incomes of farmers.

1.2 As per the land use statistics 2012-13, the total geographical area of the country is 328.7 million hectares, of which 139.9 million hectares is the reported net sown area and

194.4 million hectares is the gross cropped area with a cropping intensity of 138.9%. The net irrigated area is 66.1 million hectares.

Agriculture Gross Value Added (GVA-earlier referred as Gross Domestic Product)

1.3 Central Statistics Office (CSO), Ministry of Statistics & Programme Implementation has released the New Series of National Accounts on 30.01.2015, revising the base year from 2004-05 to 2011-12. As per the first revised estimates released by CSO on 29.01.2016, the Agriculture and Allied Sector contributed approximately 17.0% of India's Gross Value Added(GVA) at current prices during 2014-15. Gross Value Added (GVA) of Agriculture and Allied Sector and its share in total GVA of the country during the last 3 years including the current year, at 2011-12 current prices is as follows:

Share of Agriculture & Allied Sector in Total GVA

(Rs. in Crore)

Items	Year			
	2011-12	2012-13	2013-14	2014-15
GVA of Agriculture and Allied Sectors	15,01,816	16,80,797	19,02,452	19,95,251
Per cent to total GVA	18.5	18.2	18.3	17.4

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

1.4 In view of the structural change in the economy, there has been a continuous decline in the share of agriculture and allied sector in the GVA from 18.5 percent in 2011-12 to 17.4 percent in 2014-15 at current prices. A fall in the share of the agriculture and

allied sector in GVA is an expected outcome in a fast growing and structurally changing economy. Growth, over the previous year, in the Total GVA and that in the GVA of Agriculture and Allied Sector at 2011-12 basic prices is given below:

Growth in Gross Value Added (at 2011-12 basic prices)

(in percent)

Period	Total GVA	Agriculture & Allied Sector GVA
2012-13	5.4	1.5
2013-14	6.3	4.2
2014-15	7.1	-0.2

Source: Central Statistics Office, MOSPI

1.5 The Agriculture and Allied sector witnessed a growth of 1.5 per cent in 2012-13, 4.2 per cent in 2013-14 and -0.2 per cent in 2014-15 at 2011-12 basic prices.

Production Scenario 2014-15

1.6 Due to the deficient rainfall as well as unseasonal rains and hailstorms, agricultural production in 2014-15 is estimated to be lower than that in 2013-14, a year of record production.

1.7 As per 4th Advance Estimates for 2014-15, total production of rice in the country

is estimated at 104.80 million tonnes which is lower by 1.85 million tonnes than the production of rice during 2013-14. Production of wheat estimated at 88.94 million tonnes is also lower than its record production of 95.85 million tonnes during 2013-14. The production of Coarse Cereals is estimated at 41.75 million tonnes which is lower than the production of Coarse Cereals during 2013-14.

1.8 Total food grains production during 2014-15 is estimated at 252.68 million tonnes is lower by 12.36 million tonnes than the record production of 265.04 million tonnes of foodgrains achieved during 2013-14. Total production of pulses and oilseeds estimated at 17.20 million tonnes and 26.68 million tonnes respectively are also lower by 2.05 million tonnes and 6.07 million tonnes than their production levels during 2013-14. Table below gives Area, Production and Yield of major crops.

Area, production and yield of major Crops

Crops	Area (Lakh hectare)			Production (Million Tonnes)			Yield (kg/hectare)		
	2012-13	2013-14	2014-15*	2012-13	2013-14	2014-15*	2012-13	2013-14	2014-15*
Rice	427.54	441.36	438.56	105.24	106.65	104.80	2461	2416	2390
Wheat	300.03	304.73	309.69	93.51	95.85	88.94	3117	3145	2872
Coarse cereals	247.57	252.20	241.49	40.04	43.29	41.75	1617	1717	1729
Pulses	232.56	252.13	230.98	18.34	19.25	17.20	789	764	744
Foodgrains	1207.79	1250.42	1220.72	257.13	265.04	252.68	2129	2120	2070
Oilseeds	264.84	280.51	257.27	30.94	32.74	26.68	1168	1168	1037
Sugarcane	49.99	49.93	51.44	341.20	352.14	359.33	68254	70522	69857
Cotton@	119.77	119.60	130.83	34.22	35.90	35.48	486	510	461
Jute & Mesta#	8.63	8.38	8.08	10.93	11.69	11.45	2281	2512	2550

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

Production in million bales 180 Kg. each.

Rainfall 2015-16

1.9 2013-14 was a good monsoon year with record production in the agriculture sector. Thereafter, in 2014-15, rainfall was deficient by 12% of the L.P.A. and agricultural production suffered a setback. The GVA of the agriculture & allied sector in 2014-15 grew by only 0.2% over the previous year.

In the year 2015, the cumulative monsoon rainfall for the country as a whole during 1st June to 30th September, 2015 was 14% lower than Long Period Average (LPA). Rainfall in the four broad geographical divisions of the country during the above period was lower by 17% in North West India, 16% in Central India and 15% in South Peninsula and 8% in East & North East India. Out of 36 met subdivisions, 19 met subdivisions have received excess/normal rainfall and 17 met sub-divisions received deficient rainfall. Out of 614 districts, 62(10%) districts received excess, 250 (41%) districts received normal, 272

(44%) districts received deficient and 30(5%) districts received scanty rainfall during the above period.

Post-Monsoon (October-December)

1.10 During the post-monsoon season rainfall between (1st October to 31st December, 2015) country received 23% lower than the LPA. Out of 36 meteorological subdivisions, 05 received excess rainfall, 05 received normal rainfall, 08 received deficient rainfall and 18 subdivisions received scanty rainfall.

Production Scenario during Kharif 2015-16

1.11 Kharif 2015-16 also experienced poor monsoon with rainfall being 14% less than LPA. As a result the 1st Advanced estimate for 2015-16(Kharif) are lower than the estimates for 2014-15. A comparative position of production of Food grains, Oilseeds, Sugarcane and Cotton during Kharif 2015-16 vis-à-vis Kharif 2014-15 is given below:

Kharif production in 2014-15 and 2015-16

(Million Tonnes)

Crop	2014-15 (4th Advance estimate)	2015-16 (1st Advance estimate)	Absolute difference	Percentage Increase/decrease
Foodgrains	126.31	124.05	-2.26	-1.82
Oilseeds	18.33	19.89	1.56	7.84
Sugarcane	359.33	341.43	-17.90	-5.24
Cotton@	35.48	33.51	-1.97	-5.88

@ Production in million bales of 170 kg each.

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

1.12 As per 1st advance estimate for 2015-16, production of Kharif Rice, estimated at 90.61 million tonnes is marginally lower than the last year's production, but higher than the five year average production of 86.68 million tonnes. The estimated

production of Coarse Cereals is lower by 1.95 million tonnes than its production during last 2014-15. Production of Kharif Pulses is also lower by 0.06 million tonnes than the production of 5.62 million tonnes achieved during 2014-15.

Capital Formation in Agriculture and Allied Sectors

1.13 Gross Capital Formation (GCF) in Agriculture and Allied Sectors is estimated separately for public, private corporate and the household sectors. Items included in the estimates of GCF are:

- (i) Improvement of land and Irrigation works
- (ii) Laying of new orchards and plantations

- (iii) Purchase of agricultural machinery and implements
- (iv) Agriculture construction works
- (v) Additions to livestock
- (vi) Fishing boats and nets, etc.

1.14 Gross Capital Formation (GCF) in Agriculture and Allied Sector relative to GVA in this sector has been showing a steady decreasing trend from 18.3 per cent in 2011-12 to 15.1 per cent in 2012-13.

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

(Rs. in Crore)

Year	GCF in Agriculture & Allied Sectors			GVA in Agriculture & Allied Sectors	GCF as percentage of GVA		
	Public	Private	Total		Public	Private	Total
2011-12	36712	238607	275319	1505580	2.4	15.8	18.3
2012-13	36863	202915	239778	1523470	2.4	13.3	15.7
2013-14	40190	198786	238976	1579290	2.5	12.6	15.1

Source: Central Statistics Office, MOSPI

1.15 National Policy for Farmers, 2007 (NPF): Government of India approved the National Policy for Farmers in 2007. 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 centres, 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.

1.16 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 has also been constituted to monitor the progress of the Plan of Action for the operationalisation of the NPF.

1.17 Agriculture is intrinsically linked to various other sectors like road, power, irrigation, land, revenue etc. which are covered under the General Budget. It is therefore necessary to continue to maintain such linkages and hence, a separate budget for agriculture may not be feasible. The Department of Agriculture, Cooperation and Farmers Welfare is, however, setting up an Export Committee to revisit the existing National Policy for Farmers.

1.18 Pradhan Mantri Krishi Sinchayee Yojana (PMKSY): The scheme has been approved with an outlay of Rs. 50,000 crore for a period of 5 years (2015-16 to 2019-20). The major objective of PMKSY is to achieve convergence of investments in irrigation at the field level, expand cultivable area under irrigation, improve on-farm water use efficiency to reduce wastage of water, enhance the adoption of precision irrigation and other water saving technologies (More crop per drop), enhance recharge of aquifers and introduce sustainable water conservation practices etc. A sum of Rs. 5300 crore, comprising of Rs. 1800 Crore for Department of Agriculture & Cooperation, Rs. 1500 crore for Department of Land Resources and Rs. 2000 crore for Ministry of Water Resources, River Development & Ganga Rejuvenation has been provisioned in BE 2015-16.

1.19 Agricultural Credit: Government announces annual target for agriculture credit in the budget every year. Agricultural credit flow has shown consistent progress every year. Agriculture Credit of Rs. 711,621 crore was provided to the farmers against target of Rs.7,00,000 crore in 2013-14. In the year 2014-15, agriculture credit flow was Rs. 8,45,328.23 crore against the target of Rs.8,00,000 crore. Target for the year 2015-16 has been fixed at Rs.850,000 crore and achievement is Rs.6,30,243.87 crore upto 31st December, 2015 crore.

1.20 Kisan Credit Card: The Kisan Credit Card Scheme is in operation throughout the country and is implemented by Commercial Banks, Cooperative Banks and Regional Rural Banks. The scheme has facilitated in augmenting credit flow for agricultural activities. The scope of the KCC has been broad-based to include term credit and consumption needs. The KCC Scheme has since been simplified and converted into ATM enabled debit card with, inter-alia, facilities of one-time documentation, built-in cost escalation in the limit, any number of drawals within the limit etc. which eliminates the need for disbursement through camps and mitigates the vulnerability of farmers to middlemen.

CROP INSURANCE

1.21 In order to protect farmers against crop failure due to natural calamities, pests & diseases, weather conditions, Government of India had introduced the National Crop Insurance Programme (NCIP) with component schemes of Modified National Agricultural Scheme (MNAIS), Weather Based Crop Insurance Scheme (WBCIS) and Coconut Palm Insurance Scheme (CPIS). In addition, National Agricultural Insurance Scheme (NAIS) which was to be withdrawn after implementation of NCIP from Rabi 2013-14 has been extended further upto 2015-16.

1.22 The existing crop insurance schemes have recently been reviewed in consultation with various stakeholders including States/UTs. As a result of the review, a new scheme "**Pradhan Mantri Fasal Bima Yojana (PMFBY)**" has been approved for implementation from Kharif 2016 along with pilot Unified Package Insurance Scheme (UPIS) and restructured Weather Based Crop Insurance Scheme (WBCIS). Under the PMFBY, a uniform maximum

premium of only 2% will be 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 will be only 5%. The premium rates to be paid by farmers are very low and balance premium will be paid by the Government to provide full insured amount to the farmers against crop loss on account of natural calamities.

1.23 Special Rehabilitation Package for distressed farmers

- (i) A Special Rehabilitation package for 31 suicide prone districts in the four states, namely, Andhra Pradesh, Maharashtra, Karnataka and Kerala was implemented. Against the approved outlay of Rs.16978.78 crore, Rs.19,998.70 crore was sanctioned/ released under the package to these states. The implementation period of package ended on 30.9.2011. The package has stabilized the conditions of the farmers in the identified districts.
- (ii) As part of Special Rehabilitation package meant for suicide districts, two Packages were approved by the Government of India for Kerala based on the various programmes/interventions suggested by the M.S. Swaminathan Research Foundation in 2008; (i) development of Kuttanad Wetland Ecosystem with financial outlay of Rs. 1840.75 crore and (ii) mitigation of Agrarian Distress in Idukki district with financial outlay of Rs.764.65 crore. The implementation period of both packages have ended in July, 2012 and November, 2013 respectively. The Government of Kerala has been advised to implement sanctioned projects under the on-

going schemes and also to continue the activities for improving the conditions of farmers by taking various initiatives under Rashtriya Krishi Vikas Yojana and other schemes/ programmes in order to sustain the gains achieved under these packages.

1.24 Commission for Agricultural Costs and Prices: Commission for 'Agricultural Costs and Prices' (CACP), set up with a view to evolve a balanced and integrated price structure, is mandated to advise on the price policy (MSP) of 23 crops. These include seven cereal crops (paddy, wheat, jowar, bajra, maize, ragi and barley), five pulse crops (gram, tur, moong, urad and lentil), seven oilseeds (groundnut, sunflower seed, soyabean, rapeseed-mustard, safflower, nigerseed and seasmum), copra (dried coconut), cotton, raw jute and sugarcane fair and remunerative prices (FRP) instead of MSP. While recommending MSPs/FRP, CACP is called upon to ensure that the production patterns are broadly in line with the overall needs (demand) of the economy. 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 pricing policy reports, the Commission seeks views of various state governments, concerned National organizations and Ministries.

1.25 Determinants of MSP: While recommending price policy of various commodities under its mandate, the Commission keeps in mind demand and supply, cost of production, price trends in the market, both domestic and international, inter-crop price parity, terms

of trade between agricultural and non-agricultural sectors, likely implications of MSP on consumers of that product, besides ensuring optimal utilization of natural resources like land water. It may be noted that cost of production is an

important factor that goes as an input in determination of MSP but it is not the only factor that determines MSP. Thus, recommending MSPs of various crops is not a 'cost plus' pricing exercise, though cost is an important determinant of MSP.



Chapter 2

Functions and Organizational Structure

2.1 Structure: The Department of Agriculture, Cooperation & Farmers Welfare (DAC&FW) is one of the three constituent Departments of the Ministry of Agriculture & Farmers Welfare, the other two being Department of Animal Husbandry, Dairying & Fisheries (DAHD&F) and Department of Agricultural Research and Education (DARE). This Department is headed by Agriculture & Farmers Welfare Minister and is assisted by two Ministers of State. The Secretary (AC & FW) is the administrative head of the Department. The Secretary is assisted by one Principal Adviser, five Additional Secretaries including one Financial Adviser, Agriculture Commissioner, 12 Joint Secretaries including Mission Director (National Horticulture Mission) & Mission Director (National Food Security Mission), Horticulture Commissioner, Horticulture Advisor, Economic Advisor and two Deputy Director Generals. In addition, Chairman of Commission for Agriculture Costs and Prices (CACP) advises Department on pricing policies for selected agricultural crops.

2.2 The DAC&FW is organized into 27 divisions (**Annexure-2.1**) and has five attached offices and twenty-one subordinate offices (**Annexure-2.2**) which are spread across the country for coordination with state level agencies and implementation of Central Sector Schemes in their respective fields. Further, one Public Sector Undertakings, nine autonomous bodies, ten national-level cooperative organizations and two authorities (**Annexure-2.3**) are functioning under administrative control of Department.

2.3 Administrative Improvements: An Administrative Vigilance Unit (AVU) functions in the Department under a Joint Secretary, designated as Chief Vigilance Officer (CVO), to ensure a transparent, clean and corruption free work environment through surveillance, preventive and punitive measures. The complaints/allegations received in the unit are reviewed through meetings, reports/returns etc. and necessary follow-up actions are taken. Further, identification of sensitive posts in DAC&FW is also undertaken as per guidelines of Central Vigilance Commission (CVC) to enable periodical rotation of staff posted on those posts, by competent authority. AVU prepares list of Officers of doubtful integrity and Agreed List in consultation with CBI. This year Vigilance Awareness week was observed from 26th to 31st October, 2015.

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 (Administration) who not only acts as Grievance Officer of the Department but also nominated as nodal officer for monitoring redressal of public grievances received in the Department at Headquarters. One Director has been nominated as Staff Grievance Officer to deal with grievances of the employees working in the Department of Agriculture, Cooperation & Farmers Welfare for this purpose. Similar arrangements have been made at the level of all Attached and Subordinate Offices and all organizations under the administrative control of this Department in order to ensure expeditious redressal of grievances.

2.5 A SEVOTTAM Compliant “Citizens’/ Clients’ Charter” has been prepared as per latest instructions/guidelines issued by 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 2015-16 (as on 31-12-2015), 3935 applications (including physical and online) and 128 appeals seeking information under the Right to Information Act, 2005 were received in RTI/IFC and replies were sent to applicants in time.

2.7 Information and Facilitation Counter: This counter provides information in respect of Department of Agriculture, Cooperation & Farmers Welfare, D/o Animal Husbandry, Dairying & Fisheries under the Ministry of Agriculture & Farmers Welfare. During the year 2015-16, various visitors from among NGOs as well as from general public visited the counter to obtain information. Numerous telephonic calls were also received in RTI/IFC from general public to obtain information pertaining to DAC&FW and D/o AHD&F of Ministry of Agriculture & Farmers Welfare.

2.8 Progressive use of Hindi: The Department has an Official Language Implementation Committee (OLIC), chaired by Joint Secretary (Administration), to monitor 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 Official Language Implementation Committee were held regularly.

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 Committee of 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, four offices under the control of this Department, wherein 80 per cent of the officers and employees have acquired working knowledge of Hindi, was notified in the Gazette of India under Rule 10 (4) of the Official Language Rules, 1976.

2.10 Every year, the Department nominates Lower Division Clerks and Stenographers for training in Hindi Shorthand and Typing, under the Hindi Teaching Scheme of the Department of Official Language. Employees possessing a working knowledge for proficiency in Hindi were deputed to undergo training in Hindi workshop organized by the Hindi Division and CHTI, Ministry of Home Affairs, New Delhi from time to time during the year under report.

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 1-15 September 2015. On this occasion, the Honourable Minister for Agriculture & Farmers Welfare issued an appeal to all officers and staff of the Department of Agriculture, Cooperation and Farmers Welfare to do more of their official work in Hindi. During the Hindi Fortnight, various Hindi competitions, such as essay writing, noting and drafting, translation and vocabulary, poetry recitation, debate 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 winners of these competitions.

2.12 The Second Sub-Committee of the Committee of Parliament on Official Language conducted inspection of five offices of the Department of Agriculture, Cooperation and Farmers Welfare during the year. The officers of this Department were also present at these inspection meetings.

2.13 Reservation for Scheduled Castes/ Scheduled Tribes /Other Backward Castes: Department of Agriculture and Cooperation 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: A complaints committee regarding prevention of sexual harassment of women at their work place was reconstituted by the Department. This committee is chaired by a senior lady officer of the Department. The committee is represented by 5 members (excluding Chairman), which comprises of 4 women members, (two of these belongs to an NGO) and one male member of the Department. Three meetings of the Committee were held during the year. No complaint alleging harassment was received from any women employees in the Department during this period.



Chapter 3

Directorate of Economics & Statistics

3.1 Directorate of Economics and Statistics, an attached office of DAC&FW, is guided by the vision of enriching economic and statistical data and analytical inputs required by the Department of Agriculture, Cooperation & Farmers Welfare for providing better agricultural economic development policy. Its mission is to provide important statistics on area, production and yield of principal crops, Minimum Support Prices and implement schemes related to improvement of agricultural statistics, and carrying out agro-economic research. The Directorate provides inputs to DAC&FW, CACP and also places a large volume of data and information in the public domain for use of all stakeholders.

3.2 In addition to this, the Directorate coordinates with international bodies such as the Food and Agriculture Organization (FAO) on global efforts to improve agricultural statistics, as well as the Agricultural Market Information System (AMIS) initiative of the G20 members of agriculture. It is also responsible for providing necessary data to the CSO so that the country may meet its international obligations related to standards of data dissemination and contributes information on market prices of agricultural commodities that contributes to the construction of monthly WPI of the country.

Major Programmes/Activities

3.3 The Divisions of the Directorate deal with various agricultural economics and statistics related functions and also implement the

integrated scheme on Agriculture Census, Economics and Statistics.

Agricultural Statistics Division

3.4 The DES releases four advance estimates and final estimates of area, production and yield in respect of major food grains, oilseeds, sugarcane and fibres. This is based on the information received from State Agricultural Statistics Authorities (SASAs) which have been designated the nodal agencies responsible for the collection/ compilation of Agriculture Statistics in the States. In addition to the inputs received from SASAs, the division also coordinates with the Mahalonobis National Crop Forecasting Centre (MNCFCC), Space Application Centre (SAC), Ahmedabad, Institute of Economic Growth (IEG), Delhi etc. to arrive at estimates. The first advance estimates are released in the month of September. Second advance estimates are released in the month of February. By this time, the assessment for first advance estimates of rabi crops are also available. The third advance estimates are released in April/May when the State Governments are ready with better assessment of production for both Kharif and Rabi crops. The fourth advance estimates are released in July/August. By this time, most of the Rabi crops are harvested and SASAs are in a position to supply the estimates of both Kharif and Rabi seasons based on reasonable number of Crop Cutting Experiments (**Pictures- 1 and 2** related to harvesting the experimental plot and weighing the produce are given below).

The final estimates are released in the month of February of the following year. The Fourth Advance Estimates for 2014-15 were released

on 17.08.2015 and First Advance Estimates for 2015-16 were released on 16.09.2015 (**Annexure-3.1**).

Harvesting the experimental plot for crop cutting



Weighing the Produce



Cost Study Division

3.5 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 matters relating to this work including answering parliament questions, generation of datasets for the CACP for the purpose of working out 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 the various inputs which are used for the cultivation of crop.

Food Economics and Commercial Crops Divisions

3.6 Food Economics Division examines the Kharif and Rabi price policy reports of CACP and Commercial Crops Division examines the reports concerning copra and jute. 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) in each season for major agricultural commodities and organizes purchase operations through public and cooperative agencies. The designated central nodal agencies intervene in the market for undertaking procurement operations with the objective that the market prices do not fall below the MSPs fixed by the Government.

3.7 The Government decides on the support price for various agricultural commodities taking into account the recommendations of the Commission for Agricultural Costs & Prices (CACP), views of the State Governments and concerned Ministries/ Departments as well as such other relevant factors which are considered important for fixation of support prices.

3.8 The Government has fixed the Minimum Support Prices for Kharif and Rabi crops of 2015-16 Seasons. The MSP of Paddy (common) has been fixed at Rs. 1410 per quintal and of Paddy (Grade A) at Rs. 1450 per quintal, an increase of Rs. 50 per quintal each over the last year's MSPs. The MSP of Jowar (Hybrid) has been fixed at Rs. 1570 per quintal and Rs. 1590 per quintal for Jowar (Maldandi); Bajra at Rs. 1275 per quintal and of Maize at Rs. 1325 per quintal. The MSPs of Ragi, Urad, Sunflower Seed and Nigerseed have been fixed at Rs. 1650 per quintal, Rs. 4425 per quintal, Rs. 3800 per quintal and 3650 per quintal respectively. The MSP of Groundnuts – in - Shell has been fixed at Rs. 4030/- per quintal; and of Soyabean (Yellow) has been fixed at Rs. 2600 per quintal. The MSP of Cotton has been raised by Rs. 50 per quintal and fixed at Rs. 3800 per quintal for Medium Staple length (mm) and at Rs. 4100 per quintal for Long Staple. The MSPs of Arhar (Tur) and Moong has been fixed at Rs. 4425 and Rs. 4650 per quintal respectively. In addition, bonus of Rs. 200 per quintal is payable over and above the Minimum Support Price of Arhar (Tur) and Moong.

3.9 The MSP of wheat has been fixed at Rs. 1525 per quintal marking an increase of Rs. 75 per quintal over the last year's MSP. The MSP of Barley has been fixed at Rs. 1225 per quintal marking an increase of Rs. 75 per quintal over the last year's MSP. The MSP of Gram and Masur (Lentil) has been fixed at Rs. 3425 per quintal and Rs. 3325 per quintal

respectively marking an increase of Rs.250 per quintal each over their last year's MSPs. In addition, bonus of Rs 75 per quintal is payable over and above the Minimum Support Price of Gram and Masur (Lentil). The MSPs of Rapeseed/Mustard and Safflower have been increased by Rs. 250 per quintal each over the last year's MSPs and have been fixed at Rs. 3350 and Rs. 3300/- per quintal respectively.

3.10 The Government has fixed the Minimum Support Price (MSP) for Copra for 2016 season at Rs. 5950 per quintal for Fair Average Quality (FAQ) variety of Milling Copra and Rs. 6240 per quintal for FAQ variety of Ball Copra. The Government has also fixed MSP for Raw Jute for 2015-16 season at Rs. 2700 per quintal for TDN3 (equivalent to TD5 variety) as against Rs. 2400 per quintal during the last year. The Government has increased the MSP for Toria of Fair Average Quality for 2015-16 season to the level of Rs. 3290 per quintal to be marketed in 2016-17. A statement showing MSPs announced in recent years is given at **Annexure-3.2**.

Special Data Dissemination Standards (SDDS) Division

3.11 The Division generates quarterly estimates of agricultural production for use in the 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. The Division is also 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

titled 'Land Use Statistics', and 'Agricultural Statistics at a Glance'. The compiled data on Land Use Statistics (District wise and State-wise) from 1998-99 to 2012-13 are available on the website <http://lus.dacnet.nic.in>. Similarly, the district wise compiled data on Area, Production and Yield (APY) from 1998-99 to 2012-13 are also available on the website <http://apy.dacnet.nic.in>.

In order to strengthen procurement of pulses and oilseeds, Food Corporation of India (FCI) has been designated as the central Nodal Agency for procurement of pulses and oilseeds from Kharif 2015-16. To supplement the efforts of FCI, the National Agricultural Cooperative Marketing Federation of India limited (NAFED), National Cooperative Consumers' Federation (NCCF), Central Warehousing Corporation (CWC) and Small Farmers Agri-Business Consortium (SFAC) will also undertake procurement of oilseeds and pulses as per their capacity.

Agro-Economic Research (AER) Division

3.12 The DAC&FW as well as other related Departments/Ministries require policy inputs on the emerging issues and feedback on impact of ongoing schemes. This requirement is addressed by the Agro-Economic Research (AER) Division at DES which implements the Agro-Economic Research (AER) Scheme with help of a network of 15 AER Centres/Units located across the country. These centres conduct research studies in the field of agricultural economy. The AER Division has the following objectives:

- (i) Identifying the Areas for Agro-Economic Research
- (ii) Monitoring/supervising research studies awarded to the AER Centres/Units and

- (iii) Administering grants-in-aid to the AER Centres/Units for conducting the studies.

Market Intelligence & Price Analysis Division

Wholesale Prices

3.13 The Division provides necessary market intelligence to the DAC&FW. Wholesale prices of 154 selected agricultural commodities are compiled on a weekly basis from approximately 700 market centres spread all over the country. Of these, weekly wholesale prices of 80 agricultural commodities from 153 market/ centres spread all over the country are provided to Office of the Economic Adviser, Ministry of Commerce & Industry for construction of monthly Wholesale Prices Index (WPI).

3.14 Monthly wholesale prices of certain agricultural commodities and animal husbandry products at selected market/ centres in India and also international prices of selected agricultural prices are published in monthly journal, viz. Agricultural Situation in India.

A publication "Agricultural Prices in India" is prepared which contains statistics on wholesale prices and retail prices of selected agricultural commodities.

Farm Harvest Prices

3.15 The Division also collects and compiles data on farm harvest prices of 30 major crops from 30 States/Union Territories. These are obtained from State Agricultural Departments/ Directorate of Economics & Statistics/ Directorate of Land Records, etc of respective states. A publication "Farm Harvest Prices of Principal Crops in India" is prepared in the Division.

Retail Prices

3.16 Weekly retail prices of 45 essential food items from 87 market centres spread all over the country are also collected (once a week) and compiled in the Division.

Terms of Trade (ToT)

3.17 Index of Terms of Trade (ToT) between Agriculture and Non-agricultural Sectors is also prepared on annual basis as per the methodology recommended by the Working Group headed by Prof. S. MahendraDev, Director, Indira Gandhi Institute of Development Research (IGIDR), Mumbai. This Index is to be used as an input for price policy formulation of agricultural crops by Commission for Agricultural Costs and Prices (CACP).

Agricultural Marketing Information Systems (AMIS)

In order to track global food availability, Food and Agricultural Organisation prepares a Food Balance Sheet, where inputs on production, trade feed, seed, use and wastage of wheat, rice, maize and soya bean are provided by global players. The DES provides this information every month to FAO in the required format and contributes in any discussions they have on Agricultural Marketing Information Systems.

Agricultural Wages Division

3.18 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 (IAC) and Publication Division

3.19 International Agriculture Division is concerned with preparing comments on international issues pertaining to agriculture sector dealt by various bilateral and multilateral organizations like G-20, FAO, WTO, BRICS, etc. These Divisions also carry out compilation and manuscript-preparation works related to the publications and they are available on the website at www.agricoop.nic.in & <http://eands.dacnet.nic.in>. The following publications are being brought out:

- (1) Agricultural Statistics at a Glance
- (2) Pocket Book of Agricultural Statistics
- (3) Agricultural Situation in India
- (4) Land Use Statistics
- (5) Agricultural Prices in India
- (6) District wise Area and Production of Principal Crops in India-available on website only.
- (7) Farm Harvest Prices of Principal crops in India
- (8) State of Indian Agriculture

Coordination

3.20 The Coordination Division's main work is to coordinate between the Department of Agriculture, Cooperation & Farmers Welfare and Directorate of Economics & Statistics in matters relating to various issues. Its main activities include DAC&FW level Coordination for preparing Economic Survey Chapter on Agriculture & Food Management, routine matters wherein several Divisions of DES and those of DAC&FW are involved, preparation of material for Annual Report, providing information on release and utilization of funds under plan schemes, Parliament Questions etc.

Plan Scheme

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

Comprehensive Scheme for studying the Cost of Cultivation of principal crops in India

3.22 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 estimate crop-wise and State-wise cost of cultivation and production of crops.

3.23 The scheme implemented through 16 Agricultural/Central Universities/ Colleges and work out the estimates of cost of cultivation/ production in respect of these crops and transmits it to the CACP so as to enable them to recommend the Minimum Support Prices to the Government of India. The data generated under this scheme is also being used by various Central Ministries and State Governments in their policy formulations and also by researchers both at domestic and international levels.

3.24 The cost estimates generated under the scheme are also used for policy formulations by the Central / State Governments. Agricultural / General Universities, Government / Non - Government Research Organizations, individual researchers, etc. are also using the data for research purpose subject to permission of the DES, Department

of Agriculture, Cooperation and Farmers Welfare.

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

During the block period 2014-17, the scheme covers 25 principal crops i.e. paddy, wheat, jowar, bajra, maize, ragi, barley, moong, urad, arhar, gram, lentil, groundnut, rapeseed and mustard, nigerseed, soyabean, sunflower, sesamum, cotton, jute, sugarcane, onion, potato, safflower and coconut.

3.26 The field data are collected on the Cost Accounting Method by the 16 implementing agencies. Under the scheme, daily entries of debit/credit for expenditure/income are made in order to assess the total cost/benefit incurred/accrued to each sample farmer. The field data is collected by field-men who fill-up/updates the detailed questionnaire through direct interaction with the sample farmers of 10 selected farm holdings. These consist of 2 each from 5 different size classes viz. up to 1 hectare, 1-2 hectare, 2-4 hectare, 4-6 hectare and above 6 hectare allotted to each fieldman.

Out of 156 cost estimates, 40 for Rabi, 88 for Kharif, 7 for sugarcane and 21 for others were generated in respect of 27 crops.

Development of FARMAP 2.0 Software:

The Directorate is in the process of development of web enabled FARMAP 2.0 software with the help of NIC. It will be utilized for online collection, compilation of cost data and generation of reports. FARMAP 2.0 software will be helpful in monitoring and supervision of online data collection and will also reduce the time lag in generation of cost estimates. It is targeted to roll out the FARMAP 2.0 software from the year 2016-17.

National Workshop:

Three days National Workshop on "Comprehensive Scheme for Studying the Cost of Cultivation of Principal Crops in India" was organized on October, 14-16, 2015, at Orissa University of Agriculture & Technology, Odisha. The main objective of the workshop was to discuss the practices being followed by Implementing Agencies in monitoring and supervision of the scheme, selection of farmers/crops for the block year 2014-2017, sample size/ discrepancies/inconsistencies/ abnormal variation in data submitted to DES, utilization of funds, monitoring of schemes, etc. Detailed discussion on the FARMAP 2.0 software being developed by NIC was also held. About 150 participants from all the Implementing Agencies, DES DAC&FW and NIC, participated in the workshop.

3.27 During the year 2015-16, against the allocated amount of Rs. 68.30 crore, Rs.43.77 crore has been released till 01.02.2016.

3.28 A committee on 'Methodological issues on Fixation of MSP' was set up by the Government under the Chairmanship of Dr. Ramesh Chand in 2013. It submitted its report on 31.03.2015. The recommendations of the committee/ report are under consideration of the Government.

Agro-Economic Research (AER) Scheme

3.29 The Agro-Economic Research (AER) Scheme, initiated in 1954-55, is a network of 15 AER Centres/Units which conduct certain research studies in the field of Agricultural Economy on yearly basis as per the needs of the Government of India. 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 Assam Agricultural University, Jorhat for conducting studies on various agricultural issues and problems of the North-Eastern States.

3.30 The scheme is staff oriented and 100% funded through Grants-in-Aid by Government of India, Ministry of Agriculture & Farmers Welfare. During 12th Plan, the "Agro-Economic Research (AER) Scheme" an independent component is being funded under the "Integrated Scheme on Agriculture Census, Economics and Statistics" of Central Sector Plan Scheme.

3.31 The Department of Agriculture, Cooperation & Farmers Welfare, Ministry of Agriculture & Farmers Welfare has setup a Review Committee under the Chairmanship of Dr. S.M. Jharwal, Chancellor, Indira Gandhi National Tribal University to examine the various aspects of Agro-Economic Research Centres including the decision for discontinuation of grants-in-aid to the Agro-Economic Research Centres after the 12th Five Year Plan.

3.32 On an average, about 30-35 research studies are completed annually by these Centres, which relate to various economic issues in agriculture, animal husbandry, water management, fisheries & horticulture, food processing, rural development, non-farm sector employment, etc. During Twelfth Five Year Plan, 99 studies have been completed upto the year 2014-15. In the current financial year 2015-16, 21 studies have been completed till January, 2016 (**Annexure-3.3**).

3.33 For the Current Financial Year 2015-16 an allocation of Rs. 2204.00 crore (BE) is budgeted (including Rs. 204 lakh for Northeast regions); out of which Rs. 1294.18 lakh has been released (including Rs. 87.96 lakh for Northeast regions) by December, 2015.

Planning, Management and Policy Formulation

3.34 In order to assess the impact of changes on the farm economy with focus on the state of Indian farmers, Planning and Management of Agriculture, a Central Sector Scheme, was formulated during 1998-99 with a view to organizing conferences and seminars involving eminent economists, agricultural scientist, experts, etc., to conduct short term studies, engage consultancy services for preparation of 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 recommendations of the workshops, seminars, conferences, etc. For the year 2015-16, an allocation of Rs.30.00 lakh (RE) was made, out of which an amount of Rs. 13.25 lakh has been released upto December, 2015.

Improvement of Agricultural Statistics

3.35 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) Establishment of an Agency for Reporting of Agricultural Statistics (EARAS), iii) Improvement of Crop Statistics (ICS). From 2007-08 the scheme has been converted to Central Sector Scheme from Centrally Sponsored Scheme and is funded 100 percent by the Central Government. The Component-wise details of the scheme are as under:

3.36 **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 also Union Territories of Delhi and Puducherry.

3.37 **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 and crop cutting experiments of 10,000 villages and approximately 30,000 experiments at harvest stage are undertaken. These sample are equally shared by the Central Agency i.e. National Sample Survey Organization; 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 of the Area under each crop recorded in Khasra Register of villages; and (c) Supervision of Crop Cutting Experiments at the harvest stage. This component is being implemented in all TRS states and the Union Territory of Puducherry. The performance of the implementation of this component also is being closely monitored through Quarterly and Seasonal progress Reports.

3.38 **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 thorough quarterly and seasonal progress reports.

Pilot study to IASRI

In order to implement the recommendations of Professor Vaidyanathan Committee, set up by the Government for improving agricultural statistics and to examine use of remotesensing applications in agricultural statistics, after the approval of CCEA, the Government has entrusted a pilot study to Indian Agricultural Statistics Research Institute, PUSA, New Delhi. The basic objective of the study will be to examine the reliability of estimates of crop area and production at state and national level on the basis of sample sizes recommended by the Vaidyanathan Committee report. The study will be conducted in five States namely Assam, Gujarat, Karnataka, Orisa and Uttar Pradesh in a period of two years.

3.39 For the financial year 2015-16 under Improvement of Agricultural Statistics Scheme against total allocation of Rs. 126.00 crores, (BE) Rs. 59.59 crore have been released till 31st October 2015.

Forecasting Agricultural Output using Space Agro Meteorology and Land Based Observations (FASAL)

3.40 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 2007 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 forecast based on Agromet, Econometric and Remote Sensing based methodology. The mandate of FASAL scheme is to generate crop forecast in respect of 11 crops, namely; Rice (Kharif & Rabi), Jowar (Kharif & Rabi), Maize, Bajra, Jute, Ragi, Cotton, Sugarcane and Groundnut (Kharif & Rabi), Rapeseed & Mustard and Wheat. Presently, the forecasts in respect of 8 crops are being prepared.

Extended Range Forecast System

Department of Agriculture, Cooperation and Farmers Welfare has sponsored a project entitled "**Department and Application of Extended Range Forecast System for climate Risk Management in Agriculture (ERFS)**" since 2007 in collaboration with other partner organizations viz. IIT, Bhubneshwar, India Meteorological Department (IMD), National Centre For Medium Range Weather Forecast (NCMRWF), Space Application Centre

(SAC) Ahmedabad and Indian Council of Agriculture Research (ICAR).

Deterministic and Probabilistic rainfall and temperature forecast for metrological sub-divisions of India at monthly and seasonal scale are generated under the ERFS project. These forecasts are disseminated to Agricultural Universities which in turn prepare the advisories to be issued to the group of selected farmers.

For the purpose of further refinement and improving the approaches to anticipate and manage the weather associated crop production losses by treating monsoon aberrations as an intrinsic risk to agriculture, a training programme entitled "**Training on Development of Climatic Risk Management tools in Agriculture using Extended Range Forecast**" was conducted during 15-20 December, 2015 at IIT, Bhubneshwar in collaboration with IMD. The training was attended by the end users from different Indian Agriculture Universities and Institutes. This training also helped in developing risk management tools by using disaggregated spatial and temporal scale ERFS forecast to predict the crop yield for preparation of advisories on extended range of forecast for the farming community. The training concluded with a motivation to the participants to run the crop models for their region with different crops and sensitivity experiments using the ERFS. The feedback obtained from the end users in the training will be utilized for further improvement of ERFS.

3.41 In the current financial year 2015-16, out of Budget Estimates (BE) of Rs. 12.00 crore and Revised Estimates (RE) of Rs. 11.06 crore under the FASAL scheme, the expenditure has been of Rs. 9.31 crore till 31st January, 2016.

Chapter 4

National Food Security Mission

4.1 **National Food Security Mission** was launched in 2007-08 to increase the production of rice, wheat and pulses by 10, 8 and 2 million tonnes respectively by the end of 11th Plan through area expansion and productivity enhancement; restoring soil fertility and productivity; creating employment opportunities; and enhancing farm level economy. The Mission is being continued during 12th Five Year Plan with new target of additional production of 25 million tonnes of food grains comprising of 10 million tonnes rice, 8 million tonnes of wheat, 4 million tonnes of pulses and 3 million tonnes of coarse cereals by the end of 12th Plan and promotion of commercial crops like cotton, jute & sugarcane.

4.2 The basic strategy of the Mission is to promote and extend improved technologies, i.e., seed, micronutrients, soil amendments, integrated pest management, farm machinery and implements, irrigation devices resource conservation along with capacity building of farmers. The major interventions/activities covered under NFSM include cluster demonstrations of rice, wheat, pulses and coarse cereals, distribution of improved varieties/hybrid seeds, need based plant and soil management, resource conservation techniques / energy management, efficient water/application tools, cropping system based trainings and local initiatives; award for best performing districts etc.



4.3 During 12th Plan, in 2015-16, NFSM is implemented in 623 districts of 28 states. NFSM-Rice is implemented in 194 districts of 25 states viz. Andhra Pradesh, Arunachal Pradesh, Assam, Bihar, Chhattisgarh, Gujarat, Himachal Pradesh, Jammu & Kashmir, Jharkhand, Karnataka, Kerala, Madhya Pradesh, Maharashtra, Manipur, Meghalaya, Mizoram, Nagaland, Odisha, Sikkim, Tamil Nadu, Telangana, Tripura, Uttar Pradesh, Uttarakhand and West Bengal; NFSM-Wheat in 126 districts of 11 states viz., Bihar, Gujarat, Haryana, Himachal Pradesh, Jammu & Kashmir, Madhya Pradesh, Maharashtra, Punjab, Rajasthan, Uttar Pradesh and Uttarakhand; NFSM- Pulses in 622 districts of all 27 States viz. Andhra Pradesh, Arunachal Pradesh, Assam, Bihar, Chhattisgarh, Gujarat, Haryana, Himachal Pradesh, Jammu & Kashmir, Jharkhand, Karnataka, Madhya Pradesh, Maharashtra, Manipur, Meghalaya, Mizoram, Nagaland, Odisha, Punjab, Rajasthan, Sikkim, Tamil Nadu, Telangana, Tripura, Uttar Pradesh, Uttarakhand and West Bengal ; NFSM-Coarse cereals in 265 districts of all 28 States ; Additional Area coverage for increasing Pulses production during Rabi/Summer in 24 NFSM-Pulses States. Besides, 7 North Eastern States have also been covered under Additional area coverage for increasing Coarse cereals production during Rabi, 2015-16. Till 2014-15 the programme was implemented on 100 % GOI assistance. However, from the year 2015-16, the programme is being implemented on 60:40 sharing basis between GOI and States and 90:10 sharing basis in NE (8 States) and 3 Hill States.

Monitoring & Evaluation

4.4 **Monitoring & Evaluation at National level:** A three-tier monitoring mechanism

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

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

4.6 The Mid-Term Evaluation of NFSM was conducted by an independent agency to assess the impact of the programme in increasing the productivity of rice, wheat, pulses and enhancement of farm income. The finding of the Mid-Term Evaluation revealed that NFSM has helped to widen the food basket of the country with significant contribution coming from the NFSM districts. Significant outputs were recorded under NFSM since inception of the programme in 2007-08. The Mission accomplished the target of additional production of 20 million tonnes within 4 years of its implementation.



4.7 The final evaluation of NFSM was assigned to independent agency to assess the impact of technological interventions of the programme in increasing the productivity of rice, wheat and pulses etc.

Initiatives under 12th Plan:

4.8 From the year 2012-13, six North Eastern states, viz, Arunachal Pradesh, Manipur, Meghalaya, Mizoram, Nagaland and Sikkim were included under NFSM-Rice and Hill States, viz, Himachal Pradesh and Uttarakhand under NFSM-Rice & Wheat and Jammu & Kashmir under NFSM-Wheat.

4.9 **Interventions during 2014-15:** Recommended agronomic practices have been encouraged through Cluster demonstrations/ Frontline demonstrations/ in 14.38 lakh ha area. Nearly, 20.11 lakh quintals of high yielding varieties/ hybrid rice, wheat, pulses & coarse cereals have been distributed. 22.53

lakh ha area has been treated with soil ameliorants (Micronutrients/Gypsum/Lime/Biofertilizers) to restore soil fertility. 13.57 lakh ha area has been covered under Integrated Pest Management (IPM). Nearly 3.48 lakh numbers of improved farm machineries including pumpset & mobile raingun have been distributed. 0.34 lakh ha area has been covered under sprinklers. 207.83 lakh meter water carrying pipes have been distributed. About 6668 number of cropping system based trainings were conducted for capacity building of farmers.

4.10 A programme on Additional Area coverage for increasing Pulses production during Rabi/Summer 2015-16 has been launched with an allocation of Rs. 440.00 crores to increase production of rabi/summer pulses through area expansion of Rabi Pigeonpea, Gram, Pea and Lentil during Rabi and Green Gram and Black Gram during summer. The additional allocation for implementation of the above

said programme has been made to 24 States covered under NFSM-Pulses.

4.11 Revamped NFSM from 2014-15: Cabinet Committee of Economic Affairs had cleared the continuation of NFSM programme in the 12th Plan with approved outlay of Rs.12,350 crores with addition of coarse cereals and commercial crops.

4.12 Cropping system based implementation of package of practices in compact blocks in cluster approach in low productivity areas of States are being undertaken.

4.13 Government of India has approved implementation of crop development programme on cotton, jute and sugarcane for enhancing production & productivity of these crops under National Food Security Mission (NFSM)-Commercial Crops (CC) w.e.f. 2014-15. As per the administrative approval, the States have been asked to extend 30% of funds to the Women farmers & beneficiaries and 16% and 8% of allocation for the scheme is targeted for SC & ST farmers under Special Component Plan (SCP) and Tribal Sub Plan (TSP) respectively. Government of India has approved implementation of crops developmental programme under the National Food Security Mission (Commercial Crops) by following cropping system approach for cotton, jute and sugarcane crops to encourage farmers and improve the productivity of these crops. This would be possible through use of proper crop rotation, multiple cropping systems, intercropping etc. Under the NFSM-CC, an allocation of Rs. 5204 lakh, has been made during 2015-16. This includes Rs. 4640.00 lakh (Rs. 1381 lakh for Sugarcane, Rs. 1673.00 lakh for Cotton & Rs. 1586.00 lakh for Jute) for States which would be implemented with sharing pattern between Centre Government and State Government 50:50. Vide revised Administrative Approval dated 12.11.2015

the sharing pattern between Centre and State Government 50:50 to 60:40 for general category States & 90:10 for NE and 3 Himalayan states and Rs. 564.10 lakh for Central Agencies implemented with 100% funding by centre.

4.14 Outcome of NFSM since inception: The focused and target oriented implementation of mission initiatives has resulted in bumper production of wheat, rice and pulses in the country. During 2013-14, the productions of rice, wheat and pulses have been achieved at the level of 106.65 million tonnes, 95.85 million tonnes and 19.25 million tonnes respectively. As per Final Estimates during 2014-15, the production of wheat increased from 75.81 million tonnes in 2006-07 (pre-NFSM year) to 86.53 million tonnes, i.e. an increase of 10.72 million tonnes. Similarly, the total production of rice increased from 93.36 million tonnes in 2006-07 to 105.48 million tonnes in 2014-15 i.e. an increase of nearly 12.12 million tonnes. The total production of Pulses also increased from 14.20 million tonnes during 2006-07 to 17.15 million tonnes during 2014-15 with an increase of 2.95 million tonnes.

4.15 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. An amount of Rs. 400 crores each was allocated for the programme during 2010-11 & 2011-12 and an amount of Rs. 1000 crores each during 2012-13 to 2014-15. Till 2014-15 the programme was implemented on 100 % GOI assistance. However, from the year 2015-16, the programme is being implemented on 60:40 sharing basis between GOI and States and

90:10 sharing basis in NE State (Assam). An amount of Rs. 512.50 crore as central share has been earmarked for implementation of the programme during 2015-16.

4.16 Under this programme, interventions like: (i) block demonstrations of rice and wheat in cluster mode; (ii) asset building activities such as construction of shallow tube, Dug well / Bore well, promotion of farm implements like seed drill, pumpset, cono-weeder, drum seeder and other need based farm implementation for cultivation of Rice/ wheat as per NFSM-Rice/ Wheat; (iii) need based site specific activities and (iv) Marketing support are also included.

4.17 During 2014-15, demonstrations on rice were conducted in 5.92 lakh ha area under upland, shallow water, medium water and deep water conditions using high yielding varieties, hybrid rice, Direct seeded Rice (DSR). Similarly, 0.78 lakh ha was covered under wheat demonstration. Under asset building component, 670 bore wells and 21149 Shallow Tube Wells were installed, 173 Drum Seeder, 19 Zero till Seed Drill, 66 Seed Drill, 419 Self Propelled Paddy Transplanter, 59074 Pump set, 14617 Conoweeder, 28937 Manual Sprayer, 1335 Power Knap Sack Sprayer, 21 Power Weeder, 4961 Paddy Thresher, 2760 Multi crop Thresher, 1 rotavator, 35 tractor, 1026 Power Tiller, 59 Power reaper, 8753 Puddle Paddy Thresher, 1807 PVC Delivery Pipe, 40 Wheel hoe, 36 SRI Maker, 1 Seed Bin, 504 Set of small implements and 42 Power Sprayer were distributed. For site-specific activities, 1940 STW with Electric Motor (2HP), 443 check Dam, 8 MIT, 96 Community Surface lift irrigation project, 63 Div weir, 87 WHS (OWDM), 92966.05 RMT of construction of irrigation channel and 4544 Farm Ponds were constructed and 22 cluster Deep Bore Well, 25 Cluster shallow tube well, 17177 Boring, 1950 STW with 5 HP Diesel Pumps

were installed and 1854 Low lift Pump, 4520 Pumpset were distributed For marketing support, 14 number of 100 MT Godown (100 % assistance), 23 No of marketing shed (40 X 21.66') (100 % assistance), 421 community threshing floor, 3 storage Godown, 69 community farm storage building and 8000 improved low cost paddy and grain storage were constructed and 18 Rubber Roll Sheller, 7500 Farm family level paddy processing unit and 7000 No of Manually operated grain drier with paddy husk were distributed.

4.18 Crop Diversification Programme in Original Green Revolution States: The Crop Diversification Programme is being implemented as a sub scheme of Rashtriya Krishi Vikas Yojana(RKVY) in Punjab, Haryana and Western Uttar Pradesh since 2013-14 to diversify cropping pattern from water guzzling paddy to pulses, oilseeds, maize and agro forestry with the objective of tackling the problem of declining of soil fertility and depleting water table in these States. The scheme is in operation in 22 districts of Punjab, 10 districts of Haryana and 18 districts of Western Uttar Pradesh during 2014-15. In order to encourage tobacco growing farmers to shift to alternate crops/ cropping systems, a component under Crop Diversification Programme, an ongoing sub scheme of Rashtriya Krishi Vikas Yojana (RKVY) has been included. The tentative allocation of Rs. 25.00 crore as a central share has been additionally proposed to diversify tobacco in State of Andhra Pradesh, Bihar, Gujarat, Karnataka, Maharashtra, Odisha, Tamil Nadu, Telangana, Uttar Pradesh and West Bengal w.e.f. 2015-16. An amount of Rs. 500.00 crore & Rs. 250.00 crore were allocated for the programme in original Green Revolution states(Punjab, Haryana and Western Uttar Pradesh) during year 2013-14 & 2014-15 on 100 % GOI assistance. It is continued during year 2015-16 also



with financial allocation of Rs. 150 crore as a Central share (Rs. 125.00 crore for CDP in Original Green Revolution States and Rs. 25.00 crore for replacing tobacco farming with alternate crops/cropping system) have been allocated.

4.19 Interventions during 2014-15: Cluster demonstrations of alternate crops, farm mechanization & value addition, site-specific activities and awareness campaigns/training programmes are the major interventions of the programme. The scheme has encouraged farmers to adopt alternate crops in place of paddy in original Green Revolution states (Punjab, Haryana and Western Uttar Pradesh). Under CDP cluster demonstration on alternate crops like maize, pulses, oilseeds, guar, basmati rice, cotton, poplar, poplar/eucalyptus based agro forestry and inter cropping with already established agro-forestry system were conducted in 1,67,410 ha area. In Punjab, major achievements was on distribution of farm machinery/equipments like 8010 rotavator, 15 maize harvesting

combine, 40 happy seeder, 100 DSR drill-cum planter, 380 laser land leveler, 2000 Seed drill/Zero till drill/Spatial zero till drill DSR drill cum planter, 38 sub soiler, 7750 power operated spray pumps, 2415 battery powered sprayers, 201 tractor operated hydraulic sprayers, 65 hydraulic plough/MB plough, 18 multi-crop thresher, 19 maize sheller, 3 mechanical cotton pickers and 1 cotton cleaner during 2014-15. For site specific activities, 3,15,110 soil samples were analyzed

besides distribution of 2428 ha underground pipeline system and dhainchaseed for 80,000 ha. Cropping system based training and exposure (intra & inter) were organized under awareness activities. In Haryana, 1026 tractor operated sprayer, 1531 zero till seed cum fertilizer drill, 937 laser land leveler, 5058 rotavator were distributed under farm mechanization & value addition. For site-specific activities, 19095 ha underground pipeline were given to the farmers. Under awareness activities 1 State, 5 district and 35 block level Kisan Mela were organized during 2014-15. In Western UP, 4188 battery/power operated sprayer, 1217 multi crop thresher, 1518 manual sprayer/knap sack sprayer, 5051 rotavator, 272 zero till seed drill and 39 power weeder distributed under farm mechanization & value addition. For site-specific activities, 4442 pump set and 126 sets of 600m water carrying pipes were given to the farmers. Under awareness activities 87 trainings for trainers and 409 training for farmers were organized during 2014-15.

Chapter 5

Mission for Integrated Development of Horticulture (MIDH)

Progress of Horticulture during XII Plan

5.1 During XII Plan, with effect from 2014-15 Department of Agriculture Cooperation & Farmers Welfare has launched Mission for Integrated Development of Horticulture (MIDH) by subsuming schemes on horticulture viz. (i) National Horticulture Mission (NHM), (ii) Horticulture Mission for North East and Himalayan States (HMNEH), (iii) National Bamboo Mission (NBM), (iv) National Horticulture Board (NHB), (v) Coconut Development Board (CDB), (vi) Central Institute of Horticulture (CIH). Nagaland.

5.2 The budget allocation of Rs. 2000.00 crore has been earmarked for MIDH during 2015-16 which has been reduced to Rs. 1649.00 crores. As on 18th December, 2015 funds to the tune of Rs. 1112.10 crores have been released for implementation of activities under MIDH i.e Rs. 538.25 crores under NHM, Rs. 193.39 crores under HMNEH, Rs. 221.00 crores under National Horticulture Board, Rs. 110.00 crores under Coconut Development Board, Rs. 46.19 crore under National Bamboo Mission and Rs. 3.27 crore to Central Institute of Horticulture, Nagaland.

National Horticulture Mission (NHM):

5.3 This Centrally Sponsored Scheme launched in the year 2005-06 aims at the holistic development of horticulture sector by ensuring forward and backward linkage through a cluster approach with the active participation of all stake holders. 384 districts in 19 States and 4 Union Territories were covered under NHM. 16 National Level Agencies (NLAs) have also been included for providing support for developmental efforts which require inputs at the National level.

5.4 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 were major programmes implemented during 2014-15. The summary details of progress achieved so far are given below table.

Table 1: Progress under NHM (Area in lakh ha)

S. No.	Components	Unit	Progress during 2015-16 (as of 18 th Dec, 2015)
1	Nursery	No.	31
2	Area Expansion	Ha.	82121
3	Rejuvenation of old & senile orchards	Ha.	4526
4	Organic Farming	Ha.	3308
5	Integrated Pest/ Nutrient Management	Ha.	25525
6	Pack house	No.	1151
7	Cold Storage	No.	45
8	Primary/mobile processing units	No.	114
9	Market	No.	8
i	Wholesale	No.	-
ii	Rural	No.	8

5.5 Financial progress: From 2005-06 to 2014-15 an amount of Rs. 10365.86 crores have been released for implementation of the scheme, out of which an expenditure of Rs. 9556.15 crores have been reported.

5.6 During 2015-16, as on 18th December 2015, funds to the tune of Rs. 538.25 crores have been released to the implementing Agencies in the States under NHM scheme.

Horticulture Mission for North East and Himalayan States (HMNEH)

5.7 Ministry of Agriculture & Farmers Welfare, Department of Agriculture Cooperation and Farmers Welfare, Government of India has been implementing a Centrally Sponsored Scheme – “Horticulture Mission for North East and Himalayan States (HMNEH) earlier known as “Technology Mission for Integrated Development of Horticulture in North Eastern States since 2001-02. During the X plan (2003-04) the scheme was further extended to three Himalayan States namely Jammu & Kashmir, Himachal Pradesh and Uttarakhand. The Mission covers entire spectrum of horticulture, right from planting to consumption, with backward and forward linkages. With effect from 2014-15, HMNEH scheme has been subsumed under the Mission for Integrated Development of Horticulture (MIDH).

Physical Progress

5.8 During 2015-16 (As on 18th Dec, 2016), an area of 3823 ha has been covered under various horticultural crops besides 934 ha of area under old and senile orchards has been rejuvenated. An area of 3057 ha has been brought under organic farming. Under protected cultivation, an area of 58.22 ha has been covered besides 16446 ha under Integrated Pest Management, 5 Nurseries have been established and 235 (nos.) under

harvesting structures have been created. 46 PHM infrastructures and 21 rural markets have been set up.

Financial Progress

5.9 During the current financial year of 2015-16, funds to the tune of Rs. 193.39 crores have been released to the implementing Agencies in the States covered under HMNEH scheme till 18th December, 2015.

Coconut Development Board

5.10 The Coconut Development Board was established by an Act of Parliament in 1979 and came into existence on 12.01.1981. The Board is implementing various programmes for the development of coconut sector which includes action plan like production and distribution of planting material, expansion of area under coconut and integrated farming in coconut holding for productivity improvement and a technology mission on coconut. During the current financial year 2015-16, funds to the tune of Rs 110.00 crore have been released to CDB for coconut development in the country against BE of Rs. 151.00 crore.

National Horticulture Board (NHB)

5.11 The National Horticulture Board was established in 1984 as an autonomous registered society under the Department, with its headquarters in Gurgaon and 35 field offices located all over the country. Its main objectives are the creation of production hubs for commercial horticulture development, post harvest infrastructure and cold chain facilities, promotion of new technologies, introduction and promotion of new crops, and promotion of growers' associations. Funds amounting to Rs. 221.00 crores have been released to NHB during current financial year 2015-16 against BE of Rs. 340.00 crores.

The National Horticulture Board is implementing the following schemes:

5.12 Development of Commercial Horticulture through Production and Post-Harvest Management:

Under this scheme, credit linked back-ended subsidy (i) @ 40% of the total project cost limited to Rs.30.00 lakh per project in general areas and @50% of project cost limited to Rs. 37.50 lakh in NE Region, Hilly and Scheduled areas, for commercial horticulture development in open field conditions on project mode (ii) @ 50% of the total project cost limited to Rs. 56.00 lakh per project as per admissible cost norms for commercial horticulture development in open field conditions on project mode for green houses, shade net house, plastic tunnel, anti bird/hail nets & cost of planting material, credit linked back-ended subsidy and (iii) @ 35% of the cost limited to Rs. 50.75 lakhs per project in general area and @ 50% of project cost limited to Rs. 72.50 lakhs per project in NE, Hilly and Scheduled Areas is provided for the projects relating to production, Post Harvest Management (pack house, ripening chambers, refer van, retail outlets, pre-cooling units etc.) marketing and primary processing of horticulture produce.

5.13 Capital Investment Subsidy for Construction/Expansion/Modernization of Cold Storages and Storages for Horticulture Produce:

Under this scheme, credit linked back-ended subsidy @ 35% of the project cost (50% in NE, Hilly and Scheduled Areas) for capacity above 5000 MT is provided for Construction/Expansion/ Modernization of Cold Storages including Controlled Atmosphere (CA).

5.14 Under both the above schemes, the release of Subsidy need not be credit linked in North Eastern States and for the institutions like Public Sector Units, Panchayats, cooperatives, registered societies/trust and

public limited companies provided they can meet remaining share of the project cost out of their own resources. Such projects will have to be appraised by appraising agency approved by NHB.

5.15 Technology Development and Transfer for Horticulture Produce:

Under this scheme, the Board is also providing grant for popularization of identified new technologies/tools/techniques for commercialization and adoption through following programmes:

- I. Setting up of block / mother plant and root stock nursery (Area above 4 ha).
- II. Acquisition of technologies including import of planting material.
- III. Import of new machines and Tools for horticulture.
- IV. Development & Transfer of Technology.
- V. Long Distance Transport Solution
- VI. Product Promotion and Market Development Services- Horti-fairs
- VII. Exposure visit of farmers (Outside State)
- VIII. Visit Abroad for Government Officers
- IX. Organization/Participation in Seminar/symposia/workshop for development of horticulture
- X. Accreditation and Rating of Fruit Plant Nurseries

5.16 Market Information Service for Horticulture Crops:

NHB is implementing this scheme by establishing a network connecting 35 major wholesale fruit and vegetable markets in the country. The information generated under this scheme is published in the form of technical reports and bulletins and also made available online on NHB website.

5.17 Horticulture Promotion Services/ Expert Services: Under this scheme, specialized studies and surveys are carried out and study/survey reports are brought out for use by targeted beneficiaries. In addition, technical laboratories are set up or cause to be set up and also provide technical services including advisory and consultancy services.

5.18 National Agroforestry & Bamboo Mission (NABM): This scheme is being implemented in all States except Haryana in the country since 2006-07. Recently National Bamboo Mission has been converted to National Agroforestry & Bamboo Mission (NABM) w.e.f. 6th July, 2015 of which Bamboo is an integral part. The Mission envisages promoting holistic growth of bamboo sector by adopting area- based, regionally differentiated strategy and to increase the area under bamboo cultivation and marketing. Under the Mission, steps have been taken to increase the availability of quality planting material by supporting the

setting up of new nurseries, strengthening of existing tissue culture units. Besides we have also funded research project for identification of superior bamboo clumps for various bamboo species and for establishing nursery in their respective agro-ecology to have best planting stock. To address forward integration, the Mission is taking steps to strengthen marketing of bamboo products, especially those of handicrafts items. As of 31st December, 2015, funds amounting to Rs. 52.83 crores have been released by NABM to implementing States against RE of Rs. 70.00 crore.

5.19 Central Institute of Horticulture (CIH), Nagaland: During the current financial year, funds to the tune of Rs. 3.27 crore have been released to CIH, Nagaland against Budget Estimate of Rs. 9.00 crore. The comparative details of area, production and productivity of various horticulture crops during 2013-14 with reference to 2004-05 viz. pre and post NHM scenario are given in the following Table 2.

Table 2: Pre and Post NHM Scenario: Area, Production and Productivity

(Area in 000'ha, Production in 000' MT, Productivity : MT/ha)

Crop	Area			Production			Productivity	
	2004-05	2014-15	Annual Growth Rate%	2004-05	2014-15	Annual Growth Rate%	2004-05	2014-15
Fruits	5049	6110	2.10	50867	86602	7.03	10.07	14.17
Vegetables	6744	9542	4.15	101246	169478	6.74	15.01	17.76
Flowers								
Loose	118	249	11.10	659	2143	22.52	5.58	8.61
Spices	3150	3317	0.53	4001	6103	5.27	1.27	1.84
Medicinal & Aromatic Plants	131	659	40.31	159	1000	52.89	1.21	1.52
Plantations	3147	3534	1.23	9835	15575	5.84	3.13	4.41
Total	18339	23411	2.77	166767	280906	6.84	9.09	12.00

(Source: Horticulture Statistics Division, DAC&FW)

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

5.21 Horticulture crops cover an area of 23.2 million ha (m. ha) at present by registering increase of about 14.9% as compared to 20.2 m ha in 2007-08. However, with a production of about 277.7 million MT, horticulture production has witnessed an increase of about 31.6% during the period 2007-08 to 2014-15. The significant feature is that there has been improvement of productivity of horticulture crops, which increased by about 14.4% during this period. Area, production and productivity of horticulture crops during past 8 years is given in **Table 3**.

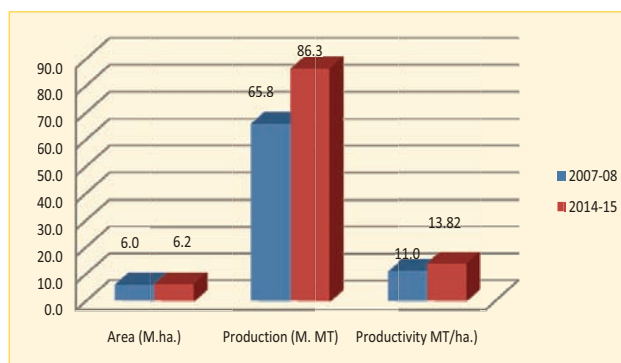
Table 3:- Area, production and productivity of horticulture crops

(Area in m.Ha, Prod. In m. MT, Pvty. MT/ha)

Year	Area	Production	Productivity
2007-08	20.2	211.0	10.4
2008-09	20.5	214.4	10.5
2009-10	20.8	223.2	10.7
2010-11	21.8	240.4	11.0
2011-12	23.2	257.3	11.1
2012-13	23.7	268.8	11.3
2013-14	24.2	277.4	11.5
2014-15	23.4	280.91	12.00

5.22 The area under fruit crops during 2014-15 was 6.2 m. ha with a total production of 86.3 m. MT. During the period, production of fruits increased by about 31% while the area increased by about 3%. Comparative details of area, production and productivity of fruit crops are given in **Figure 1**.

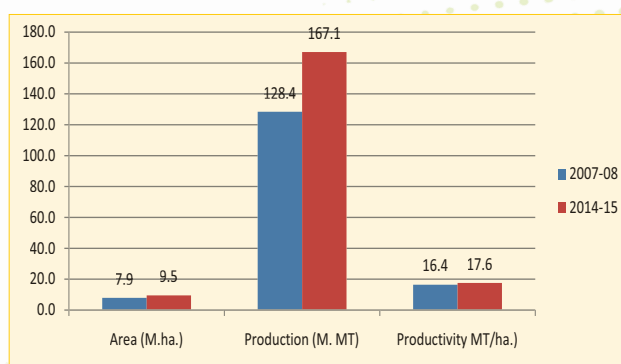
Figure 1:-Area, Production and Productivity of Fruits



5.23 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, sapota, pomegranate and aonla.

5.24 Vegetables are an important crop in horticulture sector, occupying an area of 9.5 million ha during 2014-15 with a total production of 167.1 million tonnes with average productivity of 17.6 tonnes/ha. In fact vegetables constitute about 60% of horticulture production. During the period (2007-08 to 2014-15), area and production of vegetables increased by 20% and 30% respectively, The comparative details are depicted in the **Figure 2**.

Figure 2:-Area, Production and Productivity of Vegetables



5.25 India continued to be second largest producer of vegetables after China. She is a leader in production of vegetables like peas



and okra. Besides, India occupies the second position in production of brinjal, cabbage, cauliflower and onion and third in potato and tomato in the world. Vegetables such as potato, tomato, okra and cucurbits are produced abundantly in the country.

5.26 Interventions in horticulture in the country, have led to increase per capita availability of fruits from 158 gm/person/day in 2007-08 to 189 gms/person/day in 2014. Similarly, per capita availability of vegetables has increased from 309 gm/person/day in 2007-08 to 357 gm/person/day in 2014.

5.27 India has also made noticeable advancements in production of flowers, particularly cut flowers, which have a high potential for exports. Floriculture during 2014-15 covered an area of 0.25 million ha with a production of 1.64 m. MT of loose flowers and 0.48 m. Mt of cut flowers. There has been phenomenal growth in cut flower production, which is finding place in export market.

5.28 India is the largest producer, consumer and exporter of spices and spice products,

the total production of spices during 2014-15 was 5.7 m. MT from an area of 3.19 m. MT.

5.29 India continues to be the largest producer and exporter of cashewnut in the world. As per the final estimates 2014-15 by DCCD, the production of cashew nut in India during 2014-15 is 7.25 lakh MT from an area of 10.27 lakh hectares unit area productivity of 706 kg/ha. Among the major cashew growing state the production and productivity is highest in the state of Maharashtra. Maharashtra shares 32% of the total production followed by Andhra Pradesh (16%) and Orissa (14%). The cashew processing industry requires 17 lakh MT per annum of raw cashew nut. There is a wide gap between our production and demand of raw cashewnut and India imports the rest of its requirements from other countries.

5.30 In India, cocoa is cultivated in four southern states of Kerala, Andhra Pradesh, Tamil Nadu and Karnataka with little plantation status mainly as an inter crop in coconut and arecanut gardens. It is also cultivated in shady conditions of rubber plantations in few localities of Kerala.

Cultivation of cocoa is gaining momentum and as per the final estimate 2014-15, India is presently produced 16050 MT of cocoa from an area of 78000 ha. The country is importing about 40 % of the demand for cocoa and the demand is increasing in the country by 15 % annually. India imports rest of its requirement from other cocoa producing countries. There is lot of scope and demand to further increase in the area and production of cashewnut and cocoa. The Directorate of Cashewnut and Cocoa Development is implementing development programmes under MIDH to increase the area and production of these two horticultural crops in the country.

5.31 The Directorate of Cashewnut and Cocoa Development is implementing cashew & cocoa development programmes *viz.* New plantation development, replanting/rejuvenation of cashew plantations, Front line technology demonstrations, upgradation of nursery infrastructure, strengthening of

data base, human resource development, publicity for crop promotion under MIDH for the development of these two crops during 2015-16. The DCCD will also act as a nodal agency for accreditation of existing cashew/cocoa nurseries and issue recognition. The Salient achievements under the scheme during 2015-16 are as follows.

- Under the scheme for new plantation development, an additional area of 3500ha under cashew and 4800 ha under cocoa with clones of high yielding varieties has been brought under MIDH with financial assistance. Around 6000 farmers benefitted under the scheme out of which 30% will be women beneficiaries.
- 1750ha old and senile cashew plantations owned by corporations of major cashew growing states have been replanted with high yielding varieties.



- 32 cashew/cocoa nurseries were given accreditation by the Directorate based on the assessment made by the expert team constituted for this purpose.
- As part of publicity and crop promotion activities, one National level seminar, 6 state level seminars and 78 district level seminars on cashew and cocoa will be organized in various states in association with State Agricultural Universities, Corporations, ICAR institutes and NGO's.
- 5300 farmers and entrepreneurs will be trained on cocoa and cashew farming practices in association with SAU's and ICAR institutes.
- Under the HRD programme, 1500 unemployed women will be given training on preparation of value added edible products from cashew apple.
- The Directorate has prepared citizen/client charter in line with performance monitoring and evaluation system and sevottam guidelines to place in the website.

Final estimates of Area & Production of Cashew-2014-15

State	2014-15 (CASHEW)		
	Area (000 ha)	Production* (000MT)	Productivity (Kg/ha)
Kerala	84.53	80.00	946
Karnataka	124.71	80.50	645
Goa	58.17	32.00	550
Maharashtra	186.2	235.00	1262
Tamil Nadu	140.42	67.00	478
Andhra Pradesh	185.45	100.00	539
Orissa	180.41	85.50	474
West Bengal	11.36	13.00	1096
Jharkhand	14.83	4.50	303
Chattisgarh	13.7	8.50	620
Gujarat	7.22	8.50	1177
Pondicherry	5.00	3.00	600
Assam	1.05	0.57	543
Tripura	4.25	2.50	588
Meghalaya	8.5	4.50	529
Manipur	0.90	0.15	167
Nagaland	0.50	0.20	400
Total	1027.20	725.42*	706

*Unseasonal rain during the fruit set period caused damage which reduced production of cashew

Final Estimates of Area and Production of Cocoa in 2014-15

State	2014-15 (COCOA)		
	Area (ha)	Production (MT)	Productivity (Kg/ha)
Kerala	14650	6000	785
Karnataka	12906	2000	525
Tamil Nadu	26959	1750	265
Andhra Pradesh	23485	6300	550
Total	78000	16050	475



Chapter 6

National Mission on Oilseeds and Oil Palm (NMOOP)

6.1. Vegetable Oil constitutes an important part of our daily diet being source of energy, essential fatty acids and amino acids. Domestic consumption of edible oils has increased substantially over the years and has touched the level of 20.14 million tonnes in 2014-15 (Nov-Oct) and is likely to increase further with enhancement in income and population against the domestic availability of 10.06 million tonnes. Considering the importance of oilseeds, various oilseeds development schemes have been funded by the Government for encouraging cultivation of oilseeds including Oil Palm.

6.2. The Centrally Sponsored Scheme of Integrated Scheme of Oilseeds, Oil Palm and Maize (ISOPOM), which was launched in 2004-05 and remained under implementation till March, 2014, Oil Palm Area Expansion (OPAE) programme, a sub-scheme of RKVY implemented during 2011-12 to 2013-14 have made significant contribution in area expansion under oil palm. Implementations of these schemes have given fillip in augmenting the availability of vegetable oil in the country.

6.3. The scheme of ISOPOM, Tree Borne Oilseeds (TBOs) and Oil Palm Area Expansion (OPAE) programme have been restructured into National Mission on Oilseeds and Oil Palm (NMOOP) during 12th Plan and launched during 2014-15.

Oilseeds Scenario

6.4. The diverse agro-ecological conditions in the country are favorable for growing nine annual oilseeds which include 7 edible oilseeds viz. groundnut, rapeseed-mustard, soybean, sunflower, sesamum, safflower and Niger and two non-edible oilseeds, castor and linseed.

6.5. Oilseeds are raised mostly under rainfed conditions and important for the livelihood of small and marginal farmers in arid and semi arid areas of the country. The production of oilseeds has increased from 24.35 million tonnes in 2004-05 to 26.68 million tonnes in 2014-15. The oilseeds yield which was 885 kg. per hectare in 2004-05 increased to 1037 kg per hectare (as per 4th Advance Estimates). The highest production and yield of oilseeds were achieved during the year 2013-14 i.e. 32.75 million tonnes and 1167 kg. per year, respectively. The production and acreage of oilseeds has continuously increased from 2011 to 2013-14. However, area, production and yield has been declined during 2014-15 as the production of soybean in major producing States has been adversely affected due to late monsoon at the time of sowing, insufficient rain during crop growing phase and untimely rain during pod maturity stage.

6.6. The Area, Production and Yield of oilseeds during 2004-05 and last three years are as under:-

(Area in m.Ha. In m. MT. Pvtly. MT/ha)

Year	Kharif			Rabi			Total		
	Area	Prod.	Yield	Area	Prod.	Yield	Area	Prod.	Yield
2004-05	17.24	14.15	820	10.28	10.20	993	27.52	24.35	885
2013-14	19.65	22.61	1151	8.40	10.14	1207	28.05	32.75	1168
2014-15*	18.34	18.33	999	7.39	8.35	1130	25.73	26.68	1037
2015-16@	18.65	19.89	1067						

*As per 4th Advance Estimates.

@As per 1st Advance Estimates (only Kharif).

Objective of NMOOP

6.7. National Mission on Oilseeds and Oil Palm (NMOOP) envisage increase in production of vegetable oils sourced from oilseeds, oil palm and TBOs from 7.06 million tonnes (average of 2007-08 to 2011-12) to 9.51 million tonnes by the end of Twelfth Plan (2016-17). The Mission is implemented through three Mini Missions with specific targets detailed below:

Mini Mission (MM)	Plan	Target of 12th
MM I on Oilseeds	Achieve Production of 35.51 million tonnes and productivity of 1328 kg/ha of oilseeds from the present average production & productivity of 28.93 million tonnes and 1081 kg/ha during the 11 th Plan period respectively.	
MM II on Oil Palm	Bring additional 1.25 lakh hectare area under oil palm cultivation through area expansion approach in the States including utilization of wastelands with increase in productivity of fresh fruit bunches (FFBs) from 4927 kg per ha to 15000 kg per ha.	
MM III on TBOs	Enhance seed collection of TBOs from 9 lakh tonnes to 14 lakh tonnes and to augment elite planting materials for area expansion under waste land.	

Strategy for NMOOP

6.8. The strategy to implement the proposed Mission will include increasing Seed Replacement Ratio (SRR) with focus on Varietal Replacement; increasing irrigation coverage under oilseeds from 26% to 36% diversification of area from low yielding cereals crops to oilseeds crops; inter-cropping of oilseeds with cereals/pulses/sugarcane; use of fallow land after paddy/potato/cultivation; expansion of cultivation of Oil Palm & TBOs in watersheds and wastelands; increasing availability of quality planting materials of Oil Palm & TBOs; enhancing procurement of oilseeds and collection & processing of TBOs. Inter-cropping during gestation period of oil palm and TBOs would provide economic return to the farmers when there is no production. The scheme would be implemented in a mission mode through active involvement of all the stakeholders. Fund flow would be monitored to ensure that benefit of the Mission reaches the targeted beneficiaries in time to achieve the targeted results.

6.9. Mission wise States covered under NMOOP are given below:

- (i) **Mini Mission – I on Oilseeds:** Andhra Pradesh, Bihar, Chhattisgarh, Gujarat, Haryana, Jammu & Kashmir, Jharkhand, Karnataka, Madhya Pradesh, Maharashtra, Odisha, Punjab,

Rajasthan, Tamil Nadu, Telangana, Uttar Pradesh, Uttarakhand and West Bengal

(ii) **Mini Mission-II on Oil Palm:** Andhra Pradesh, Chhattisgarh, Goa, Gujarat, Maharashtra, Mizoram, Karnataka, Kerala, Odisha, Tamil Nadu, Arunachal Pradesh, Assam, Bihar, Manipur, Meghalaya, Nagaland, Sikkim, Tripura and West Bengal.

(iii) **Mini Mission – III on TBOs :** Andhra Pradesh, Assam, Arunachal Pradesh, Bihar, Chhattisgarh, Gujarat, Goa, Haryana, Himachal Pradesh, Jammu & Kashmir, Jharkhand, Karnataka, Kerala, Madhya Pradesh, Maharashtra, Manipur, Meghalaya, Mizoram, Nagaland, Odisha, Punjab, Rajasthan, Sikkim, Tamil Nadu, Tripura, Uttar Pradesh, Uttarakhand and West Bengal.

6.10 All the North Eastern States namely Assam, Arunachal Pradesh, Manipur, Meghalaya, Mizoram, Nagaland, Sikkim and Tripura have been included under all the three Mini Missions of NMOOP.

6.11 Mission-wise allocation of funds to the States under NMOOP during 2015-16 is given below:

Mission	Amount (in crores)	
	B.E	R.E
Mini Mission-I	260.49*	177.68
Mini Mission-II	65.83	36.66
Mini Mission-III	4.14	2.18
Central Agencies	121.96	55.50
TOTAL (B.E.)	452.42	272.02

*Including Rs. 100.00 crores for additional area coverage for increasing oilseeds production during rabi/summer

Mini Mission-I (Oilseeds)

6.12. State-wise Area, Production and Productivity of Oilseeds during 2009-10 to

2014-15 is at **Annexure-6.1**. The scheme is being implemented through State Department of Agriculture. The expenditure on subsidies was shares on 50:50 sharing basis between Central and State Government. However, a decision has been taken to revise the sharing pattern between Central and State Governments from 50:50 to 60:40 for general category States and from 50:50 to 90:10 for NE and 3 Himalayan States. Flexibility has been provided to implement the action plan of current year in existing pattern or they may migrate to the new pattern without change the total amount which has fixed as Central share will remain the same.

6.13 Under this Mission, financial assistance is being provided for Seed Components (production & distribution of certified seeds & minikits, variety specific targeted seed production); Inputs (Plant Protection Equipments/eco friendly, light-trap, Bio-pesticides, Distribution of Micro-nutrients, bio-fertilizers, improved farm implements, pipes, sprinklers, seed storage bins, seed treatment drums) and Transfer of Technology (Block demonstrations, Frontline demonstrations, farmers and extension workers training etc.)

Mini Mission-II (Oil Palm)

6.14 Oil palm is comparatively a new crop in India and is the highest vegetable oil yielding perennial crop. With quality planting material, irrigation and proper management, there is potential of 20-30 MT Fresh Fruit Bunches (FFBs) per hectare after attaining the age of 5 years which would yield 4-5 MT of palm oil and 0.4-0.5 MT palm kernel oil (PKO). In comparative terms yield of palm oil is 10-15 times the yield of edible oil obtainable from traditional oilseeds.

6.15 Oil palm development programme was started in India during 1991-92 and continued



till 2002-03, mainly for area expansion under oil palm in selected states. Subsequently, in order to increase the production & productivity of oilseeds and oil palm cultivation, Integrated Schemes of Oilseeds, Pulses, Oil Palm and Maize (ISOPOM) was implemented from 2004-05 to 2013-14 in 10 states of the country. Besides, area expansion of oil palm was also supported through Oil Palm Area Expansion (OPAE) programme under RKVY from 2011-12 to 2013-14.

6.16 Mini Mission-II is dedicated to oil palm area expansion, and is being implemented in 12 states viz; Andhra Pradesh, Telangana, Chhattisgarh, Tamil Nadu, Kerala, Gujarat, Karnataka, Odisha, Mizoram, Nagaland, Assam and Arunachal Pradesh w.e.f. 01.04.2014. During 2015-16 it has been targeted to cover 36554 ha under oilpalm under MM-II programme.

6.17 Under the Mission, financial assistance are being provided to the farmers @ 85% cost of the planting material and @ 50% cost of the

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 purchasing of machinery & tools etc.

6.18 All these developmental efforts have resulted in area expansion under oil palm from 0.71 lakh ha in 2003-04 to 2.86 lakh ha by the end of 2014-15. Similarly, the production of Fresh Fruit Bunches (FFBs) and Crude Palm Oil (CPO) have increased from 1.68 lakh tonnes and 0.30 lakh tonnes (2003-04) to 11.50 lakh tonnes and 1.98 lakh tonnes during the year 2014-15 respectively.

6.19 At present, Andhra Pradesh, Karnataka, Tamil Nadu and Mizoram are major oil palm growing states. The State-wise details of area achieved under oil palm cultivation and production of FFBs and CPO up-to 2014-15 are given below:-

Sl. No.	State	Area Coverage (in ha.) 2014-15	Cumulative Area Coverage (in ha.)	Production (in MT)		Area Coverage target (in ha) 2015-16
				FFBs	CPO	
1.	Andhra Pradesh	9,259	1,45,246	10,24,140	1,77,176	20,000
2.	Telangana	972	15,768	57,893	10,008	2000
3.	Karnataka	1,911	40,280	12,638	2,176	2000
4.	Tamil Nadu	694	29,183	6,660	1,019	2000
5.	Gujarat	313	4,728	409	NA	450
6.	Goa	7	938	2,207	390	0
7.	Odisha	1,452	17,677	3,769	557	1744
8.	Tripura	0	530	0	0	0
9.	Assam	0	10	0	0	560
10.	Kerala	24	5,764	40792	6515	100
11.	Maharashtra	0	1,474	0	0	0
12.	Mizoram	2,789	22,760	2,096	696	4000
13.	Chhattisgarh	250	662	0	0	1500
14.	Andaman & Nicobar	0	1,593	0	0	0
15.	Arunachal Pradesh	0	0	0	0	1200
16.	Nagaland	0	0	0	0	1000
	Total	17,671	2,86,613	11,50,604	1,98,537	36,554

6.20 Mini Mission-II of NMOOP is also supporting IIOPR, Padavegi, A.P. for undertaking need based R&D activities on oil palm and establishing oil palm seed garden.

Mini Mission-III (Tree Borne Oilseeds) (TBOs)

6.21 Mini Mission-III of NMOOP is concerned with tree borne oilseeds (TBOs) and has the objectives of enhancing seed collection of TBOs and augmenting elite planting materials. Under MM-III, assistance is provided to promote 11 TBOs namely Simarouba, Neem, Jojoba, Karanja, Mahua, Wild apricot, Cheura, Kokum, Jatropha, Tung and Olive having capability to grow and establish in varied agro-climatic conditions and in the waste land of the country. These TBOs possess 20-60% oil content in seeds/kernel, which are edible fat and non-edible for industrial uses. Once they are planted, they continue to yield for about 60-150 years

starting after gestation period ranging from 2 yrs to 8 yrs without requiring much input in the later stage.

6.22 The interventions proposed under MM-III are (i.) integrated development of nurseries & plantation on the wasteland, (ii).maintenance of TBOs plantation, (iii) incentives for undertaking intercropping with TBOs, (iv) research and development, (v) distribution of pre-processing, processing and oil extraction equipment, (vi) support to TRIFED, (vii) training of farmers, (viii) training of extension workers and (ix) local initiatives/contingency.

6.23 Madhya Pradesh, Maharashtra, Mizoram, Odisha, Rajasthan, Tamil Nadu, Tripura and Uttar Pradesh are implementing Annual Action Plan(AAP) of MM-III under NMOOP during 2015-16. Support is being provided to TRIFED under MM-III for promotion of collection of TBO seeds and facilitating their marketing on project mode.

Two R&D projects have also been approved for funding under NMOOP during 2015-16 to be implemented by Central Agroforestry Research Institute (CAFRI), ICAR, Jhansi and Sher-e-Kashmir University of Agriculture Science and Technology, Srinagar.

R& D Projects under NMOOP

6.24 Many technological interventions need location-specific refinements for ensuring their effectiveness at the grass root level. A good number of innovations made by the farmers/ extension functionaries need scientific validation before their large

scale promotion. Keeping this in view, a provision has been made under NMOOP for supporting R&D projects crucial for attaining goals of the Mission during the 12th Five Year Plan. In addition, R&D projects on TBOs supported under NOVOD Board has been discontinued from 2014-15 and hence, are being supported under MM-III of NMOOP.

6.25 So far, 06 projects, as listed below, have been approved (03 – State Agricultural University, 02- ICAR institutes and 01- State University) and an amount of Rs.56.67 lakhs have been released:

S. No.	Name of Project	Implementing Agency	Duration of the Project	Total cost of the Project (Rs. in lakh)	Fund released (Rs. in lakh)
1.	Productivity enhancement of Rapeseed-Mustard crops through technology implementation and their refinement under farmer's field conditions in the state of Uttarakhand.	GBPUA&T, Pantnagar Uttarakhand	2015-16 2016-17	35.66	13.37
2	Block Demonstrations and training of Raised Bed Technique of Soybean Cultivation.	I G K V V. Raipur	2015-16 2016-17	30.66	14.62
3	National Network on Integrated Development of Jatropha & Karnaja. ICAR- CAFRI Jhansi	ICAR-CAFRI Jhansi	2015-16 2016-17	16.61	7.27
4	Bridging the production gaps in potential districts of sunflower and sesame through dynamic technology transfer"	IIOR Hyderabad	2015-16 2016-17	57.48	18.66
5	Nursery Development of Wild Apricot in Kashmir region for area expansion and transfer of technology	SKUAST, Srinagar, J&K	2015-16 2016-17	10.94	2.75
6	Promotion of Cheura and Wild Apricot through plantation and trainings in Kumaun region of Uttarakhand	Kumaun University	2015-16 2016-17	12.41	Issued administrative approval

Seed production, distribution, minikits and FLDs on Oilseeds during 2015-16

6.26 In order to encourage the adoption of newly released varieties and improved agro-techniques in oilseed crops support is provided under NMOOP to Central Agencies viz. NSC, KRIBHCO, HIL, NAFED and IFFDC for procurement of breeder seed (BS), production of foundation seed (FS) and certified seed (CS), distribution of certified seed and supply of seed minikits. In addition, support is also provided for conduct of Front Line Demonstrations (FLDs) through ICAR/SAUs network. During kharif-2015 and rabi 2015-16, a total of 3,34,908 qtls and 82,911 qtls of various categories of seeds (BS/FS/CS) respectively, were produced and 1,68,099 qtls seeds were distributed. Seed

minikits of six oilseeds crops totaling 202985 nos. and of 8 oilseeds crops totaling 838891 nos. were supplied during kharif-2015 and rabi 2015-16 respectively, through Central Seed Producing Agencies, while for summer 2015-16, a total of 4282 minikits have been allocated in groundnut and sunflower.

6.27 A total of 2802 FLDs on improved varieties and agro-techniques of five oilseeds and 2443 FLDs on seven oilseeds during kharif-2015 and rabi 2015-16 respectively, were conducted through ICAR-AICRP network. During rabi 2015-16 a total of 28175 cluster FLDs have been planned through 299 KVKs of ICAR in different states covering (groundnut, rapeseed-mustard, linseed, sesame and sunflower) rabi oilseeds.



Chapter 7

National Mission for Sustainable Agriculture (NMSA)

7.1 National Mission for Sustainable Agriculture (NMSA) is one of the eight Missions outlined under National Action Plan on Climate Change (NAPCC). The Mission aims at promoting sustainable agriculture through seventeen deliverables focusing on ten key dimensions of Indian Agriculture. During 12th Five Year Plan, these dimensions have been embedded and mainstreamed into Missions/Programmes/Schemes of 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, and 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.

Major Components of NMSA are :

7.2 Rainfed Area Development (RAD): The major strategy in implementing RAD is promoting integrated farming system covering crops, livestock & fishery, plantation and pasture based composite farming for enhancing livelihood opportunities, ensuring food security and minimizing risks from crop failure through supplementary/residual production systems.

7.3 Soil Health Management (SHM): SHM is aimed at promoting location as well as crop specific sustainable soil health management including residue management, organic farming practices by way of creating and linking soil fertility maps with macro-micro nutrient management, appropriate land use based on land type.

7.4 Climate Change and Sustainable Agriculture Monitoring, Modeling & Networking (CCSAMMN): CCSAMMN supports dissemination of climate change related information and knowledge by way of piloting climate change adaptation/mitigation research/model projects in the domain of climate smart sustainable management practices.

7.5 Rainfed Area Development (RAD): Integrated Farming System (IFS) is being promoted under RAD in which activities like horticulture, livestock, fishery, agroforestry, value addition are to be taken up along with crops/cropping system. During 2015-16, RAD is being implemented in 27 States of the Country covering about 80,000 ha of IFS activities comprising 15851 ha of livestock based farming system, 7129 ha of dairy based farming system, 2931 ha of fishery based farming system, 21825 ha of horticulture based farming system, 15069 ha of agro-forestry based farming system, 4133 ha of silvi-pasture based farming system & 13063 ha of cropping system with peripheral plantations. **Rs.183.29 crore** has been released

as first instalment to the implementing states till **10th February, 2015**.

Details of Rainfed Area Development (RAD) programmes being executed in North-Eastern States during 2015-16 (RE) are given below:

Schemes/ Programmes	Physi- cal target (Area in ha)	Achieve- ment (Area in ha)	Budget Alloca- tion (Rs. In lakh)	Amount Re- leased (Rs. In lakh)
Rainfed Area Development (RAD)	7774	2297	1718.00	1450.52

New Initiatives:

7.6 A dedicated website National Mission for Sustainable Agriculture (NMSA) has been operationalized (<http://nmsa.dac.gov.in/>) to keep all information of the scheme in the public domain for access and use of all stakeholders.

Soil Health Management (SHM)

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

training and demonstrations; promoting organic farming practices etc.

7.8 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 apart from trainings and demonstrations on balanced use of fertilizers.

7.9 The components under organic farming include trainings for certification course on organic farming, refresher courses for analysts, field functionaries, trainers training, publishing of News Letters on organic farming and bio-fertilizers, 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, promotion of organic inputs, training on organic farming, etc.

7.10 Under the scheme, setting up of 93 Soil Testing Laboratories (STLs), 8 Mobile STLs, 2 Fertilizer Quality Control Lab (FQCL), Strengthening of 262 STLs, Strengthening of 34 FQCLs, 743 Portable Soil Testing Kits, 339 Training and demonstrations, setting up of 1 Liquid Carrier based Biofertilizer production unit, 1 mechanised Compost Unit, strengthening of 9BOQCLs, 1 Bio-fertilizer and Organic Fertilizer Quality Control Labs, 36344 ha distribution of Micronutrients have been approved during 2015-16 under SHM component.

7.11 A new scheme "Soil Health Card" has been approved for implementation during the remaining period of 12th Plan to provide 14 crore Soil Health Cards to the farmers in the country. Soil Health Card will provide information to farmers on soil nutrient

status of their soil and recommendation on appropriate dosage of nutrient to be applied for improving soil health and its fertility. Soil health card will be issued every 3 years for all land holdings in the country so as to promote balanced and integrated use of plant nutrients. Under the scheme, 78.57 lakh soil samples collected and 97.65 lakh soil Health Cards issued by States.

Integrated Nutrient management

7.12 Balanced Use of Fertilisers: Department of Agriculture and Cooperation is promoting soil test based balanced & judicious use of chemical fertilisers, biofertilisers and locally available organic manures, like Farm Yard Manure (FYM), vermi-compost and green manure to maintain soil health and its productivity. In order to promote balanced fertiliser application, Government is providing grant for setting up / strengthening of soil testing laboratories, trainings and demonstrations on balanced use of fertilisers and promotion of micro-nutrients across various Plan periods. At present, there are 1244 Soil Testing Laboratories with analysing capacity of 1.78 crore samples per annum.

7.13 Soil Health Management (SHM): Department of Agriculture and Cooperation is implementing Soil Health Management component under National Mission for Sustainable Agriculture. The financial assistance on various components as below is provided under SHM:

- Setting up of new Soil Testing laboratories (STL) and strengthening of existing Soil Testing laboratories
- Training of STL staff/extension officers/farmers/field functionaries and field demonstrations on balanced use of fertilisers etc
- Creation of district-wise digital soil fertility maps

- Distribution of portable soil testing kits to field functionaries
- Promotion and distribution of micronutrients
- Setting up of new Fertiliser Quality Control laboratories (FQCL) and strengthening of existing state Fertiliser Quality Control laboratories

7.14 Funds amounting to Rs 36.66 crore have been released till October under Soil Health Management component. Comparison of funds released during the current year (till October) with that of previous years is shown below.

(Rs. in crore)

Year	2012-13	2013-14	2014-15	2015-16 (till 31.10.2015)
Amount	8.51	19.24	23.30	36.66

7.15 Soil Health Card Scheme: Soil Health Card Scheme has been recently approved for implementation during 12th Plan period. The Scheme will provide farmers with information on soil analysis and recommendation on appropriate dosage of nutrients to be applied for cultivation. Soil analysis will be done in accordance with uniform sampling techniques and procedure to provide information to the farmers. Soil Health Card will be issued at 3 years intervals in respect of all the 14 crore land holdings in the country.

Mobile Soil testing Laboratories: During budget speech 2014-15, Hon'ble Finance Minister has approved for setting up of 100 Mobile Soil Testing Laboratories with an outlay of Rs.56 crore. Funds amounting to Rs. 30.80 crore have been released to 15 different states till March, 2015 for setting up of 69 mobile soil testing laboratories.

Comparison of All-India Soil Testing capacity in previous years is given below:

Year	2010-11	2011-12	2012-13	2013-14
Soil Samples in lakh	100.68	120.28	128.31	178.21

7.16 INM & Organic Farming: Department of Agriculture, Cooperation and Farmers Welfare is implementing INM & Organic Farming component under National Mission for Sustainable Agriculture. The financial assistance on various components as below is provided under the said component:

- Setting up of mechanized Fruit/Vegetable market waste/Agro waste compost production units.
- Setting up of State of art liquid/carrier
- Setting up of Bio-fertiliser and Organic fertiliser testing laboratory or strengthening of existing laboratory under FCO.
- Promotion of Organic Inputs on farmers fields.
- Support to research for development of organic package of practices specific to State and cropping system.
- Setting up of separate Organic Agriculture Research and Teaching Institute (against specific proposal).

Pradhan Mantri Krishi Sinchayee Yojana (PMKSY)

7.17 Pradhan Mantri Krishi Sinchayee Yojana (PMKSY) was approved by the Cabinet Committee on Economic Affairs on 01.07.2015 with an outlay of Rs. 50,000 crore for a period of 5 years (2015-16 to 2019-20). The scheme has been conceived amalgamating ongoing schemes viz. Accelerated Irrigation Benefit Programme (AIBP) of the Ministry of Water Resources, River Development & Ganga Rejuvenation (MoWR, RD&GR), Integrated Watershed Management Programme

(IWMP) of Department of Land Resources (DoLR) and the On Farm Water Management (OFWM) of Department of Agriculture, Cooperation and Farmers Welfare. The major objective of PMKSY is to achieve 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 (More crop per drop), enhance recharge of aquifers and introduce sustainable water conservation practices by exploring the feasibility of reusing treated municipal waste water for peri-urban agriculture and attract greater private investment in precision irrigation system.

7.18 A sum of Rs. 1800 Crore (RE Rs. 1439.52 crore) for Department of Agriculture, Cooperation and Farmers Welfare has been provisioned during 2015-16.

7.19 Various committees, as envisaged in the operational guidelines of the scheme, viz. National Steering Committee under the Chairmanship of Hon'ble Prime Minister and National Executive Committee under the chairmanship of Vice chairman of NITI Aayog have been constituted. States have been requested to constitute state/district level committees.

7.20 The website of PMKSY (<http://www.pmkSY.gov.in>) with static features has been operationalized from 13th August, 2015. An integrated Management Information System for capturing information of various Departments for PMKSY has been firmed up and programming is under process. District Irrigation Plans are cornerstone of planning and implementation of the scheme. 153 officers including Indian Administrative/ Forest Service Officers have been trained so far at six institutes of national importance.

In order to simplify and bring uniformity in the planning process, a template for DIP has been developed/finalized and shared with the States.

7.21 Out of the budget allocation of Rs. 1800 crore (RE 1439.52 crore) allocated for Department of Agriculture, Cooperation and Farmers Welfare, a sum of Rs. 1290.17 crore has been released to the States till 10th February, 2016 for various activities like micro irrigation, drought-proofing, supplementing of material cost for MNREGA, extension activities and preparation of District Irrigation Plans (DIPs).

7.22 Paramparagat Krishi Vikas Yojana (PKVY)

Paramparagat Krishi Vikas Yojana is one of the schemes under NMSA to promote organic farming through which assistance is provided for Rs. 50,000/- per hectare per farmer in three years. It is proposed to develop 10,000 clusters with a size of 20 hectare so as to increase the area 2 lakh hectare in 3 years. The government has sanctioned Rs. 300 crores during 2015-16. Total 7141 clusters have been formed in 28 States and UT. The government has released the 197.0 crore till 31.12.2015 against the sanctioned amount of Rs. 254.23 crore of Government of India share.

Under PKVY Organic farming is promoted through cluster approach and Participatory Guarantee System (PGS) of certification. The financial assistance will be given to clusters on different sub components for mobilization of farmers, for organic seeds, to harvesting biological nitrogen etc. It includes different components such as: Mobilization of farmers: training of farmers and exposure visit by farmers; Quality control: soil sample analysis, process documentation, inspection of fields of cluster members, residue analysis, certification charges and administrative

expenses for certification; Conversion practice: practices that will transit from current practices to organic farming, which include procurement of organic inputs, organic seeds and traditional organic input production units and biological Nitrogen harvest planting etc.; Integrated manure management; procurement of Liquid Bio fertilizer consortia/Bio pesticides, Neem cake, Phosphate Rich Organic Manure and Vermi compost; Custom hiring centre charges: to hire agricultural implements as per SMAM guidelines; Labelling and Packaging assistance & Transport assistance; Marketing through organic fairs.

7.23 Note on Mission Organic Value Chain Development for North Eastern Region

Realizing the potential of organic farming in the North Eastern Region of the country 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 the 12th plan period. 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 entire value chain starting from inputs, seeds, certification, to the creation of facilities for collection, aggregation, processing marketing and brand building initiative. The scheme has been approved with an outlay of Rs. 400 crore and Rs. 125 crore has been allocated in supplementary grant during 2015-16.

The main components are:

1. Value chain production, value chain processing, value chain marketing and value chain support agencies.

The details of components and fund provision are as summarized below:

A. Value Chain Production

- ❖ Cluster development and formation of Farmer Producer Organizations/ Companies
- ❖ Assistance for on-farm input reduction unit and off-farm inputs
- ❖ Off-farm inputs such as biofertilizers, bio-pesticides and neem cake etc.
- ❖ Assistance for quality seed planting material
- ❖ Support for extension services, input facilitation, training handholding and certification at production stage.
- ❖ Assistance for setting up of input delivery, distribution centres and agri machinery custom hiring centre.
- ❖ Training, handholding, ICS management, documentation and certification of crop production through service providers.

B. Value Chain Processing

- ❖ Value Chain Post Harvest (Through Bank as back ended subsidy scheme)
- ❖ Financial assistance for setting up of financial infrastructure for collection and grading units.
- ❖ Value Chain Processing
- ❖ Financial assistance for setting up of integrated processing units
- ❖ Value Chain Packaging, Storage and Transportation
- ❖ Integrated pack house
- ❖ Transportation/4 Wheeler up to TFO of 12 lakh (50%) Cold Chain Component
- ❖ Cold chain component – Refrigerated transport vehicle

- ❖ Cold chain component – Pre-cooling/ cold stores/ ripening chambers.

C. Value Chain Marketing

- ❖ Branding, labeling, packaging, publicity and certification of processing units.
- ❖ Seminars/ conferences, workshops, Buyer-seller meets, Auction meetings, festivals.
- ❖ Consumer awareness Information dissemination through publicity, printed literature, films and local advertisements
- ❖ Hiring of space in prime markets.

D. Value Chain Support Agencies

- ❖ Setting up of Lead agency
- ❖ Staff, Manpower, Travel and contingencies,
- ❖ Institutional strengthening and hire/purchase of machinery and equipments
- ❖ Setting up of certification
- ❖ Mission management at DAC&FW
- ❖ Mission Headquarter
- ❖ Any other Innovative requirement including surveys, consultancies information and knowledge ecosystem etc.

❖ Baseline Surveys, market research and mapping and Consultancy services

During the first /executive meeting held on 4th February, 2016 at Krishi Bhawan, the States were advised to send the proposals as per the format/ guidelines as discussed at the earliest to process and submit in next EC meeting.

Expected Outcomes:-

- About 50,000ha land of NER will be converted to Certified Organic with marketable commercial organic farming within three years period.
- More than 50,000 Farmers will be associated as Farmers interest groups (FIG) and FPOs within three year period.
- 100 farmer producer companies will be created for production, collection, aggregation and processing
- Farmers empowerment through institution building
- Marketing of value added produce instead of raw produce
- All FPO farmers organic produce will be branded, labeled and marketed in premium price
- Soil physical and biological properties of this region will be improved by adopting Organic farming being potential area.
- North Eastern States products get recognition and value in national and international markets.

Other Programmes

7.24 Indo German Bilateral Cooperation (GIZ): Effective information exchange is a prerequisite to promptly respond to the needs of the farmers' request for authentic information which the present agricultural information exchange system cannot deliver. Although a number of Agricultural Knowledge and Information Networks (AKINs) exist, there is lack of effectiveness of interventions at farm level i.e. transfer of climate resilient technologies, lack of availability of effective, timely/

dynamic/authentic and farmer-friendly sustainable agricultural information for all the stakeholders. With this background, under Indo-German Bilateral Cooperation a technical project on Climate Change Knowledge Network in Indian Agriculture (CCKNIA) was launched in September, 2013 in three states of Maharashtra, Jharkhand and Odisha. CCKNIA aims to promote interactive dialogues among different stakeholders to establish and enhance linkages between climate change and sustainable development in agriculture.

7.25 Under programme, an open source platform called Network for Information on Climate (Ex) change (NICE) has developed. This platform facilitates effective and efficient knowledge exchange at all levels. NICE has been developed based on open source web solution using semantic web technologies, that can be scaled and adapted to various knowledge needs - from agriculture, soil and water conservation, social security and others.

7.26 NICE integrates and allows existing multiple knowledge stakeholders from domains like meteorology, agriculture science, extension systems and others to share and adapt knowledge across multiple subject domains, to address local climate change adaptation needs. The system is iterative and allows multimodal approach, enabling two-way communication to link farmers' needs and knowledge providers, on a real time basis. In addition, project revitalizes existing extension systems, capacities and monitoring systems for effective development, dissemination as well as support adoption by farmers. For Improvement of the information- and knowledge management between farmers in selected States and for governmental decision

makers, about 350 users are registered on NICE by end of October 2015. Further, various trainings for experts, extension agents and farmers have been carried out on NICE, Climate Change adaptation and ICT, plant pest and disease management, cross sector knowledge like fishery, animal husbandry etc.

7.27 National Agroforestry Policy: National Agroforestry Policy, 2014 has been formulated with the objective to bring coordination, convergence and synergy between various elements of agroforestry scattered in various existing Missions, programmes and schemes of the Government. The policy will provide a platform to stimulate the growth of agroforestry in India. It will encourage farmers for agroforestry as an integral component of farming system which will lead to meet the ever increasing demand of timber, food, fuel, fodder, fertilizer, fiber, and other agroforestry products; conserving the natural resources and forest; protecting the environment & providing environmental security; and increasing the forest / tree cover.

7.28 A major role for agroforestry is emerging in the domain of environmental services. Agroforestry is known to have the potential to mitigate the climate change effects through microclimate moderation and natural resources conservation in the short run and through carbon sequestration in the long run. Agroforestry species are known to sequester as much carbon in below ground biomass as the primary forests, and far greater than the crop and grass systems.

Sub-Mission on Agroforestry (SMAF):

7.29 A dedicated sub-mission on Agroforestry (SMAF) is proposed to be launched as a component under NMSA during the current year. The broad objective

of the Sub-mission is to encourage and expand tree plantation in farm land in complementarity in an integrated manner with crops and livestock to improve overall farm productivity and additional livelihood opportunity to farmers.

Natural Resource Management

7.30 Sustaining agriculture productivity depends on quality and availability of natural resources like soil and water. Agriculture growth can be sustained by promoting conservation and sustainable use of these scarce natural resources through appropriate location specific measures. Indian agriculture remains predominantly rainfed covering about 60% of the country's net sown area and accounts for 40% of the total food production. Thus conservation of natural resources in conjunction with development of rainfed agriculture holds the key to meet burgeoning demands for food grain in the country.

7.31 Soil and Water are two important natural resources having implications on sustainable food production. As per available estimates of Indian Council of Agricultural Research (ICAR- 2010), out of total geographical area of 328.7 million hectare (m.ha), about 120.4 m.ha (37%) is affected by various kind of land degradation. This includes water and wind erosion (94.9 m.ha), water logging (0.9 m.ha), soil alkalinity/sodicity (3.7 m.ha), soil acidity (17.9 m.ha), soil salinity (2.7 m.ha) and mining and industrial waste (0.3 m.ha). Besides, frequent droughts, floods and climatic variabilities also impact soil fertility and cause land degradation, thereby, affecting food grain production across the country.

7.32 Natural Resource Management (NRM) Division is implementing mainly two Central Sector Schemes namely, Soil

and Land Use Survey of India (SLUSI) and Soil Conservation Training Centre, Damodar Valley Corporation, Hazaribagh. The major mandate of Division are as under:-

- Technical input on soil & water conservation interventions for prevention of soil erosion & land degradation under various programmes/schemes of DAC&FW;
- Formulation of strategies, policies and programmes to address issues of degraded land, appropriate measures to combat adverse impact of such degradation on agricultural production;
- Reclamation & development of problem lands affected by alkalinity, salinity and acidity;
- Conducting various types of soil survey to provide scientific database on soil and land uses for planning & implementation of various land based interventions;
- Development of training and capacity of officials working in various States for soil and water conservation & management.

7.33 Schemes/Programmes: The details of the Schemes and Externally Aided Programmes being implemented by NRM Division are given in the succeeding paragraphs.

(A) Central Sector Schemes:

7.34 Central Sector Scheme of Soil and Land Use Survey of India (SLUSI): SLUSI was established in 1958 for providing scientific input on soil and land use survey to policy makers, planners and implementing agencies for various agriculture developmental

programmes. The headquarter of SLUSI is located at Indian Agricultural Research Institute (IARI) Campus, New Delhi and it has seven regional centers at Noida, Kolkata, Bengaluru, Nagpur, Hyderabad, Ahmedabad and Ranchi. In 1992, SLUSI had established a Remote Sensing Center (RSC) for leveraging application of advanced technologies in soil survey programme.

7.35 SLUSI had been undertaking various kind of soil surveys including Rapid Reconnaissance Survey (RRS) of the inter-State catchments and demarcate/ priorities the area into sub-watersheds/ watersheds depending upon sediment yield/runoff potential. After launching of National Mission for Sustainable Agriculture (NMSA) during XII Plan, SLUSI revisited its mandate and revised mandates are as under:

- a. Conducting Detailed Soil Survey (DSS) by using real time Remote Sensing data to generate detailed scientific database on soil and land use characteristics for planning and implementation of various programmes of Soil and Water Conservation and Soil Health Management (SHM);
- b. Creation of Technical Support Group (TSG) for providing support to National Mission for Sustainable Agriculture (NMSA);
- c. Establishment of an advanced national level Nodal Soil Analytical Laboratory (NSAL) at Noida Centre for Macro/Micro nutrient analysis and for monitoring and quality checking of soil analysis;
- d. Monitoring and evaluation of various developmental projects under NMSA

and other National Missions established under National Action Plan for Climate Change (NAPCC);

- e. Development of MIS (Management Information System) for knowledge networking and monitoring;
- f. Conducting training for capacity building of officers of state governments involved in different developmental programmes viz. agriculture, horticulture, soil conservations and rural development;
- g. Preparation of state wise platform free Micro watershed on 1:50 K scale; and,
- h. Implementation of collaborative project with Central/State Government Departments and also with Research Institutions/ Universities for research / other academic activities.

7.36 Progress of SLUSI:

- **Consultancy Project:** Desertification Mapping of Utrakhland and Punjab States in collaboration with Space Application Centre, Ahmedabad on 1:500000 has been completed. SLUSI has also taken up Soil Resource Mapping of Wayanad, Kannur, Kottayam and Thrissur districts of Kerala State with collaboration of Kerala State Land Use Board (KSLUB).
- **Development of Digital Micro-watershed Atlas:** Digital version of Micro-watershed Atlas provides platform for the planners in designing location specific development plans for various agricultural and rural development programmes in the country. This also helps in prevention of overlapping of planning and implementation of developmental activities by various agencies by adoption of web based transparent monitoring system. Micro-watershed Atlas of all States/ Union Territories have been completed except Assam, J&K, Orissas, Uttar Pradesh, Dadra & Nagar Haveli and Lakshdweep. The Atlas of Chattisgarh, Goa, Gujarat, Haryana, Karnataka, Kerala, Madhya Pradesh, Puducherry, Punjab, Sikkim, Tamil Nadu, Tripura and Utrakhland States have been prepared and uploaded on web site and same for other completed States namely Andhra Pradesh, Andaman & Nicobar, Bihar, Chandigarh, Dadra & Nagar Haveli, Daman & Diu, Delhi, Himachal Pradesh, Jharkhand, Maharashtra, Mizoram, Nagaland, Rajasthan and West Bengal is about to be uploaded. The digital spatial databases in respect of Micro-watershed Atlas of remaining States/Union territories would be completed during 2015-16.
- **Soil Survey:** During 2014-15, DSS of 6.71 lakh ha & SRM of 57.56 lakh ha have been completed. During 2015- 16, DSS of 8.80 lakh ha would be carried out, out of which DSS of 2.43 lakh ha has been completed up to October, 2015. Similarly during 2015-16, SRM of Daman & Diu has been completed and survey has been started in Kozhikode & Kollam districts of Kerala State.
- **Short Courses/ Training Programme:** SLUSI organizes 4 short training courses annually in different parts of the country for the officials of user departments for capacity building and updating knowledge regarding data base on soil & land use for planning various programmes/schemes. During 2015-16, these training programmes would be organized at Hyderabad,

Noida, Kolkata and Ranchi centre of SLUSI.

7.37 Central Sector Scheme of Soil Conservation Training Centre-DVC, Hazaribagh (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 2015-16, 10 training courses have been planned with an estimated cost of Rs 45 lakhs, out of which 9 training courses have been completed, in which 263 officials have been trained upto Jan 2016 and Rs. 40.80 lakh has been utilised upto January, 2016.

Other NRM Related Interventions:

7.38 Watershed Development Fund (WDF): The Union Government has established a Watershed Development Fund (WDF) during 2000 with a corpus of Rs.200 crore which includes Rs.100 crore by DAC&FW and Rs.100 crore by National Bank for Agriculture and Rural Development (NABARD) as matching contribution. The total corpus and its management is vested with NABARD. Objective of WDF is to promote participatory watershed development involving Watershed Community, State Government Departments, Banks and NGOs. Presently, WDF scheme is being implemented in Gujarat, Maharashtra, UttarPradesh, Uttarakhand, Karnataka, Tamil Nadu, Rajasthan, Chhattisgarh, Odisha, Jharkhand, Madhya Pradesh,

Himachal Pradesh and West Bengal. During 2006, after announcement of Prime Minister's Rehabilitation Package in 31 distressed districts in States of Andhra Pradesh, Karnataka, Kerala and Maharashtra, it was decided to implement participatory watershed development programme in all these distressed districts through WDF. As per information reported by the NABARD, Mumbai, an amount of Rs. 241.98 crore (till March, 2015), had been released for the development of 506 Watershed projects under non distressed districts of 16 States. In case of Prime Minister's Rehabilitation Package, an amount of Rs.791.29 crore (up to March, 2015) had also been released to develop 764 Watershed projects under distressed districts of 4 States.

7.39 Development of Model Watersheds through ICRISAT, Hyderabad & CSWCRTI, Dehradun: To address bio-physical and socio-economic dimensions of specific agro climatic conditions and to develop suitable technologies for maximizing development process under watershed programmes, 18 Model Watershed Projects covering different agro ecological regions of the country have been assigned to Central Soil & Water Conservation Research and Training Institute (CSWCRTI), Dehradun (9 projects) and International Crop Research Institute for Semi Arid Tropics (ICRISAT), Hyderabad (9 projects). These watersheds would serve as model for replicating successful technologies through National/ State watershed projects. Rs.3.97 crore and Rs.9.25 crore have so far been released to CSWCRTI and ICRISAT respectively.

Externally Aided Projects:

7.40 World Bank assisted Projects: World Bank assisted Projects in the states of

Himachal Pradesh, Assam, Rajasthan and Uttar Pradesh are being implemented. DAC&FW is involved in supervision, coordination and monitoring of these projects. World Bank provides assistance for these projects directly to the State Governments. The details of the projects are given below:

7.41 Himachal Pradesh Mid-Himalayan Watershed Development Project: The Himachal Pradesh Mid-Himalayan Watershed Development Project (Credit No. 4,133) became operational in February, 2006. This project aims at preventing degradation and protection of biodiversity, improving accessibility to rural areas and productivity of livestock etc. and envisages institutional strengthening, watershed development and management, enhancing livelihood opportunities, project management and coordination. The cost of this project is about Rs. 510.00 crore and area to be covered includes 602 Gram Panchayats in 10 districts, namely, Sirmour, Solan, Bilaspur, Shimla, Kullu, Mandi, Hamirpur, Kangra, Chamba and Una. At present work is in progress in all selected Gram Panchayats and a total of Rs.415.085 crore has been spent upto October, 2015.

7.42 Assam Agricultural Competitiveness Project: After implementation of World Bank funded Assam Rural Infrastructure Agricultural Services Project (ARIASP) with expenditure of Rs. 576 crores from 1995 to 2004, Assam Agricultural Competitiveness Project (Credit No. 4013) was launched in February, 2005 for a period of ten years (April 2005 to March 2015). The project aims at increasing productivity and market access of targeted farmers and community groups to stimulate growth in Assam's

agricultural economy. The cost of this project was Rs.1,022 crore covering 23 districts for infrastructure development, such as rural roads, agricultural services & market chain development and minor irrigation. An amount of Rs.865.17 crore has been incurred towards installation of Shallow Tube Wells (STW) and Lift Pump Sets, supply of Power Tillers & Tractors, laying Rural roads and Drainage treatment. *Government of Assam has proposed a project namely Assam Agriculture Commercialisation and Rural Transformation Project (AACRTP) with outlay of Rs 12000 crores for consideration of World Bank.*

7.43 Rajasthan Agricultural Competitiveness Project: Rajasthan Agricultural Competitiveness Project (Credit No 5085) became operational in April 2013 and will close in March 2020. The objective of the project is to demonstrate at scale the feasibility of a range of distinct agricultural development approaches integrating technology, organization, institution and market innovations across selected regions of Rajasthan, each marked by different agro-ecological, climatic, water resource and social conditions. The total project cost is Rs.832.5 crore. Total 20 clusters are targeted to be developed in selected locations. So far 12 clusters viz. Mokhampura in Jaipur, Ladnu in Nagaur and Bansur in Alwar, Pisangan in Ajmer, Gudha in Bundi and Z-minor in Sri Ganganagar, Bonli in Sawai Madhopur, Sangod in Kota, Phoolasar in Bikaner, Kheruwala in Jaisalmer, Orai & Bassi in Chittorgarh and Jakham in Pratapgarh have been selected. Under this project, an amount of Rs.11.58 crores has been incurred up to October 2015 for preparatory works.

7.44 Sodic Land Reclamation & Development Project with World Bank Assistance: Project proposal on “Uttar Pradesh Land Reclamation and Development Project” at an estimated cost of Rs. 2,000 crore for reclamation and development of 3.10 lakh ha area was proposed for seeking financial assistance from World Bank. Technical and Financial agreement was signed in June, 2009 for development of 1.35 lakh ha of degraded land comprising 1.30 lakh ha of Sodic lands and 5,000 ha of Ravine lands at an estimated cost of Rs.1,224 crore over a period of 6 years. During 2015-16, an area of 0.28 lakh hectare of Sodic land and 0.02 lakh ha. of Ravine area have been developed with expenditure of Rs. 80.00 crores upto October, 2015.

7.45 Crop Diversification in Himachal Pradesh with Japan International Cooperation Agency (JICA):

Project for implementation of various interventions for Crop Diversification in Himachal Pradesh with JICA assistance at an estimated cost of Rs.321 crore for 7 years was signed on 1st October, 2010. After detailed deliberations and visit of experts to identified districts of Himachal Pradesh, Overseas Development Assistance (ODA) agreement was signed on 17th February, 2011 and agreed interventions are being undertaken in 5 selected districts namely; Kangra, Hamirpur, Bilaspur, Mandi and Una. During 2014-15, different DPRs have been sanctioned for undertaking activities as per agreement under the project and an amount of Rs.57.17 crore has been utilized. Up to January 2016, an amount of

Rs. 43.50 crore has been utilized for various approved interventions.

7.46 National Policy for Management of Crop Residue (NPMCR): Harvesting of various crops generate large volume of residues both on and off farm. A large portion of crop residue is burnt ‘on farm’ in order to clear the field for sowing of next crop, as, time interval between harvesting of kharif crops and sowing of rabi crops is very short. Burning of crop residues not only causes air pollution, but also damages soil structure, soil bacteria and available nutrients into the soil, besides creating human health problems.

7.47 Keeping this in view, Department of Agriculture & Cooperation formulated a ‘National Policy for Management of Crop Residue (NPMCR)’ and circulated to all states for implementation. The ‘NPMCR’ comprises:

- Promotion of technologies for optimum utilization and in-situ management of crop residues to prevent loss of invaluable soil nutrients, minerals and improvement of general soil health;
- Promotion of diversified uses of crop residue for various purposes viz. power generation, packing material for fruits, vegetables and glassware, utilization for paper/board/panel industry, biogas generation/composting and mushroom cultivation in PPP mode;
- Capacity building of various stakeholders including farmers and extension functionaries under crop development programmes and organization of field level

demonstrations on management of crop residues in all programmes/schemes;

- Promotion of adaptive research for management of crop residues and development of machineries for effective utilization of crop residues;
- Formulation and implementation of suitable law/ order/ rules by states for curbing the practice of crop residue burning.

7.48 As a follow up action a one day workshop on “Agriculture Stubble Burning-issues and Policies” was organized in collaboration of MOEF&CC at Chandigarh for Northern States where problems are more predominant.

7.49 **National Rainfed Area Authority (NRAA):** National Rainfed Area Authority (NRAA) was set up in Department of Agriculture and Cooperation, Ministry of Agriculture, as per approval of Cabinet Committee of Economic Affairs in its meeting held on 10th August, 2006. This authority was placed under the administrative control of the then Planning Commission (now NITI Aayog) in August, 2010 and while, restructuring of Planning Commission, NRAA was again placed under the administrative control of Ministry of Agriculture and Farmers Welfare, Department of Agriculture and Farmer Welfare Cooperation in April, 2015.

7.50 Further, Cabinet Committee of Economic Affairs (CCEA) in its meeting held on 1st July, 2015, chaired by Hon’ble Prime Minister of India, approved the implementation of Pradhan Mantri Krishi Sinchayee Yojana (PMKSY) for harnessing rain water through ‘Jal Sanchay’ and ‘Jal Sinchan’ to ensure ‘Per drop-More Crop’. CCEA also approved the

involvement of NRAA in providing *technical inputs* in planning and implementation of PMKSY in the rainfed areas for rain water conservation, watershed development and its management. During 2015-16, NRAA is making all efforts to complete mentioned below studies:

- Preparation of State Specific Technology Manual for Watershed Development in Rajasthan by Maharana Pratap University of Agriculture & Technology, Udaipur (Rajasthan) through Directorate of Watershed Development & Soil Conservation, Government of Rajasthan.
- Preparation of State Specific Manual for Watershed Development by Tamil Nadu Watershed Development Agency (TAWDEVA), SLNA, Chennai through NABARD Consultancy Services Pvt. Ltd., Chennai.
- Study on Identification of extent of forest land based on the qualitative and quantitative assessment of the fringe forest lands and their productive status in 275 districts of the country by Forest Research Institute (ICFRE), Dehradun (Uttarakhand).
- Pilot Study on Capitalising Opportunities of Rice Fallow for Sustainable Livelihood Development in the State of Jharkhand by Directorate of Soil Conservation, Government of Jharkhand through Birsa Agricultural University, Ranchi.
- Pilot Study on Capitalising Opportunities of Rice Fallow for Sustainable Livelihood Development in the State of Chhattisgarh by State Agriculture Management and

Extension Training Institute (SAMETI), Government of Chhattisgarh, Raipur through Indira Gandhi Krishi Vishwavidyalaya, Raipur.

- Inter institutional, Livestock Centric Intervention for livelihood improvement in arid regions in Nagore District of Rajasthan.

7.51 Besides, NRAA has provided financial support for organization of training courses

for formulation of District Irrigation Plan (DIP) of PMKSY. A total of 153 IAS, IFS and other States officers have been trained on the above topic for ensuring planned implementation of Pradhan Mantri Krishi Sinchayee Yojana (PMKSY) across the country. During 2015-16, against allocation of Rs. 6.75 crore (Revised Estimate), an amount of Rs. 4.80 crore has been utilized for various mandated activities upto January, 2016.



Chapter 8

National Mission on Agricultural Extension & Technology (NMAET)

8.1 The 11th Plan Extension Schemes have been subsumed within the Sub Mission on Agricultural Extension (SMAE) under the National Mission on Agricultural Extension and Technology (NMAET) being implemented during the 12th Plan. The SMAE has an objective to restructure and strengthen the agricultural extension machinery with a judicious mix of extensive physical outreach of personnel, enhancement in quality through domain experts & regular capacity building, interactive methods of information dissemination, Public Private Partnership, pervasive & innovative use of Information & Communication Technology (ICT) / Mass Media, Federation of groups and convergence of extension related efforts under various schemes and programmes of Government of India and the State Governments. It aims to appropriately strengthen, expand and upscale existing Extension & Information Technology (IT) initiatives which include both the Central Sector as well as Centrally Sponsored components being executed by the Extension Division/Directorate of Extension. Even within Central Sector component of SMAE, a greater role has been envisaged for the States through their active involvement in planning, implementation and monitoring.

Support To State Extension Programmes For Extension Reforms Scheme (Atma Scheme)

8.2 The erstwhile Scheme 'Support to State Extension Programmes for Extension

Reforms (ATMA)' implemented since 2005 has now been included as a component of the Sub-Mission on Agriculture Extension (SMAE) under NMAET with some cost revisions and additional components. It is now under implementation in 652 districts of 29 states & 3 UTs of the country. The scheme promotes decentralized farmer-driven and farmer accountable extension system through an institutional arrangement for technology dissemination in the form of an Agricultural Technology Management Agency (ATMA) at district level. Under the scheme grants-in-aid is released to states with an objective to support State Governments efforts of revitalization of the extension system and making available the latest agricultural technologies in different thematic areas to increase agricultural production through extension activities viz. Farmers Training, Demonstrations, Exposure Visits, KisanMela, Mobilization of Farmers Groups and Setting up of Farm Schools. Through these activities, latest agriculture technologies are disseminated to farmers of the country.

8.3 In order to promote key reforms under the scheme, ATMA Cafeteria 2014 continues to support activities in line with the following policy parameters:

- **Multi-agency extension strategies:** Minimum 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 farming systems approach and extension needs emerging through Strategic Research and Extension Plan (SREP).
 - **Farmer centric extension services:** The cafeteria provides for group-based extension and it has necessary allocation for activities related to organizing and supporting farmer groups. In order to supplement these efforts, a provision for rewards and incentives to the best organized farmer groups has also been provided.
 - **Convergence:** The SREP and SEWP would also be mechanisms for ensuring convergence of all activities for extension. At present, resources for extension activities are being provided under different schemes of Centre/ State Governments. It is mandated that the SEWP, submitted by the State Governments for funding under the scheme shall explicitly specify the activities to be supported from within the resources of other ongoing schemes as well as from this scheme.
 - **Mainstreaming gender concerns:** It is mandated that minimum 30% of resources on programmes and activities are utilized for women farmers. Similarly, 30% of resources meant for extension workers are to be utilized for women extension functionaries.
- Support for specialists and functionaries at State, District and Block Level.
 - Innovative support through a 'Farmer Friend' at Village Level @ 1 Farmer Friend per two villages.
 - Farmers Advisory Committees at State, District and Block levels.
 - Farm Schools in the field of outstanding farmers being promoted at Block/ Gram Panchayat level by integrating the Progressive farmers into Agricultural Extension System (AES) (3-5 Farm Schools/ block).
 - Farmer-to-farmer extension support at the village level to be promoted through Farmers' Group.
 - Funding window provided at both State and District levels for implementing innovative extension activities not specifically covered under the Programme.
 - Farmers' Awards instituted at Block, District and State levels.
 - Community Radio Stations (CRS) to be set up by KVKs being promoted under the Programme.
 - For Non-Governmental implementing agencies, States have been given the flexibility of having State Extension Work Plans prepared and approved at the State level. At least 10 per cent of outlay of the Programme is to be utilized through involvement of non-governmental sector. Non-governmental implementing agencies (excluding the corporate sector) are also eligible for service charge up to a maximum of 10 percent of the cost of the extension activities implemented through them. Apart from other NGOs

8.4 The 'important features' of the 'Cafeteria of Activities' supported under Modified ATMA Scheme are as follows:-

financial assistance is also available for implementation of extension activities through agri-preneurs.

- Re-designating the Subject Matter Specialists (SMSs) as Assistant Technology Managers (ATMs).
- Increasing number of ATMs from existing two to average three ATMs per Block.
- Public extension functionaries are being made more effective through trainings and exposure visits. (MANAGE, Hyderabad offering PG Diploma in Agriculture Extension Management for public extension functionaries which is fully funded under the ATMA Programme).
- Use of interactive and innovative methods of information dissemination like pico-projectors, low cost films, hand held devices, mobile based service, etc.

8.5 Implementation Status

- Total 652 ATMAs have been constituted in 29 States and 3 UTs.
- Institutional arrangements viz. Inter Departmental Working Group (IDWG)/ in 29 States and 3 UTs, ATMA Core Committees – Governing Board (GB) & ATMA Managing Committee in 652 Districts; Block Technology Team (BTT) in 5990 Blocks & Block Farmer Advisory Committees (BFACs) reconstituted in 5351 Blocks; District FACs have been constituted in 575 districts and State Level FACs in 20 States.
- SEWP of 31 States/ UTs has been prepared and approved based on District Agriculture Action Plans of

640 ATMA districts. As against the B.E. of Rs.450.50 crores, an amount of Rs. 336.78 crores has been released to the States up to 8th March, 2016 for implementation of the Scheme and total release since the inception of the scheme in 2005-06 to 8th March, 2016 has been to the tune of Rs. 3142.64 crore.

- Physical performance of the Scheme since its inception in 2005-06 (April 2005 to December 2015) is as below:
 - o Over 3,60,07,848 farmers including 86,75,486 farm women (24.10%) have participated in farmer oriented activities like exposure visits, trainings, demonstrations, Farm Schools & kisan melas.
 - o Over 1,94,049 Commodity based Farmer Interest Group (CIGs)/ FIGs have so far been mobilized under the scheme.
 - o Over 93,463 Farm Schools have been organized on the fields of outstanding farmers.
- Progress of implementation during current financial year (up to December, 2016):
 - o Over 17,55,864 farmers including 3,96,467 farm women (22.57%) have participated in farmer oriented activities like exposure visits, trainings, demonstrations & kisan melas.
 - o 9,998 CIGs/ FIGs organized.
 - o 8,327 Farm Schools organized.
 - o 13,772 specialists & functionaries have been reported as deployed under ATMA

“Mass Media Support to Agricultural Extension”

8.6 This scheme is utilizing countrywide infrastructure and networks of All India Radio and Doordarshan and focusing dissemination of latest farm practices through Radio and Television networks. The Prasar Bharati, a ‘National Public Service Broadcaster’ is implementing this scheme. The objective of the scheme is to enhance and boost the Agriculture Extension system in the present scenario. At present the farmers need technology, investment, better quality inputs, real time information and most of all the latest know-how for sustaining commercial and cost effective sustainable agriculture. A major shift in the methodology of delivering knowledge to the farm has taken place. Radio and TV have the advantage of reaching a wide audience at a very low cost.

Telecast of Krishi Darshan Programmes on Doordarshan

8.7 Under this scheme, A 30 minute programme is being telecast 5-6 days a week through 01 National, 18 Regional Kendras and 180 High Power/Low Power Transmitters of Doordarshan. For telecasting success stories, innovations and for popularization change-setting technology and farming practices through the Saturday slot of Doordarshan’s National Channel, DAC is producing films, which would consciously project inter-alia positive aspects in agriculture and allied sector in India. During the period, 14 films (4 films on various horticulture practices and 10 success stories of the farmers) have been produced. With the view to disseminate service oriented real time information to the farming community, Dooradrashan is telecasting regular Krishi Darshan Programme on 1 Nation Channel in Hindi language, 18 state level regional channels

in respective regional languages five days a week and the 36 Narrowcasting Production Kendras producing two programmes a week and the same are being telecast through 180 High Power and Low Power Relay Transmitters. Keeping in view the importance of real time farm advisories, weather reports, early warning information, agriculture news and agriculture market trends, all Kendra of DD and AIR station are being telecasting/ broadcasting regular programmes on these subjects under respective segment of the programme.

Broadcast of Kisan Vani Programme on All India Radio

8.8 Under this component, 96 FM/AM stations of All India Radio are broadcasting 30-minute programme six days a week from 6.30-7.00 PM. Each station broadcasting separate programme in respective dialects/ languages. With easy availability of FM Radio on mobile phones, FM Stations can have wider outreach than before. However, depending on cost-benefit ratio, it will be endeavour of the Department to go in for alternative technologies such as Amplitude Modulations (AM), Digital Radio etc.

8.9 **Telecast/ Broadcast of spots/ jingles advisories under ‘Free Commercial Time (FCT)’ on AIR and DD:** In addition to above regular programmes, the Free Commercial Time (FCT) available under Krishi Darshan and Kisanvani programme is being utilized for dissemination of Advisories on Rabi / Kharif season, Jingles on Cooperatives spots on Kisan Call Centers, Judicious use of fertilizers, safe use of Pesticides, Machinery and Technology, Farm School, NFSM, Kisan Credit Card and Agri -Clinic and Agri -Business Centers (ACABC), package of practices available to the farmers under National Food Security Mission (NFSM), and other important flagship programmes

like Neem Coated urea, Pradhan Mantri Krishi Sichai Yajana, Crop Insurance Scheme, BGREI , National Agriculture Market, Siol health Card, Bee Keeping, NHM, Parampagat Krishi Vikas Yojana and Organic Farming etc and , contingency plan developed by State Governments and emergent issues like Drought, Flood etc.

8.10 Focused Publicity & Awareness Campaign through other media platforms:

Besides above, the '**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. This campaign will be continued during the 12th Plan also in an aesthetic, professional and politically neutral manner. Video Spots and Audio spots are being broadcast/telecast through AIR, DD, Lok Sabha TV and also on Private TV Channels. The above spots are being broadcast/telecast through AIR/DD and private national and regional TV channels during news and entertainment programmes. In addition to this, Ministry is using various multimedia platforms i.e. railway panels/ stations, bus panels, exhibitions through Directorate of Filed Publicity, web based digital platforms, hoardings etc. for massive media campaign on above flagship programmes.

8.11 Technical Support to DD Kisan Channel: Recently launched DD Kisan, a 24 hour agriculture based channel is catering the requirements of the farming community inclusive of research updates, extension advisories, market rates and weather updates and is also utilized extensively under the MMSAE for dissemination of information.

8.12 Support to Community Radio Stations (CRS):-To promote agriculture extension through mass media at community level,

the Ministry of Agriculture 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 transmitter 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 programmes.

8.13 Print Media: Curiosity of the stakeholders (particularly farmers) is expected to get whetted by the video and audio spots. More detailed inputs – preferably information having region specificity – will continue to be given through print advertisements and write-ups in regional languages. The national and regional newspapers are being utilized based on their circulation figures.

8.14 Mass Media Scheme in NE Region:
- The programmes under the scheme are being disseminated throughout the country including NE region benefiting the farmers of the area. In the NE Region the programmes are being disseminated in regional languages & local dialects through 1 Regional Kendra at Guwahati, 6 NC Programme Producing Kendras and 22 HPT/LPT along with 8 FM radio stations. The Regional and NC Kendras are producing programmes as per area based requirement and local dialects.

8.15 Financial Provisions:- During the year 2015-16, The amount of Rs 143.78 Cores has been earmarked under Central Sector Scheme Mass Media Support to Agriculture Extension for Krishi Darshan and Kisan Vani Programmes being implemented through Prasar Bharati and total of 82.50 Crores from other divisions/ components (60.00 Crores from PMKSY component and 22.5 Crores from RKVY scheme) has been allocated for 'Focused Publicity and Awareness

Campaign' through Radio/ TV /Print and other outdoor media platforms.

8.16 ESTABLISHMENT OF THE AGRICLINICS AND AGRIBUSINESS CENTRES (ACABC): The ACABC scheme is under implementation since April, 2002. The scheme aims at creating gainful self-employment opportunities to unemployed agricultural graduates, agricultural diploma holders, and intermediate in agriculture apart from science graduates with post-graduation in agriculture related courses for supporting agriculture development and supplementing the efforts of public extension.

8.17 MANAGE is the implementing agency for training component under the scheme through a network of identified Nodal Training Institutes (NTIs) in various states. **NABARD** is implementing subsidy component under the scheme on the behalf of Government of India and is monitoring credit support to Agri-Clinics through Commercial Banks.

8.18 The credit linked back-ended subsidy @ 36% of the Total Financial Outlay (TFO) capital cost of the project funded through bank loan is available under the scheme. This subsidy is 44% in respect of candidates belonging to SC/ST, Women and all categories of candidates from North-Eastern and Hill States.

8.19 So far, 45,836 candidates have been trained and 19,391 agri-ventures have been established in the country during the period of implementation of the scheme (since inception till December, 2015). During the year 2015-16, starting from April, 3279 candidates have been trained and 1530 agri-ventures have been established till December, 2015.

8.20 The ACABC scheme has been revised during 2010-11 with changes in relevant

operational aspects, aiming to provide better services to farmers, improvements in the quality of training and simplify the process of subsidy disbursement. Provision of extension service to farmers by these agri-preneurs has been made a mandatory component of the scheme. Details of the scheme may be seen at www.agriclinics.net.

8.21 PRE-SEASONAL DAC-ICAR INTERFACES: Pre-seasonal DAC-ICAR Interfaces (Subject Matter Group Meetings between ICAR and Subject Matter Divisions of DAC) are organized to evolve joint strategies on the emerging issues of agriculture and allied sector. The recommended action by these group meetings are further discussed during an interface meeting with active participation of officers from DAC, ICAR and Department of Animal Husbandry Dairying and Fisheries (AHD&F). The Pre-Kharif DAC-ICAR Interface was organized during March, 2015 and Pre- Rabi DAC- ICAR Interface was organized during September, 2015 and the group recommendations of the said interface were shared with senior officer of State Agriculture Department during National Conference on Agriculture for Kharif and Rabi Campaign held during April, 2015 and September, 2015 respectively.

8.22 KISAN CALL CENTERS (KCC): The KCC Scheme was launched on 21st January 2004 to provide answer to farmers' queries on agriculture and allied sectors through toll free telephone lines. A country wide common eleven digit number '1800-800-1551' has been allocated for KCC. The replies to the queries of the farming community are being given in 22 local languages. KCCs operate from 14 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 a week. Since inception of the scheme till 31st December, 2015 over 231.41

lakh calls have been registered in the KCCs. During the current year around 35.27 lakh calls have been received upto 31st December, 2015. In order to make farmers aware of this facility, audio and video spots on Kisan Call Centres have been broadcasts/telecast through All India Radio, Doordarshan and private television channels. A Kisan Knowledge Management system (KKMS) has been created at the backend to capture details of the farmers calling KCCs provide correct, consistent and quick replies to the queries of farmers is being developed and by the putting therein validated information on agriculture and allied sectors. Modified call Escalation Matrix has also been put in place. If the queries are not answered by FTA is escalated to concerned Block Level Officer for replying the query through KKMS interface by given time frame.

8.23 The Kisan Call Centre scheme has been recently restructured and strengthened, with a good number of unique features viz. provision of IPPBX, 100% call recording; call barging; voice mail service; customized IVRS; call conferencing through the experts; playing state specific advisories during call wait time and SMS to caller farmers giving a gist of answers given by the KCC Agent now known as Farm Tele Advisor. The farmer calling KCC can also register for receiving SMSs from experts on the subject area and their providing and also for receiving regular updates on mandi price of selected mandis and crops.

8.24 **HRD SUPPORT:** DAC 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 (EEIs) at the regional level and the State Agricultural Management & Extension

Training Institutes (SAMETIs) at the State level.

8.25 **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 188 training courses planned for 2015-16, 140 training courses have been organized by MANAGE up to December, 2015. Against the budget estimate of Rs.960.00 lakh, an amount of Rs. 830.00 lakh has been released till December, 2015.

8.26 The implementation of self-financing professional courses viz. two-year Post Graduate Programme 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 (organised on weekends/weekly holidays) are being continued during the year 2015-16.

8.27 **Extension Education Institutes (EEIs):** Four Extension Education Institutes namely, Nilokeri (Haryana), Rajendranagar, Hyderabad (Telangana), Anand (Gujarat), Jorhat (Assam) are functioning at the Regional Level. The objectives of EEIs are to improve the skills and professional competence of middle level Extension field functionaries of Agriculture and allied departments of the State Governments 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.

8.28 **During 2015-16, a total of 192 training programmes** have been approved by the

Directorate of Extension, consisting of 95 On-Campus and 97 Off-Campus trainings. Against this, 140 training programmes with 3476 participants (83 on campus and 57 off campus) have already been conducted (till December, 2015). Against the budget grant of Rs. 1,116.00 lakh (RE) an amount of Rs. 584.00 lakh has been released to the EEIs till December, 2015.

8.29 Model Training Courses (MTCs):

Model Training Courses of eight days duration on thrust areas of Agriculture, Horticulture, Animal Husbandry, Fisheries Extension are supported by the Directorate of Extension (DOE) with the objective of improving the professional competence and upgrading the knowledge and developing technical skills of Subject Matter Specialists/ Extension workers of Agriculture and allied departments of the State Governments. During the current, financial year 69 Model Training Courses have been planned, out of which 57 training courses have been organized till December, 2015. Against the budget grant of Rs. 160.00 lakh an amount of Rs. 133.61 lakh has been released till December, 2015.

8.30 National Gender Resource Centre in Agriculture (NGRCA) has been set up as a unit of Directorate of Extension (DOE) of the DAC 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 the convergence of gender related activities and issues in agriculture and allied sectors within and outside DAC; addressing gender dimension to agriculture policies and programmes; rendering advocacy/ advisory services to the States /UTs to internalize gender specific interventions for

bringing the farm women in the mainstream of agriculture development.

8.31 The following Macro/ Micro level and Action Research Studies have been initiated by the Centre.

- Study on "Adoption of Gender Friendly Tools by Women Farmers and its impact on their lives" – selection of the agency has been completed.
- Study on "Schemes for Improving Women Farmers Access to Extension Services and Gender Mainstreaming in Agriculture" – Selection of the agency has been completed.

8.32 Being a Nodal Agency for women in agriculture in DAC, Ministry of Agriculture, the Centre is actively involved in the revision of guidelines of various Beneficiary oriented scheme/programmes of DAC to ensure allocation of resources and flow of benefits to the woman farmers in proportion to their participation in agricultural activities.

8.33 MONITORING AND EVALUATION:

Support to State Extension Programme for Extension Reforms launched has a provision of third party monitoring at State level in May 2005 and draft model TORs for commissioning third party Monitoring & Evaluation of this Scheme were prepared by DAC in consultation with the States and circulated to all the States organising third party M&E Studies of the scheme. 18 States namely Andhra Pradesh, A&N Islands, Gujarat, Haryana, Himachal Pradesh, Kerala, Madhya Pradesh, Orissa, Punjab, Rajasthan, Tamilnadu, Uttar Pradesh, Uttrakhand, West Bengal, Arunachal Pradesh, Mizoram, Nagaland and Chhatisgarh have submitted their study reports. The other States are in the process of commissioning the study. The Extension Division has also conducted the centralized evaluation of the scheme through

an independent agency, Agriculture Finance Corporation (AFC). Important suggestions and issues for further improvements in ATMA schemes have already been dully addressed in the modified ATMA guidelines.

8.34 EXHIBITIONS: Agricultural exhibitions / Fairs are an effective means of reaching to a large number of farmers. DAC participates in India International Trade Fair (IITF) at Pragati Maidan, New Delhi by setting up an Agriculture Pavilion during the event, 6 Adhoc exhibitions/fairs at different places in the country being organized by Government and private sector agencies and 1 international exhibition/fair for creating export potential for agricultural products and services at the international level. DAC also supports 5 Regional Agricultural Fairs in the 5 regions viz. North, South, East, West and North East which are organized by State Agricultural Universities/ICAR Institute. In

pursuance of the objectives of participation in different exhibitions/fairs, DAC has participated in following events during the current year. The Directorate of Extension is participating in Agriculture Pavilion in IITF 2015 at Pragati Maidan from 14-27th November, 2015.

8.35 New Initiatives: The Division has introduced a quarterly e-bulletin; monthly e-book and Farmer Friendly Hand Book on yearly basis. These documents are available on Department's website www.agricoop.nic.in.

8.36 PROGRAMMES OF NORTH-EASTERN STATES: The status of implementation of Schemes in the North Eastern Region is as follows:

- a. Support to State Extension Programme for Extension Reforms

S. No	Name of the State	No. of ATMA Registered	Districts covered under Extension Reforms (ATMA) Scheme
1.	Arunachal Pradesh	17	East Siang, Lower Dibang Valley, Lohit, Lower subansiri, Papumpare, Tirap, West Kameng, Along, Anini, Anjaw, Changlang, Daporijo, KurungKumey, Seppa, Twanag, Yingkiona and Longding.
2.	Assam	26	Dhubri, Kokrajhar, Bongaigaon, Golpara, Barpeta, Kamrup, Balbari, Darrang, Morigaon, Sonitpur, Nagaon, Karbi Anglong, Dima Hasao, Cachar, Hailakandi, Karimganj, Golaghat, Lakhimpur, Jorhat, Dhemaji, Dibrugarh, Sivsagar Tinsukia,, Chirang, Baksa, Udalguri.
3.	Manipur	9	Imphal (E), Imphal (W), Thoubal, Senapati, Bishnupur, Churachandrapur, Chandel, Ukhrul & Tamenglona.
4.	Mizoram	8	Aizawl, Champhai, Kolasib, Lunglei, Serchhip, Mamit, Lawngtlai & Saiha.
5.	Meghalaya	11	East Khasi Hills, West Khasi Hills, South West Khasi Hills, Ri-Bhio, East Jaintia Hills, West Jaintia Hills, East Garo Hills, West Garo Hills, North Garo Hills, South Garo Hills and South Garo Hills.
6.	Nagaland	11	Dimapur, Kohima & Mokokchung, Tuensang, Mon, Phek, Zunheboto, Wokha, Longleng, Kiphire, Peren.
7.	Sikkim	4	South Distt., East Distt, North Distt., West District
8.	Tripura	8	North Tripura, South Tripura, West Tripura, Gomati, Sepahijala, Unakoti, Khowai & Dhalai.
	Total	94	

8.37 During the current year 2015-16, Budget Estimate of Rs.50.00 crore was earmarked for North Eastern States for implementing the scheme. Out of which, an amount of Rs.27.05 crore has been released to Arunachal

Pradesh (Rs.5.08 Crore), Mizoram (Rs.1.84 Crore), Nagaland (Rs.4.02 Crore), Assam (5.22 crore), Tripura (Rs.0.69 Crore) Sikkim (Rs.1.96 Crore), Manipur (Rs. 4.18 Crore) till December, 2015.

Sl	Name of the State	Name of Narrowcasting Station	Name of the FM Kisan Vani Station
1	Arunachal Pradesh	-	Itanagar
2	Assam	Tinsukhia, Margheretia, Jorhat, Sonari, Nazira, Dibrugarh	Jorhat, Dhubri, Hafflong, Nowgong
3	Manipur	Imphal, Churachandpur, Ukhrul	--
4	Meghalaya	Shillong, Nongstoin, Jowai, Cherrapunjee	Jowai
5	Mizoram	Aizwal, Lawangtlal, Lunglei	Lunglei
6	Nagaland	Gangtok	Mokokchung
7	Tripura	Agartala, Kailasahr, Tellamura, Amarpur, Jolaibari	Kailasahr, Belonia

8.38 **Mass Media Support to Agricultural Extension:** List of Narrowcasting and FM Kisanvani Stations in the North Eastern Region is given below:

These stations are producing/ broadcasting 30 minutes agricultural programmes, 5/6 days a week.

8.39 **KisanCall Centers (KCCs):** The KCC located at Guwahati caters to the needs of the North Eastern Region. Queries are replied in different languages depending upon the area from where the query is received. Since the beginning of scheme, the calls registered from various states of North-Eastern Region are, Arunachal Pradesh (4726), Assam (1,92,699), Manipur (26,127), Meghalaya (12,825), Mizoram (7,478), Nagaland (2581), Sikkim (9058) and Tripura (30,940). The calls registered from these states during current year up to 31st December, 2015 are Arunachal Pradesh (1185), Assam (43,755), Manipur (2362), Meghalaya (1547), Mizoram (965),

Nagaland (432), Sikkim (2084) & Tripura (6252).

8.40 **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 functionaries of in 8 States of North Eastern Region and West Bengal. During the year 2015-16 (till December, 2015) 13 courses have been organized and 402 officers trained. An amount Rs. 106.00 lakhs has been released to EEI Jorhat till December, 2015 as against the budget estimate of Rs. 150.00 lakh.

8.41 **Gender Initiatives Under Extension Reforms (ATMA) Initiative of Sub-Mission on Agricultural Extension (SMAE) Under Nmaet:**

1. ATMA programme provides that minimum 30% resources are to be utilized for women farmers. To improve participation of women in planning & decision making process,

- the scheme provides for representation and active involvement of women at various decision making platforms viz. ATMA GB at district level & Farmer Advisory Committees at block level.
2. Since inception of the scheme in 2005-06, total 85,26,870 farm women (25.73% of the total benefited farmers) have participated in farmer oriented activities like exposure visit, training, demonstration & kisan melas including 2,47,851 women farmers benefited during 2015-16 (up to 31st December, 2015).
 3. In addition, ATMA supports organizing atleast 3 women Food Security Groups/ block to ensure food and nutritional security at the household and community level.
- For the first time, in the team of committed 'extension functionaries' engaged with Government of India, support (90%) one 'Gender Coordinator' at the State level has been included.

GENDER INITIATIVES

S. No.	Activity/ Programme	Details of Activities/ Programmes in which women are involved	Target	Achievements	Budget Allocation	Amount Utilized	Remarks
A	ATMA Programme	Minimum 30% of resources meant for programmatic activities are to be utilized for women farmers.	-	2,47,851 women farmers have participated in farmer oriented activities during 2015-16 (till 31 st December, 2015).	30% of the budget earmarked for farmer oriented filed activities.	-	To improve participation of women in planning & decision making process, the scheme provides for representation and active involvement of women at various decision making platforms viz. ATMA GB & ATMA MC at district level & Farmer Advisory Committees at State, District and block.

**Best Practices reported under ATMA
Dev. Block Baijnath**

Theme	System of Rice Intensification in Hybrid Paddy Arize 6129	
Name of Farmer	Smt. Sarita Devi W/o Sh. Bikram Chand.	
Block/Village	Baijnath/Ganikheta	
Mobile Number	9418727817	
Best Practice	Less Seed Rate of 6 Kg per Ha. Transplanting 15-18 days old seedling having 3-4 leaves and incorporating weeds mechanically by use of Cono weeder	
Benefits interm of	Before adoption	After Adoption
Increase in Yield	Normal yield of 20 to 25 Qtl per ha.	Higher Yield of 50 to 65 Qtl per ha.
Increase in income	No marketable surplus, only paddy crop grown for family consumption. (Farmer is having only 0.4 ha. of land).	By adopting SRI in paddy, put only 0.08 ha under paddy for family consumption and rest under vegetables earning Rs 50000/ in Kharif from vegetables. (Surplus land available for diversification by adopting SRI in paddy.
Saving in labour	Approximately 260 mandays are required per ha.	Approximately 197 mandays are required. Saving of 63 mandays per ha.
Saving in cost of cultivation	Higher cost of Cultivation Approximately Rs. 73,000/- per hectare	Less cost of Cultivation Approximately Rs. 60,000/- per hectare.
Any Other	Formed Women Interest Group under ATMA by motivating adjoining 19 womens for cultivation of Paddy by SRI method	

**Best Practices reported under ATMA
Dev. Block Bhawarna**

Theme:	Cultivation of Flower under Protected Cultivation	
Name of Farmer:	Sh. Ranjit Rana S/o Sh.Lal Singh	
Block/Village:	Rakh/Bhawarna	
MobileNumber:	9816155814	
Best Practice:	Saving seed cost by Self Seed Production of Lilium & Chrysanthemum Bulbs. Use of Plastic Mulch and Drip irrigation system to conserve water. Use of Vermicompost to avoid weeds.	
Benefits in term of	Before adoption	After Adoption

Theme:	Cultivation of Flower under Protected Cultivation	
Increase in Yield	Fragmented yields and damage to crops	Protected Cultivation sustained the crop yields and allowed year round crop of good quality
Increase in income	Net income of Rs.15000 to 20000/- per annum	Net income increased to Rs. 40000 to 50000/- per annum
Saving in labour	3000 to 3600 Mandays days per annum	Labour reduced to 2000 to 2500 man days per annum
Saving in cost of cultivation		20 percent savings realized
Any Other	Motivated 5 farmers of the area to adopt protected cultivation. Provided Gainful employment to 4 labourers engaged year round in flower cultivation. Best Farmers award at Block level under ATMA	

8.42 Use of Information Technology:

The National Policy for Farmers, 2007 lays emphasis on the use of information technology for achieving rapid development of agriculture in India. The thrust of the Information and Communication Technology (ICT) initiatives is on **e-Governance**, i.e., to make improved services accessible to farmers and other allied groups/stakeholders, using ICT as the facilitator media. For success of e-Governance, it is necessary that adequate hardware, software and training support is provided at various levels.

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

The Government is implementing a state sector plan scheme (erstwhile centrally sponsored) Mission Mode Project (MMP) **National e-Governance Plan in Agriculture (NeGP-A)** which was initially launched in seven selected States in the last quarter of 2010-11 has been extended to cover all the States and UTs in the countries from 2014-15. This scheme has now been subsumed in the National Mission on Agriculture and Information Technology (NMAET) as one of the sub components under the title-Sub Mission on Agriculture Extension. This scheme has since been subsumed under the Krishonnati Yojana (state plan) from 2015-16 with funds sharing

pattern between Centre and State in the ratio of 90:10 for N.E. & Himalayan States, 60:40 for rest of the States & 100 % centre share for Union Territories.

8.44 This Scheme aims to achieve rapid development of agriculture in India through the use of ICT for ensuring timely access to agriculture related information for the farmers of the country. Such information is intended to be provided to farmers through multiple delivery channels such as Internet, Government Offices, Touch Screen Kiosks, Krishi Vigyan Kendras, Kisan Call Centres, Agri Clinics, Common Service Centers, Mobile Phones (Broadcast, IVRS, interactive messaging using unstructured Supplementary Service Data and Voice Recognition). Twelve identified clusters of services under the project is under implementation. The services include Information on Pesticides, Fertilizers and Seeds; Soil Health; Information on crops, farm machinery, training and Good Agricultural Practices (GAPs); Weather advisories; Information on prices, arrivals, procurement points, and providing interaction platform; Electronic certification for exports and import; Information on marketing infrastructure; Monitoring implementation / evaluation of schemes and programmes;

Information on fishery inputs; Information on irrigation infrastructure; Drought Relief and Management; Livestock Management.

8.45 Kisan Call Centres (KCC): KCCs has been launched since 21st January 2004 with the basic aim to provide information to farming community through toll free telephone number (1800 180 1551) on all seven days a week from 06.00 AM to 10.00 PM. Since its inception, it has registered more than **2.31 crore** calls till December, 2015. Recently, KCCs have been revamped and restructured by consolidation and appointing a new service provider for KCC to set up state of the art KCCs at 14 identified locations. The restructured KCCs are now more professional with the technological innovations like Voice/Media Gateways, Dedicated MPLS leased line network with dedicated bandwidth, Call barging, Voice mail system for recording farmer's queries during idle time of KCC or during call lines busy, with provision for call back to the caller, Facility of video conferencing of each KCC for interaction of Farm Tele Advisors with the Divisional/Zonal Level Officers of the State Agriculture and allied departments as well as on line monitoring for the working of KCCs.

8.46 Farmers' Portal: This portal aims to serve as a One Stop Shop for all the farmers for accessing information on agricultural activities. Besides giving links to appropriate pages of the 60 plus portals already developed so far, the Farmers' Portal links the location of the farmer (from his Block) with NARP (National Agricultural Research Project) Zone that he belongs to. Thereafter, all information related to the crops grown in that area (coupled with agro-climatic conditions in that region) is then provided to the farmer using a graphical interface. Farmers can get information about a package of practices; crop and seed varieties; common

pests; dealer network for seeds, fertilizers & pesticides; machinery and tools; agro-met advisories, etc. The Portal is operation in beta version.

8.47 mKisan Portal: This Portal subsumes all mobile based initiatives in the field of Agriculture & allied sectors. It brings together SMS (both Push and Pull), Interactive Voice Response System, Unstructured Supplementary Services of Data or USSD (which is essentially Interactive SMS and can facilitate data entry and query on Web Portals without internet), Mobile Apps and Services. Officers, Scientists and Experts from from all Organisations and Departments of the GoI and State Governments (including State Agriculture Universities(SAUs) , Krishi Vigyan Kendras(KVKs) and Agro-Meteorological Field Units (AMFUs) are using this Portal all over the country are using this Portal for disseminating information(giving topical & seasonal advisories and providing services through SMSs to farmers in their local languages) on various agricultural activities to registered farmers, more than 1043 crore SMSs till December, 2015 have been sent to farmers by all agencies/organisation/departments in agriculture and allied sectors down to Block level throughout the country. The content may include information about the Schemes, Advisories from Experts, Market Prices, Weather Reports, Soil Test Reports etc. The farmers can register for this service by calling Kisan Call Center on the toll free number 1800-180-1551 or through the Web Portal. SMS based registration has also been introduced. A farmer can give upto 8 choices for his/her preferred while registering for the service. The farmers registered for receiving SMS messages have been grouped based on the State, District, Block and the Crops/Activities selected by respective farmers. The SMS Portal provides a platform for integration

of service delivery under different sectors viz. Agriculture, Horticulture, Animal Husbandry and Fisheries. The Government has prepared a comprehensive SMS Policy to send the targeted messages and to avoid duplicacy.

8.48 Mobile Application: The GoI has also developed the following mobile applications for android with GPS tagging.

Hail Storm application:- Farmer or other stakeholder may upload hail storm photograph with GPS tagging.

Crop Insurance:- Farmer can know insurance premium, notified area etc. on the mobile.

Agri Market:- Farmer can know the prices of various crops in the mandis near him.

Digital Agriculture (Agriculture 2.0): Digital Agriculture (Agriculture 2.0), has been accorded Cabinet approval on 25th March 2015 as a separate Mission Mode project (MMP) under e-Kranti, now known as Digital India. Services related to Cooperation, Fertilizer testing Labs, Agriculture, Census, Integrated Cold Chain Availability Platform (ICAP) for Horticulture, Development of Mobile Apps and Integration with Bhuwan portal etc. are covered in Digital Agriculture.

8.49 Strengthening of IT Apparatus in Agriculture and Cooperation in the States and Union Territories (AGRISNET): The Government is implementing a Central Sector Plan Scheme “Strengthening/Promoting Agricultural Informatics & Communications”, of which one of the components is AGRISNET. The objective of AGRISNET is to provide improved services to the farming community through use of ICT. Under the AGRISNET Scheme, proposals are considered on submission of

functional requirement of the concerned State/UT Governments on the basis of specific project proposals submitted by the State/UT Governments, and after consideration of the project proposal by the Approval-cum –Monitoring Committee (headed by the Additional Secretary and with the recommendations of the Committee, funds are released to the State Government concerned for provisioning of software and hardware systems including networking, data digitization, manpower training to ensure computerization upto Block level. 26 States have so far availed of funds released by the Government under AGRISNET. This is a continuing scheme since 2005-06 and have now been integrated under the National Mission on Agriculture and Information Technology (NMAET).

Seed:

8.50 Sub-Mission on Seed and Planting Material (SMSP): Central Sector Scheme “Development and Strengthening of Infrastructure Facilities for the Production and Distribution of Quality Seeds” was under implementation on all India basis since 2005-06. The scheme is now subsumed into the new “Sub Mission on Seed and Planting Material (SMSP)” under the new centrally Sponsored Scheme “National Mission on Agricultural Extension and Technology (NMAET)”. The Mission is intended to develop and strengthen the existing infrastructure for production and distribution of certified / quality seeds with a focused, time bound and integrated agenda to improve the availability of quality seeds for the farmers and to encourage the development of new varieties of plants. The existing components of the scheme are as under :

Sl. No.	Intervention
i.	Strengthening for Seed Quality Control
ii.	Strengthening of Grow Out Test(GOT) Facilities
iii.	Support to Seed Certification Agencies
iv.	Seed Village Programme
v.	Certified seed production 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.	Application of Bio-technology in Agriculture
xi.	Public Private Partnership in Seed Sector
xii.	Assistance for Boosting Seed Production in Private Sector
xiii.	Support to Sub-Mission Director and Survey / Studies
xiv.	PPV&FRA

8.51 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 production of certified seeds from 2005-06 to 2015-16 are shown in the following table:

Year	Production/Availability of Seed (Metric Tonnes)		
	Breeder Seed (Production)	Foundation Seed	Certified / Quality seed
2005-06	6823	74800	1405000
2006-07	7382	79654	1481800
2007-08	9196	85254	1943100
2008-09	9441	96274	2503500
2009-10	10683	114638	2797200
2010-11	11921	180640	3213592
2011-12	12338	222681	3536200
2012-13	11020	161700	3285800
2013-14	8229	174307	3473130
2014-15	8621	157616	3517664
2015-16	8621.32	149542	3435248

8.52 Strengthening of Seeds Quality Control Organizations (State Seed Certification Agencies and State Seed Testing Laboratories): - The responsibility

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 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.

8.53 Policy on Export/Import of Seeds and Planting Materials: - The export/ import of seeds have increased with rationalization and simplification of the export/import regime. This has benefited Indian farmers, the seed industry and entrepreneurs. 110 cases were recommended for issue of export and 163 cases were recommended for import during the year 2015-16 (upto Feb, 2016).

8.54 Implementation of Protection of for Plant Varieties and Farmers' Rights:

- Legislation for Protection of Plant Varieties and Farmers Rights' was enacted in 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. The Central Sector Scheme for the Protection of Plant Varieties and Farmers' Rights Authority (PPV&FRA) provides necessary back-up support for implementation of this legislation. The major achievement in this regard are detailed below.

- ✓ Distinctiveness, Uniformity and Stability (DUS) test guidelines of 10 new Crops/Species have been published in the Gazette of India vide 1796 (E) dated 2nd July 2015 : : Jasmine (*Jasminum auriculatum* L.), tuberose (*Polianthes tuberose* L.), Papaya (*Carica papaya* L.),

China Aster (*Callistephus chinensis* (L) Nees), Peach (*Punus persica* L batsch), Japanese Plum (*Prunus, Salicina* L.), Strawberry (*Fragaria x ananasam* Duch), Chilli, Bell Pepper and Paprika (*Capsicum annuum* L), Finger Millet (*Eleusine coracana* (L) Gaertn.), Foxtail Millet (*Setaria italic* (L) Beauv). Further, DUS test Guidelines for five crop species namely Vegetable Amaranth (*Amaranthus tricolor* L.) Palak/Spinach beet (*Beta vulgaris* var.bengalensis Roxb), Ridge gourd (*Luffa acutangula* (L) Roxb.), Orchid (*Paphiopedilum* Pfitz.) Carnation (*Dianthus caryophyllus* L.) have been approved by the Authority.

- ✓ DUS test guidelines of 30 New Crops/ Species are under various stages of development. DUS Test guidelines of 4 crop species (Noni, Nutmeg, Bael and Jamum) have been finalized and published in Plant Variety Journal of India.
- ✓ The Authority has organised 300 programs for training, awareness and capacity building and two National Seminar and three State Level Seminar-cum-Agro biodiversity fair and exhibition as per the provisions of the PPV&FR Act, 2001 including Farmers Rights, Breeders Rights, Researchers Right involving different stakeholders.
- ✓ Branch offices have been established at Ranchi and Guwahati to facilitate the registration of farmers' varieties and other varieties. The Branch offices also monitor DUS centers within their territorial region, provide support in the development of DUS guidelines and organize training and awareness programmes.

- ✓ During the year, about 2011 applications have been received for registration for grant of protection by the Authority under the PPV&FR Act and 266 registration certificates have been issued.
- ✓ 107 DUS test centres are being supported by the Authority which are located in various institutions of ICAR, ICFRE, CSIR, other reputed research organizations and State Agriculture Universities.
- ✓ Databases on Indian Information System as per DUS Guidelines (IINDUS) and Notified and Released Varieties of India (NORV) already developed by the Authority are being regularly updated and being used by the PPV&FR Authority.
- ✓ National Gene Bank for conserving seeds of registered varieties has been established at Delhi and four field gene banks have also been established at Dapoli, Ranchi, Solan and Jodhpur especially for maintaining referral samples of perennial asexually/vegetatively propagated crops.
- ✓ Authority regularly updates its website in English and Hindi (<http://www.plantauthority.gov.in>). Provision for online filling of application for registration and Authority portal has also been initiated.

8.55 National Seed Research and Training Centre (NSRTC) at Varanasi, Uttar Pradesh: - The National Seed Research and Training Centre (NSRTC) Varanasi (Uttar Pradesh) has been functioning since Oct.,2005 and has been notified as Central Seed Testing and Referral Laboratory (CSTL) with effect from 01.04.2007. The mandate of NSRTC is to have a separate National Seed Quality Control Laboratory

to maintain uniformity in Seed Testing and to assure supply of quality seeds at National Level. It also acts as Referral Laboratory under Court of Law for seed related issues. It is a premiere Institute for capacity building in relation to maintaining Seed Quality assurance by offering HRD activities round the year. The CSTL working under ambit of NSRTC is also a member Laboratory of International Seed Testing Association (ISTA), since 2007. As per National programme to maintain uniformity in seed testing, NSRTC has analysed approximately 19,068 nos. of seed sample during 2014-15 under 5% re-testing programme. Besides, a number of 213 Court Referred Seed Samples have also been analysed in the CSTL as and when received from the respective Court.

8.56 The details of the seed sample received and analyzed during last five years and current year are given as under :-

S I. No.	Year	Total Nos. of Seed Samples received and analyzed	Court Seed Samples received and analyzed
I.	2010-11	13,859	66
II.	2011-12	15,978	66
III.	2012-13	17,808	89
IV.	2013-14	18,951	106
V.	2014-15	19,068	213
VI.	2015-16	14,925	42

8.57 During 2014-15 and 2015-16 (upto 30.11.2015), NSRTC had organized 12 & 7 National Training programmes on various seed related issues, for the benefits of various stakeholders of Public and Private Sector. In

addition NSRTC has also organized National Seed Congress at Bhopal, Madhya Pradesh in 2014-15 and Hyderabad, Andhra Pradesh in 2015-16.

8.58 National Seeds Corporation: The Department of Agriculture, Cooperation and Farmers Welfare had two Central Public Sector Undertakings namely National Seeds Corporation (NSC) and the State Farms Corporation of India (SFCI), after soliciting the approval of the Cabinet and completion of codal formalities of the Ministry of Corporate Affairs, SFCI has been amalgamated with the NSC w.e.f 1.4.2014 to bring about greater synergy in production and distribution of quality seeds. NSC is scheduled 'B' Central Public Sector Enterprise (CPSE) and also enjoys "Mini Ratna" (Category-I) status. The performance of NSC during 2014-15 is as under: -

- ❖ During 2014-15 NSC earned profit After tax(PAT) of Rs. 38.84 crores as compared to Rs. 54.07 crores during 2013-14, and declared dividend Rs.8.13 crore @ 15% on prorata basis on the paid up capital of the corporation. A quantity of 15.51 lakh Qtl seeds has been procured during the financial year 2014-15. NSC is undertaking seed production of more than 600 varieties/hybrids/ lines including parental lines of about 60 crops consisting of cereals, millets, oilseeds, pulses, fodder, fibers, green manure, potato and wide range of vegetables crops.

8.59 Use of Bt. Cotton Hybrid Seeds: - Bt. Cotton is the only transgenic crop approved in the country for commercial cultivation. The Genetic Engineering Approval Committee (GEAC) of the Ministry of Environment and Forests 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 1128 Bt. Cotton hybrid seeds are available for cultivation in the country. These Bt. Cotton hybrids are grown in nine States i.e., Gujarat, Madhya Pradesh, Maharashtra, Andhra Pradesh, Karnataka, Tamil Nadu, Haryana, Punjab and Rajasthan. The area under Bt. Cotton has increased from 29073 ha in Kharif 2002 to 118.35 lakh ha. in 2014-15 (91% of total cotton area)

8.60 National Seed Reserve: - The Establishment & Maintenance of Seed Bank Programme has been re-structured as National Seed Reserve for implementation during the remaining period of 12th Plan w.e.f. 2014-15 – 2016-17. The basic objectives of the scheme are to meet the requirement of seeds of short and medium duration crops varieties of farmers during natural calamities and unforeseen conditions. The National Seed Reserve (NSR) programme is implemented by about 22 implementing agencies in the country namely NSC, State Seeds Corporations and State Department of Agriculture Tamil Nadu, Himachal Pradesh and Jammu & Kashmir. Under the programme one time financial assistance for procurement of seeds called Revolving fund and cost of material handling equipment is provided to the implementing agency. Assistance is also provided for maintenance of certified and foundation seeds of identified crops, , construction of seed godown, establishment of seed processing plant, Cost of Material handling equipment, Cost of service out sourced and computerization & networking facilities, besides price differential cost for left over stock of seeds as per norms of the scheme. The quantity of certified and foundation seeds maintained under NSR and amount released to the participating agencies during 2014-15 and 2015-16 are as under:-

(Rs. in lakhs)

Year	Targets of Physical quantity in lakh quintals	Physical Achievement in lakh quintals	Amount released to implementing agencies
2014-15	3.65	2.27	1341.82
2015-16	3.65	3.00(likely)	1226.00

8.61 Seed Village Programme : - In order to upgrade the quality of farmer saved seeds which is about 60-65% of the total seeds used for crop production programme, following interventions are made :

- 50% assistance for the 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.
- Farmers' Trainings:** Financial assistance of Rs.15000 per group (50-150 farmers each group) is provided for farmers training on seed production and post harvest seed technology (Rs.0.15 lakh)
- 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.
- Seed Storage bins:** To encourage farmers to develop storage capacity of appropriate quality, financial assistance will be given to farmers for purchasing Seed Storage bins. The rate of assistance is as under.

@33% for SC/ST farmers for 10 qtls. capacity upto maximum of Rs.1500

@33% for SC/ST farmers for 20 qtls. capacity upto maximum of Rs.3000

@25% for General farmers for 10 qtls. capacity upto maximum of Rs.1000

@25% for General farmers for 20 qtls. capacity upto 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 size of seed bins as per demand of farmer and financial assistance is reduced accordingly.

The year-wise physical progress of the programme is as under :-

Year	Number of Seed Village Organized	Quantity of Seed Produced (In Lakh Quintals)
2006-07	10,778	22.961
2007-08	18,121	40.070
2008-09	35,212	58.009
2009-10	69,127	79.564
2010-11	1,01,067	161.553
2011-12	89,244	199.28
2012-13	78,943	116.708
2013-14	68,455	145.14
2014-15	47,981	188.91
2015-16	8,987	24.45 (upto 09.02.2016)

* The progress from most implementing agencies is yet to be received after crop harvest.

8.62 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, 494 such projects have been sanctioned for the small entrepreneurs in 16 States with 107.72 lakh qtls. seed

processing capacity and storage capacity of 38.12 lakh qtls.

8.63 Programme Being Implemented in the North-Eastern States: - Details of the programmes being implemented in the NE region is at **Annexure-8.1**.

8.64 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 National Bureau of Plant Genetic Resources (NBPGR). In order to harmonize New Policy on Seed Development, 1988 with the National Seed Policy, 2002, 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 the satisfactory results of trial/evaluation, an eligible importer may apply for the bulk import of such seeds to the DAC.

- (ii) Similar procedure of trial/evaluation has been recommended for import of the seeds of coarse cereals, pulses and oil seeds.

Further, Seeds Division has simplified the forms for export and import of seeds and planting materials..

8.65 Implementation of OECD Seed Schemes In India

The objective of the Organisation for Economic Co-operation and Development (OECD) Seed Schemes is to encourage use of seeds of consistently high quality in participating countries. These schemes authorize the use of labels and certificates for seed produced and processed for international trade according to OECD guidelines. India's participation in OECD Seed Schemes aims to enhance its seed export capabilities and probabilities.

The Department of Agriculture and Cooperation has become a member of OECD Seed Scheme from 23rd October, 2008 and 109 varieties in 20 crops have been entered in OECD list of varieties and 74 varieties of Agricultural crops sent to

OECD Secretariat for enlisting in the OECD list of varieties. Awareness workshops and hands-on-training and gearing up State Seed Certification Agencies for registration of OECD listed varieties have also been taken up for implementation of OECD Varietal Certification in India. In addition, a Book on OECD varietal certification in India has been published.

8.66 Gender Perspective in the Implementation of SMSP: There is no separate allocation of funds under the schemes of Seeds Division for women farmers. Implementing agencies/ States have been requested to allocate sufficient funds/ participation of women in Seed Village Programme.

8.67 Sub Mission on Agricultural Mechanization (SMAM): Agriculture Mechanization is an essential input to modern agriculture to increase the productivity and for making judicious use of other inputs like seeds, fertilizers, chemicals & pesticides and natural resources like water, soil nutrients etc. besides reducing the 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 addition of the farm produce and also enabling the farmers to take second and subsequent crops making Indian agriculture more attractive and profitable. It also helps the Indian farming to become commercial instead of 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 1.841 kW per ha to 2.0 kW per ha by the end of 12th FY Plan to cope up with increasing demand of food grains.

8.68 As per the Agriculture Census 2010-11, the average size of all land holding is 1.15

ha which 1.23 was ha in the last Agriculture Census of 2005-06. About 85 % of the total land holdings are in small and marginal size groups which need special efforts for its mechanization.

8.69 Subsequently, recognizing the need to mechanize the marginal and small farmers, and for inclusive growth of Farm mechanization Sector in the country a **Sub Mission on Agriculture Mechanization (SMAM)** was launched in the year 2014-15 with the following objectives:

- Increasing the reach of farm mechanization to small and marginal farmers and to the regions where availability of farm power is low;
- Promoting 'Custom Hiring Centres' to offset the adverse economies of scale arising due to small land holding and high cost of individual ownership;
- Promoting solar photovoltaic water pumping system.
- 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.

Financial assistance in SMAM under its various components:

8.70 The financial assistance as cost subsidy to the tune of 25-40% is being provided for the individual ownership of the farm machinery which is also applicable for farm machinery component under RKVY, NFSM, NHM & NMOOP schemes for different categories of Machinery & Equipment. The

financial assistance @40% is provided for establishment of farm machinery banks to provide the custom hiring services for the benefits of small and marginal farmers. For installing solar photovoltaic water pumping system, financial assistance of Rs 432000/horse power to Rs 63,360/Horsepower is provided. To promote the mechanization in selected village with low level of farm mechanization, financial assistance @80% of the project cost for farm machinery banks is given to the group of minimum 8 farmers. Hiring assistance for various farm operations carried out through the farm machinery banks set up under financial assistance is also provided @ 50% of the cost of operation/ha limited to Rs. 2000 per ha. to farmers. The financial assistance @Rs.4000/ha is provided for demonstrations in the villages identified with low productivity of cereals, pulses & oil seeds in other Missions. Department is also promoting Farm Mechanization in North Eastern States. As a result of different programmes implemented by the Government of India over the years and equal participation from Private Sector, the farm mechanization has been increasing steadily over the years. This is evident from the sale of tractors and power tillers, taken as indicator of the adoption of the 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 Sale (Nos.)
2010-11	5,45,109	55,100
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

Average farm power availability for the cultivated areas of the country has been increased from 0.293 kW/ha in 1971-72 to 1.841 kW/ha in 2012-13

Training of Farmers & Technicians

8.71 The Farm Machinery Training & Testing Institutes (FMTTIs) located at Budni (Madhya Pradesh), Hissar (Haryana), Garladinne (Andhra Pradesh), and Biswanath Chariali (Assam), are imparting training to different categories of beneficiaries like farmers, technicians, under graduate engineers, entrepreneurs and the foreign nationals nominated under international exchange treaty on selection, operation, maintenance, energy conservation and management of agricultural equipments. These Institutes are conducting testing and performance evaluation of various agricultural implements and machines. During the year 2014-15, 6773 persons were trained till 31st March, 2015 against the annual target of 6000 in different courses. It is proposed to increase the training target during 12th five year plan under Sub Mission on Agricultural Mechanization. To supplement the efforts of the FMTTIs, outsourcing of the training through the SAUs, Agricultural Engineering colleges, polytechnics, etc. has already been approved. The identified institutions are reimbursed Rs 4000 per trainee per week, which also includes a stipend of Rs 500 per trainee per week and to and fro travel expenses by normal mode of transport. During the year 2015-16 total 4983 trainees have been trained till 31st December, 2015 against the annual target of 6000 in different courses.



Testing and Evaluation of Farm Machinery & Equipment

8.72 The 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 National designated authority for testing of tractors

as per OECD codes. The institute at Hissar conducts commercial tests on self-propelled combine harvesters, irrigation pumps, plant protection equipment, agricultural implements and other machines as per relevant BIS codes and authorized to issue the certificate under CMVR 1989 in respect of the combined harvesters. The Institute at Garladinne is authorized to test power tillers and also conduct tests

on various agricultural implements / equipment components. The institute at Biswanath Chariali (Assam) tests bullock drawn implements, manually operated equipment, tractor drawn implements, self propelled machines and small hand tools. The four FMTTIs altogether have tested 260 machines of various categories, including tractors, power-tillers, combine harvesters, and other machinery and equipments, till 31st March, 2015 against the target of 165 for the year 2014-15. During 2015-16, total 214 farm machines have been tested till 31st December, 2015 against the target of 165 machineries.

8.73 To cope up with the ever increasing demand of testing of agricultural machines and equipments, DAC & FW has designated 30 testing centers at State Agricultural Universities (SAUs), ICAR Institutions and State Agricultural Departments as Authorized Testing Centers to test selected type of agricultural machinery and equipments under different categories of farm machinery. Relevant information has been made available on the departmental

website <http://farmech.gov.in> for wider publicity among the users/manufacturers and other stake holders. Central Institute of Agricultural Engineering (CIAE), Bhopal and Punjab Agricultural University (PAU), Ludhiana has been designated as authorized testing centers in addition to FMTTI, Hisar and Budni to test tractor mounted combine harvesters. Central Institute of Agricultural Engineering (CIAE), Bhopal and Junagarh Agricultural University (JAU), Junagarh, Dr. P.D.K.V Akola, K.K.V. Dapoli have been designated as authorized testing centers in addition to FMTTI, Hisar to test plant protection equipments. Central Institute of Post harvest Engineering and technology (CIPHET) Ludhiana has been designated as authorized testing center for testing all types of post harvest technology equipments and machinery.

8.74 An agricultural fair “**Krishi Darshan Expo 2015**”, was Organized at Northern Region Farm Machinery Training and Testing Institute Hisar **from 17th to 19th** October, 2015 in which 261 Exhibitors participated and witnessed by 1,27,432 farmers.



Demonstration of Newly Developed Agricultural/Horticultural Equipment

8.75 To support and encourage the Agriculture mechanization at field level and to bring the awareness of new technologies among the 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 Center Sector Scheme is provided @Rs 4000 per ha up to 100 ha per season for the field demonstration of farm machinery and post harvesting technology/equipments on farmer's field. During the year 2014-15, under component 1 of the SMAM scheme, demonstrations has been conducted in 2004 ha., in which 4039 trainees were participated. During the current financial year 2015-16 (till 31st December, 2015) demonstrations has been conducted in 1220 ha. and 2754 trainees were trained.

8.76 The component 2 of SMAM "Demonstration, Training and Distribution of Post Harvest Technology and Management (PHTM)". The objective of this component is to develop and improve the technical know-how and management of post harvest technologies for its proper and effective

utilization. During the year 2014-15, under component 2 of the SMAM scheme, 1220 demonstrations have been conducted, in which 2754 trainees were participated. During the current financial year 2015-16 (till 31st December 2015) 2122 demonstrations have been conducted and 2540 trainees were trained.

- **Custom Hiring Centres:** To promote the mechanization of small and marginal farm holdings and farm holding in difficult area with low level of mechanization, the efforts has been made to concentrate on establishment of farm Machinery Bank & Hi tech, high productive farm machinery hubs for custom hiring services. Under the components 4,5 & 6 of the SMAM total Rs 48.67 crore as cost subsidy, has already been released to States in the first installment to establish 501 Farm machinery Banks for providing the custom hiring services in the country till December 2015.
- **Farm Mechanization Programmes under various schemes of Agriculture:** Financial Assistance in the form of subsidy at the rate of 25-50 percent under RKVY, NFSM & NHM, NMOOP is applicable as per guidelines of SMAM to the farmers for individual ownership



of agricultural equipment including hand tools, bullock-drawn/ power-driven implements, planting, reaping, harvesting and threshing equipment, tractors, power-tillers and other specialized agricultural machines

- **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 2014-15 total 823 trainees were trained at this institute against the target of 800 and tested 23

nos. of agricultural implements and machinery against the annual target of 18. To support the agricultural Mechanization in North Eastern States where the Mechanization level is very low, the cost subsidy is provided @ 100% limited to Rs. 1.25 lakhs/beneficiary for procurement of various agricultural machinery and equipments for individual ownership and @95% limited to Rs. 10 lakhs for individual ownership of farm machinery for the establishment of Farm Machinery Banks with a minimum of 8-10 farmers. During the year 2015-16, cost subsidy of Rs. 10.76 crores has already been released to NE States under the different components of SMAM.



8.77 Gender Friendly Equipment for Women: Under the component 1 of SMAM, Agricultural Mechanization through Training, Testing, and Demonstration, a total 1040 women were trained during 2014- 15 till 31st March, 2015. During the current Financial Year 2015-16, (till December, 2015) 947 women farmers have been trained at FMTTIs. A list of about

30 identified gender-friendly tools and equipment developed by the Research and Development Organization for use in different farm operations has already been sent to all states and UTs. for popularizing them. State governments have been directed to earmark 30 per cent of total funds allocated under SMAM for women beneficiaries.



8.78 State Agro Industries Corporations: The Government of India had advised the State Governments in the year 1964, to set up State Agro Industries Corporations (SAICs) in the public sector to act as catalysts in providing access to industrial inputs to farmers, for their use in agriculture. Thus, 17 SAICs were set up in the joint sector with equity participation of the Government of India and the respective State Governments of Andhra Pradesh, Assam, Bihar, Gujarat, Haryana, Himachal Pradesh, Jammu and

Kashmir, Karnataka, Kerala, Madhya Pradesh, Maharashtra, Orissa, Punjab, Rajasthan, Uttar Pradesh, Tamil Nadu and West Bengal during 1965 to 1970. Many of the State Governments have increased their equity participation as a result of which the Government of India, at present, is a minority shareholder. SAICs have since expanded their basic functions by commencing manufacture and marketing of agricultural inputs, implements, machines, after-sales service, promotion and development of agro-based

units/industries. The Government of India is implementing a policy of disinvestment of its shares in SAICs with a view to give greater decision making power to the State governments by allowing transfer of its shares to state governments.

8.79 Sub Mission on Plant Protection and Plant Quarantine (SMPP): 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 agricultural bio-security from the incursions 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. The Destructive Insects and Pests Act, 1914 and the Insecticides Act, 1968 provide the legal framework for the regulatory function in this regard. The Sub-Mission has 4 important components, (i) Strengthening and Modernization of Plant Quarantine Facilities (SMPQF), (ii) Strengthening and Modernization of Pest Management Approach (SMPMA), (iii) Monitoring of Pesticide Residues at National Level (MPRNL) and the (iv) National Institute of Plant Health Management (NIPHM).

(i) Strengthening and Modernization of Plant Quarantine Facilities (SMPQF)

8.80 The objective of Plant Quarantine is to prevent introduction of exotic pests, diseases and weeds which are likely to be introduced through import of plants or plant products into India. Conversely, India is also required to fulfill its obligation under the International Plant Protection Convention (IPPC) with regard to safety of its agri-exports from the phytosanitary angle. .

8.81 Plant Quarantine (Regulation of Import into India) Order, 2003 notified under provisions of Destructive Insect and Pests Act, 1914 (DIP Act) provides regulatory framework for imports of Plants and Plant Products. Post entry quarantine inspection is carried out, where needed, in imports of seeds and planting material for propagation. 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 through 57 Plant Quarantine Stations (PQS) functioning under 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 of agricultural products. Technical dossiers for Pest Risk Analysis (PRA) of potential exportable agri-commodities are prepared under this scheme to gain market access in foreign markets. Similarly, market access proposals of our international trading partners are also appraised on technical grounds.

8.82 The funds under SMPQF are utilized for supporting staff, infrastructure, capacity building and laboratory analysis associated with quarantine and phytosanitary responsibilities. PQS at Bongaon, Cochin, Kandla, Visakhapatnam, Trivendrum, Mangalore, Tuticorin, Hyderabad, Bangalore and Kakinada are ISO 9001:2008 certified and PQS Calicut and Trichy are also identified for ISO certification for 2015-16. In addition to ISO: 9001:2008 certification, three major PQS, namely, Chennai, Mumbai and New Delhi have achieved NABL accreditation; ISO/IEC: 17025:2005 for the Scheme; "Monitoring of Pesticide Residues at National Level". Five major Plant Quarantine Stations, namely, Amritsar, Chennai, Kolkata, New Delhi

and Mumbai have been equipped with modern diagnostic facilities for screening plant material to detect fungal, bacterial and viral diseases. Plant Quarantine Station has started functioning at Goa International Airport, Goa.

8.83 During 2015-16 (up to October, 2015) Pest Risk Analysis (PRA) of 07 agricultural commodities was carried out for import and technical information was provided for export of 25 agricultural commodities to the concerned National Plant Protection Organizations. 27,680 Import Permits (IP) were issued for seed and plant material and screening of 8854525.006 metric tons of imported agricultural commodities was undertaken. Phytosanitary certification for export of 14499284.91 lakh metric tons of plant and Plant products was conducted and 1,89,274 number of Phytosanitary Certificates (PSC) issued. As on 31.10.2015, 520 Pest Control Agencies have been accredited for undertaking fumigation with methyl bromide including 186 new agencies and 340 agencies have been accredited for Forced Hot Air Treatment (FHAT) for wood and wood packing material including 26 new agencies. Further, 359 Pest Control Agencies were accredited for undertaking fumigation with Aluminum Phosphide under NSPM-22 including 34 new agencies.

Ease of Doing Business

8.84 The web based **Plant Quarantine Information System (PQIS)** which provides plant quarantine services related to the online issuance of Import Permits (IP), Phytosanitary Certificates (PSC) and Import Release Orders (IRO) to importers and exporters is being integrated with customs Gateway (ICEGATE) to facilitate seamless integration and single window facilitation to importers

and exporters with a view to improving the environment for doing business.

8.85 Further, the PQ import procedures have been simplified and elaborated in the recent Standard Operating Procedure for Phytosanitary inspections and clearances of plants/plant products & other regulated articles within stipulated timelines.

(ii) Strengthening and Modernisation of Pest Management Approach (SMPMA)

8.86 **Integrated Pest Management:** The Government is committed to popularizing Integrated Pest Management (IPM) under a Central Sector Scheme "Strengthening and Modernization of Pest Management Approach in India". The scheme seeks to promote cultural, mechanical, biological methods of pest control and recommends use of chemical pesticides as a measure of last resort. The Central Government has established 35 Central Integrated Pest Management Centres (CIPMC) in 29 States and one UT. The mandate of these Centres is to conduct pest/disease monitoring, production and release of bio-control agents/bio-pesticides, conservation of bio-control agents and Human Resource Development in IPM approach. Training is imparted to Agriculture/Horticulture Extension Officers and farmers at grass roots level through Season Long Training Programmes, Human Resource Development Programmes and Farmers Field Schools (FFSs). The FFS provides practical training to farmers on the principles of IPM: survey and surveillance for pests and friendly insects, use of locally available bio-control agents, cultural, physical, mechanical methods of pest control, use of bio-pesticides, effects of pesticides on natural enemies of pests and safe and judicious use of pesticides. These schools are conducted separately for the Kharif and

Rabi seasons, each FFS lasting 14 weeks. During 2015-16 (up to October, 2015), 369 FFSs were conducted by CIPMCs in which 11070 farmers were trained.

8.87 A national plan on rodent pest management is under implementation to build capacity trained manpower, create awareness, involve community based organizations and launch rodent control campaigns at village level at identified endemic areas.

8.88 CIPMCs conduct pest/disease monitoring and conservation, production and release of bio-control agents. Pest and disease situation was surveyed covering 4.73 lakh hectares. A total of 130.64 crore bio-control agents were mass produced in laboratories and released against targeted insect-pests in various crops. Augmentation and conservation was taken up in 596.20 thousand hectares. Under short duration HRD programme total 40 (two days) and 04 (five days) programmes were also organized. 02 number of Season Long Training Programme (SLTP) were also organized in Banana and Coconut crops through which 80 master trainers were trained.

8.89 **Seed treatment Campaign:** Seed treatment is the use and application of chemical and biological agents on seeds to control primary soil and seed borne infestation of insects and diseases. Seed treatment campaign is being taken up every year since 1997 by the Department of Agriculture, Cooperation & Farmers Welfare (DAC&FW) during Kharif and Rabi seasons in active collaboration with State Departments of Agriculture.

Grow safe food campaign:

8.90 Pesticides are critical inputs in agriculture in that they protect crops from

depredations from pests and diseases. However, pesticides are toxic substances and are likely to leave behind traces in crops which may be in excess of the Maximum Residue Limits, if applied in an indiscriminate and unapproved manner. Pesticides are, therefore, subjected to rigorous evaluation at the time of registration and specific conditions for application are clearly spelt out. If the methodology for pesticide application on crops is followed in toto in accordance with the instructions on labels and leaflets of pesticide containers, the likelihood of discovery of pesticide residue in crops above the safe limit become virtually nonexistent.

8.91 In recent times, reports are being received from some parts of the country regarding indiscriminate use of pesticides in disregard of approved methods of application. As a consequence, residues are being discovered, particularly in crops like fruits, vegetables, spices etc which are sometimes in breach of the safety limit. Such residues can have a deleterious effect on human health and is therefore, a cause for public concern. The Department of Agriculture, Cooperation & Farmers Welfare has been working in tandem with State Governments, pesticide manufacturers and farmers to create an all round awareness on the need to grow safe food.

8.92 Pesticide residue levels are being monitored on an all India basis and State Governments are being apprised whenever instances of pesticide over-use come to light. Advisories are being sent to pesticides dealers to build awareness on the importance of instructions on pesticide labels and leaflets for production of safe food and other agricultural produce. Dealers are being exhorted to disseminate this vital message among their farmer customers.

8.93 A 'Grow Safe Food' campaign has been initiated to carry the message of safe and judicious use of pesticides to farmers and other stakeholders. A simple message on the five essential principles of judicious pesticides use – application of pesticides on the right crop, against pests for which the pesticide has been approved, at the right time, in approved doses, and as per approved method of application – is sought to be conveyed through hoardings, banners etc. in regional languages in Gram Panchayats and rural areas. A logo has been developed to signify the importance of the endeavour.

8.94 Implementation of Insecticides Act, 1968: The Insecticides Act, 1968 regulates import, manufacture, sale, transportation, distribution and use of insecticides with a view to preventing risks to humans and/or animals. Registration Committee, constituted under Section 5 of the Act, registers pesticides under Section 9 of the Act after verifying efficacy and safety of the product. 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 9(4)/9(3B)/9(3)/Export/Endorsements of the Insecticides Act, 1968. The Certificates of Registration under section 9(4) along with labels and leaflets are being generated from the data base of 9(3) created in the Sectt. of CIB&RC in Computerized Registration of Pesticides (**CROP**) Software. Label/leaflets of pesticide containers have been revised to facilitate farmers in the safe use of pesticide.

8.95 Central Insecticide Laboratory (CIL): The quality of pesticides is monitored by Central and State Insecticide Inspectors who draw samples of insecticides from pesticide manufactures/ dealers for analysis in 68

State Pesticide Testing Laboratories (SPTLs) spread across 23 States and one Union Territory. For the States which do not have facilities for testing pesticides, Regional Pesticide Testing Laboratories (RPTLs) have been set up by Central Government at Chandigarh and Kanpur. In case of dispute, samples are referred to Central Insecticides Laboratory (CIL), Faridabad. For quality assurance in pesticide analysis, the CIL has obtained accreditation from 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-pesticides testing facilities is being provided to states. Eight labs and NIPHM have been notified for testing bio-pesticides to function at par with CIL for bio pesticides testing. Funds are provided to state governments for setting up/ strengthening pesticide testing labs.

8.96 Creation of necessary infrastructure is under process at National Pesticide Reference Repository (NPRR) and National Pesticide Investigational Laboratory (NPIL). NPRR will store and supply reference standards, etc necessary for analysis of pesticide samples while NPIL will help detect presence of chemical pesticides in microbial bio-pesticide products. This laboratory will also house a technical audit division for pesticide testing laboratories. NPRR and NPIL are expected to bring about a qualitative change in standards of quality testing of pesticides.

8.97 Locust Control and Research: The scheme 'Locust Control and Research' is being implemented through an Organisation known as Locust Warning Organisation (LWO), which 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 the States of Punjab, Haryana and Jammu & Kashmir. The scheme has 10 Locust Circle Offices (LCOs) located at Bikaner, Jaisalmer, Barmer, Palanpur, Bhuj, Jalore, Phalodi, Nagaur, Suratgarh and Churu with its field Headquarters at Jodhpur and a Central Headquarter at Faridabad. Besides, there is a Field Station for Investigations on Locusts (FSIL) situated at Bikaner. To strengthen the locust monitoring and forecasting, an advanced device viz. e-Locust 3 to monitor the Desert Locust activities in the fields and software RAMSES to prepare vegetation maps and collect survey data based on satellite imageries for locust forecasting has been adopted. LWO maintains its own wireless network for exchange of information between various field offices and headquarter at Faridabad. Wireless communication between Jodhpur (India) and Karachi (Pakistan) is also maintained every year during June to November for exchange of information on locust development and coordination between the two countries. Satisfactory locust control potential is being maintained in the form of ready to use pesticides, plant protection equipments, wireless sets, Global Positioning System (GPS), e-Locust 3 and trained technical and mechanical staff. Presently, the total staff strength of Locust Control and Research Scheme at various levels is 254 (Central H.Q 5, Field H.Q. Jodhpur 44, Field Circle Offices 178 and FSIL Bikaner 27).

8.98 National Desert Locust Situation and Control Campaign: India continued to remain free from any species of gregarious desert locusts during the year 2015-16. During the year upto October 2015, four Indo- Pak Border Meetings were held between locust

officials of both the countries. A close liaison was maintained throughout the year with FAO and other agencies / organizations through exchange of Bulletins / information. So far, 14 numbers of Locust Situation Bulletins have been issued. 115 lakh ha. area in SDA was scanned during the locust surveys and monitoring (target 97 lakh ha).

Pesticide Management Bill, 2008

8.99 The Pesticide Management Bill 2008, which is intended to replace Insecticides Act, 1968 to provide for a more effective regulatory framework for introduction and use of pesticides in the country was introduced in the Parliament (Rajya Sabha) on 21.10.2008. The Parliament Standing Committee on Agriculture laid its report on the Bill in Parliament on 18.02.2009. The recommendations of the Standing Committee have been examined and taking into account these recommendations, the official amendments to the Pesticides Management Bill are being finalized for introduction into Parliament.

8.100 Monitoring of Pesticide Residue at the National Level: 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 agriculture products at farm-gate and market yards. Samples of agricultural commodities and food commodities, including animal produce, are drawn and analyzed in 25 participating laboratories of the Central Government and State 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.

8.101 Capacity Building in Plant Protection: National Institute of Plant Health Management (NIPHM) is a training institute for plant health under Ministry of Agriculture and Farmers Welfare. NIPHM has entered into MOUs with select institutions and started new courses, including training courses for officers of DPPQ&S. During 2015-16 (upto October, 2015) 85 regular training courses were conducted at NIPHM, wherein 2016 officers from various States and Organizations were trained. Under NIPHM-USDA collaboration in June 2015, NIPHM had organized 2nd Regional Plant Health System Analysis (RPHSA) Programme for 13 international and 19 national participants. Training programmes for farmers (668) in on-farm Production of Bio-control Agents and

Microbial Bio-pesticides to promote AESA based PHM in conjunction with Ecological Engineering for Pest Management was organized. In collaboration with Department of Agriculture, Tamilnadu, NIPHM has taken initiative (a project on 'Income Enhancement through Establishment of Eco-friendly IPM model villages'), under which 7 training programmes for 276 farmers from 10 districts of Tamilnadu were organised.

Women in Plant Protection

8.102 Indian women folk have been playing significant role in agriculture since times immemorial and are major partners in all agriculture related activities and operations, be it sowing, transplanting, weeding, rouging, picking, plucking, harvesting or threshing. As far as plant protection is concerned, women have played a vital role in weeding, rouging (of pest infested plants/parts) and also in the pesticide spray

operations etc. in every part of the country. Women are also benefited in the plant protection skills and methods through Farmers Field Schools (FFSs) organized by CIPMCs.

8.103 National Agricultural Bio-security System: In view of threat perception to bio-security of country on account of increasing international trade, emergence of transboundary diseases of plants and animals (such as Ug-99 wheat stem rust and avian influenza), introduction of genetically modified organisms, climate change and

bioterrorism, a proposal for putting in place a National Agricultural Bio-security System (NABS) was prepared. The proposal is based on recommendation of National Commission on Farmers headed by Prof. M.S. Swaminathan and National Policy on Farmers 2007. The proposal envisages creation of an autonomous National Agricultural Bio-security Authority (NABA) for which an Agricultural Bio-security Bill, 2013 was introduced in Lok Sabha on 11.03.2014 but it lapsed with the dissolution of Lok Sabha. It is proposed to re-introduce the Bill.

Chapter 9

National Crop Insurance Programme (NCIP)

Agriculture Insurance

9.1 Keeping in view the risks involved in agriculture and to insure the farming community against various risks, 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. To enlarge the coverage in terms of farmers, crops and risks, National Agricultural Insurance Scheme (NAIS) was notified/ implemented with effect from 1999. To make the crop insurance schemes more farmers' friendly, a re-structured Central Sector crop insurance scheme namely, "National Crop Insurance Programme (NCIP)" has been approved by merging Modified National Agricultural Insurance Scheme (MNAIS), Weather Based Crop Insurance Scheme (WBCIS) and Coconut Palm Insurance Scheme (CPIS) (as its components) with some improvements for full-fledged implementation from Rabi 2013-14 season throughout the country. National Agricultural Insurance Scheme (NAIS) was to be discontinued after implementation of NCIP from Rabi 2013-14 season. However, on the representations and at the option of States, NAIS has been allowed in few States for the year 2015-16.

9.2 The scheme is optional for State Governments and they can notify crops and areas according to provisions of schemes. The components under the scheme are being implemented in the country on 'Area

Approach' basis where yield of notified areas under MNAIS and weather data of notified Reference Automatic Weather Stations (AWSs) under WBCIS are taken as one unit for assessment/ payment of claims for widespread calamities. However, claims are also being paid on the basis of losses at individual farms due to localized calamities like hailstorm and landslides under MNAIS and hailstorm & Cloudburst under WBCIS as add-on/ index-plus coverage. The penetration/ coverage of these schemes in terms of number of farmers has reached about 23% of the total number of land-holdings in the country.

9.3 The coverage of farmers under NCIP by the terminal year of 12th Plan (i.e. 2016-17) was projected at 50% with help of improvements/ changes made in NCIP component schemes of MNAIS, WBCIS and CPIS. The salient features of the NCIP are listed below:-

- i) Implementation is made compulsory for loanee farmers.
- ii) Two indemnity levels of 80% and 90% would be available; instead of three i.e. 70%, 80% and 90% under MNAIS.
- iii) Under WBCIS, provision for add-on/ index plus products for horticultural crops for compensating losses due to perils of hailstorm, cloudburst etc.
- iv) For successful implementation of WBCIS, 5000 AWS will be set-up in the country through the model of Private Public Participation (PPP).

- v) Pilots for use of modern technology (RST)/Satellite imageries to supplement the yield assessment through crop cutting experiments (CCE).
 - vi) Insurance eligibility condition of having at least 10 healthy palms by farmer has been reduced to 5 palms under CPIS.
 - vii) Increased Sum Insured under CPIS.
 - viii) Loss intimation time has been increased from 7 days to 15 days under CPIS.
- 9.4 The total funds released by Government of India under various schemes for crop insurance are as under:

(Rs. crore)

Plan/ Year	NAIS (since Rabi 1999-2000)	WBCIS (since Kharif 2007)	MNAIS (since Rabi 2010-11)	CPIS (since 2009-10)	Total
IX Plan (1997-2002)	811.49	-	-	-	811.49
X Plan (2002-07)	2626.84	-	-	-	2626.84
XI Plan (2007-12)	5851.88	1370.37	87.15	1.95	7311.35
XII Plan (2012-17)					
2012-13	700.00	655.00	194.18	0.50	1549.68
2013-14	1600.00	700.00	251.02	0.50	2551.52
2014-15	1543.56	470.00	584.79	Nil	2598.35
2015-16*	1935.71	630.79	413.88		2980.39

* as on 31.03.2016

9.5 Rs.2823.00 crore and Rs.3185.09 crore have been allocated in the Budget Estimates and Revised Estimates for 2015-16 respectively for all existing crop insurance schemes (viz NAIS, MNAIS, WBCIS and CPIS).

9.6 During the last 33 crop seasons (i.e from Rabi 1999-2000 to Kharif 2015), 3536 lakh farmers were covered over an area of 4953 lakh hectares insuring a sum amounting to Rs.606674 crore. Total premium of Rs. 28945 crore were collected against the claims of Rs. 52922 crore benefiting 1212 lakh farmers.

National Agricultural Insurance Scheme (NAIS)

9.7 With a view to provide financial support to farmers in the event of loss/ failure of any of the notified crop in the notified areas as

a result of natural calamities (flood, drought etc), pests and diseases, National Agricultural Insurance Scheme (NAIS) with introduced in the country from Rabi 1999-2000 season in place of erstwhile Comprehensive Crop Insurance Scheme (CCIS). NAIS was to be discontinued after implementation of National Crop Insurance Programme (NCIP) from Rabi 2013-14 season. However, on the representations from States, NAIS has been allowed to continue upto 2015-16. The scheme is available to all the farmers (loanee and non-loanee) irrespective of their size of land-holding. Loanee farmers are covered on compulsory basis in a notified area for notified crops whereas for non-loanee farmers, the scheme is voluntary.

9.8 The scheme covers all the food crops (cereals, millets and pulses), oilseeds and annual commercial/ horticultural crops,

in respect of which past yield data is available for adequate number of years. The administered premium rates are charged which range from 1.5% to 3.5% of the sum insured for food and oilseed crops for normal sum insured and indemnity level. In the case of commercial/ horticultural crops, higher sum insured and indemnity than the normal, actuarial rates are charged. Under the scheme, 10% subsidy in premium is available to small and marginal farmers.

9.9 Financial liability towards claims over and above 100% of premium collected in case of Food Crops and Oilseeds, Bank Service charges and 20% of Administrative and office expenses are to be borne by the Government and are shared on 50:50 basis

by the Central Government and the State Governments. All claims in case of annual horticultural/ commercial crops and higher sum insured and indemnity than the normal under food and oilseed crops are paid by the implementing agency.

9.10 The scheme is optional for States/ Union Territories (UTs). The scheme is implemented by 25 States and 2 UTs in one or more seasons. The scheme is demand-driven. However, the progress of the scheme can be measured in terms of farmers/area covered, sum insured, premium collected, claims paid and farmers benefited. State-wise details of farmers covered, area covered, sum insured etc under NAIS since its inception i.e Rabi 1999-2000 to Kharif 2015 are given as under:

**NATIONAL AGRICULTURAL INSURANCE SCHEME (NAIS)
NAIS - BUSINESS STATISTICS FROM RABI 1999-2000 TO Kharif 2015 i.e. FOR 33 SEASONS**

S. No.	State	No. of Farmers Covered	Area Insured (In Hec.)	Rs. (In Lakhs)			No. of Farmers Benefitted
				Sum Insured	Premium	Total Claims	
1	Andhra Pradesh	30498889	46196802.77	6459243.53	186171.33	488855.21	6897943
2	Assam	422654	309482.42	90821.88	2530.74	1687.30	65963
3	Bihar	9271653	10405015.89	2310359.54	53692.51	306123.35	3277833
4	Chhattisgarh	11728099	23376652.42	1481710.91	37696.93	39967.48	1712134
5	Goa	8211	13440.13	318.12	5.65	2.36	702
6	Gujarat	15494171	35190624.63	4930466.40	202671.80	841185.84	5593245
7	Haryana	635778	769038.32	83496.10	2413.98	4336.39	129424
8	Himachal Pradesh	362700	284370.70	74054.75	1589.93	1828.78	108562
9	Jharkhand	6877479	4203916.99	444550.07	10926.64	52466.07	2188050
10	Karnataka	14013046	22102882.88	1937544.06	56355.23	194943.65	5223118
11	Kerala	461282	414760.68	87165.63	1881.59	3062.82	85470
12	Madhya Pradesh	41258600	97860999.94	9080309.59	214278.05	536606.18	7684185
13	Maharashtra	48347904	38422588.10	3684790.57	163204.61	473513.76	14970986
14	Manipur	35645	57471.71	14812.25	368.73	1226.20	29932
15	Meghalaya	35694	35677.99	7179.85	313.08	68.46	3600
16	Mizoram	121	133.79	23.24	0.58	11.23	119

S. No.	State	No. of Farmers Covered	Area Insured (In Hec.)	Rs. (In Lakhs)			No. of Farmers Benefitted
				Sum Insured	Premium	Total Claims	
17	Orissa	19869088	19360765.87	3575373.09	89740.97	209443.56	3233725
18	Rajasthan	15058674	31379980.35	1620309.00	45754.35	262165.99	5200566
19	Sikkim	1924	1361.87	267.90	4.32	1.28	86
20	Tamilnadu	7349888	9449547.79	2186541.72	57726.61	296868.98	2840476
21	Telengana	1041314	1208024.17	528333.89	15861.38	2204.19	53591
22	Tripura	20709	13752.03	3160.11	87.07	58.31	3432
23	U t t a r Pradesh	23426012	31070385.59	3353782.49	68482.01	116937.52	4517617
24	Uttarakhand	399156	372508.94	87097.93	1978.13	4188.31	119370
25	West Bengal	14133404	6999579.84	1809289.61	84636.87	137087.74	3042985
26	A & N Island	4282	6579.18	2177.43	60.64	115.22	944
27	Puducherry	41984	58341.54	11050.12	214.46	316.95	7269
28	Jammu & Kashmir	49065	68994.99	10902.23	213.80	126.42	4492
GRAND TOTAL		260847426	379633682	43875132	1298862	3975400	66995819

*Claim for season Rabi 2014-15 yet to be reported from Puducherry

**Kharif 2015 data is provisional//Claim for season Kharif 2015 not reported from all states

Modified National Agricultural Insurance Scheme (MNAIS)

9.11 The scheme is implemented as a full-fledged component of NCIP from Rabi 2013-14. The major improved provisions/ features of MNAIS are as under:

- Reduction in unit area of insurance to village/ village panchayat,
- Actuarial premium rates for insuring crops and hence, liability of claims is on insurance company,
- Private insurance companies have also been involved for implementation to provide competitive service to the farmers.
- Higher subsidy in premium ranging upto 75% to all farmers,
- Sum Insured for the premium above the prescribed cap, is reduced proportionately,
- More proficient basis for calculation of threshold yield (average yield of last 7 years excluding upto two years of declared natural calamity).
- Higher minimum indemnity level of 70% instead of 60% in NAIS,
- Indemnity amount for prevented sowing/planting risks and for post harvest losses due to cyclones.
- On account payment upto 25% of likely claims as advance for providing immediate relief to farmers during adverse season,
- An individual assessment of claims in case of specified localized calamity viz. hailstorm, landslide,
- Uniform seasonality norms for both loanee & non loanee farmers,

9.12 State-wise cumulative details of coverage till Kharif 2015 under the scheme are given in the table below:-

Modified National Agricultural Insurance Scheme (Mnais)

Since its inception till Kharif 2015

(Rs. in Lakh)

Sl. No.	State / UT	Farmers Insured	Area Insured (Ha)	Sum Insured	Gross Premium	Claims	Farmers benefitted (No.)
1	Andhra Pradesh	1800258	1882122	813647	77193	79602	587852
2	Andaman & Nicobar	783	1230	460	16	6	184
3	Assam	19929	15685	6504	250	102	1837
4	Bihar	1382947	1570615	262832	53227	21320	269128
5	Chhatisgarh	18	32	5	0	0	0
6	Goa	296	291	78	2	0	0
7	Gujarat	432	591	261	28	0	0
8	Haryana	262687	446690	184767	6195	5041	46374
9	Jharkhand	117472.00	118015.76	26666.08	2611.37	400.33	8834.00
10	Karnataka	1565692	2297265	371383	39376	24570	457830
11	Kerala	30827	39524	15540	793	434	1571
12	Madhya Pradesh	218380	359048	51089	1991	873	12717
13	Maharashtra	51964	49621	7621	1362	0	0
14	Mizoram	512	488	99	6	9	512
15	Orissa	425024	280280	103217	3511	21363	198161
16	Rajasthan	10822513	12020974	847948	101435	69867	2339271
17	Tamil Nadu	476483	522840	134936	14041	25908	231448
18	Telengana	708787	998089	406455	13762	6349	67839
19	Tripura	0	0	0	0	0	0
20	Uttar Pradesh	3860793	5194569	1212983	78213	110593	1459408
21	Uttarakhand	164212	135999	49419	1135	1336	29545
22	West Bengal	1943351	961459	501798	46574	28926	426245
	Total	23853360	26895426	4997707	441723	396701	6138756

Kharif 2015 data is provisional. Claims of Kharif 2015 not reported from all States and all companies.

* Claims for Kharif 2014 season is yet to be reported from Tamil Nadu.

Weather Based Crop Insurance Scheme (WBCIS)

9.13 With the objective to bring more farmers under the fold of crop insurance and to overcome the shortcoming regarding delay in settlement of claims etc under NAIS, a pilot Weather Based Crop Insurance Scheme (WBCIS) was launched in 20 States (as announced in the Union Budget 2007-08). WBCIS is implemented as a full-fledged component scheme of NCIP from Rabi 2013-14 season. WBCIS intends to provide insurance protection to the farmers against adverse weather incidence, such as deficit and excess rainfall, high or low temperature, humidity etc. which are deemed to impact adversely the crop production. It has the advantage to settle the claims within shortest possible time. Under WBCIS, actuarial rates of premium are charged. However, to make the scheme affordable to farmers, subsidy

upto 50% of the premium is provided by the Government which is shared by the Centre and State concerned on 50:50 basis. Actuarial rates of premium are capped at 10% during Kharif and 8% during Rabi for food crops and oilseeds. For annual commercial/ horticultural crops, cap of 12% on actuarial rates of premium is applicable. In case the actuarial premium is more than the prescribed capped rate, then actual Sum Insured & resultant claims, if any, were also reduced proportionately. Both loanee and non-loanee farmers are covered under WBCIS irrespective of size of their land-holding. Like NAIS, the loanee farmers are covered on compulsory basis in a notified area for notified crops whereas for non-loanee farmers, scheme is voluntary. Further, to provide competitive service to the farmers, private insurance companies have been involved for implementation besides the Agriculture Insurance Company of India Ltd.

9.14 State-wise cumulative progress achieved is as under:-

Weather Based Crop Insurance Scheme (WBCIS)

Since Inception till Kharif 2015

Rs. in Lakh

Sl. No.	State / UT	No. of Farmers Insured	Area Insured (Ha)	Sum Insured	Gross Premium	Claims*	No. of Farmers benefitted
1	Andhra Pradesh	3615033	5904464	1510119	150737	92814	2103997
2	Assam	53357	30287	18356	1849	1779	41337
3	Bihar	12889399	13114093	3043374	265821	200007	10648017
4	Chhatisgarh	1287074	2246719	443314	42148	31947	843828
5	Gujarat	497661	413126	22395	2239	857	170576
6	Haryana	359388	602023	190262	16768	6565	250497
7	Himachal Pradesh	266420	2258389	99463	11439	9266	200325
8	Jharkhand	585354	561879	120853	10661	7836	526468
9	Jammu & Kashmir	1364	809	461	46	54	1364
10	Karnataka	984854	1219819	234388	26573	18699	792754

Sl. No.	State / UT	No. of Farmers Insured	Area Insured (Ha)	Sum Insured	Gross Premium	Claims*	No. of Farmers benefitted
11	Kerala	143481	104310	32526	3235	2039	95494
12	Madhya Pradesh	1211107	1803858	445310	42449	26151	1032626
13	Maharashtra	2756894	2783844	657192	74168	96234	2424900
14	Orissa	315742	456504	65781	5656	3210	215814
15	Punjab	67	338	48	5	1	50
16	Rajasthan	42085936	55601533	4481085	448787	385496	27414451
17	Tamil Nadu	133814	178639	84761	3268	2501	73237
18	Telengana	161188	167282	50196	4954	5561	69240
19	Uttar Pradesh	1158131	981989	216638	35154	37155	1031461
20	Uttarakhand	167167	225932	57129	5716	8292	107362
21	West Bengal	122365	117829	20918	1999	1427	63521
	TOTAL	68795796	88773665	11794571	1153675	937892	48107319

*Claim for season Kharif 2014 yet to be reported from West Bengal.

Coconut Palm Insurance Scheme (CPIS)

9.15 The Coconut Palm Insurance Scheme (CPIS) is implemented since the year 2009-10 in the selected areas of Andhra Pradesh, Goa, Karnataka, Kerala, Maharashtra, Orissa, Tamil Nadu and West Bengal. Now, the scheme is implemented as a full-fledged component scheme of NCIP from Rabi 2013-14 season in all coconut growing States. The scheme is administered by Coconut Development Board. Insurance coverage is extended to the total loss of the individual palm in the age group of 4 to 60 years for dwarf and hybrid and 7 to 60 years for tall variety, leading to either death of palm or the palm becoming useless due to various natural and other perils. The farmers should have at least 5 healthy nut bearing palms in the age group of 4 to 60 years in contiguous area/ plot and should have been enrolled by State Agriculture/

Horticulture Department or Coconut Development Board or any other such agency under rehabilitation/ development/ expansion scheme. The Sum Insured is based on the average input cost of the plantation and the age of the specific plant. The Sum Insured varies from Rs. 900 per palm (in the age group of 4-15 years) to Rs. 1725 per palm (in the age group of 16-60 years). The premium rate per palm ranges from Rs. 9.00 (in the age group of 4 to 15 years) to Rs. 14.00 (in the age group of 16 to 60 years) and it varies on sum insured per year, considering the age of specific palm. Fifty per cent of premium is contributed by GOI; 25% by the concerned State Government and the remaining 25% by the farmer. The Insurance Company i.e. Agriculture Insurance Company (AIC) of India Ltd. is the implementing agency of the scheme. The CPIS is being administered/ implemented by the Coconut Development Board (CDB).

9.16 The details of coverage under CPIS as on 30.09.2012 are as under:-

(Rs. In lakh)

State	No. of farmers	No. of Palms	Sum insured	Premium	Claims Paid	Farmers benefitted
Andhra Pradesh	2517	335295	18058.47	42.97	0.00	0
Goa	240	73643	692.50	5.66	1.63	14
Karnataka	754	96722	1072.89	6.13	3.22	73
Kerala	52063	2081126	22469.28	118.40	333.62	7286
Orissa	687	21558	353.61	2.70	0.16	3
Maharashtra	14659	1161749	12844.84	110.23	26.10	396
Tamil Nadu	4746	853692	8047.53	57.36	45.74	386
West Bengal	692	28558	328.42	1.64	0.00	0
Total	76358	4652343	63867.54	345.09	410.47	8158

9.17 Pradhan Mantri Fasal Bima Yojana (PMFBY)

The existing crop insurance schemes have recently been reviewed in consultation with various stakeholders including States/UTs. As a result of the review, a new scheme “Pradhan Mantri Fasal Bima Yojana (PMFBY) has been approved for implementation from Kharif 2016 along with pilot Unified Package Insurance Scheme (UPIS) and restructured Weather Based Crop Insurance Scheme (WBCIS). Under the PMFBY, a uniform maximum premium of only 2% will be 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 will be only 5%. The premium rates to be paid by farmers are very low and balance premium will be paid by the 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.

9.18 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. The use of technology will be encouraged to a great extent. Smart phones will be used to capture and upload data of crop cutting experiments to reduce the delays in claim payment to farmers. Remote sensing will be used to reduce the number of crop cutting experiments. The salient features of the new Crop Insurance schemes are as under:

9.19 PMFBY:

- The premium payable by farmers has been reduced. The Maximum Premium payable by the farmers will be 2% for all Kharif Food & Oilseeds crops, 1.5% for Rabi Food & Oilseeds crops and 5% for Annual Commercial/Horticultural Crops.
- The difference between actual premium and the rate of Insurance charges payable by farmers shall be shared equally by the Centre and State.
- The Scheme shall be implemented on an ‘Area Approach Basis’. The unit of insurance shall be Village/Village Panchayat level for major crops and for

other crops it may be a unit of size above the level of Village/Village Panchayat.

- Three levels of Indemnity, viz., 70%, 80% and 90% corresponding to crop Risk in the areas shall be available for all crops.
- Threshold yield of the notified crop will be moving average of yield of last seven years excluding yield upto two notified calamity years multiplied by Indemnity level.
- The scheme will be implemented by AIC and other empanelled private general insurance companies.
- In case of smaller States, the whole State shall be assigned to one Implementing Agency (IA) (2-3 for comparatively big States).
- Selection of IA may be made for at least 3 years.
- Crop Cutting Experiments (CCE) shall be undertaken per unit area /per crop, on a sliding scale, as prescribed under the scheme outline and operational guidelines.
- In case of majority of insured crops of a notified area are prevented from sowing/planting the insured crops due to adverse weather conditions that will be eligible for indemnity claims upto maximum of 25% of the sum-insured.
- Losses due to localised perils (Hailstorm, landslide & inundation) and Post-Harvest losses due to specified perils, (Cyclone/Cyclonic rain & Unseasonal rains) shall be assessed at the affected insured field of the individual insured farmer.
- On account payment upto 25% of likely claims will be provided for mid-season losses, if the expected yield during the

season is likely to be less than 50% of normal yield.

- The claim amount will be credited electronically to the individual Insured Bank Account.
- Improved Technology like Remote sensing, Drone etc will be utilised for estimation of yield losses.
- State governments should use Smart phone apps for video/image capturing CCEs process and transmission thereof with CCE data on a real time basis for timely, reliable and transparent estimation of yield data.
- The cost of using technology etc. for conduct of CCEs etc. will be shared between Central Government and State/U.T. Governments on 50:50 basis.
- Adequate publicity to be given in all the villages of the notified districts/ areas.

9.20 WBCIS (restructured):

- The structure of farmer's premium under WBCIS will be at par with the PMFBY i.e. 2% for Kharif, 1.5% Rabi crops and 5% for annual commercial/ horticultural crops.
- The difference between actual premium and the rate of Insurance charges payable by farmers shall be shared equally by the Centre and State.
- The Criteria of selection of Implementing Agency and area allocation will be same as PMFBY.
- Administrative Structure for implementation of WBCIS will also be same as PMFBY.
- The other broad features of the scheme will remain same.

9.21 Pilot UPIS:

- UPIS will be implemented in selected 45 districts on pilot basis to provide financial protection & comprehensive risk coverage of crops, assets, life, and student safety to farmers.
- Pilot will include seven sections Viz., crop Insurance (PMFBY/WBCIS), Loss of Life (PMJJBY), Accidental Death & Disability (PMSBY), Student Safety, Household, Agriculture implements & Tractor.
- Crop Insurance will be compulsory. However, farmers can choose atleast two section from remaining sections. Farmers may be able to get all requisite insurance products through one simple proposal/ application Form.
- Two flagship schemes of the Government viz. PMSBY & PMJJBY have been included apart from insurance of assets.
- Pilot scheme will be implemented through single window.
- Premium of PMSBY & PMJJBY is to be transferred to insurance companies which have tie up with the concerned banks.
- Processing of claims (other than Crop Insurance) on the basis of individual claim report.

9.22 Details of the Schemes and Operational Guidelines of aforesais schemes may be seen at Department's website- www.agricoop.nic.in and www.agri-insurance.gov.in.



Chapter 10

Integrated Scheme on Agriculture Census & Statistics

10.1 Agriculture Census in India, as a part of the system of collection of agricultural statistics is conducted quinquennially, since 1970-71. The Agriculture Census provides vital information on the structural aspects of Indian Agriculture, an important sector of the Indian economy. The basic statistical unit for data collection of Agriculture Census is 'Operational Holding' as it is the ultimate unit for taking agriculture-related decisions. The reference period for Agriculture Census is the Agricultural year (July- June).

10.2 Agriculture Census in India is organized following broad guidelines of decennial World Census of Agriculture evolved by Food and Agriculture Organization (FAO) of United Nations. India is a participant of the World Agriculture Census Programme. So far, nine Agriculture Censuses have been conducted and the current Agriculture Census (ninth in the series) with reference year 2010-11 is nearing completion. Preparatory activities for the 10th Agriculture Census with reference year 2015-16 is also going on.

10.3 Agriculture Census is implemented in three distinct Phases. Periodic Agriculture Census is the main source of information on number, area and other basic characteristics of operational holdings such as land use, cropping pattern, irrigation status, tenancy particulars, pattern of input use etc. This information is tabulated by different size groups of holdings viz., Marginal (below

1.00 ha.), Small (1.00-2.00 ha.), Semi-Medium (2.00-4.00 ha.), Medium (4.00-10.00 ha.) and Large (10.00 ha. and above) and Social Groups including Scheduled Castes/Scheduled Tribes, which are needed for development planning, socio-economic policy formulation and establishment of national priorities. The results of Agriculture Census are published in the form of reports and are placed on the website of the Department at <http://agcensus.nic.in> for public use.

10.4 Agriculture Census Scheme, now a component of the Integrated Scheme on Agriculture Census, Economics and Statistics, was converted from a Centrally-Sponsored Scheme to a Central Sector Plan Scheme in 2007-08. Accordingly, 100 per cent financial assistance is provided to States/ UTs for payment of salaries, office expenses, honoraria, tabulation and printing of schedules, etc.

10.5 Agriculture Census Division is also coordinating the Situation Assessment Survey (SAS) of Agricultural Households, 2013 which is a comprehensive socio-economic study covering farming practices, possession of productive assets, awareness and access to modern technology, resource availability, indebtedness etc. of farmers in the country. The study was conducted by National Sample Survey Office (NSSO), Ministry of Statistics & Programme Implementation. Funds for the survey are being provided by Department of Agriculture, Cooperation &

Farmers Welfare. The key indicators of SAS, 2013 have been released in December 2014. Detailed results are being finalized.

Agriculture Census 2010-11

10.6 The results of all the three phases of Agriculture Census 2010-11 have been released and hosted on the website. All India Report on number and area of operational holdings in the country based on Phase-I results of Agriculture Census 2010-11 has been published. The All India Report of Agriculture Census 2010-11 (Phase-II) have been prepared and uploaded on the website. Key results of Phase-II of the Agriculture Census 2010-11 and Input Survey 2011-12 (Phase-III of Agriculture Census 2010-11) include the following:

- As per Agriculture Census 2010-11, the Gross Cropped Area was estimated at 193.76 million hectare.
- The cropping intensity as per Agriculture Census 2010-11 works out to 1.37 against 1.32 in Agriculture Census 2005-06.
- During 2010-11, 45.7 percent of the net area sown was irrigated.
- As per Agriculture Census 2010-11, 48 percent of the total net irrigated area is accounted by small and marginal holdings, 44 percent by Semi-medium & medium holdings and 8 percent by large holdings.
- Among the various sources, tube-wells emerged as main source of irrigation in 2010-11 followed by canals.
- As per Agriculture Census 2010-11, for 96.95 per cent of operational holdings, entire operated area was located within the village of residence as against 95.64 per cent reported during 2005-06.
- As per Input Survey 2011-12-

- about 98 percent of total holdings grew one or more crops, while 2 percent kept their land fallow
- about 76 percent of Grossed Cropped Area was treated with fertilizers.
- about 44 percent of total Grossed Cropped Area were treated with chemical pesticides.
- about 73 percent of the Operational Holdings adopted one or more pest control measure to save their crop from pests.
- about 34 percent of the total Operational Holdings availed institutional agriculture credit during 2011-12.
- about 39 percent of the total Operational Holdings in the country used certified seeds (blue tag) for raising crops.
- about 7 percent of Operational Holdings conducted soil test

10th Agriculture Census 2015-16

10.7 Preparatory activities of the next Agriculture Census 2015-16 has been initiated. All Land Record States have been requested to update their land records for the ensuing Census Programme. The Schedules and Manual of Instructions of the Census have been prepared and distributed to all States/UTs. The field work for next Agriculture Census 2015-16 is scheduled for July 2016.

Gender Perspective in Agriculture Census

10.8 Gender based data in Agriculture Census is being collected since 1995-96 on the recommendations of Central Statistics Office, Ministry of Statistics and Programme Implementation, New Delhi. The scope of collection of gender based data has been restricted to 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).

10.9 Percentage of female operational holdings as per results of various Agriculture Censuses is given in the following table.

Sr. No.	Size Group	2000-01*	2005-06*	2010-11
1	Marginal (Below 1.00 ha.)	11.84	12.60	13.63
2	Small (1.00-2.00 ha.)	10.27	11.10	12.15
3	Semi-Medium (2.00-4.00 ha.)	8.67	9.61	10.45
4	Medium (4.00-10.00 ha.)	6.86	7.77	8.49
5	Large (Above 10.00 ha.)	5.22	6.00	6.78
	All Size Groups	10.83	11.70	12.78

* Excludes Jharkhand

10.10 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.



Chapter 11

Agriculture Marketing

11.1 The Government has been playing an important role in developing Agriculture Marketing system in the country. The Marketing Division of Department of Agriculture, Cooperation & Farmers Welfare (DAC&FW) is concerned with policy and programme implementation for Agricultural Marketing Reforms and Schemes such as Integrated Scheme for Agricultural Marketing (ISAM), Price Stabilisation Fund (PSF) and National Agricultural Market (NAM) through Agri-Tech Infrastructure Fund (ATIF).

11.2 Agriculture sector needs competitive and well-functioning markets for farmers to sell their produce. In order to remove restrictive and monopolistic practices of present marketing system, reduce the intermediaries in supply chain and enhance private sector investment in development of post-harvest marketing infrastructure to reduce wastages and to benefit farmers through access to global markets, reforms in agricultural marketing have to be an ongoing process. Accordingly, the Ministry of Agriculture & Farmers Welfare formulated a model APMC Act in consultation with the States/UTs, and circulated the same during 2003 and its rules in 2007 for adoption by the States/UTs.

11.3 In order to have more focussed and result oriented efforts on marketing reforms, the Ministry further identified 7 essential areas of market reforms which could be pursued with the States in a focused manner.

- (i) Establishment of private market yards / private markets managed by a person other than a Market Committee;
- (ii) Establishment of farmer/consumer market by a person other than Market Committee (Direct sale in retail by the farmers to the consumers);
- (iii) Direct wholesale purchase of agricultural produce by processors/exporters/ bulk buyers, etc at the farm gate
- (iv) Provision for Contract Farming;
- (v) Unified single license/ registration for trade transaction in more than one market;
- (vi) Provision for e-trading ; and
- (vii) Single point levy of market fee across the State.

11.4 A table containing area-wise and state-wise progress of reforms is given below:

Table : State-wise progress of reforms as on 11/02/2016.

Sl. No.	Area of marketing reforms	States adopted the suggested area of marketing reforms
1.	Establishment of private market yards/ private markets managed by a person other than a market committee.	Andhra Pradesh, Arunachal Pradesh, Assam, Chhattisgarh ,Gujarat, Goa, Himachal Pradesh, Jharkhand, Karnataka, Maharashtra, Mizoram ,Nagaland, Orissa (excluding for paddy / rice), Rajasthan, Sikkim, Telangana ,Tripura, Punjab, , Uttarakhand, West Bengal and UT of Chandigarh.

Sl. No.	Area of marketing reforms	States adopted the suggested area of marketing reforms
2.	Establishment of farmer/ consumer market by a person other than Market Committee (Direct sale in retail by the farmers to the consumers).	Arunachal Pradesh, Assam, Chhattisgarh, Gujarat, Goa, Himachal Pradesh, Jharkhand, Karnataka, Maharashtra, Mizoram, Nagaland, Rajasthan, Sikkim, Tripura, Uttarakhand and West Bengal.
3.	Direct wholesale purchase of agricultural produce by processors/exporters/ bulk buyers, etc at the farm gate.	Andhra Pradesh, Arunachal Pradesh, Assam, Chhattisgarh, Gujarat, Goa, Haryana (for specified crop through establishment of Collection Centres) Himachal Pradesh, Jharkhand, Karnataka, Madhya Pradesh, Maharashtra, Mizoram, Nagaland, Punjab, Rajasthan, Sikkim, Telangana, Tripura, Uttarakhand, West Bengal and UT of Chandigarh.
4.	Provision for Contract Farming.	Andhra Pradesh, Arunachal Pradesh, Assam, Chhattisgarh, Goa, Gujarat , Haryana, Himachal Pradesh, Jharkhand, Karnataka, Maharashtra, Madhya Pradesh, Mizoram, Nagaland, Orissa, Punjab (separate Act) , Rajasthan, Sikkim, Telangana, Tripura and Uttarakhand.
5.	Unified single license/ registration for trade transaction in more than one market.	Andhra Pradesh, ,Goa, Gujarat, Haryana, Himachal Pradesh, Karnataka, Rajasthan, Chhattisgarh Madhya Pradesh, Maharashtra, Mizoram, Nagaland, Sikkim and Telangana.
6.	Provision for e-trading (provided in varied ways).	Andhra Pradesh, Chhattisgarh, Gujarat, Jharkhand, Haryana, H.P., Karnataka, Rajasthan, Sikkim, Goa, Madhya Pradesh, Maharashtra (has granted license to Commodity Exchanges registered under FMC), Mizoram, Telangana and Uttarakhnad.
7.	Single point levy of market fee across the State.	Andhra Pradesh, Chhattisgarh, Gujarat, Goa, Himachal Pradesh, Karnataka, Madhya Pradesh, Mizoram, Nagaland, Punjab, Rajasthan, Sikkim, Telangana, Uttarakhand, Uttar Pradesh, Jharkhand and UT of Chandigarh.

Schemes

11.5 The ongoing Central Sector Schemes implemented by the Division during XII Plan were integrated into a new scheme viz. the Integrated Scheme for Agricultural Marketing (ISAM) w.e.f. 01.04.2014. The ISAM has five sub schemes namely (i) Agricultural Marketing Infrastructure (AMI) (the erstwhile schemes of Grameen Bhandaran Yojana (GBY) and the Scheme for Development/ Strengthening of Agricultural Marketing Infrastructure, Grading and Standardisation (AMIGS) have been subsumed into AMI

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

11.6 Directorate of Marketing and Inspection (DMI): The Directorate, set up in the year 1935 as an attached office of the Ministry of Agriculture & Farmers Welfare, is responsible for integrated development of marketing of agricultural and allied produce in the country with a view to safeguard the interests primarily of the producer-sellers as well as of the consumers. It maintains a close liaison between the Central and the State Governments in implementation of agricultural marketing policies in the country.

11.7 The Directorate is headed by the Agricultural Marketing Adviser to the Government of India (AMA). It has its Head Office at Faridabad (Haryana), Branch Head Office at Nagpur (Maharashtra), 11 Regional Offices located at Delhi, Kolkata, Mumbai, Bhopal, Chennai, Kochi, Hyderabad, Guwahati, Lucknow, Jaipur and Chandigarh, 26 Sub offices spread all over the country, the Central Agmark laboratory at Nagpur and 11 Regional Agmark Laboratories (RALs) at Delhi, Kolkata, Mumbai, Rajkot, Bhopal, Chennai, Kochi, Guntur, Kanpur, Jaipur and Amritsar.

11.8 Major functions of DMI:

- To guide States/UTs on reforms in their Agricultural Marketing Regulations and for development and management of agricultural produce markets.
- Implementation of sub schemes of Integrated Scheme for Agricultural Marketing (ISAM) viz. (i) Agricultural Marketing Infrastructure (AMI) (The schemes of Grameen Bhandaran Yojana (GBY) implemented since 01.04.2001 and Scheme for Development/ Strengthening of Agricultural Marketing Infrastructure, Grading and Standardization (AMIGS) implemented from 20.10.2004 have

been subsumed into Agricultural Marketing Infrastructure (AMI) sub scheme of ISAM w.e.f. 01.04.2014). (ii) Marketing Research and Information Network (MRIN); (iii) Strengthening of Agmark Grading Facilities (SAGF).

- Promotion of Standardization and Grading of agricultural and allied produce under the Agricultural produce (Grading & Marking) Act, 1937 as amended in 1986.
- Marketing Extension including the AGMARKNET portal.
- Training of Personnel in Agricultural Marketing.

11.9 Agricultural Marketing Infrastructure (AMI) Sub Scheme –

The erstwhile schemes of Grameen Bhandaran Yojana (GBY) and the scheme for Development/ Strengthening of Agricultural Marketing Infrastructure, Grading and Standardisation (AMIGS) have been subsumed into AMI sub scheme. Under the AMI sub scheme there are two components (i) storage infrastructure component (ii) component of marketing infrastructure other than storage. The objectives of the AMI sub schemes are (i) to develop agricultural marketing infrastructure for effective management of marketable surplus of agriculture including horticulture and of allied sectors including dairy, poultry, fishery, livestock and minor forest produce; (ii) to promote innovative and latest technologies in agricultural marketing infrastructure; (iii) to promote private and cooperative sector investments in agricultural marketing infrastructure (iv) To promote creation of scientific storage capacity for storing farm produce, processed farm produce and agricultural inputs etc. to reduce post-harvest and handling losses; (v) to provide infrastructure facilities for grading, standardization and quality

certification of agricultural produce ; (vi) to promote Integrated Value Chains (confined up to primary processing stage only) to provide for vertical integration of farmers with value chains (vii) to create general awareness and provide training to farmers and other stakeholders on various aspects of agricultural marketing including grading, standardization and quality certification.

11.10 Assistance to states for marketing infrastructure, other than storage, under the AMI sub-scheme is linked to progress of agri marketing reforms in the States/UTs. As such, State Agency projects of only those States/UTs that have undertaken reforms in their respective APMC Acts to allow/permit (i) setting up of agricultural markets in private and cooperative sectors; (ii) allow direct marketing; and (iii) contract farming, will be eligible for assistance under the sub-scheme for creation of marketing infrastructure other than storage. However, notwithstanding the reform status, state agencies in all States/UTs are eligible to avail assistance for storage infrastructure projects.

11.11 Projects promoted by private entrepreneurs other than state agencies are eligible to avail assistance under the sub scheme irrespective of the reforms undertaken by the State Govts. /UTs in their respective APMC Acts.

11.12 The storage infrastructure and other marketing infrastructure projects can be taken up by individuals, Group of farmers/ growers, Registered Farmer Producer Organisation (FPOs), partnership/Proprietary firms, Companies, Corporations, Non Government Organization (NGOs), Self Help Group (SHGs), Co-operatives, Cooperative Marketing Federations, Autonomous Bodies of the Government, Local Bodies (excluding municipal corporation for storage infrastructure projects), Panchayats, State

Agencies including State Govt. Department and autonomous organisations/State owned corporations such as Agricultural Produce Marketing Committees and Marketing Boards, State Warehousing Corporations, State Civil Supplies Corporations, etc. Assistance for renovation of rural godowns is however, restricted to cooperatives only.

11.13 Under the storage infrastructure component of AMI sub scheme for the projects in special category areas of North Eastern States, Sikkim, UTs of Andaman & Nicobar and Lakshadweep Islands & Hilly areas, subsidy is extended at @33.33% with a subsidy ceiling of Rs. 1333.2 per tonne with a maximum subsidy ceiling of Rs. 400 Lakhs. For the projects of Registered FPOs, Panchayats, Women, Scheduled Castes & Scheduled Tribes, subsidy is extended at @33.33% with a subsidy ceiling of Rs. 1166.55 per tonne up to 1000 MT and Rs. 1000 per tonne for more than 1000 MT, with a maximum subsidy ceiling of Rs. 300 Lakhs. For all other categories of beneficiaries in other areas, subsidy is extended @25% with a subsidy ceiling of Rs. 875 per tonne up to 1000 MT and Rs. 750 per tonne for more than 1000 MT, with a maximum subsidy ceiling of Rs. 225 Lakhs.

11.14 Since inspection of the GBY from 01.04.2001 and up to 31.12.2015, a total number of 36,362 godowns having a capacity of 602.82 lakh MT have been sanctioned and subsidy of Rs. 2146.33 crore has been released. The target for sanctioning of storage capacity in the XII plan is 230.00 lakh MT and against this the achievement up to December, 2015 is 285.64 lakh MT.

11.15 In respect of agri marketing infrastructure other than storage (erstwhile AMIGS), for projects in special category areas of North Eastern States, Sikkim, Uttrakhand, Himachal Pradesh, Jammu & Kashmir,

Andaman & Nicobar and Lakshadweep Islands, Hilly and tribal areas, subsidy is extended @ 33.33% with a subsidy ceiling of Rs. 500 lakhs is extended. For the projects of Registered FPOs, Panchayats, Women, SC & ST beneficiaries and their cooperatives, in other areas, subsidy @33.33% with a maximum subsidy ceiling of Rs. 500 lakhs. For all other categories of beneficiaries in other areas, subsidy is extended @ 25% with a maximum subsidy ceiling of Rs. 400 Lakhs.

11.16 Since inception (of AMIGS) in 20.10.2004 upto 31.12.2015 a total of 12,285 of marketing infrastructure projects have been sanctioned and subsidy of Rs. 1403.60 crore has been released. The target for sanctioning of agri marketing infrastructure (other than storage) in the XII plan is 4000 projects and the achievement against this target up to December, 2015 is 4793 .

11.17 The AMI sub scheme has been temporality stopped since 05.08.2014 for promoters of General Category due to exhaustion of funds and only committed liabilities are being met as on date. However as the funds are available for Scheduled Caste/Scheduled Tribe (SC/ST) and NER categories, the Scheme continues to be implemented for such promoters.

Strengthening of Agmark Grading Facilities (SAGF) Sub Scheme:

11.18 The Agricultural Produce (Grading and Marking) Act, 1937 provides for grading and marking of agricultural and other produce. The Act empowers Central Government to make Rules for (a) fixing grade designation to indicate quality of any scheduled article (b) defining quality indicated by every grade designation and (c) specifying grade designation mark to represent particular grade designation. Standards notified as per provisions of the Act are popularly

called Agmark standards. These standards differentiate between quality and 2-3 grades are prescribed for each commodity. Grades help farmers /traders to get appropriate prices for their agricultural commodities as per the quality produced by them and consumers get the desired quality.

11.19 As on date, 105 Grading and Marking Rules covering 213 commodities, have been notified under the provisions of AP (G&M) Act, 1937. These include fruit and vegetables, cereals, pulses, oil seeds, vegetable oils, ghee, spices, honey etc. Grading and marking of agricultural commodities is voluntary as per provisions of the Act.

11.20 The Central Agmark Laboratory at Nagpur and Regional Agmark Laboratories at Mumbai, Chennai, Kochi, Delhi, Jaipur , Kanpur and Kolkata have been accredited with the National Accreditation Board for Testing and Calibration Laboratories (NABL) as per the International Standard ISO 17025.

11.21 SAGF scheme supports the programme by meeting expenditure incurred by 11 Regional Agmark Laboratories (RAL) and the Central Agmark Laboratory on purchase of equipment, chemicals, glassware and apparatus, as well as renovation and repair works in the Agmark Laboratories/ Regional and Sub offices.

Marketing Research and Information Network (MRIN) Sub Scheme:

11.22 This scheme was launched as Central Sector Scheme in March, 2000 with objective to collect and disseminate information on price, arrival and other market related data for the benefit of farmers and other market stakeholders. DMI implements the scheme in collaboration with Agricultural Marketing Boards/Directorates, APMCs and NIC. Wholesale prices and arrivals information in respect of more than 300

commodities and 2000 varieties are being collected and disseminated through the AGMARKNET portal on daily basis. 3244 wholesale markets have been linked to the portal (<http://agmarknet.nic.in>) and about 2700 markets have been reporting the data. In addition to price, several other market related information like accepted standards/grades, labelling, sanitary and phyto-sanitary requirement, physical infrastructure of storage and warehousing, marketing laws, fees payable etc. are being provided on the portal.

11.23 The price and arrival information is being disseminated in 11 languages. New innovations have been introduced for dissemination of market data through SMS by GOLIFE, IFFCO Kisan Sanchar Ltd. etc. at grass root level. Daily price information is provided to farmers and other intended users in a localized manner through GPS enabled AgriMarket Mobile APP within a radius of 50km. An arrangement has also been made for display of price data through Price Ticker Boards set up by the Forward Markets Commission (FMC) at different wholesale markets. The portal also has linkages with various organizations concerned with agricultural marketing. Besides spot price, the portal also provides access to future prices of National Commodity Exchanges. Information on MSP and Spot Market prices are provided through Farmers portal by the Extension Functionaries for benefit of Farmers. Information on International commodity prices, e-directory of markets, market profiles, FSSAI and CODEX Standards etc are also provided on the Agmarknet portal.

11.24 **Marketing extension:** Quality control programme under Agmark as well as different Plan schemes of the Directorate are given

wide publicity through mass media.. DMI celebrates National Consumer Day on 24th December and World Consumer Day on 15th March through its Field Offices every year. DMI also participates in India International Trade Fair (IITF) from 14-27 November, at Pragati Maidan, New Delhi, AAHAR, the International Food & Hospitality Fair at New Delhi from 10-14 March and organizes National Agmark Exhibition every year in important cities.

11.25 **Training of Personnel in Agriculture Marketing:** The Directorate conducts a number of training programmes related to agricultural marketing for the benefit of in service personnel of State Agricultural Marketing Board/Directorates, APMCs, Cooperatives, etc. of various State Governments/Union Territories. So far, 13084 Agricultural Marketing personnel have been trained since inception till 31.03.2015 under these training programmes. During the current year from 1st April, 2015 to December, 2015 a total of 67 personnel have been trained.

11.26 **Small Farmers' Agribusiness Consortium (SFAC):** SFAC was set up as a registered society on 18th January, 1994. Currently, the members of SFAC include RBI, SBI, IDBI, EXIM Bank, Oriental Bank of Commerce, NABARD, Canara Bank, NAFED etc. SFAC is implementing a Central Sector Scheme for Agribusiness Development through Venture Capital Assistance (VCA) to qualifying projects which promote linkages with farmers for procurement of their produce as raw material and provide employment in rural areas and have term-loan sanctioned by any Notified Financial Institution such as nationalized banks, SBI and its subsidiaries, IDBI, SIDBI, NABARD, NCDC, NEDFi, Exim Bank, RRBs and State

Financial Corporations. The mission of the Society is to support innovative ideas for generating income and employment in rural areas by promoting private investment in agri-business projects.

11.27 SFAC is implementing the Central Sector Scheme for agribusiness development in association with 43 Commercial Banks as on date for providing (i) Venture Capital to agribusiness projects, and (ii) assistance to farmers / products groups for preparing bankable Detailed Project Reports (DPR). During 2015-16, SFAC achieved the physical target of 145 projects against an annual target of 200. Since inception of the Scheme, DAC released an amount of Rs. 426.91 crore till 08.12.2015, against which the expenditure of Rs. 415.77 crore had been incurred. SFAC has also assisted 1267 agribusiness projects and released Venture Capital Assistance of Rs. 382.32 crores generating private and institutional investment of Rs. 4660.74 crore, which will provide an assured market to 1.37 lakhs farmers for their produce and create direct employment for 67425 persons.

11.28 The Venture Capital Assistance Scheme has been extensively revised w.e.f. 24.01.2014 to introduce new and liberalized norms for the XII Plan. The most significant change is reduction in the qualifying threshold for projects, bringing it down from Rs.50.00 Lakh to Rs.15.00 Lakhs (Rs.10.00 Lakhs for NER and backward regions). This is expected to make the scheme more accessible to entrepreneurs, Farmer Producer Organizations, Cooperatives, SHG federations etc. in Central and Eastern Indian States, where the penetration of the VCA Scheme has been less than satisfactory so far.

11.29 SFAC also promotes the formation of Farmer Producer Organizations (FPO) and has launched two schemes of Equity Grant

Fund and Credit Guarantee Fund for Farmer Producer Companies. The Equity Grant Fund will enable registered farmer producer companies to access equity grant upto a maximum limit of Rs.10.00 lakhs to double member equity. The scheme also provides credit guarantee to financial institutions which extend loans to producer companies without collateral upto Rs.1.00 crore. An outlay of Rs.150.00 crores has been sanctioned during 2013-14 for the Scheme. This is likely to benefit hundreds of newly formed producer companies across the country to increase their equity capital and leverage institutional borrowing from banks. SFAC has so far sanctioned 29 projects amounting to Rs. 153.98 lakh under Equity Grant Fund.

11.30 10 Banks have signed MoU with SFAC under Credit Guarantee Fund Scheme for FPCs. (Canara Bank, State Bank of India, NABARD, IDBI, NABARD Financial Services, PNB, Indian Bank, Bank of India, NABKISAN Finance Ltd., RBL Bank). So far, SFAC has sanctioned Credit Guarantee cover in favour of 7 banks under the Scheme. SFAC is organizing awareness camps to publicize the Equity Grant and Credit Guarantee Fund Scheme all over India.

11.31 **Chaudhary Charan Singh National Institute of Agricultural Marketing (CCSNIAM):** CCS National Institute of Agricultural Marketing (NIAM) is the only National level institute of its kind set up by the Government of India in August 1988 with the mandate to offer specialized Training, Research, Education and Consultancy in the field of Agricultural Marketing in India and entire South East Asian Countries.

11.32 The Institute since inception has been continuously engaged in the task of strengthening the agricultural marketing sector to make it responsive to the emerging changes at the local and global level. The

Institute has consistently undertaken research on contemporary issues and conducts a large number of training programmes for senior to middle level officials of State Marketing Boards, farmers and other stakeholders of the agricultural marketing chain.

11.33 In order to impart quality training to different stakeholders the Institute has adopted a flexible methodology in terms of content, knowledge, practical exposure and applicability. The Institute focuses on client orientation, and research based training. The linkages and collaboration with agencies spread throughout the county helped the Institute in ensuring a wider outreach in terms of topics and states covered. It organizes **Farmer Awareness Programmes** to create awareness amongst farmers on strategies for agricultural marketing and benefits available to them under different schemes of the Government. **Buyer Seller meets (BSM)** are also organized to facilitate trade in commodities. Some of the major activities undertaken in 2015-16 are:-

- **Krishak Pathshala (Farmer Business School)** - The school focuses on all the aspects of marketing faced by the farming community at every level of the value chain to enhance their market reach. The 'lead farmers' approach is followed under this concept so that the local enhanced knowledge may be used by fellow farmers in their own language and level of understanding.
- **Capacity building of Inspectors / Auditors for Organic Inspection** through training on organic farm/ livestock Inspection, processing/ trade Inspection, Wild harvest/ input approval and National Programme for Organic Production, (NPOP), National Organic Programme (NOP), European

Union (EU) guidelines, international standards. The programme will help in developing a uniform certification programme for people in organic certification and fulfilling the criteria for accreditation.

- **Capacity building of Farmer Producer Organizations** - NIAM organized a workshop on 'Need assessment of Resource Institutes working with Farmer Producers Organization' based on which an effective training course module was developed and capacity building programmes were organized for different stakeholders to strengthen the members of Farmer Producer Organization and Business Plans for FPOs. Successful programmes were conducted in Rajasthan, Bihar and Odisha.
- **National Agricultural Market** - The Institute is associated with the project as a 'Knowledge Partner' on account of its expertise on the subject and experience of working in association with different stakeholders and has conducted four conferences in Gujarat, Jharkhand, Rajasthan and Odisha for creating an environment conducive for implementation of the Scheme by bringing the relevant stakeholders on a common platform. NIAM is implementing a pilot project to test the assaying technology in selected markets in Rajasthan in collaboration with CDAC.
- **International Training Programme on Marketing Management** - NIAM organized three international training programme on Agricultural Marketing Management during 2013-14 and 2014-15 for participants from three African

nations namely Kenya, Malawi and Liberia with the support of USAID, New Delhi. The assessment of the impact of the programmes at the ground level was undertaken during 2015-16.

- **Consultancy assignments** undertaken by the Institute are on (i) Market Strategies for Organic Produce of Sikkim (ii) Accreditation of Warehouses across the country (iii) Capacity Building of warehousemen of accredited warehouses (iv) Farmers Awareness Programme on negotiability of warehouse receipt and Warehousing (Development and Regulatory) Act 2007 (v) Capacity building of officers of APSWC on operation and management of agricultural warehouses (vi) Capacity building of officers of APSWC on operation and management of commercial warehouses.
- **Post Graduate Diploma in Agribusiness Management (PGDABM) - NIAM** offers two years PGDABM approved by the All India Council for Technical Education (AICTE). The curriculum consists of 38 core courses and over 4 electives comprising 118 credits. The various modules covered under the programme include agri-input marketing, farm production management extension management & rural marketing, marketing management, financial management and strategy management. The programme incorporates case studies, industry interaction and lectures by visiting faculty from premier management institutes of the country and summer programmes in leading Agri-Business Companies. The admission for 60 seats of the program is done through CAT and CMAT.

National Agriculture Market (NAM)

11.34 Following the Budget announcements in July 2014 and 2015, the scheme for setting up of National Agriculture Market (NAM) through Agri-Tech Infrastructure Fund (ATIF) was approved by Cabinet Committee on Economic Affairs (CCEA) on 01.07.2015 with a budget of Rs.200 crore and to be implemented during 2015-16 to 2017-18.

11.35 The scheme envisages implementation of the National Agriculture Market (NAM) by setting up of an appropriate common e-market platform that would be deployable in selected 585 regulated wholesale markets in States/UTs desirous of joining the e-platform. Small Farmers Agribusiness Consortium (SFAC) will implement the national e-platform and will cover 250, 200 and 135 mandis during 2015-16, 2016-17 and 2017-18 respectively. Department of Agriculture, Cooperation & Farmers Welfare (DAC&FW) will meet expenses on software and its customisation for the States and provide it free of cost to the States and UTs. DAC&FW will also give grant as one time fixed cost subject to the ceiling of Rs.30.00 lakhs per Mandi for related equipment / infrastructure.

11.36 SFAC will implement the e- platform alongwith its Strategic Partner M/s. Nagarjuna Fertilizers and Chemicals Ltd. in consortium with Techno Brain Global FZE.

11.37 As on date, proposals from Gujarat (40 mandis), Maharashtra (30 mandis), Telangana (44 mandis), Jharkhand (19 mandis), Chattisgarh (05 mandis), Madhya Pradesh (50 mandis), Rajasthan (25 mandis), Uttar Pradesh (66 mandis), Haryana (54 mandis), Himachal Pradesh (19 mandis), Andhra Pradesh (12 mandis) and UT of Chandigarh (01 mandis) have been approved for integration of mandis with NAM.

Price Stabilisation Fund (PSF)

11.38 The Department of Agriculture, Cooperation & Farmers Welfare (DAC&FW) approved the Price Stabilisation Fund (PSF) as a Central Sector Scheme, with a corpus of Rs.500 crores, to support market interventions for price control of agricultural commodities that are susceptible to high price volatility. PSF is used to advance interest free loan to State Governments, Central agencies and PSUs/Cooperatives under Ministries to support their working capital and other expenses on procurement and distribution interventions for such commodities. Initially the fund is proposed to be used for market intervention in respect of pulses, onion and potato only.

11.39 In 2015-16, under the PSF the Government took several price stabilization measures which included procurement and distribution of 6011.82 MT of onions by SFAC and NAFED, for which SFAC was released Rs. 9.16 crores and NAFED was released

Rs. 8.7 crores; MMTC imported 2000 MT of onion of Chinese and Egyptian origin in two batches at the cost of Rs.5.62 crores and Rs.4.34 crores, which arrived between 1.10.2015 and 13.10.2015; MMTC imported 5000 MT of Tur dal at 1078 US\$ per MT (at a total cost of Rs.38.43 crore) . The stock was offered to the States at Rs. 69/kg.

11.40 Under the PSF assistance was also provided to various states for undertaking marketing intervention operations namely viz. Telangana (onion), Andhra Pradesh (onion, potato and pulses), West Bengal (onion).

11.41 To further supplement and provide an effective measure for price control of pulses it has been decided to create a buffer stock of 1,50,000 MT of pulses (arhar, urad, chana and masur) in 2015-16. Presently, assistance has been provided from the PSF to NAFED, SFAC and FCI for procurement of urad and arhar in Kharif Marketing season at prevailing market rates for the buffer stock.



Chapter 12

Cooperation

12.1 Amendment to the Constitution in respect of Cooperatives: To ensure the democratic, autonomous and professional functioning of cooperatives, it was decided to amend the Constitution of India for the purpose. Accordingly, the Constitution (One Hundred and Eleventh Amendment) Bill, 2009 was introduced in Lok Sabha on 20.11.2009. The Bill was passed in Lok Sabha on 21.12.2011 and in Rajya Sabha on 28.12.2011 as “The Constitution (Ninety Seventh Amendment) Act, 2011” and Hon’ble President of India gave her assent to the aforesaid Act on 12.01.2012. The Act came into force w.e.f. 15.02.2012 vide Gazette Notification dated 08.02.2012.

12.2 The object of the Constitution (Ninety Seventh Amendment) Act, 2011 is to ensure that the cooperative societies in the country function in a democratic, professional, autonomous and economically sound manner. The amendment in the Constitution, inter alia, seeks to empower the Parliament in respect of multi-State Cooperative Societies and the State Legislatures in case of other cooperative societies to make appropriate law, laying down the following matters:

- Right to form cooperative societies as a Fundamental Right by insertion of the words “cooperative societies” in sub clause (c) of clause (1) of Article 19.
- Provisions for incorporation, regulation and winding up of co-operative Societies based on the principles of democratic member control, member economic participation and autonomous functioning.
- Insertion of Article 43B in part IV of the Constitution as Directive Principle of State Policy for Voluntary formation of cooperative societies.
- Specifying the maximum number of director of a co-operative society to be not exceeding twenty-one members.
- Providing for a fixed term of five years from the date of election in respect of the elected members of the board and its office bearers; and an authority or body for the conduct of elections to a cooperative society.
- Providing for a maximum time limit of six months during which a board of Directors of co-operative society could be kept under supersession or suspension.
- Providing for independent professional audit.
- Providing for right of information to the members of the co-operative societies.
- Empowering the State Governments to obtain periodic reports of activities and accounts of co-operative societies.
- Providing the reservation of one seat for the Scheduled Castes or the Scheduled Tribes and two seats for women on the board of every cooperative society, which have individuals as members from such categories.
- Providing for offences relating to cooperative societies and penalties in respect of such offences.

12.3 Amending the State Cooperative Societies Acts in tune with the provisions of the above amendments in the Constitution will not only ensure autonomous and democratic functioning of the 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 and 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.

12.4 Assistance to Multi State Cooperative Societies (MSCS): The basic objective of this component is to strengthen the base of the multi-state cooperative societies by providing grants restricted to 90% of the expenditure for the activities such as Promotional, technical and consultancy services / research studies; improvement of infrastructural facilities / office building, premises, conferences / workshops / seminars / trainings, encouraging them to undertake the commercial / economic activities as a measure of their self-reliance and sustained growth and skill development. For the year

2014-15 and outlay of Rs. 1.00 crores has been provided for the scheme.

Integrated Scheme on Agricultural Cooperation

Government is implementing a Central sector integrated scheme on Agricultural Cooperation with the following two components:

- (i) Assistance for Cooperative Education and Training.
- (ii) Assistance to NCDC Programmes for Development of Cooperatives.

12.5 Assistance for Cooperative Education & 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 the 3rd Five Year Plan as a continuing scheme. During the 12th Five Year plan, the scheme of "Cooperative Education and training" and "Assistance to NCDC programmes for development of Cooperatives" has been merged into a single scheme namely "Integrated Scheme on Agricultural Cooperation". As per the new scheme up to 50% of the expenditure is given as grant in aid to NCUI by Government of India for Cooperative Education in cooperatively under-developed states / under-developed areas of developed states (UDS) for approved activities. The balance portion is met by NCUI from the Cooperative Education Fund created under MSCS Act 2002 and own sources. Government of India through NCUI also grants 50% assistance to Junior Cooperative Training Centres' which are run by the State Cooperative Unions/State Governments. At present, NCUI is running 43 Cooperative education field projects spread over 22 States/UTs.

12.6 During the Year 2015-16, the NCUI Cooperative education Field Projects including north-east and women Projects conducted wide ranging programmes on various issues of cooperative development. Under UDS projects, new societies registered during the year 2015-16 upto 31 Dec, 2015 were 18 and the numbers of persons benefiting from income generating programmes were 8697. In northern States 56 SHGS were formed with the membership of 911 by the project personnel. The numbers of SHGS converted to cooperatives were 19. NCUI organized 14,524 events and imparted education to 2,91,673 persons during the year upto December, 2015. Under Approved activities, the National Centre For Cooperative Education (NCCE), organised 80 training programmes against the target of 51 programmes during the year including 12 weeks Diploma Programme in Cooperative education and Development. 2805 persons from various sectors of the cooperative movement in different states were retrained. Out of 80 training programmes, 30 programmes were organised for weaker sectors like labour, fisheries, and tribal cooperatives and exclusively for SC/St Cooperative in which 1135 persons participated. 15 programmes were organised exclusively for women cooperatives which were attended by 555 participants. Upto December, 2015 an amount of Rs. 358.19 Lakhs was released as grants-in-aid to NCUI including Rs. 59.88 lakhs for NE regions.

12.7 The Cooperative training programmes are 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 Vaikunth Mehta National Institute of Cooperative Management, Pune. NCCT

which had been receiving 100% grants-in-aid till the 12th Plan is to meet its requirement from the interest income of corpus fund (the fund which was created during the 10th plan by equal contribution of Rs. 100 by GOI and cooperative movement) and the Government shall meet the gap in the resources as per the budget estimates for the concerned year. An amount of Rs.587.50 lakhs was released to NCCT for VAMNICOM component.

12.8 NE Region: The Government of India is providing separate assistance for intensification of cooperative education in the north-eastern region through NCUI. NCUI has established 7 field projects namely Aizawl (Mizoram), Thoubal (Manipur), Mangalwaria (Sikkim), Shillong (Meghalaya), Kohima (Nagaland), Morigaon and Jorhat (Assam) in the North Eastern region.

12.9 Women Development: Under the scheme, stress is given to women development activities with the overall objective of bringing women in the cooperative fold from grass root levels by informal approach and to revitalize and develop women participation in group activities and to improve the socio-economic conditions of women of selected blocks. The Cooperative Education programme for women is being implemented through the State Cooperative Unions in the States of Arunachal Pradesh, Assam, Bihar, Delhi, Gujarat, Himachal Pradesh, Karnataka, M.P, Mizoram, Odisha, Rajasthan, Tamil Nadu, UP and West Bengal. During the year upto December, 2015, a total of 69,855 women were imparted education under various educational activities.. Further, the Cooperative Education programmes for women are being implemented through the State Cooperative Unions in the states

of Arunachal Pradesh, Assam, Bihar etc. NCUI is now running 4 exclusive women development projects located at Shimoga (Karnataka), Aska Behrampur (Odisha), Imphal (Manipur) and Bhopal (MP) under the Special Scheme of Intensification of Cooperative Education in the cooperatively under-developed states. Besides, each field project has got a special women development component. Under this, women are organized into self-help groups which help them to develop thrift habits. Women are also given training to undertake income-generating activities with the help of their own resources or by borrowing from cooperatives. The projects personnel help them in marketing their produce in the local market and by organizing fair/exhibitions. Under women Cooperative education Field Projects, 208 SHGS were formed with the membership of 2344 by the project personnel. And also 6918 women were benefited through various income generating activities.

12.10 Assistance to NCDC Programmes for Development of Cooperatives:

The component of Assistance to NCDC Programmes for Development of Cooperatives is being implemented through National Cooperative Development Corporation (NCDC). The programmes/schemes being implemented through NCDC are (i) assistance to cooperative marketing, processing, storage, consumer cooperatives, weaker section programmes of cooperatives, computerization of Primary Agricultural Cooperative Credit Societies, District Central Cooperative Banks, State Cooperative Banks and Technical & Promotional (T&P) Cell Scheme for strengthening Management of State Cooperative Federations; (ii) Assistance for cotton development including ginning and pressing and establishment of new and

modernization/ expansion/rehabilitation of existing cooperative spinning mills; and (iii) Integrated Cooperative Development Projects in selected districts. Under this scheme, subsidy is provided by Government of India and the loan component is arranged by NCDC through its own sources.

12.11 Price support scheme (PSS): The Department of Agriculture, Cooperation and Farmers Welfare implements the PSS for procurement of oilseeds and pulses through National Agricultural Cooperative Marketing Federation of India Ltd. (NAFED), Small Farmer's Agri-business Consortium (SFAC), Central Warehousing Corporation (CWC) and National Consumer Cooperative Federation (NCCF), which are Central Nodal Agencies, at the Minimum Support Price (MSP) declared by the Government. Recently, Food Corporation of India (FCI) has also been included as Central Nodal Agency for procurement of Oilseed and Pulses. NAFED is the Central nodal agency for procurement of cotton also under PSS. Central Agencies undertake procurement of oilseeds, pulses and cotton under the PSS as and when prices fall below the MSP. Procurement under PSS is continued till prices stabilize at or above the MSP. Losses, if any incurred by central agency in undertaking PSS operations are reimbursed by the Central Government. Profit, if any, earned in undertaking PSS operations is credited to the Central Government.

12.12 Achievement under Price Support Scheme (PSS): During the season 2014-15, the prices of various oilseeds and pulses ruled below respective MSP fixed for the relevant marketing season. During the year 2014 & 2015, NAFED and SFAC procured agricultural commodities as per the details given below:

Procurement made by NAFED

S.No.	commodity	State	Quantity (in MTs)	Ex-godown value (in Rs. lakhs)
1.	Mustard seed (Rabi 2014)	Rajasthan	1728.04	527.05
2.	Groundnut pods (Rabi 2014)	Odisha	6407.60	2491.92
3.	Sunflower seed (Rabi 2014)	Odisha	338.75	125.34
		Haryana	3814.37	1411.31
		total	4153.12	1536.65
4.	Sunflower seed (Rabi 2015)	Odisha	76.019	28.51
		Haryana	4161.665	1562.20
		total	4237.684	1590.71
5.	Urad (Kharif 2013-14)	Maharashtra	3029.60	1302.72
		Uttar Pradesh	1972.85	848.32
		total	5002.45	2151.04
6.	Toor (Kharif 2013-14)	Maharashtra	24722	10630.46
		Andhra Pradesh	21983	9452.69
		total	46705	20083.15
7.	Gram (Rabi 2014)	Karnataka	14098.6	4370.56
		Maharashtra	31027.4	9618.49
		Andhra Pradesh	46307.22	14355.23
		Gujarat	3730.56	1156.47
		Rajasthan/Jaipur	123262.6	38211.4
		Rajasthan/SGNR	56215.6	17426.83
		Madhya Pradesh	37760.38	11705.71
		Uttar Pradesh	2326.69	721.27
		total	314729.05	97565.96

Procurement made by SFAC

S.No.	Year/Season	Commodity	Procured quantity (in MTs)	Minimum Support Price (MSP) for FAQ (in Rs. Per Quintal)	Procurement value (in lakh Rs.)
1	2013-14	Sunflower seed	516.00	3700	190.92
		Groundnut	14680.00	4000	5872.00
2	2013-14	Urad	5.00	4300	2.15
		Tur	6394.00	4300	2749.42
3	2014-15	Gram	50285.00	3100	15588.00

12.13 Market Intervention Scheme (MIS):

The Department of Agriculture, Cooperation and Farmers Welfare implements the MIS for procurement of agricultural and horticultural commodities which are perishable in nature and are not covered under the PSS. The objective of intervention is to protect the growers of these commodities from making distress sale in the event of a bumper crop during the peak arrival period when the prices tend to fall below economic levels and cost of production. The condition 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 to be shared on 50:50 between the Central Government and the State Government is restricted to 25 percent of the total procurement value which includes cost of the commodity procured plus permitted overhead expenses. Under the scheme, in accordance with MIS guidelines, a pre-determined quantity at the fixed Market Intervention Price (MIP) is procured by the agencies designated by the state government for a fixed period or till the prices are stabilized above the MIP whichever is earlier. The area of operation is restricted to the concerned state only. The details of MIS implemented during the year 2013-14 and 2015-16 upto 31.12.15.

S.No.	Year	Commodity	MIP (Rs. per MTs.)	State	Sanctioned Qty. (in MTs.)
1	2013-14 01.08.2013 to 21.10.2013	C-grade apple	6,500/-	Himachal Pradesh	27,000
2	2013-14 01.08.2013 to 31.08.2013	Pineapple	8,500/-	Nagaland	12,675
3	2013-14 20.02.2014 to 20.03.2014	Potato	3,750/-	Uttar Pradesh	1,00,000
4	2014-15 01.05.2014 to 16.06.2014	Chilli	4,200/-	Mizoram	2,850
5	2014-15 15.08.2014 to 15.10.2014	'C' grade apple	6,500/-	Himachal Pradesh	27,000
6	2014-15 25.11.2014 to 25.12.2014	Ginger	9,050/-	Nagaland	32,000
7	2014-15 20.05.2015 to 20.06.2015	Potato	4,250	Uttar Pradesh	1,00,000

National Cooperative Development Corporation (NCDC)

12.14 NCDC is a non-equity based development financing institution created exclusively for the cooperative sector with the aim & objectives 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 section such as those comprising of members from 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 annual budget of NCDC for financing all activities under notified services so that focus of NCDC continues on financing

of cooperatives in agriculture & allied sector. The rates of interest on NCDC loans ranged between 11.20% and 11.70% during the year. During the year 2015-16, grant-in-aid of Rs. 59.55 crores has been released by the Department for this component as on 31.01.2016.

12.15 Cooperative Spinning Mills: In order to improve economic condition of the 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 the 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 2015-16, an amount of Rs. 14.19 crores has been released for this component as on 31.01.2016.

12.16 Cooperative Storage and Cold 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 157.12 lakh MT as on 31.03.2015. During the year 2015-16, financial assistance of Rs.55.50 crore (Rs.41.61 crore loan and Rs.13.89 crore subsidy) has been released and of Rs. 14.55 crore (Rs. 11.86 crore loan and Rs. 2.69 crore subsidy) has been sanctioned for the storage programme under the scheme as on 30.11.2015.

12.17 NCDC provides financial assistance to the extent of 95% of the block cost to the State Governments for setting up/ modernization/ expansion/ rehabilitation of cold storages by cooperatives. In the case of direct funding assistance to the extent of 90% is provided.

NCDC has also dovetailed its cold storage programme with National Horticulture Board (NHB). In such case quantum of assistance provided by NCDC is reduced by the subsidy available under the Capital Investment Scheme (CIS) of NHB. The scheme provides enhanced back-ended subsidy @ 35% of the project cost for general category and 50% in case of NE, hilly and scheduled areas for storage capacity above 5,000 MT to 10,000 MT at normative cost ranging from Rs. 9,500 to Rs. 6,800 per MT for different categories of cold storage units as per standards indicated in the Operational Guidelines of Mission for Integrated Development of Horticulture (MIDH). For cold storages having capacity less than 5,000 MT, the normative cost will be Rs. 8000/ Rs. 10,000 per MT for different categories of cold storage units. Such proposals will be routed through State Horticulture Mission (SHM) and on their recommendation be considered by National Horticulture Mission (NHM) under MIDH. During the financial year 2015-16, assistance of Rs. 4.41 crore has been sanctioned to two cold storage project at Himachal Pradesh & Gujarat and Rs. 0.20 crore has been released to such projects including spill over assistance.

12.18 Integrated Cooperative Development projects: NCDC is implementing Integrated Cooperative Development Projects (ICDP) scheme in selected districts. During the year 2015-16 (as on 30.11.2015), 4 projects in the States of Kerala (1) & Rajasthan (3) with project cost of Rs. 232.10 crore have been sanctioned involving NCDC's share of assistance of Rs. 223.64 crore (Rs.194.09 crore as loan and Rs. 29.55 crore as subsidy). During the same period, NCDC has released loan assistance of Rs. 99.64 crore and subsidy of Rs.29.10 crore totaling to Rs. 128.74 crore for ICD projects. The subsidy of Rs. 29.10 crore includes Rs. 11.96 crore towards manpower development & training and managerial assistance to Project Implementation Agency (PIA) & Monitoring Cell etc.

12.19 Cooperatives in Least-Developed/Under-Developed States: The process of economic development in the country brought to light certain regional disparities and imbalances in some parts due to inherent factors like topography, agro-climatic conditions and poor infrastructure. Financial assistance, on liberal terms, is provided by NCDC to the Cooperatively Least-Developed/Under Developed States (UD/LD States) under its various schemes. Assistance for cooperative programmes in these States is provided on comparatively liberal terms. For the purposes of funding by NCDC, the Government of India has categorized 11 States as Cooperatively Least-Developed and placed 11 States and 2 Union Territories' in the category of Cooperatively Under-Developed States as shown below:

12.20 Cooperatively Least-Developed States: Arunachal Pradesh, Assam, Bihar, Jharkhand, Jammu & Kashmir, Manipur, Meghalaya, Mizoram, Nagaland, Sikkim and Tripura.

12.21 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 2014-15, NCDC released financial assistance of Rs. 4,117.04 crore to LD/UD States accounting for 72% of total release. Cumulatively, as on 31.03.2015, Rs. 25,928.39 crore had been released to LD/UD States under various schemes of NCDC which accounts for around 50% of the total assistance released by the Corporation, so far. During the year 2015-16 (as on 30.11.2015), financial assistance of Rs.1,176.72 crore has been released by the NCDC to cooperatives in cooperatively least/under-developed states/ UTs respectively.

12.22 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 now covered under Weaker Section Programme for the purpose of availing subsidy and concessional funding during the remaining period of the 12th Five Year Plan programme under Central Sector Integrated Scheme on Agricultural Cooperation.



Chapter 13

Rashtriya Krishi Vikas Yojana (RKVY)

13.1 **Background:** National Development Council (NDC), in its meeting held on 29th May, 2007 resolved that a special Additional Central Assistance (ACA) Scheme be introduced 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. Accordingly, Department of Agriculture & Cooperation (DAC), Ministry of Agriculture, in consultation with the Planning Commission, launched Rashtriya Krishi Vikas Yojana (RKVY) in 2007-2008.

13.2 During XI Plan, **Rs. 22,408.77 crore** was released for implementation of the scheme in the States & Union Territories (UTs) of which **Rs. 22,330.83 crore** was utilized in implementing projects relating to crop development, horticulture, agricultural mechanization, natural resource management, marketing & post-harvest management, animal husbandry, dairy development, fisheries, extension etc. During XII Five Year Plan, an outlay of Rs. 63,246 crore has been earmarked for implementing RKVY, out of which Rs. 8400 crore, Rs. 7052.51 and Rs. 8443.20 crore has been released under the scheme during 2012-13, 2013-14 and 2014-15 respectively.

13.3 As conveyed by Ministry of Finance, funding of the scheme from 2015-16 will be shared between centre and states in the ratio 60:40 (90:10 for 8 North-Eastern and 3 Himalayan States) against 100% funding

under RKVY by Central Government till the end of financial year 2014-15. The allocation provided for implementation of the scheme during 2015-16 is Rs. 4500 crore.

13.4 Based on the feedback received from States, experiences garnered during implementation in 11th Plan and inputs provided by Stakeholders, Operational Guidelines of RKVY have been revised for implementation from 2014-15 in order to enhance efficiency and efficacy of the programme and its inclusiveness during 12th Plan period. The revised Operational Guidelines of the scheme mandated that at least 35% of Normal RKVY allocation should be utilized by the States for implementing Infrastructure and Assets development projects.

13.5 **Objectives:** The main objectives of RKVY Scheme are as under:

- i. To incentivize the States so as to increase public investment in agriculture and allied sectors.
- ii. To provide flexibility and autonomy to States in the process of planning and executing agriculture and allied sector schemes.
- iii. To ensure the preparation of Agriculture Plans for the districts and the States based on agro-climatic conditions, availability of technology and natural resources.
- iv. To ensure that the local needs/crops/priorities are better reflected in the agricultural plans of the States.

- v. To achieve the goal of reducing the yield gaps in important crops through focused interventions.
- vi. To maximize returns to the farmers in agriculture and allied sectors;
- vii. To bring about quantifiable changes in the production and productivity of various components of agriculture and allied sectors by addressing them in a holistic manner.

13.6 Implementation Strategy: RKVY accords flexibility and autonomy to States in planning and executing projects related to agriculture and allied sectors. States are empowered to formulate strategies for development of the agriculture and allied sectors in a holistic way taking into account their agro-climatic conditions so as to effectively address their local needs and priorities, rather than continuing with business as usual mode of “one size fits all” formula. Projects under RKVY cover the entire gamut of activities in the agriculture and allied sectors supplementing ongoing Centrally Sponsored/State Plan Schemes and projects in these sectors. RKVY also emphasizes on convergence through District Agriculture Plans (DAPs) and State Agriculture Plan (SAP) for eliminating overlap of resources & efforts for optimal utilization of funds available through various schemes. The requirements of the Gram Panchayats selected under SaansadAdarsh Gram Yojana (SAGY) would be kept in mind by SLSC while sanctioning projects.

13.7 Besides planning and execution of projects, RKVY provides complete flexibility and autonomy to States to customize interventions as per local requirements. For a vast country like India with diverse soil & agro-climatic conditions, varying technological capabilities and agronomic practices, RKVY framework has enabled

States to plan and chart their own developmental trajectory. At national level, it enables the country to achieve the desired annual growth rate in agriculture and allied sectors.

13.8 Over the years, RKVY has also facilitated in addressing national priorities, without affecting the autonomy and flexibility of States, through special sub-schemes. Towards this endeavour, sub-schemes namely Bringing Green Revolution to Eastern India (BGREI), Saffron Mission, Vidharbha Intensive Irrigation Development Programme (VIIDP), Crop Diversification and Additional Fodder Development Programme (AFDP) are being implemented during 2015-16.

13.9 Outcome: One of the basic objectives of RKVY is to incentivize investments in agriculture and allied sectors by linking State wise allocation of RKVY funds to the increased share of State Plan Expenditure in agriculture and allied sectors. This has helped in stepping up allocation to agriculture and allied sectors as a percentage of total State Plan Expenditure from 4.88% (Rs 8,770 crore) in 2006-07 to 8.36% (Rs.38, 768.43 crore) during 2013-14. Leveraging higher investments, States have been able to enhance production and productivity of crops and animal husbandry sector. During XI Plan, States have taken up **5749** projects across the entire spectrum of agriculture & allied sectors e.g., crop development, horticulture, agricultural mechanization, marketing & post-harvest management, animal husbandry, dairy development, fisheries, extension, etc. Concerted efforts by Centre and States has helped Agriculture and allied sector to achieve an annual growth rate of 4.1%(at 2004-05 prices) during the XI Plan against 2.46% per annum during Xth Plan period.

13.10 Allocation of Funds to States: RKVY is administered by the Union Ministry of Agriculture & Farmers Welfare. Funds under this scheme are provided to the States as grant-in-aid by the Central Government.

13.11 Eligibility Criteria for Access to RKVY funds: Following two eligibility conditions are stipulated for States to become and remain eligible for receiving assistance under RKVY:

- a) The base line share of agriculture and allied sectors in its total State Plan (excluding RKVY funds) expenditure is at least maintained; and
- b) District Agriculture Plans (DAPs) and State Agriculture Plans (SAPs) have been formulated.

13.12 Criteria for Allocation of Funds to States: Allocation of RKVY fund to each of the eligible States is based on the six parameters as per formula given below:

Sl. No.	Criteria/Parameter	Weightage
1.	Percentage share of net un irrigated area in a state to the net un irrigated area of all eligible States.	15%
2.	Last three (3) years average area under oil seeds and pulses.	5%
3.	State's highest GSDP for agriculture and allied sectors for the past five years.	30%
4.	Increase in expenditure in Agriculture and allied sectors in the previous year over the year prior to that year. (For example, previous year for allocating State's share for 2014-15 would be the year 2012-13 and the year prior to that would be 2011-12).	30%

5.	Increase in Plan and non-plan expenditure made by the States from the State Budgets on Animal Husbandry, Fisheries, and Agricultural Research & Education in the previous years over the year prior to that year.	10%
6.	Inverse of Yield gap between state average yield and potential yields as indicated in the frontline demonstration data.	10%

13.13 Streams of Funding in RKVY: RKVY funds would be provided to the States as grant by the Central Government in following streams.

- (a) RKVY (Production Growth) with 35% of annual outlay,
- (b) RKVY (Infrastructure and Assets) with 35% of annual outlay;
- (c) RKVY (Special Schemes) with 20% of annual outlay; and
- (d) RKVY (Flexi Fund) with 10% of annual outlay (States can undertake either production Growth or Infrastructure & Assets projects with this allocation depending upon State specific needs/priorities).

13.14 The requirement of minimum allocation of RKVY fund (35% at Central Level or 43.75% at State Level) to "Production Growth Stream" has been waived off subsequently. Thus, State will be able to allocate their entire RKVY Normal allocation to Infrastructure & Assets stream from financial year 2014-15.

13.15 Further all Government (Centre/ State) and quasi- Govt. agencies (fully funded organization, State Agriculture Universities, Panchayati Raj Institutions,

Primary Agriculture Credit Societies (PACS) etc. may be entitled to 100% funding of project cost under RKVY for creation of assets / infrastructure to promote activities in agriculture and allied sectors against capping of subsidy to 25% of the project cost in the case of non state actors.

13.16 State Level Sanctioning Committee (SLSC): State Level Sanctioning Committees (SLSCs) have been constituted under the Chairmanship of Chief Secretary with Secretary (Agriculture) of the concerned State/UT as Member Secretary along with other members from allied departments & State Agriculture Universities, Department of Agriculture & Cooperation (GOI), Department of Animal Husbandry, Dairying & Fisheries (GOI), and NITI Aayog (erstwhile Planning Commission). SLSC appraises and approves the projects under RKVY. State Agriculture Department is the nodal Department for implementation of the scheme.

13.17 District and State Agricultural Plans: The RKVY guidelines recognize the need for convergence and integration of the various programmes implemented at district / State level through Comprehensive District Agriculture Plan (C-DAPs) and State Agriculture Plan (SAP). Several State/UTs have already prepared comprehensive district and State Agriculture Plan for 11th Plan which should be revised and updated appropriately for implementing RKVY during 12th Plan keeping in view modification proposed for the plan period and emerging needs of the State. SAPs will invariably have to indicate resources that can flow from the State to the districts.

13.18 Each district is required to formulate a C-DAP taking into account resources available from other ongoing Central or State Plan schemes such as Backward

Region Grant Fund (BRGF), Swarnajayanti Gram Swarozgar Yojana (SGSY), National Rural Employment Guarantee Scheme (NREGS) and Bharat Nirman, various tied and untied grant from the Central and State Finance Commissions etc. The requirements of the Gram Panchayats selected under Saansad Adarsh Gram Yojana (SAGY) would be also kept in mind while formulating the District Agriculture Plans (DAPs).

13.19 C-DAPs reflect the financial requirements and the sources of financing the agriculture development plans in a more holistic manner by including animal husbandry and fishery, minor irrigation projects, rural development works, agricultural marketing schemes and schemes for water harvesting and conservation taking into account natural resources and technological possibilities in each district. The DAPs are thereafter integrated to formulate the State Agriculture Plans (SAPs).

13.20 State Agriculture Infrastructure Development Programme (SAIDP): Revised Operational Guidelines of RKVY also mandated that each States to prepare SAIDP in a similar manner to that of DAPs and SAPs for identifying shelf of projects for RKVY (Infrastructure & Assets) stream. SAIDP should ideally be consolidation of requirement of infrastructure identified in DAPs and SAP.

13.21 Status of Preparation of District Agriculture Plans: Preparation of the District Agriculture Plans (DAPs) and the State Agriculture Plan (SAP) is the cornerstone of the strategy of implementation of RKVY. Most of the State Governments had prepared the DAPs (602 districts out of 615 districts in the country). 27 States have completed SAP for the XIth Plan period. The Status of SAPs/ DAPs prepared by the states during XIth Plan is at **Annexure-13.1**. The States are required

to prepare DAPs, SAP & SAIDAP during the XIIth Plan under the revised guideline of 2014.

13.22 Projects undertaken by States under RKVY: RKVY is designed to focus funds allocation and States' attention to selection of strategy and projects which will best help to generate growth in agriculture and allied sectors. State Governments, keeping in view their priorities, have approved project proposals for implementation under RKVY in wide ranging sectors which include crops, horticulture, organic farming, agriculture/farm mechanization, micro/minor irrigation, watershed development, agriculture marketing and storage, seed farms and soil/fertilizer testing laboratories, animal husbandry, dairy development, fisheries, extension and research, etc. Critical infrastructure such as State Seed farms, Soil and Fertilizer testing laboratories, starved over the years due to paucity of funds, got a much needed dose of assistance under RKVY across the States. The sector-wise cost of projects approved by States during 2012-13 to 2014-15 of XIIth Plan is given in **Annexure-13.2**. While, growth in agriculture and allied sector in States cannot be attributed entirely to RKVY projects as there are many other programmes and policies contributing for it, RKVY has emerged as a principal instrument of development of agriculture and allied sector in States and has indeed accelerated revival of agriculture.

13.23 During the current financial year states have been permitted to take up the scheme for providing one time subsidy to State Cooperative Dairy Federations under RKVY to tide over the present working capital crunch on account of the global dairy crisis. Further the states have also been permitted to take up projects under a new component "Working Capital for reprocessing of milk powder to extend shelf life of stocks nearing

expiry date" under Normal RKVY as a short term measure until 30th June 2016 subject to commitment by the State Cooperative Milk Federations/District Cooperative Milk Unions to procure milk from the farmers without any restriction.

13.24 Sub-Schemes launched under RKVY: RKVY has enabled launching of new schemes/ programmes keeping States' flexibility and authority intact. Since 2010-11 several sub-schemes have been introduced under RKVY with focused objectives. Following **five** special Programme/schemes are being implemented as sub-schemes of RKVY with a total allocation of Rs.825 crore for 2015-16.

- i. Bringing Green Revolution to Eastern India (BGREI):** Initiated in 2010-11, BGREI has been targeting productivity improvement in the rice based cropping system of Assam, West Bengal, Odisha, Bihar, Jharkhand, Eastern Uttar Pradesh and Chhattisgarh. Allocation for this scheme in 2010-11 & 2011-12 was Rs. 400 crore each, which has been enhanced to Rs. 1000 crore during 2012-13, 2013-14 & 2014-15. The allocation for this programme during 2015-16 is Rs.500 crore.
- ii. Saffron Mission:** - The Scheme was initiated in 2010-11 for revival of Saffron cultivation in Jammu & Kashmir. Allocation for the scheme was Rs. 39.44 crore in 2010-11 and Rs. 50 crore each in 2011-12 & 2012-13. The allocation for this programme has been enhanced to Rs. 100 crore during 2013-14 & 2014-15. The allocation for this programme during 2015-16 is Rs.50 crore.
- iii. Vidarbha Intensive Irrigation Development Programme (VIIDP):** The Scheme was initiated in 2012-13 with an allocation of Rs. 300 crore to bring

in more farming areas in Vidarbha region under protective irrigation. The allocation for this programme for 2014-15 was Rs.150 crore. The allocation for this programme during 2015-16 is Rs.75 crore.

- iv. **Crop Diversification:** Pursuant to announcement in Union Budget (2013-14), this scheme has been launched in 2013-14 with an allocation of Rs. 500 crore to promote technological innovation and encourage farmers to choose crop alternatives. The allocation for this programme for 2014-15 was Rs.250 crore. The allocation for this programme for 2015-16 is Rs.150 crore.
- v. **Additional Fodder Development Programme:** To accelerate the production of fodder through intensive promotion of technologies to ensure its availability throughout the year, Rs.300 crore had been provided during 2011-12 for Accelerated Fodder Development Programme to benefit farmers in 25,000 villages. Allocation for Accelerated Fodder Development Programme during 2012-13 & 2013-14 was Rs. 100 crore each. The scheme has been implemented as Additional Fodder Development Programme with

an allocation of Rs.39.63 crore during 2014-15 and Rs.50 crore during 2015-16.

13.25 Monitoring of RKVY: A web-based Management Information System for RKVY [RKVY Database and Management Information System (RDMIS)] has been established to collect and disseminate relevant information and data related to each RKVY project and also to monitor progress and completion details of these projects over their life cycle. States are entrusted responsibilities' to enter data on approval & implementation of projects under RKVY online in the RKVY website (<http://www.rkvy.nic.in>). RDMIS has been able to provide current and authenticated data on outputs, outcomes and growth impact of projects taken up under RKVY.

13.26 Flagship/Innovative Schemes: States have also taken up several flagship and innovative projects under RKVY, which reflect best practices, innovative approaches and achievements under RKVY. An illustrative list of these projects is at **Annexure-13.3**.

13.27 States have been reasonably prompt in approving projects & incurring expenditure under RKVY. Status of year-wise funds released to the States & their expenditure & utilization status as on **31.12.2015** is given below:

(Rs. in crore)

Year	RE	Fund released	Expenditure Reported
2007-08	1263.00	1246.89	1246.79
2008-09	2891.70	2886.80	2882.39
2009-10	3707.07	3760.93	3756.53
2010-11	6722.00	6720.06	6719.02
2011-12	7810.87	7794.09	7726.10
2012-13	8400.00	8400.00	8371.26
2013-14	7089.00	7052.51	6921.57
2014-15	8444.00	8443.20	6581.49
2015-16	3900.00	2434.80	551.97

13.28 State-wise status of funds released for the years up to 2015-16 and expenditure/UC status as on 31.12.2015 is given in **Annexure-13.4**.

13.29 Conclusion: RKVY is a transformational jump in evolution of agricultural development schemes from variegated schematic approach followed so far through diverse but strait-jacketed schemes to a completely new approach in agriculture planning by allowing the States to plan their strategy and design appropriate schemes to implement that strategy with complete flexibility in scheme designs and autonomy in its implementation. RKVY has imparted definite momentum to the agriculture sector. Regular activities starved of resources, promising strategies languishing for lack of support, and limited opportunities

for experimentation and innovation, have found a new hope in RKVY. States are allocating more funds to agriculture to take up schemes of agriculture development. This is reflected in additional plan allocation to agriculture sector. There is a sense of hope and optimism. Agriculture, which had slid back stage, is making a comeback. One timely policy instrument through RKVY has accelerated revival of agriculture and put it on growth path.

13.30 Audit Para: There is no Audit para pertaining to RKVY. However, there is a Performance Audit of Rastriya Krishi Vikas Yojna (RKVY) done for the period 2007-08 to 2012-13 (ending March 2013) by C&AG submitted the report in both the Houses of Parliament on 5th May 2015. The prescribed format is placed below:

S.I. 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
1.	2015	-	Performance Audit of RKVY has been done by C&AG for the period 2007-08 to 2012-13(ending March 2013) and submitted the report in both the Houses of Parliament on 5th May 2015. There are 10 recommendations in the report. The report has been sent to concerned 27 States where the Audit was done to get their comments since RKVY was implemented as Additional Central Assistance (ACA) to the State Plan and Audit has raised issue of implementation by both the Central Government and State Government. The comments received from the States are at the compilation Stage and few States are yet to send their comments. Efforts are being made to send the ATN at the earliest.	-	-

Chapter 14

Drought Management

14.1 Department of Agriculture & Cooperation (DAC) is mandated to coordinate relief measures necessitated by drought, hailstorm, pest attack, frost/cold wave. Spatial distribution and quantum of rainfall during South-West Monsoon (June-September) mainly determines the incidence of drought in the country, as South West Monsoon accounts for more than 70% of annual rainfall. Department of Agriculture & Cooperation closely monitors progress of South-West Monsoon in the country, in close coordination with India Meteorological Department (IMD) and keeps a watch over scanty/deficient rainfall conditions.

14.2 The Department has reviewed and updated the Crisis Management Plan (CMP) for Drought 2015 (National) during the current year. The Plan defines roles and responsibilities of various agencies involved in crisis management including media management during drought. CMP 2015 (National) was circulated to State/UT Governments for preparing their own CMPs.

14.3 State Governments initiate necessary relief measures in the wake of natural calamities including drought from State Disaster Response Fund (SDRF) which is readily available with them. Contribution to SDRF is made by Central and State Governments in the ratio of 3:1 for general category States (18 out of 29 namely, Andhra Pradesh, Telangana, Bihar, Chhattisgarh, Goa,

Gujarat, Haryana, Jharkhand, Karnataka, Kerala, Madhya Pradesh, Maharashtra, Odisha, Punjab, Rajasthan, Tamil Nadu, Uttar Pradesh and West Bengal) and in the ratio of 9:1 for special category States (11 out of 29 i.e. 8 North East States namely, Arunachal Pradesh, Assam, Meghalaya, Manipur, Mizoram, Nagaland, Tripura, Sikkim and 3 hilly States of Himachal Pradesh, Jammu & Kashmir and Uttarakhand). Government of India supplements the efforts of the State Governments by providing requisite financial and logistic support in the wake of calamities. Additional financial assistance, over and above SDRF, is also provided from (National Disaster Response Fund (NDRF) for natural calamities of severe nature as per established procedure and extant norms. 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.

14.4 During the year 2015-16, as per information available till 31st December, 2015, Karnataka, Chhattisgarh, Madhya Pradesh, Maharashtra, Odisha, Andhra Pradesh, Uttar Pradesh, Telangana, Jharkhand and Rajasthan had declared drought.

Memorandum seeking central financial assistance from NDRF had been received from the aforementioned States. Inter-Ministerial Central Teams (IMCTs) were constituted to visit the affected areas of the States to assess the loss/damages to crops and recommend

appropriate central financial assistance from NDRF.

14.5 Central Research Institute for Dryland Agriculture (CRIDA), Indian Council of Agricultural Research (ICAR) has developed detailed District-wise contingency plans 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 are developed based on certain simulated models for different weather conditions like occurrence of drought, flood, cyclones, frost/cold wave etc. CRIDA has prepared Contingency Plans for 600 districts.

14.6 Government announced certain measures to help farmers deal with challenges posed by deficit rainfall during Kharif, 2015 such as implementation of Diesel Subsidy Scheme for protective irrigation of crops; enhancement of ceiling on seed subsidy to partially compensate farmers for additional expenditure incurred in resowing and / or purchasing appropriate varieties of seeds; implementation of Additional Fodder Development Programme (AFDP) in rain deficit districts as sub-scheme of Rashtriya Krishi Vikas Yojana (RKVY) for ensuring availability of fodder and implementation of appropriate drought mitigating interventions for perennial horticulture crops under Mission for Integrated Development of Horticulture (MIDH).



Chapter 15

International Cooperation

15.1 The mandate of International Cooperation Division is to foster mutually beneficial partnerships with other countries of the world in a multilateral as well as bilateral format. Department of Agriculture & Cooperation is the Nodal contact point in Government of India for Food & Agriculture Organization (FAO) and World Food Programme (WFP) of the United Nations. Bilateral Agreement, Memorandum of Understanding (MoU), Protocols and Work Plans with the 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 and other concerned Ministries and Departments.

Multilateral Cooperation

15.2 **Food & Agriculture Organization (FAO):** India is a founder member of the FAO and has been taking part in all its activities and makes payment of the annual membership contribution to FAO. India has been availing assistance from the FAO from time to time in the form of training, consultancy services, equipments and material in the field of agriculture and allied sectors under its technical cooperation programme (TCP). The details of the major projects which are currently under implementation with FAO assistance are as under:

- **India's contribution to the Bay of Bengal Large Marine Ecosystem (BOBLME)/ Fishery Survey of India:-** India is a signatory to the umbrella

BOBLME Project. India has shown its commitment to the BOBLME Project by providing its annual cash contribution. This UTF project is to assist India disperse its cash commitment to support the BOBLME Regional Project. The duration was 30.04.2011 to 30.06.2015 with a total budget of US\$ 112,570.

- **Strengthening Agriculture Market Information System (AMIS) globally using innovative methods and digital technology:** The project is running in India, Bangladesh and Nigeria with financial assistance from Bill and Melinda Gates Foundation (BMGF) and technical assistance of FAO. The total budget for the project is US \$ 6,37,513 for a duration from May 2012 to May 2015.
- **Preparations for the Development of Farmer Field and Water Schools Programmes under the World Bank Assisted Uttar Pradesh Water Sector Restructuring Project II-** The objective is to strengthen capacities and knowledge on implementing sustainable small ruminant and smallholder poultry rearing interventions based on lessons learnt from pilot interventions in two selected states and documentation and assessments of on-going interventions. The project duration is 01.07.2013 to 31.07.2015 with a total budget of US\$385,000.
- **Support to the implementation of the Strategy for Fisheries Management**

for Sustainable Livelihoods (FIMSUL) in Tamil Nadu and Ponducherry:

The intermediate project commenced in November, 2013 (Upto November 2015) under FAO's TCP with budget/FAO's contribution of US \$ 417,000.

- **Incorporating International Best Practices in the Preparation of Agricultural Outlook and Situation Analysis Reports for India - Phase II-** This project supports the Ministry of Agriculture (MoA) to improve the functioning and transparency of food and agricultural commodity markets. The duration was from 3rd March 2014 to 30th September 2015 with a total budget of US\$ 461,139.
- **Development of Extension and Outreach organizational and managerial capacities by state and public institutions in Mizoram (within context of UN Joint Initiative/ New Land Use Policy Board -** The project will contribute to the State of Mizoram's development plans by supporting Departments to improve their outreach and extension support using current key production constraints. The duration of the project is from 01st April 2015 to 31st March 2017 with a total budget provision of US\$496,000.
- **Enhancing Understanding and Implementation of the International Treaty on Plant Genetic Resources for Food and Agriculture in Asia:** The project with a total budget of US\$ 435,000 aims to support 15 Asian countries including India. The project started in July, 2012 for three years duration.

World Food Programme (WFP)

15.3 The World Food Programme (WFP) was set up in 1963 jointly by the United Nations and Food & Agriculture Organization (UN/FAO). India is the member of WFP since its inception. It seeks to provide emergency feeding in places facing acute food insecurity due to natural calamities and man-made causes. Present share of Government of India for a biennium is US \$ 1.92 million towards WFP Pledge Contribution which is used by them to support WFP India Country Programme. India has made full payment to UNWFP for biennium 2014-2015. Besides, GoI makes an annual payment of Rs. 30 lakh to UNWFP 'Country Office towards their Local Operating Cost (LOC).

15.4 Annual meeting of the Country Advisory Committee (CPAC) of WFP India Country Programme (CP) 2014-18 was held on 24th August, 2015 to review/monitor progress of the Country Programme.

15.5 **World Food Day (WFD):** World Food Day (WFD) was celebrated throughout the Country on 16th October, 2015 to commemorate the founding day of the FAO and to create public awareness about the plight of the hungry and malnourished people and to take concrete action to tackle and overcome the menace of hunger. This year's theme of WFD was "**Family Farming: Social Protection and Agriculture: Breaking the Cycle of Rural Poverty**". A message from Union Agriculture Minister was published/broadcast nationwide on the occasion.

15.6 **Office of Minister (Agriculture), Embassy of India, Rome:** The Government of India for the purpose of maintaining liaison and coordination with the FAO has nominated the Indian Ambassador in Rome as its permanent representative to the FAO.

Keeping in view, the specialized nature and the increasing volume of interaction with the UN agencies and their associated bodies, an agricultural wing headed by a senior officer of the rank of Joint Secretary to the Government of India with the designation of Minister (Agriculture), EOI, Rome has been set up in the Indian Embassy, Rome. The Minister (Agriculture), EOI, Rome has been designated as India's Alternate Permanent Representative (APR) to the FAO, the World Food Programme (WFP) and the International Fund for Agricultural Development (IFAD). The Minister (Agriculture), EOI, Rome represents Indian interests, particularly in the field of agriculture and allied sectors at the meeting of various UN Agencies. The Office of Minister (Agriculture), EOI, Rome is a Subordinate Office under the administrative control of this Department.

Bilateral Cooperation

15.7 MOU/Agreements/Work Plans: Ministry of Agriculture and Farmers Welfare has entered into 74 MoUs/Agreements with 63 countries in the field of agriculture. During the year 2015, following MOU/Agreement/Work Plan/Declaration etc. were signed by the Department of Agriculture, Cooperation and Farmers Welfare:

- (i) Work Plan under the MoU between the Government of the Republic of India and the Government of the Democratic Socialist Republic of Sri Lanka on Cooperation in the Field of Agriculture for the year 2015-2016 was signed on 16.02.2015.
- (ii) A Work Plan for Bilateral Technical Cooperation between the Agriculture & Livestock Service of Chile and the Department of Agriculture & Cooperation of India for 2015-2016 was signed on 12.06.2015.

- (iii) An MoU between Government of India and United Nations World Food Programme on cooperation for 2015-2018 was signed on 18.08.2015.
- (iv) Joint Declaration of Intent between the Ministry of Agriculture and Farmers Welfare (MoA&FW), Government of India and the Federal Office of Consumer Protection and Food Safety (BVL) of the Federal Republic of Germany was signed on 05.10.2015.
- (v) Two workshops were held of Intent between the Ministry of Agriculture and Farmers Welfare (MoA&FW), Government of India and the Federal Office of Consumer Protection and Food Safety (BVL) of the Federal Republic of Germany was signed on 05. 10. 2015.
- (vi) MoU for Cooperation in the field of Agriculture with Armenia has been approved by the Cabinet and signed on 19.02.2016 in New Delhi by the Agriculture Minister of the two countries.

15.8 Joint Working Group (JWG) Meetings: During the year 2015, following JWG meetings were held:

- (i) 7th meeting of India-France Joint Working Group (JWG) on Agriculture was held in New Delhi on 14th January, 2015.
- (ii) 4th meeting of India-Germany Joint Working Group (JWG) on Agriculture was held in New Delhi on 12th February, 2015.
- (iii) 2nd meeting of India-South Africa Joint Working group (JWG) on Agriculture was held in Pretoria, South Africa during 1-3 June, 2015.

- (iv) 3rd meeting of India-Indonesia Joint Working Group (JWG) on Agriculture was held in New Delhi on 18th November, 2015.

15.9 Indo-US Cooperation: National Institute of Plant Health Management (NIPHM), Hyderabad has been collaborating with United States Agency for International Development (USAID) for training purposes and capacity building programmes. National Institute of Agriculture Extension Management (MANAGE), Hyderabad & National Institute of Agriculture Marketing (NIAM), Jaipur are also collaborating with USAID to provide training for national of three African Countries viz. Liberia, Kenya and Malawi under trilateral Cooperation envisaged under MoU with USA. Ten more countries have been included under India-USAID Trilateral Cooperation.

15.10 Strategic Groups: India is a member of multilateral groupings such as G-20 – a forum for global cooperation on international economic and financial issues; IBSA (India, Brazil and South Africa); BRICS (Brazil, Russia, India, China and South Africa); 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.

15.11 G-20: A Ministerial Declaration on Action Plan on food Price Volatility and Agriculture was issued during the first meeting of G-20 Agriculture Ministers' meeting on 23rd June 2011 held in Paris, France. *G-20 Ministers of Agriculture* met in Istanbul on 7-8 May 2015. This was their first *meeting* since 2011. A final Communiqué was issued from G-20 Agricultural Ministers on the occasion.

Others

15.12 Cooperation with International Organizations: This Department is a member of many International Organizations and the Annual contributions to these International Organizations are being made from time to time as per agreed commitment/agreement by the IC Division. These International Organizations are as under:

- i) Food and Agriculture Organization of United Nations (FAO).
- ii) World Food Programme (WFP).
- iii) Trust Fund of FAO for Desert Locust in Eastern Region.
- iv) Trust Fund for International Desert Locust.
- v) Regional Network on Development of Agricultural Cooperatives (NEDAC).
- vi) Organization for Economic Cooperation & Development (OECD).
- vii) Asia and Pacific Coconut Community (APCC).
- viii) Asia-Pacific Plant Protection Convention (APPPC).

15.13 International Seminars/Workshops/Conferences etc. : During 2015-16 (upto December, 2015), this Department took part in 104 International Conferences/Meetings/Seminars/Training etc. dealing with various aspects of agricultural development organized by the FAO and other International Organizations.

15.14 External Assistance: 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 World Bank, International Fund for Agriculture

Development (IFAD) and Asian Development Bank (ADB) etc. .

15.15 World Bank Assisted Projects: Currently there are twelve World Bank assisted Projects which are being implemented through this Department. These projects are as under:

- (i) Assam Agricultural Competitiveness Project (AACP);
- (ii) Additional financing for Assam Agricultural Competitiveness Project;
- (iii) National Agricultural Innovation Project;
- (iv) National Dairy Support Project;
- (v) Himachal Pradesh Mid-Himalayan Watershed Development;
- (vi) Additional financing for Himachal Pradesh Mid-Himalayan Watershed Development;
- (vii) Karnataka Community Based Tank Management;
- (viii) Uttar Pradesh Sodic Land Reclamation Project-III;
- (ix) Maharashtra Agricultural Competitiveness Project (MACP);
- (x) Rajasthan Agricultural Competitiveness Project (RACP);

(xi) Uttaranchal Decentralised Watershed Development Project;

(xii) Additional financing for Uttarakhand Decentralised Watershed Development Project.

15.16 International Fund for Agriculture Development (IFAD) assisted Projects: At present there is only one IFAD assisted project viz. Convergence of Agricultural Interventions in Maharashtra's Distressed Districts Programme.

15.17 Asian Development Bank (ADB) assisted Projects: Currently there are two ADB assisted Projects viz. (i) Agribusiness Infrastructure Development Investment Programme-1 (Bihar) (ii) Agribusiness Infrastructure Development Investment Programme - 2 (Maharashtra).

15.18 India-Africa Agribusiness Forum: Together with FICCI, the Ministry successfully organized the India-Africa Agribusiness Forum at New Delhi on 10-11 February, 2016 in which several Agriculture Ministers, diplomats, officials and private sector representatives from Africa and India participated.

Chapter 16

Agricultural Trade

India's Agriculture Trade

16.1 India has emerged as a significant agri-exporter in a few crops viz. cotton, rice, guar gum, pepper, oil meals and sugar. As per WTO's Trade Statistics, the share of India's agricultural exports and imports in the world agriculture trade in 2014 were 2.46% and 1.45%, respectively.

16.2 Agricultural exports as a percentage of agricultural GDP has increased from 9.41% in 2010-11 to 12.89% in 2014-15. During the same period, Agricultural imports as a percentage of agricultural GDP also increased from 4.25% to 6.22%.

Agricultural Exports and Imports

16.3 Export of agricultural commodities has helped producers to take advantage of wider international market which in turn has incentivized their domestic production. Crops exported in large quantities viz.

rice, cotton, and maize have witnessed significant increase in area coverage and growth rate of production.

16.4 Agricultural exports increased from Rs. 2,27,193 crore in 2012-13 to Rs. 2,39,471 crore in financial year 2014-15 registering a growth of nearly 5.4%. Increase in the value of agricultural exports during 2014-15 was primarily on account of higher exports of basmati & non-basmati rice, marine products, meat, cashew nut, spices, raw cotton and guar gum. The share of agricultural exports in India's total exports decreased from 13.90% in 2012-13 to 12.66% in 2014-15.

16.5 India's top 10 agricultural export commodities in terms of quantity and value for the year 2012-13, 2013-14, 2014-15 and 2015-16 (April to December) are given in the table 1 below:

Table 1: India's top 10 agricultural export commodities

	Commodity	2012-13		2013-14		2014-15		2015-16(April-December)	
		Qty	Value	Qty	Value	Qty	Value	Qty	Value
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
1	Marine Products	965	18,841	1001	30,617	1073	33,685	779	24,571
2	Buffalo Meat	1076	17,409	1366	26,458	1476	29,283	1,009	20,623
3	Rice -Basmati	3460	19,409	3757	29,292	2702	27,599	3,069	17,587
4	Rice(Other than Basmati)	6688	14,449	7148	17,795	8226	20,336	4,723	11,104
5	Spices	933	15177	897	15,146	923	14,842	601	11,997

	Commodity	2012-13		2013-14		2014-15		2015-16(April-December)	
		Qty	Value	Qty	Value	Qty	Value	Qty	Value
6	Cotton Raw Incl. Waste	2057	20,277	1948	22,338	1143	11643	930	8,802
7	Guargum Meal	406	21287	602	11,735	665	9480	255	2,700
8	Oil Meals	6578	16,520	6577	17,070	3904	8129	1,655	2,848
9	Cashew	104	4067	121	5095	135	5566	81	3,844
10	Sugar	2794	8576	2478	7179	1954	5327	2,455	6,038

[Quantity in '000' tons; Value in Rs. Crores]

Source: commerce.nic.in

16.6 India's agricultural imports increased from Rs. 95,719 crore in 2012-13 to Rs 1,15,439 crore in 2014-15 registering a growth of nearly 20.6%. Increase in value of agricultural imports during this period was primarily on account of imports of vegetable oils, pulses, raw cashew nuts, spices, sugar and cotton. Share of

agricultural imports in the total imports increased from 3.59 % in 2012-13 to 4.22 % in 2014-15.

16.7 India's top 10 agriculture import commodities for the year, 2012-13, 2013-14, 2014-15 and 2015-16 (April to December) are given in the table 2 below:

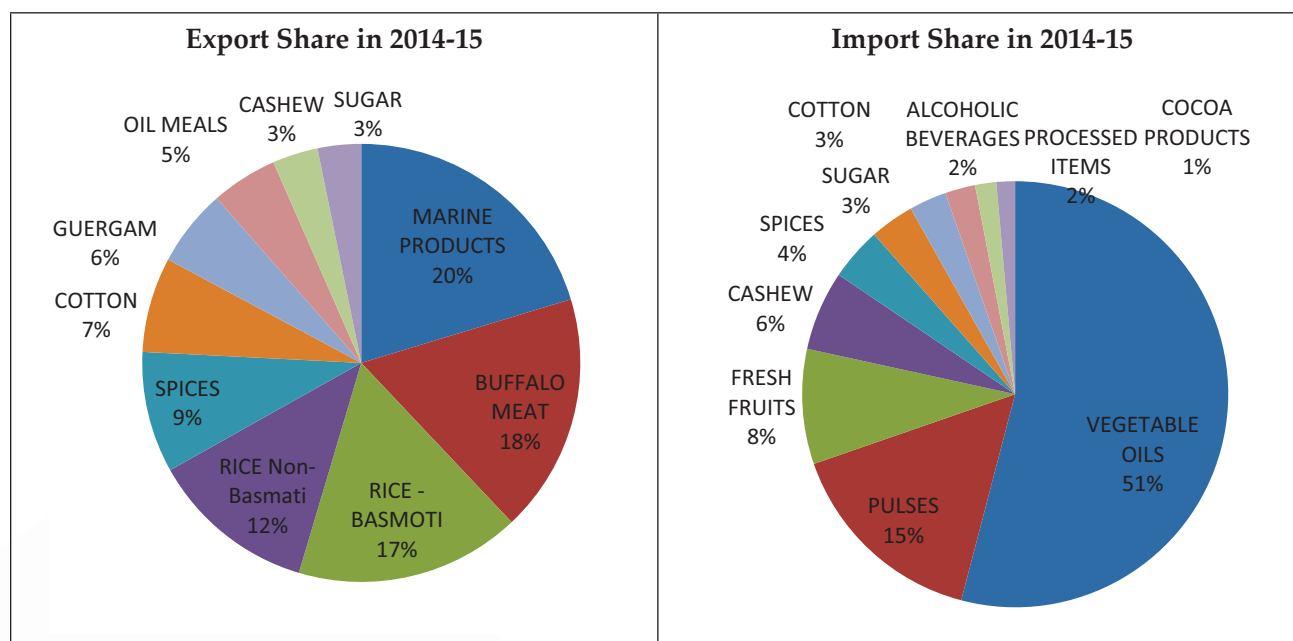
Table 2: India's top 10 agriculture import commodities

[Quantity in 000 tons, Value in Rs crores]

Sl. No.	Commodity	2012-13		2013-14		2014-15		2015-16 (Apr-Sept)	
		Qty	Value	Qty	Value	Qty	Value	Qty	Value
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
1	Vegetable oils	9606	53,562	7943	44,038	11,548	59,094	12,066	52,549
2	Pulses	4013	13,345	3178	11,037	4585	17,063	4,411	19,238
3	Fresh fruits	802	6180	769	7716	858	9544		7,886
4	Cashew	899	5434	776	4668	941	6600	619	8,647
5	Spices	176	2716	156	3452	161	4392	846	7,399
6	Sugar	1122	3094	881	2287	1539	3668	137	3,842
7	Cotton raw including waste	233	2467	181	2376	259	3101	1,390	2,778
8	Alcoholic beverages		1417		2076		2508	194	2,135
9	Misc processed items		1268		1474		1749		1,271
10	Cocoa products	53	1049	52	1072	65	1551	50	607

Source: Department of Commerce

16.8 Share of top 10 exported and imported agri-commodities during 2014-15 is as follows:



Source: Department of Commerce

Foreign Trade Policy

16.9 India, with a large and diverse agriculture, is among the world's leading producers of rice, wheat, milk, sugarcane, fruits and vegetables. Therefore, changes in its balance sheets 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, guar gum and castor.

16.10 Trade Policy has been amended from time to time on various agricultural commodities in response to domestic availability and price situation. The basic customs duty (BCD) in some agri products was reduced/removed to encourage domestic manufacture of value added products, to generate employment, and to make exports competitive. To combat undervaluation and protect the interests of domestic farmers and industry, the BCD of some agri products

like Sugar, Edible Oil and Wheat was raised. Import duty on sugar was increased from 25% to 40% vide Customs Notification dated 30th April, 2015. Import duty on crude and refined edible oils has been raised from 7.5% to 12.5% and 15% to 20% respectively vide Custom notification dated 17.09.2015. Further, import duty on wheat was first raised from "zero" 10% in August 2015 and from 10% to 25% in October 2015.

Foreign Direct Investment (FDI) Policy in Agriculture

16.11 Hundred percent FDI has been allowed in development and production of seeds and planting material. In addition, 100% FDI is allowed for floriculture, horticulture and cultivation of vegetables and mushrooms under controlled conditions. Also, hundred percent FDI is allowed in animal husbandry (including breeding of dogs), pisciculture, aquaculture under controlled conditions and services related to agro and allied sectors.

Similarly, hundred percent FDI is allowed in the plantation sector namely tea, coffee, rubber, cardamom, palm oil tree and olive oil tree.

16.12 From April 2000 to September 2015, FDI inflows of Rs. 11,090.09 crores have been received in agriculture sector (i.e. agriculture services plus agriculture machinery). The investments were made in development and production of seed and planting material, horticulture and nursery services, agriculture machinery, plant protection services, cattle breeding and livestock rearing, cold storage and warehousing.

Institutional Mechanism for in-house knowledge management

16.13 **Database on Agricultural Trade:** In order to create a database of India's trade flows (global export and import in value and quantity terms) for all agricultural products, the DAC has hired consultancy services of Consumer Unity & Trust Society (CUTS), Jaipur in October 2014.

16.14 The CUTS, *inter alia*, is required to:

- Analyse database to capture broad export trends, conduct competitiveness analysis of India's agriculture products for exports and identify the tariff lines with (i) high export growth and (ii) other products having export potential.
- Analyse the database to capture broad import trends, conduct an analysis of vulnerability of India's agriculture products from imports and identify the products/tariff lines with imports threat that would require duty protection on account of livelihood and food security.
- Provide inputs on issues relating to agriculture in World Trade



Guar gum



Basmati Rice



Cotton cultivation

Organization (WTO), other bilateral negotiations relating to trade and any other trade related issue.

Commodity Profile

16.15 Trade Division is regularly publishing commodity profiles of six prime agricultural products viz. Rice, Wheat, Pulses, Edible Oil,

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.

16.16 The commodity profiles are placed in the public domain and are updated once in each month. These profiles can be viewed by clicking 'Trade' at <http://agricoop.nic.in/divisions.html>

16.17 Chapter-wise export and import data of 354 agriculture tariff lines at six digit HS level indicating bound rate and applied rate from 2009-10 to 2015-2016 (April-Sept) is hosted on the website. (<http://agricoop.nic.in/divisions.html>)

Audit Para

16.18 No audit para/observation are pending in Trade Division of this Department.



Chapter 17

Agricultural Credit

17.1 The Government has taken many policy initiatives for strengthening of 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 and rationalization of lending policies and procedures and bringing down the rate of interest on farm loan.

17.2 Policy initiatives for increasing the Flow of Credit

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

Every year agricultural credit target is fixed by the Government and is announced in the annual budget. For the financial year 2015-16, the agriculture credit target is Rs.8,50,000 crore.

The Government is providing interest subvention to make short-term crop loans

upto Rs.3 lakh for a period of one year available to farmers at the interest rate of 7% per annum and in case of timely repayment, the same gets reduced to 4%.

In order to discourage distress sale of crops by farmers, the benefit of interest subvention has been made available to small and marginal farmers having Kisan Credit Card for a further period of up to six months (post-harvest) on the same rate as available to crop loan against negotiable warehouse receipts

In order to ensure that all eligible farmers are provided with hassle-free and timely credit for their agricultural operations, the Government has introduced the Kisan Credit Card Scheme, which enables them to purchase agricultural inputs such as seeds, fertilizers, pesticides, etc. and draw cash to satisfy their consumption needs.

The KCC Scheme has since been simplified and converted into ATM enabled debit card with, inter alia, facilities of one-time documentation, built-in cost escalation in the limit, any number of drawals within the limit, etc., which eliminates the need for disbursement through camps and mitigates the vulnerability of farmers to middlemen.

To bring small, marginal, tenant farmers, oral lessees, etc. into the fold of institutional credit, Joint Liability Groups (JLGs) have been promoted by banks. To improve the outreach among the poor and the informal sector, the SHG-Bank linkage programme was intensified. Banks have also been

advised to finance Joint Liability Groups and Tenant Farmers' Groups.

- a. Banks have been advised to simplify the procedure for documentation for agricultural loans.
- b. The standing guidelines of Reserve Bank of India (RBI) provide for rescheduling of short term crop loans upon declaration of natural calamity including drought. Such rescheduling of crop loans converts them into term loans for which normal rate of interest are applicable. Due to the deficient rainfall in some parts of the country and in order to provide relief to drought affected farmers, it has been decided that in cases where such loan are restructured due to drought, the interest subvention of 2% which is already available for short term crop loans to Public Sector Banks, Cooperative Banks and Regional Rural Banks will continue to be available for the current financial year on the full restructured amount.

17.3 Agriculture Credit Achievement:

The target of doubling of the flow of agricultural credit in three years with base year as 2004-05 was achieved in two years. Agricultural credit flow has increased consistently and it reached Rs.6,07,375 crore against target of Rs.5,75,000 crore forming 106% of the target. Against the target Rs.700,000 crore during 2013-14, achievement is Rs.7,11,621 crore. A target of Rs. 8,00,000 crore has been fixed for 2014-15 and the achievement is Rs.8,45,328.23 crore. Target for the year 2015-16 has been fixed at Rs.8,50,000 crore and the achievement is Rs.6,30,244 crore (upto December 2015).

17.4 Revival Package for Short Term Cooperative Credit Structure (STCCS):

The Government implemented a package for revival of Short-term Rural Cooperative Credit Structure in the country. The Revival Package was aimed at reviving/strengthening the Short-term Rural Cooperative Credit Structure (STCCS) and make it a well-managed and vibrant medium to serve the credit needs of rural India, especially the small and marginal farmers. It sought to (a) provide financial assistance to bring the system to an acceptable level of health; (b) introduce legal and institutional reforms necessary for their democratic, self-reliant and efficient functioning; and (c) take measures to improve the quality of management.

States choosing to participate in the Revival Package were entitled for financial assistance under the package through the mechanism of a formal MOU or Exchange of Letters with the Central Government and NABARD to implement (in a phased manner & within a period of 3 Years), the legal and institutional reforms envisaged. Financial assistance for STCCS under the package was estimated at Rs.13596 crore to make available for cleansing of Balance Sheet and increasing the capital to a specified minimum level. In order to ensure that the CCS continued on sound financial, managerial and governance norms, technical assistance was also to be provided to upgrade institutional and human resources of the CCS, computerization and building up proper internal control and accounting system. The Package sought to bring down the interference of the State Govts in the credit cooperatives and suitable amendments to the State Cooperative Societies Act and Banking Regulation Act were proposed in the package. These formed part of the important conditionalities to be complied with under the Package.

Twenty-five State Governments, viz. Andhra Pradesh, Arunachal Pradesh, Assam, Bihar,

Chhattisgarh, Gujarat, Haryana, J&K, Jharkhand, Karnataka, Madhya Pradesh, Maharashtra, Manipur, Meghalaya, Mizoram, Nagaland, Rajasthan, Odisha, Punjab, Sikkim, Tamil Nadu, Tripura, Uttarakhand, Uttar Pradesh, and West Bengal have signed the Memorandum of Understanding (MoU) with GoI and NABARD for implementation of the package. This covered more than 96% of the STCCS units in the country. An amount of ₹9245.28 crore was released by NABARD as GoI share for recapitalisation of 52,902 eligible PACS in seventeen States, 1510 ineligible PACS affiliated to 30 CCBs in three States and 13 CCBs in Odisha, while the State Governments concerned released ₹855.53 crore as their respective share. As per MoU, the period of implementation was for three years from the date of signing MoU which was extended till 30.06.2011 for all the States. The package was closed on 30.06.2011.

17.5 Kisan Credit Card

In order to ensure that all eligible farmers are provided with hassle-free and timely credit for their agricultural operations, the Government has introduced the Kisan Credit Card Scheme (since Aug 1998), which enables them to purchase agricultural inputs such as seeds, fertilizers, pesticides, etc. and draw cash to satisfy their consumption needs. The KCC Scheme has since been simplified and converted into ATM enabled debit card (Rupay KCC- RKCC).

Revised operational guidelines on KCC scheme have been issued by NABARD and RBI. Improvements in the guidelines over the earlier KCC scheme are as under:

- Paper card (pass book) to Plastic card - KCC in the form of Smart card cum Debit card

- Wider delivery channels: Operations through Branch/Cheque facility/ BCs/ATM (debit card)/ POS/Mobile handsets.
- More clarity in assessing credit needs (inclusion of post-harvest / household/ consumption needs upto 10% + maintenance expenses of farm assets upto 20%)
- Cost escalation built in for assessing the credit limit - notional hike of 10% for fixing credit limit from second year onwards
- More activities covered under Term Loan
- Emphasis on financing Joint Liability Groups
- One time documentation at first availment and thereafter simple declaration (from second year onwards).

As per the existing Kisan Credit Card (KCC) Scheme, the KCC validity is fixed by the financing bank subject to an annual review. NABARD is also supporting Cooperative Banks and Regional Rural Banks across the country to upgrade the KCCs to Rupay KCCs by providing limited grant support.

As per the Scheme, KCC/ RKCC is aimed at providing adequate and timely credit support from the banking system under a single window to the farmers for their cultivation & other needs as indicated below:

- a. To meet the short term credit requirements for cultivation of crops
- b. Post-harvest expenses
- c. Produce marketing loan
- d. Consumption requirements of farmer household

- e. Working capital for maintenance of farm assets and activities allied to agriculture, like dairy animals, inland fishery etc.
- f. Investment credit requirement for agriculture and allied activities like pump sets, sprayers, dairy animals etc.

Further, to discourage distress sale by farmers and encourage them to store their produce in warehouses, the benefit of interest subvention has been extended to small and marginal farmers having Kisan Credit Card, for a further period of upto six months post-harvest, at the same interest rate applicable for crop loan, against Negotiable Warehouse receipts.

17.6 Rate of Interest on Agricultural Loan:

Crop loans up to a principal amount of Rs.3 lakh at concessional rate of interest of 7% is provided to the farmers with 3% interest subvention as incentive to those farmers who repay their crop loans on time. Thus, the effective rate of interest for such farmers becomes 4% per annum. The interest subvention scheme for short-term crop loans has been continued for the year 2015-16. Government has extended the scheme to crop loans borrowed from private sector scheduled commercial banks in respect of loans given within the service area of the branch concerned.

17.7 Benefit of Interest Subvention against Negotiable Warehouse Receipt:

At present, concessional crop loan @7% with interest rate subvention is available to farmers as pre-harvest loan. However, in case of post-harvest loan against the negotiable warehouse receipts, the farmers are granted loan at commercial rates. In

order to discourage distress sale by farmers and to encourage them to store their produce in warehousing against warehouse receipts, the benefit of interest subvention is now available to small and marginal farmers having Kisan Credit Card for a further period of upto six month post harvest on the same rate as available to crop loan against negotiable warehouse receipt for keeping their produce in warehouses.

17.8 Joint Liability Group (JLG)

Joint Liability Group is an informal group comprising 4 to 10 individuals coming together for the purpose of availing bank loan on individual basis or through group mechanism against mutual guarantee. The JLG mode of financing serves as collateral substitute for loans to be provided to the target group i.e. small, marginal, tenant farmers, oral lessees, share croppers, etc. It builds mutual trust and confidence between the bank and the target group and minimizes the risks in the loan portfolio for the banks through group dynamics, cluster approach, peer education and credit discipline. The objective of the JLG mode of financing is to provide food security to vulnerable section by enhanced agriculture production, productivity and livelihood promotion. JLGs can also easily serve as a conduit for technology transfer, facilitating common access to market information, training and technology dissemination in activities like soil testing, training and assessing input requirements, etc.

The Scheme for financing of Joint Liability Groups of Tenant Farmers was started by NABARD in 2007-08. The scheme was extended to non-farm sector from 2009 onwards. Thus, JLGs consists of those of farmers and also of non farmers. The

exclusive scheme for Bhoomi Heen Kisan was launched by Government of India during the Union Budget Announcements, 2014-15 with a target for financing 5 lakh Joint Farming Groups of “Bhoomi Heen Kisan” through NABARD. The total number of JLGs and total loan amount provided (cumulative) as on 31.12.2015 are as under:

Number of JLGs financed as on 30.12.2015	
Number	Amount
14.11 lakh	Rs.13,968.76 crore

Total number of Joint Farming Groups of “Bhoomi Heen Kisan” promoted and loan

amount disbursed during 2014-15 and 2015-16:

Number of JLGs promoted and financed			
2014-15		2015-16 (up to December, 2015)	
Number	Loan Amount (Rs. Lakh)	Number	Loan Amount (Rs. Lakh)
456,636	4,41,443.81	2,82,126	2,77,860.00

(The figures for the years 2014-15 and 2015-16 are parts of the cumulative figures in the first table.)



Chapter 18

Gender Perspective In Agriculture

18.1 “Gender Mainstreaming’ is one of the important pillar of the National Policy for Farmers’ formulated in 2007. In line with the Policy directives, it is mandated to take appropriate structural, functional & institutional measures to empower women in agriculture and allied sectors by building their capacities and improving their access to inputs, technology 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.

18.2 A National Gender Resource Centre in Agriculture (NGRCA) is operational in the Department of Agriculture, Cooperation & Farmers Welfare, Ministry of Agriculture & Farmers Welfare since 2005-06 and is supported under the Central Sector Component of Sub-Mission on Agricultural Extension (SMAE). The Centre acts as a focal point to converge all gender related activities & issues in agriculture & allied sectors within and outside the Department of Agriculture & Cooperation; add gender dimension to agriculture policies & programmes; render

advocacy/advisory services to the States/UTs to internalize gender specific interventions and ensure that the policies and programmes in agriculture are fully engendered & reflect the national commitment to empowerment of women.

18.3 Besides undertaking and supporting training, research and advocacy to mainstream gender issues in agriculture and natural resource management, NGRCA aims at forging effective functional linkages with other related departments, agencies and institutions & is mandated to ensure that the policies and programmes in agriculture are fully engendered & reflect the national commitment to empowerment of women.

18.4 Gender Budgeting Cell (GBC) has been constituted in the Department of Agriculture, Cooperation and Farmers Welfare for looking into the budgetary commitments of various schemes of DAC&FW, bringing gender concerns on to the centre stage in all aspects of public expenditure and policy and ensuring a proportionate flow of the public expenditure benefiting women farmers. Nodal officers/ Gender Coordinators in various Divisions have been sensitized about the concept of gender budgeting. Formats of all the beneficiary oriented schemes of the Ministry have been revised to generate gender disaggregated data.

18.5 Current Initiatives of NGRCA

- Gender Sensitization Modules (GSM) developed for sensitization of extension

functionaries at Senior, Middle and at Cutting edge level has been condensed to half a day module for its delivery through all ongoing programmes being organized at various Training institutes. MANAGE has developed this 'Capsule Module on Gender Learning' focusing on the practical tips of Gender Budgeting and Accounting duly roping in the recommendations and the outcome of several Action Research Studies undertaken by NGRCA as well as policy decisions of Ministry of Finance, Ministry of Women and Child Development and Ministry of Agriculture & Farmers Welfare.

- Realizing the need to provide useful information on Gender Friendly Tools (GFT)/ Equipment used in crop production, crop processing, post-harvest management and other allied sectors generated by various research and development organizations at one source, an attempt has been made to collect requisite details from various institutes viz. Central Institute for Agricultural Engineering (CIAE), Bhopal; Central Institute for Women in Agriculture (CIWA), Bhubaneswar, Odisha; AICRP Centers on Home Science; College of Home Science and State Agricultural Universities and collate it in the form of a compendium. Accordingly, compendium carrying information on 69 tools/equipment has been prepared in Hindi and English and is under circulation through ATMA, KVKs, ICAR Institutes, SAUs etc.
- Gender desegregated Data is being maintained under all activities of Sub Mission on Agricultural Extension (SMAE) of National Mission on

Agricultural Extension and Technology (NMAET)

- To ensure food and nutritional security at the household level, Farm women's Food Security Groups (FSGs) @ 3/Block are in the process of being identified/constituted under ATMA. Besides providing support for small tools, seeds, planting material etc. for setting up backyard food security garden, these FSGs are to be provided support for training, publication and access to inputs as well. This support will be to the tune of @ Rs. 10,000 per group. These FSGs are to serve as "Model Food Security Hubs" through establishing kitchen garden, backyard poultry, goatry, animal husbandry & dairying, mushroom cultivation, etc. A total of 36700 groups are to be supported over the Plan period.



- The selection of the agencies for conducting the studies on “Adoption of Gender Friendly Tools by Women farmers and its impact on their Lives’ and “Scheme for Improving Women Farmers Access to Extension Services and Gender Mainstreaming in Agriculture” has been completed.
- A ‘Handbook for Women Farmers’ has been developed collating special provisions and package of assistance which women farmers can claim under various on-going Missions/Submissions/ Schemes of DAC & FW, Ministry of Agriculture & Farmers Welfare and other Ministries /Departments . It is expected that the team of committed extension functionaries available at District and Block Level under ATMA set up will not only make women aware of such interventions but would also facilitate them to derive full benefits of the tailor made provisions for them.
- Coordination with various divisions of Ministry from time to time to collate gender disaggregated data on flow of benefits (physical as well as financial) to women farmers, SC/ST farm women under various schemes and strategies being adopted by the divisions for empowerment of women.
- Joint Circular under the signatures of Secretary (AC&FW) & Secretary (RD) has been developed and issued on Convergence of NRLM, MORD and the Schemes/Programmes/Missions of Department of Agriculture, Cooperation and Farmers Welfare, MOA&FW.
- Being a Nodal agency for Women in Agriculture of DAC&FW, Ministry of Agriculture & Farmers Welfare, the following activities have been taken up:
 - Examining draft Cabinet Notes for various new schemes proposed by Ministry of Rural Development, Women and Child Development from perspective of women in agriculture.
 - Coordination with Central Institute of Agricultural Engineering (CIAE), Bhopal, Central Institute for Women in Agriculture (CIWA), Bhubaneswar and State Agricultural University for documenting Gender Friendly Tools/Technology for wider circulation and collecting information on popularization and adopting among women.
 - Coordination with Ministry of Women & Child Development for inter-sectoral convergence for coordinated efforts for women’s welfare and socio economic development.
 - Facilitating Project Approval Committee for approval and Sanctioning of Project under Mahila Kisan Sashaktikaran Pariyojana (MKSP) and Special Project under Swaranjanti Gram Swarojgar Yojana(SGSY) skill development.
 - Preparation of separate chapter on ‘Gender Perspective in Agriculture’ for the Annual Report of DAC&FW, Ministry of Agriculture and Farmers Welfare.

- Preparation of Gender Related Write-up for the Out Come Budget of DAC&FW, Ministry of Agriculture & Farmers Welfare.

18.6 Mainstreaming efforts of various Divisions of DAC & FW: The important mainstreaming and gender budgeting efforts within various subject matter divisions are briefly given in the succeeding paragraphs.

Horticulture

18.7 Under Mission for Integrated Development of Horticulture (MIDH), an umbrella scheme on horticulture by subsuming other ongoing schemes on horticulture i.e. National Horticulture Mission(NHM), Horticulture Mission for North East & Himalayan States (HMNEH), National Bamboo Mission (NBM) now re-named as National Agro Forestry & Bamboo Mission, Central Sector Scheme of National Horticulture Board (NHB), Coconut Development Board (CDB) and Central Institute for Horticulture (CIH), Nagaland, all categories of farmers including women beneficiaries are covered in components like floriculture, beekeeping etc.

18.8 MIDH aims at promoting holistic growth of the horticulture sector through area based regionally differentiated strategies. Keeping in view the overall objectives and as per directives of Planning Commission, all the implementing agencies viz. State Horticulture Missions and National Level Agencies have been directed to ensure that at least 30% of 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. During the current

financial year 2015-16 funds to the tune of Rs. 2000 crores have been earmarked for implementation of schemes MIDH. Women beneficiaries such as women farmers, women Self Help Groups, women entrepreneurs are encouraged to obtain the benefits of the schemes under the Mission.

Agriculture Extension

18.9 The Sub-Mission on Agricultural Extension (SMAE) which encompasses both- the Centrally Sponsored and Central Sector extension outreach and ICT initiatives, under its “*Support to State Extension Programmes for Extension Reforms*” (ATMA intervention) supports gender concern to a great extent. This initiative is under implementation in 652 districts of 29 States and 3 UTs. The scheme promotes decentralized farmer-driven and farmer-accountable extension system through an institutional arrangement for technology dissemination in the form of an Agricultural Technology Management Agency (ATMA) at district level. Under the scheme grants-in-aid is released to states 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, latest agriculture technologies are disseminated to farmers of the country. The funds under this initiative are being released to the states on the basis of State Extension Work Plan (SEWP) formulated & submitted by them. The gender specific interventions under this initiative include:

- 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) @ least 3 women FSGs/block to be formed annually for ensuring 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
- 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
- Preferential involvement of women as 'Farmer Friends' under the extension delivery mechanism below the block level (@1 Farmer Friend/2 Villages)

18.10 Since inception of the scheme in 2005-06, total 85,26,870 farm women (25.73% of the total benefited farmers) have participated in farmer oriented activities like Exposure Visits, Training, Demonstrations & Kisan Melas including 2,47,851 women farmers benefited during 2015-16 (up to 31st December, 2015).

18.11 The operational Guidelines for *Modified Support to States for Extension Reforms Scheme, 2014* formulated in May, 2014 carry all provisions favouring women as indicated above.

18.12 The Central Sector Scheme "Establishment of Agri-Clinics & Agri-Business Centres (ACABC)" 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 youths (including women) with qualification in agriculture and allied sectors.

18.13 The scheme promotes involvement of agri-preneurs trained (including women) under the ACABC scheme in providing advisory and extension services to the farmers in agriculture and allied areas. The agri-preneurs trained under ACABC scheme are actively engaged in providing advisory and extension services to the farmers on various technologies.

18.14 MANAGE, Hyderabad is the implementing agency for training component under the scheme through a network of identified Nodal Training Institutes (NTIs) in various States. And NABARD is implementing the subsidy component on behalf of Government of India and is monitoring credit support to agri-preneurs through commercial banks.

18.15 There is a provision of credit linked back-ended upfront composite subsidy on the bank loan availed by the trained candidates under the scheme. 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. The subsidy is admissible for loans up to 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).

18.16 Since Inception of the scheme, a total number of 46,231 candidates have been trained and 19,471 agri-ventures have been established in the country which includes 3339 women candidates trained and 1043 Agri-ventures established by them (up to 31st January, 2016).

Crops

18.17 The scheme 'National Food Security Mission (NFSM)' was launched in October 2007-08, targeting three important food grain crops viz. rice, wheat and pulses. Cabinet Committee of Economic Affairs has cleared the continuation of NFSM programme in the XII Plan with addition of coarse cereals and commercial crops viz. cotton, jute and sugarcane. At the stage of Administrative approval, 30% of budgetary allocation is



earmarked for women beneficiaries/farmers. Concerned Implementing Agencies are responsible for monitoring implementation of these components, i.e., allocation of resources for SC/ST/Women beneficiaries.

18.18 Componentwise financial provision for promotion of farmer producer organizations (FPOs) and marketing support for value chain integration includes marketing support to unregistered farmer groups, SHGs, SHG federation etc. for local marketing of pulses and millets (@Rs.2.00 lakh per group of 15 farmers, for one time support only). This provision enables unregistered farmer groups, SHGs of women and others who wish to collaborate informally for direct marketing pulses in local haats, townships and region.

Agricultural Marketing

18.19 In order to provide single window approach and 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 is having five components, namely: (i) Agricultural Marketing Infrastructure (AMI), the objective of this component is to create market infrastructure including Storage Infrastructure and Integrated Value Chain Projects (IVC) [the existing schemes of GrameenBhandaranYojana

(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 Choudhary Charan Singh National Institute of Agriculture Marketing (NIAM).

18.20 Under Agricultural Marketing Infrastructure (AMI) component, Women are eligible for subsidy @ 33.33% as against 25% for others.

Mechanization and Technology

18.21 Taking into consideration all the factors and challenges coming in the progress of Farm Mechanization, Government of India, Ministry of Agriculture & Farmers Welfare, Department of Agriculture Cooperation & Farmers Welfare, Mechanization and Technology Division has formulated a Sub Mission on Agricultural Mechanization (SMAM) under the main Mission i.e. National Mission on Agricultural Extension and Technology (NMAET) which is under implementation w.e.f. 2014-15. 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 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 equipment including PHT under component 2 and 3.
- In order to reduce the drudgery and increasing efficiency in farm operations, 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 equipment has been sent to all States/ UTs for popularizing them through various schemes of Government.

18.22 Gender Friendly Equipment for Women: Under the component 1 of SMAM, Agricultural Mechanization through Training, Testing, and Demonstration, a total 1027 women were trained during 2014- 15 till 31st March, 2015. During the current Financial Year 2015-16, (till October. 2015) 947 women farmers have been trained at FMTTIs. A list of about 30 identified gender-friendly tools and equipment developed by the Research and Development Organization for use in different farm operations has already been sent to all states and UTs. for popularizing them. State governments have been directed to earmark 30 per cent of total funds allocated under SMAM for women beneficiaries.

Seeds

18.23 Sub-Mission for Seeds and Planting Material (SMSP) under National Mission on Agricultural Extension & Technology (NMAET) which is being implemented w.e.f. 01.04.2014 with the view to develop/ strengthen seed sector and to enhance production and multiplication of high

yielding certified/ qualify seeds of all agricultural crops and making it available to the 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. Scheme is also for **Women farmers**. States/implementing agencies are requested to allocate adequate funds and ensure participation of women. However, no special budgetary provisions for women have been made in the Sub-Mission.

Cooperation

18.24 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 also covered under Weaker Section Programme for the purpose of availing subsidy and concessional funding by NCDC.

18.25 As on 31.03.2015, NCDC has sanctioned and released financial assistance of Rs. 191.50 crore and Rs. 92.86 crore respectively for the development of cooperative societies

exclusively promoted by women. In the 1047 projects/units sanctioned in 2014-15, it is estimated that 5.79 lakh women are enrolled as members, out of which 910 women members are on the Board of Directors.

18.26 Besides the above, stress is given on women development activities with the overall objective of bringing women in the cooperative fold from grass root levels by informal approach and to revitalize and develop women participation in group activities and to improve the socio-economic conditions of women of selected blocks. The Cooperative Education programme for women is being implemented through the State Cooperative Unions in the States of Arunachal Pradesh, Assam, Bihar, Delhi, Gujarat, Himachal Pradesh, Karnataka, M.P, Mizoram, Odisha, Rajasthan, Tamil Nadu, UP and West Bengal. During the year 2014-15, a total of 1,12,199 women were imparted education under various educational activities. Further, the Cooperative Education programmes for women are being implemented through the State Cooperative Unions in the states of Arunachal Pradesh, Assam, Bihar etc. NCUI is now running 4 exclusive women development projects located at Shimoga (Karnataka), Behrampur (Odisha), Imphal (Manipur) and Bhopal (MP) under the Special Scheme of Intensification of Cooperative Education in



the cooperatively under-developed states. Besides, each field project has got a special women development component. Under this, women are organized into self-help groups which help them to develop thrift habits. Women are also given training to undertake income-generating activities with the help of their own resources or by borrowing from cooperatives. The projects personnel help them in marketing their produce in the local market and by organizing fair/exhibitions. Under women Cooperative education Field Projects, 270 SHGS were formed with the membership of 2501 by the project personnel. And also 10,098 women were benefited through various income generating activities.

Policy

18.27 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.

Agriculture Census

18.28 Gender based data in Agriculture Census is being collected since 1995-96 on the recommendations of Central Statistics Office, Ministry of Statistics and Programme Implementation, New Delhi. The scope of collection of gender based data has been restricted to number of operational holdings, corresponding operated area by different size classes of holdings, social groups (SC, ST and others), and types of holdings (individual, joint and institutional).

Percentage of female operational holdings as per results of various Agriculture Censuses is given in the following table.

Sr. No.	Size Group	2000-01*	2005-06*	2010-11
1	Marginal (Below 1.00 ha.)	11.84	12.60	13.63
2	Small (1.00-2.00 ha.)	10.27	11.10	12.15
3	Semi-Medium (2.00-4.00 ha.)	8.67	9.61	10.45
4	Medium (4.00-10.00 ha.)	6.863	7.77	8.49
5	Large (Above 10.00 ha.)	5.22	6.00	6.78
	All Size Groups	10.83	11.70	12.78

*Excludes Jharkhand



18.29 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. A brief summary of flow of benefits to women under various schemes/ programmes of the DAC&FW is given in **Annexure-18.1**.

The Way Forward:

18.30 In line with the National Agricultural Policy-2000 and specific interventions under National Policy for Farmers-2007, Department of Agriculture, Cooperation and Farmers Welfare (DAC &FW), Ministry of Agriculture and Farmers Welfare is making conscious efforts to mainstream gender concerns in agriculture and allied sectors along with capacity building of women, improving

their access, control and ownership over productive and other farming resources. The States have been directed to ensure flow of funds to the tune of 30% for the benefit of women farmers under all the beneficiary oriented schemes. Efforts are also being made for the convergence of different schemes and programmes being implemented by various Ministries/ Departments for the benefit of women and strengthening the gender budget and mainstreaming initiatives for the welfare of rural women. The Schemes/ Programme's strategic guidelines help in systematizing, intensifying and scaling up efforts to close gender gaps and improve the economic and social status of Women in Agriculture. In rapidly changing rural environments, adequate focus is to be laid on sustaining the current momentum of addressing gender concern in agriculture recognizing women's contribution in agriculture and allied sectors.



CHAPTER – 2
Functions and Organizational Structure

List of Functional Divisions in the Department of Agriculture, Cooperation and Farmers Welfare

Divisions:

- | | |
|---------------------------------|-------------------------------------|
| 1. Administration | 14. Information Technology |
| 2. Agricultural Census | 15. Integrated Nutrients Management |
| 3. Agricultural Marketing | 16. International Cooperation |
| 4. Budget, Finance and Accounts | 17. Mechanization and Technology |
| 5. Credit | 18. Natural Resource Management |
| 6. Cooperation | 19. Plant Protection |
| 7. Crops | 20. Policy |
| 8. Drought Management | 21. Plan Coordination |
| 9. Economic Administration | 22. RKVY |
| 10. Extension | 23. Rainfed Farming System |
| 11. General Coordination | 24. Seeds |
| 12. Hindi | 25. Oil Seeds |
| 13. Horticulture | 26. Trade |
| | 27. 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.
2. Commission for Agricultural Costs and Prices, Shastri Bhavan, 'F' Wing, Second Floor, New Delhi.
3. Directorate of Plant Protection, Quarantine and Storage, N.H.IV, Faridabad (Haryana).
4. Directorate of Marketing & Inspection, N.H.IV, Faridabad (Haryana).
5. Mahalanobis National Crop Forecast Centre, New Delhi.
6. Directorate of Jute Development, 234/4, Acharya Jagdish Bose Road, Nizam Palace Campus, Kolkata- 700020 (West Bengal).
7. Directorate of Millets Development, Mini Secretariat Building, Room No. 710, 6th Floor, Bani Park, Jaipur (Rajasthan).
8. Directorate of Sugarcane Development, 8th Floor, Hall No.3, Kendriya Bhavan, Aliganj, Lucknow - 226024 (U.P).
9. Directorate of Rice Development, 191, Patliputra Colony, Patna-800013 (Bihar).

II. SUB-ORDINATE OFFICES

1. Central Farm Machinery Training & Testing Institute, Budni (Madhya Pradesh).
2. Northern Region Farm Machinery Training & Testing Institute, Hissar (Haryana).
3. Southern Region Farm Machinery Training & Testing Institute, Garladinne, Distt. Anantapur (A.P).
4. North Eastern Region Farm Machinery Training & Testing Institute, Biswnath Chariali, Distt. Sonitpur (Assam).
5. Directorate of Cotton Development, 14, Ramjibhai Kamani Marg, Ballard Estate, P.B.No. 1002, Mumbai-400030 (Maharashtra).
10. Directorate of Wheat Development, CGO Building, Hapur Road Chauraha, Kamla Nehru Nagar, Ghaziabad (U.P).
11. Directorate of Extension, Krishi Vistar Bhavan, Dr. K.S. Krishna Marg, IARI Campus, Pusa, New Delhi-110 012.
12. Directorate of Oilseeds Development, Telhan Bhavan, Himayat Nagar, Hyderabad (A.P).
13. Directorate of Pulses Development, 8th Floor, Vindhyachal Bhavan, Bhopal-462004 (M.P).
14. Central Fertiliser Quality Control & Training Institute, N.H.IV, Faridabad (Haryana).
15. National Centre of Organic Farming, C.G.O. Complex, Kamla Nehru Nagar, Hapur Road Chungi, Ghaziabad (U.P).

16. Directorate of Cashewnut and Cocoa Development, M.G. Road, Kochi-682011 (Kerela).
17. Directorate of Arecanut and Spices Development, Cannanore Road, Kozhikode-673005 (Kerela).
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

I. PUBLIC SECTOR UNDERTAKING

1. National Seeds Corporation, New Delhi.

II. AUTONOMOUS BODIES

1. Coconut Development Board, Kochi (Kerala).
2. National Horticulture Board, Gurgaon (Haryana).
3. National Cooperative Development Corporation, New Delhi.
4. National Oilseeds and Vegetable Oils Development Board, Gurgaon (Haryana).
5. Small Farmers' Agri Business Consortium, New Delhi.
6. National Institute for Agricultural Extension Management, Hyderabad (A.P.).
7. National Institute of Agricultural Marketing, Jaipur (Rajasthan).
8. National Institute of Plant Health Management, Hyderabad (A.P.)
9. National Centre for Cold Chain Development, Nirman Bhawan, New Delhi.

III. 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).

IV. 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.

ANNEXURE-3.1

As on 16.09.2015

Agricultural Statistics Division
Directorate of Economics & Statistics
Department of Agriculture, Cooperation and Farmers Welfare
First Advance Estimates of Production of Foodgrains for 2015-16

(Million Tonnes)

Crop	Sea- son	2003-04	2004-05	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15		2015-16	
														1st Advance Estimates	4th Advance Estimates	Targets
Rice	Khariif	78.62	72.23	78.27	80.17	82.66	84.91	75.92	80.65	92.78	92.37	91.50	88.02	90.86	92.10	90.61
	Rabi	9.91	10.90	13.52	13.18	14.03	14.27	13.18	15.33	12.52	12.87	15.15		13.94	14.00	
	Total	88.53	83.13	91.79	93.36	96.69	99.18	89.09	95.98	105.30	105.24	106.65	88.02	104.80	106.10	90.61
Wheat	Rabi	72.16	68.64	69.35	75.81	78.57	80.68	80.80	86.87	94.88	93.51	95.85		88.94	94.75	
	Khariif	4.84	4.04	4.07	3.71	4.11	3.05	2.76	3.44	3.29	2.84	2.39	1.64	2.01	3.10	1.87
Jowar	Rabi	1.84	3.20	3.56	3.44	3.81	4.19	3.93	3.56	2.69	2.44	3.15		3.04	2.75	
	Total	6.68	7.24	7.63	7.15	7.93	7.25	6.70	7.00	5.98	5.28	5.54	1.64	5.05	5.85	1.87
Bajra	Khariif	12.11	7.93	7.68	8.42	9.97	8.89	6.51	10.37	10.28	8.74	9.25	7.54	9.05	9.50	8.64
	Khariif	12.73	11.48	12.16	11.56	15.11	14.12	12.29	16.64	16.49	16.19	17.14	16.03	16.39	17.25	15.51
Maize	Rabi	2.25	2.70	2.55	3.54	3.85	5.61	4.43	5.09	5.27	6.06	7.11		7.29	6.50	
	Total	14.98	14.17	14.71	15.10	18.96	19.73	16.72	21.73	21.76	22.26	24.26	16.03	23.67	23.75	15.51
Ragi	Khariif	1.97	2.43	2.35	1.44	2.15	2.04	1.89	2.19	1.93	1.57	1.98	1.46	2.00	1.80	1.44
Small Millets	Khariif	0.56	0.48	0.47	0.48	0.55	0.44	0.38	0.44	0.45	0.44	0.43	0.38	0.37	0.52	0.42
	Rabi	1.30	1.21	1.22	1.33	1.20	1.69	1.35	1.66	1.62	1.75	1.83		1.60	1.78	
Coarse Cereals	Khariif	32.22	26.36	26.74	25.61	31.89	28.54	23.83	33.08	32.44	29.79	31.20	27.05	29.82	32.17	27.88
	Rabi	5.39	7.10	7.33	8.31	8.86	11.49	9.72	10.32	9.58	10.25	12.09		11.93	11.03	
Total		37.60	33.46	34.07	33.92	40.75	40.04	33.55	43.40	42.01	40.04	43.29	27.05	41.75	43.20	27.88
Cereals	Khariif	110.84	98.59	105.01	105.78	114.55	113.45	99.75	113.73	125.22	122.16	122.70	115.07	120.68	124.27	118.49
	Rabi	87.45	86.64	90.21	97.30	101.46	106.45	103.70	112.52	116.98	116.63	123.09		114.81	119.78	
Total		198.28	185.23	195.22	203.08	216.01	219.90	203.45	226.25	242.20	238.79	245.79	115.07	235.49	244.05	118.49
Tur	Khariif	2.36	2.35	2.74	2.31	3.08	2.27	2.46	2.86	2.65	3.02	3.17	2.74	2.78	3.67	2.61
Gram	Rabi	5.72	5.47	5.60	6.33	5.75	7.06	7.48	8.22	7.70	8.83	9.53		7.17	9.50	
	Khariif	1.20	0.95	0.90	0.94	1.12	0.84	0.81	1.40	1.23	1.43	1.15	1.15	1.27	1.29	1.37
Urad	Rabi	0.27	0.38	0.35	0.50	0.34	0.33	0.42	0.36	0.53	0.47	0.55		0.60	0.52	
	Total	1.47	1.33	1.25	1.44	1.46	1.17	1.24	1.76	1.77	1.90	1.70	1.15	1.87	1.81	1.37
Moong	Khariif	1.43	0.81	0.69	0.84	1.25	0.78	0.44	1.53	1.24	0.79	0.96	0.71	0.85	1.10	0.86

Crop	Sea- son	2003-04	2004-05	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15		2015-16		
														1st Advance Estimates	4th Advance Estimates	Targets	1st Advance Estimates
	Rabi	0.28	0.25	0.26	0.28	0.27	0.26	0.25	0.27	0.40	0.40	0.65			0.66	0.61	
	Total	1.70	1.06	0.95	1.12	1.52	1.03	0.69	1.80	1.63	1.19	1.61		0.71	1.51	1.71	0.86
Other Kharif Pulses	Kharif	1.18	0.61	0.54	0.70	0.96	0.80	0.49	1.33	0.93	0.62	0.71		0.60	0.73	0.99	0.72
Other Rabi Pulses	Rabi	2.48	2.32	2.31	2.29	2.00	2.23	2.31	2.27	2.40	2.73	2.53			3.14	2.37	
Total Pulses	Kharif	6.16	4.72	4.86	4.80	6.40	4.69	4.20	7.12	6.06	5.91	5.99		5.20	5.63	7.05	5.56
	Rabi	8.74	8.41	8.52	9.40	8.36	9.88	10.46	11.12	11.03	12.43	13.25			11.57	13.00	
	Total	14.91	13.13	13.38	14.20	14.76	14.57	14.66	18.24	17.09	18.34	19.25		5.20	17.20	20.05	5.56
Total Foodgrains	Kharif	117.00	103.31	109.87	110.58	120.96	118.14	103.95	120.85	131.27	128.07	128.69		120.27	126.31	131.32	124.05
	Rabi	96.19	95.05	98.73	106.71	109.82	116.33	114.15	123.64	128.01	129.06	136.35			126.38	132.78	
	Total	213.19	198.36	208.60	217.28	230.78	234.47	218.11	244.49	259.29	257.13	265.04		120.27	252.68	264.10	124.05

As on 16.09.2015

Agricultural Statistics Division
Directorate of Economics & Statistics
Department of Agriculture & Cooperation

First Advance Estimates of Production of Oilseeds & Other Commercial Crops for 2015-16

(Lakh Tonnes)

Crop	Season	2003-04	2004-05	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15			2015-16	
													1st	4th	Advance	Targets	Advance
													Estimates	Estimates			Estimates
Groundnut	Kharif	68.60	52.62	62.98	32.94	73.62	56.17	38.52	66.43	51.27	31.87	80.58	50.24	50.75	62.53	51.07	
	Rabi	12.67	15.12	16.95	15.69	18.20	15.51	15.76	16.22	18.37	15.08	16.56		14.82	18.99		
	Total	81.27	67.74	79.93	48.64	91.83	71.68	54.28	82.65	69.64	46.95	97.14	50.24	65.57	81.52	51.07	
Castorseed	Kharif	7.97	7.93	9.91	7.62	10.54	11.71	10.09	13.50	22.95	19.64	17.27	19.63	17.33	20.34	19.44	
Sesamum	Kharif	7.82	6.74	6.41	6.18	7.57	6.40	5.88	8.93	8.10	6.85	7.15	6.45	8.11	7.61	7.95	
	Kharif	1.09	1.12	1.08	1.21	1.10	1.17	1.00	1.08	0.98	1.02	0.98	0.88	0.73	1.19	0.96	
Rapeseed & Mustard	Rabi	62.91	75.93	81.31	74.38	58.34	72.01	66.08	81.79	66.04	80.29	78.77		63.09	81.09		
Linseed	Rabi	1.97	1.70	1.73	1.68	1.63	1.69	1.54	1.47	1.52	1.49	1.41		1.53	1.90		
	Rabi	1.35	1.74	2.29	2.40	2.25	1.89	1.79	1.50	1.45	1.09	1.13		0.96	1.83		
Sunflower	Kharif	3.06	4.31	4.56	3.66	4.63	3.57	2.14	1.92	1.47	1.87	1.54	1.29	1.06	1.91	1.16	
	Rabi	6.24	7.56	9.83	8.62	10.00	8.01	6.36	4.59	3.69	3.57	3.50		3.09	6.18		
	Total	9.30	11.87	14.39	12.28	14.63	11.58	8.51	6.51	5.17	5.44	5.04	1.29	4.15	8.09	1.16	

Crop	Season	2003-04	2004-05	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15		2015-16	
														1st Advance Estimates	4th Advance Estimates	Targets
Soyabean	Kharif	78.18	68.76	82.74	88.51	109.68	99.05	99.64	127.36	122.14	146.66	118.61	118.15	105.28	126.43	118.32
Total Nine Oilseeds	Kharif	166.72	141.49	167.67	140.12	207.13	178.08	157.28	219.22	206.91	207.91	226.12	196.64	183.26	220.01	198.90
	Rabi	85.14	102.04	112.11	102.77	90.42	99.11	91.53	105.57	91.08	101.52	101.37	83.49		109.99	
	Total	251.86	243.54	279.78	242.89	297.55	277.19	248.82	324.79	297.99	309.43	327.49	196.64	266.75	330.00	198.90
Cotton #	Total	137.29	164.29	184.99	226.32	258.84	222.76	240.22	330.00	352.00	342.20	359.02	346.23	354.75	351.50	335.07
Jute # #	Total	102.52	93.99	99.70	103.17	102.20	96.34	112.30	100.09	107.36	103.40	110.83	108.70	109.34	110.00	102.84
Mesta # #	Total	9.21	8.73	8.70	9.56	9.90	7.31	5.87	6.11	6.63	5.90	6.07	4.73	5.15	7.00	5.16
Jute & Mesta # #	Total	111.73	102.72	108.40	112.73	112.11	103.65	118.17	106.20	113.99	109.30	116.90	113.43	114.49	117.00	108.00
Sugarcane (Cane)	Total	2338.62	2370.88	2811.72	3555.20	3481.88	2850.29	2923.02	3423.82	3610.37	3412.00	3521.42	3427.88	3593.30	3550.00	3414.25

#Lakh bales of 170 kgs. each
Lakh bales of 180 kgs. each

**MINIMUM SUPPORT PRICES
(According to Crop Year)**

Annexure-3.2

(As on 03.02.2016)

(Rs. per quintal)

Sl. No.	Commodity	Variety	2011-12	2012-13	2013-14	2014-15	2015-16		
							(#) increase in MSP 2014-15 over 2013-14	(#) increase in MSP 2015-16 over 2014-15	
							<u>KHARIF CROPS</u>		
1	PADDY	Common	1080	1250	1310	1360	50(3.8)	1410	50(3.7)
		Grade 'A'	1110	1280	1345	1400	55(4.1)	1450	50(3.6)
2	JOWAR	Hybrid	980	1500	1500	1530	30(2.0)	1570	40(2.6)
		Maldandi	1000	1520	1520	1550	30(2.0)	1590	40(2.6)
3	BAJRA		980	1175	1250	1250	-	1275	25(2.0)
4	MAIZE		980	1175	1310	1310	-	1325	15(1.1)
5	RAGI		1050	1500	1500	1550	50(3.3)	1650	100(6.5)
6	ARHAR(Tur)		3200¶	3850	4300	4350	50(1.2)	4425^	75(1.7)
7	MOONG		3500¶	4400	4500	4600	100(2.2)	4650^	50(1.1)
8	URAD		3300¶	4300	4300	4350	50(1.2)	4425^	75(1.7)
9	COTTON	Medium Staple	2800 ^a	3600	3700	3750	50(1.4)	3800	50(1.3)
		Long Staple	3300 ^{aa}	3900	4000	4050	50(1.3)	4100	50(1.2)
10	GROUNDNUT IN SHELL		2700	3700	4000	4000	-	4030	30(0.8)
11	SUNFLOWER SEED		2800	3700	3700	3750	50(1.4)	3800	50(1.3)
12	SOYABEEN	Black	1650	2200	2500	2500	-	-	-
		Yellow	1690	2240	2560	2560	-	2600 ^{\$\$}	40(1.6)
13	SESAMUM		3400	4200	4500	4600	100(2.2)	4700	100(2.2)
14	NIGERSEED		2900	3500	3500	3600	100(2.9)	3650	50(1.4)
<u>RABI CROPS</u>									
15	WHEAT		1285	1350	1400	1450	50(3.6)	1525	75(5.2)
16	BARLEY		980	980	1100	1150	50(4.5)	1225	75(6.5)
17	GRAM		2800	3000	3100	3175	75(2.4)	3425 ^{**}	250(7.9)
18	MASUR (LENTIL)		2800	2900	2950	3075	125(4.2)	3325 ^{**}	250(8.1)
19	RAPESEED/MUSTARD		2500	3000	3050	3100	50(1.6)	3350	250(8.0)
20	SAFFLOWER		2500	2800	3000	3050	50(1.7)	3300	250(8.2)
21	TORIA		2425	2970	3020	3020	-		
<u>OTHER CROPS</u>									
22	COPRA	Milling	4525	5100	5250	5550	-	5950	400(6.7)

Sl. No.	Commodity	Variety	2011-12	2012-13	2013-14	2014-15	(#) increase in	2015-16	(#) increase in
							MSP 2014-15		MSP 2015-16
							over 2013-14		over 2014-15
	(Calendar Year)	Ball	4775	5350	5500	5800	-	6240	410(6.6)
23	DE-HUSKED CO-CONUT (Calendar Year)		1200	1400	1425	1425	-	1500	75(5.3)
24	JUTE		1675	2200	2300	2400	100(4.3)	2700	300(12.5)
25	SUGARCANE*		145.00	170.00	210.00	220.00	10(4.8)	230.00	10(4.5)

#Figures in brackets indicate percentage increase.

*Fair and remunerative price.

¶Additional incentive at the rate of Rs. 500 per quintal of tur, urad and moong sold to procurement agencies was payable during the harvest/arrival period of two months.

^aStaple length (mm) of 24.5 - 25.5 and Micronaire value of 4.3 - 5.1

^{aa}Staple length (mm) of 29.5 - 30.5 and Micronaire value of 3.5 - 4.3

[^]Bonus of Rs. 200 per quintal is payable over and above the Minimum Support Price .

\$\$\$Single Minimum Support Price has been fixed irrespective of the variety.

^{**}Bonus of Rs. 75 per quintal is payable over and above the Minimum Support Price .

List of Studies conducted by AERCs/Us during 2015-16 (till January 2015-16).

SI No.	Studies
1.	The Extent of Wastage in Azadpur Mandi- A Case Study
2.	Impact of National Food Security Mission (NFSM) on Input use, Production, Productivity and Income in Karnataka
3.	Adoption of recommended doses of Fertilizer on soil test basis by farmers for Rice and Maize in Karnataka.
4.	Possibility and Constraints in Adoption of Alternative Crops to Pady in Utter Pradesh.
5.	Impact of National Food Security Mission (NFSM) on Input use, Production, Productivity and Income for rice in Bihar.
6.	Adoption of recommended doses of fertilizer on soil test basis by farmers in Bihar.
7.	Supply Chain of Litchi Marketing/Processig for Bihar.
8.	Impact of National Horticulture Mission (NHM) in Kerala.
9.	Impact of National Food Security Mission (NFSM) on Input use, Production, Productivity and Income for rice in Tamil Nadu.
10.	Relationship between wholesale prices, reatail prices, export prices (FOB), prices realized by farmers and details of contributing factors for the price difference for Basmati rice in Haryana.
11.	Impact of National Food Security Mission (NFSM) on Input use, Production, Productivity and Income for Wheat in Himachal Pradesh.
12.	Marketing of milk and milk products.
13.	Relationship between wholesale prices, reatail prices, export prices (FOB), prices realized by farmers and details of contributing factors for the price difference for Onion in Gujarat.
14.	Adoption of recommended doses of fertilizer on soil test basis by farmers in W.B.
15.	Impact of National Food Security Mission (NFSM) on Input use, Production, Productivity and Income for Rice in West Bengal.
16.	Productivity and Profitability in Agriculture/Horticulture in Eastern Himalyan Region.
17.	Evaluation of Central Sector – Central Sheep Breeding Farm, Hissar.
18.	Impact of National Food Security Mission (NFSM) on Input use, Production, Productivity and Income in Assam.
19.	Impact of Credit on Agricultural Production with special reference to Crop Loan and KCC Scheme.
20.	Estimation of pre and post harvest losses in paddy and red gram crops – Andhra Pradesh.
21.	Posibilities and Constraints in Adoption of Alternative Crops to Paddy in Green Revolution Belt of North India. (Consolidated).

State-wise Area, Production & Productivity of Oilseed Crop from 2009-10 to 2014-15

Annexure- 6.1

Sl.No.	State	Area(lakh ha.)						Production('Lakh tonnes)						Yield(kg,ha.)					
		2009-10	2010-11	2011-12	2012-13	2013-14	2014-15*	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15*	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15*
1	Andhra Pradesh	20.72	23.19	19.45	19.45	20.31	15.69	15.00	19.96	12.65	16.51	18.86	12.20	724	861	650	849	929	778
2	Assam	0.00	0.00	0.00	0.00	0.00	2.97	0.00	0.00	0.00	0.00	0.00	1.86	0.00	0.00	0.00	0.00	0.00	628
3	Bihar	1.38	1.30	1.33	1.28	1.22	1.24	1.45	1.36	1.39	1.43	1.46	1.31	1043	1048	1046	1120	1189	1058
4	Chhatisgarh	3.30	3.16	3.08	2.97	2.89	2.92	2.00	2.17	1.69	2.15	1.85	1.73	606	686	550	723	640	595
5	Gujarat	27.93	28.93	31.31	24.52	30.79	25.38	30.97	48.96	50.35	27.05	68.70	39.84	1109	1692	1608	1103	2231	1551
6	Haryana	5.33	5.19	5.53	5.80	5.49	5.44	8.77	9.64	7.71	9.93		7.23	1645	1855	1394	1712	1637	1415
7	Jammu & Kashmir	0.00	0.00	0.00	0.00	0.00	0.66	0.00	0.00	0.00	0.00	0.00	0.44	0.00	0.00	0.00	0.00	0.00	670
8	Jharkhand	0.00	0.00	0.00	0.00	0.00	2.78	0.00	0.00	0.00	0.00	0.00	1.74	0.00	0.00	0.00	0.00	0.00	652
9	Karnataka	20.01	16.24	14.16	14.22	14.1	13.39	10.05	12.70	9.42	9.20	11.62	10.52	502	782	665	647	824	773
10	Madhya Pradesh	67.65	70.30	72.07	75.34	77.32	70.74	76.36	80.35	77.28	92.76	66.35	77.24	1129	1143	1073	1231	858	1090
11	Maharashtra	38.84	36.15	36.67	38.06	41.48	42.85	28.14	50.40	44.85	50.86	52.94	28.33	724	1394	1223	1337	1276	658
12	Orissa	2.92	2.90	2.51	2.43	2.23	2.25	1.72	1.80	1.66	1.70	1.69	1.46	589	619	661	700	755	692
13	Punjab	0.62	0.53	0.50	0.51	0.48	0.56	0.83	0.71	0.68	0.69	0.64	0.79	1339	1336	1360	1350	1335	1065
14	Rajasthan	41.33	54.88	46.22	49.12	52.74	46.51	44.07	66.05	57.44	63.65	60.34	53.18	1066	1203	1243	1296	1144	1192
15	Tamil Nadu	4.95	4.49	4.49	3.88	4.08	4.18	9.40	9.33	11.14	8.17	9.64	9.61	1899	2077	2479	2103	2362	2292
16	Uttar Pradesh	10.84	11.05	11.29	11.47	11.06	11.16	8.16	9.19	9.35	10.30	8.96	7.87	753	832	828	898	810	699
18	West Bengal	6.83	6.72	6.76	7.32	7.70	7.79	7.27	7.04	6.72	8.51	9.09	9.30	1064	1047	994	1162	1181	1194
	Others	6.93	7.21	7.71	8.47	8.61	2.04	4.63	5.13	5.66	6.50	6.36	2.10	668	711	734	767	730	1070
	All India	259.59	272.24	263.08	264.84	280.50	258.55	248.82	324.79	297.99	309.41	327.49	266.75	958	1193	1133	1168	1168	1037

*IVth Adv.Est.

CHAPTER 8

Seeds Programmes in North-Eastern States

S. No.	Schemes/ Programmes Activities Approved	Details of Schemes/ Programmes/ Activities taken	Target for 2014-15	Achievement 2014-15	Target for 2015-16	Achievement 2015-16
1.	National Seed Reserve (NSR)	The basic objective of this component is to keep seed available for meeting requirement during natural calamities.	54163	35105 qtls	57798	57798 likely
2.	Transport Subsidy on movement of Seeds to North-Eastern States including Sikkim, Himachal Pradesh, J&K, Uttaranchal and Hill areas of West Bengal.	<p>The topographical situation and climatic condition being not conducive for the production of seeds in the North-Eastern States.</p> <p>(a) Reimbursement of 100% difference between road and rail transportation cost to implementing States/agency for movement of seeds produced outside the state and movement to identified state capital/district head-quarter.</p> <p>(b) The actual cost, restricted to maximum limit of Rs. 60/- per quintal for the movement of seed within the State from State Capital/ district headquarters to sale outlets/sale counters is being reimbursed to implementing State/agency.</p>	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 NE State, a quantity 17333.89 quintals transported exclusively to NE States in 2014-15.</p> <p>(All the State including NE States is 75786.15 quintals) (upto Nov,2015)</p>	As mentioned in Col. 4 targets cannot be pre-fixed as the component is demand driven.	<p>For NE States a quantity of 28101.22 qtl transported exclusively to NE States</p> <p>(The quantity of seeds transported total including NE States is 140219.83 Quintal (upto 18.11.2015))</p>

Annexure – 13.1

State-wise Status of District Agriculture Plan (DAP) & State Agriculture Plan (SAP) under RKVY during XIth Plan

S. No.	State/UT	No. of Districts	DAP Prepared	SAP Prepared
1	2	4	5	6
1	Andhra Pradesh	23	23	Yes
2	Arunachal Pradesh	16	16	Yes
3	Assam	27	27	Yes
4	Bihar	38	38	Yes
5	Chhattisgarh	18	16	Yes
6	Goa	2	In Progress	No
7	Gujarat	26	26	Yes
8	Haryana	21	21	Yes
9	Himachal Pradesh	12	12	Yes
10	Jammu & Kashmir	22	22	Yes
11	Jharkhand	24	24	Yes
12	Karnataka	29	29	Yes
13	Kerala	14	13	Yes
14	Madhya Pradesh	50	50	Yes
15	Maharashtra	35	33	Yes
16	Manipur	9	9	Yes
17	Meghalaya	7	7	Yes
18	Mizoram	8	7	Yes
19	Nagaland	11	8	Yes
20	Orissa	30	30	Yes
21	Punjab	20	20	Yes
22	Rajasthan	33	33	Yes
23	Sikkim	4	4	Yes
24	Tamil Nadu	32	29	Yes
25	Tripura	4	4	Yes
26	Uttarakhand	13	13	Yes
27	Uttar Pradesh	71	71	Yes
28	West Bengal	18	17	Yes
	Total	617	602	27

Annexure 13.2

Sector wise Approved Projects Cost under RKVY 2012-13

(Rs. in crore)

S.N.	STATE NAME	CROP	HORT	SERI	ANHB	OTHR	FISH	COOP	IPMT	SEED	FINM	AMEC	EXTN	MRKT	NONF	ITEC	AGRE	NRM	IRRI	ORPM	DDEV	TOTAL
1	ANDHRA PRADESH	11.29	210.45	10.00	105.80		21.53			63.68		319.81	4.95	48.67			19.49	19.65		15.00	29.90	880.22
2	ARUNACHAL PRADESH	30.41	17.87	0.35	6.06	0.47	6.05					10.63	1.11	6.50					0.47	2.99	2.92	85.83
3	ASSAM	52.45	27.80		36.70	7.54	20.50			5.38		26.10	132.35	22.63	15.05		13.00		21.60	11.57	10.97	403.64
4	BIHAR	323.97	156.42		27.60	64.87	24.92	50.72				161.45	2.00								26.00	837.95
5	CHATTISHGARH	174.12	102.90		67.43	8.54	28.51	34.34	13.01	13.97	2.10	18.19	48.63	16.83			12.58		16.30		24.17	581.62
6	GOA	4.29	25.16			1.10			1.29	6.52			0.76				1.77				4.01	44.90
7	GUJARAT	156.82	155.93		75.75		25.04	3.28	1.04	24.82		100.83	94.24	27.71	4.05		6.97	149.88	165.89	11.63	1.80	1005.68
8	HARYANA	10.14	16.34		53.79	2.74	2.00		11.81	11.05	14.23	12.00	0.79	3.11			15.65	5.22	79.99	3.38	26.45	268.69
9	HIMACHAL PRADESH	14.25	3.72	1.00	8.59		10.28			1.56		0.96	0.10	3.00			0.76		3.35	10.50	8.06	65.17
10	JAMMU AND KASHMIR	1.81	11.44	1.27		0.63		0.43		4.24					1.27		0.19		10.71	2.37	12.00	47.32
11	JHARKHAND	252.84	12.00		12.17	89.51	15.68		16.56	55.34		140.13	5.42						49.31	4.00	95.85	748.81
12	KARNATAKA	18.67	114.03	13.50	101.21	81.59	15.00		3.50	24.85	5.00	85.00		43.00	5.00	16.00	24.40	25.00		21.00		596.75
13	KERALA	61.96	55.16		44.33	2.71	32.42					0.81	0.25	0.25	1.74		5.03	5.89	9.73	1.44	10.58	232.30
14	MADHYA PRADESH	50.01	100.60		108.16	18.39	12.34	134.00		113.83	25.18	65.74	25.89		1.51		14.35		85.00	5.69		760.69
15	MAHARASHTRA	137.86	173.06		30.16	10.61			252.61	15.00			82.72			1.16		370.00	25.06			1098.24
16	MANIPUR		8.34	1.15	5.57		7.81	0.70		0.60		2.30	12.53	1.60				1.00		0.75		42.35
17	MEGHALAYA		7.75		7.22													4.93	12.14			32.04
18	MIZORAM	29.47	15.77	12.55	14.40		13.91		0.30			3.11	5.77	0.70				55.37	3.47		1.30	156.12
19	NAGALAND	10.50	9.50	2.00	12.40	3.00	12.84	1.50	2.00		2.00	3.30	1.50	2.50	5.21			11.00	6.35	3.00		88.60
20	ORISSA	275.89	61.60		103.49		13.60	4.00	5.14	2.21	6.10	58.73	75.34				10.36		10.00		6.50	632.96
21	PUNJAB	10.00	1228.11		47.33	1.00	7.23		26.57		11.56	18.58			5.50		15.60	60.00			34.46	1465.94
22	RAJASTHAN	4.41	3.88		105.60		16.95	20.60	2.00	15.95		50.75		101.22			37.19		2.00	0.70	165.00	526.25

S.N.	STATE NAME	CROP	HORT	SERI	ANHB	OTHR	FISH	COOP	IPMT	SEED	FINM	AMEC	EXTN	MRKT	NONF	ITEC	AGRE	NRM	IRRI	ORFM	DDEV	TOTAL
23	SIKKIM	1.52	8.36					0.91				1.28						6.50		1.20	1.00	20.77
24	TAMILNADU	160.24	87.25		64.16	9.19	40.98	12.25		28.29	1.90	112.20	24.75	32.44	8.74	3.34	3.72		9.20	6.60	27.63	632.88
25	TRIPURA	43.48	4.90		6.13		8.71					0.63		2.02								65.87
26	UTTAR PRADESH	96.74	37.99		26.77	10.34	4.07	176.00	7.65	164.32	2.30	106.62	2.17	2.32		0.86	1.06	52.85	13.11	28.18	34.77	768.12
27	UTTARAKHAND	6.00			8.91		3.58			0.06	0.55		0.90	10.00			2.04			9.44	15.08	138.60
28	WEST BENGAL				32.01	2.45	9.28	6.68		19.96				167.57	4.31		0.15	4.63		6.11		281.62
29	TOTAL	1939.14	2678.45	130.21	1111.74	314.68	353.23	445.41	343.48	571.63	70.92	1299.15	522.17	492.07	52.38	21.36	184.31	771.92	523.68	145.55	538.45	12509.93

Total Cost :Rs. 12509.93

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/HORTI/ANIMAL HUSBANDRY etc); NRM - NATURAL RESOURCE MANAGEMENT; IRRI - MICRO/MINOR IRRIGATION; ORFM - ORGANIC FARMING / BIO FERTILISER; DDEV - DAIRY DEVELOPMENT

Sector wise Approved Projects Cost under RKVY 2013-14

(Rs. in crore)

S.N.	STATE NAME	CROP	HORT	SERI	ANHB	OTHR	FISH	COOP	IPMT	SEED	FINM	AMEC	EXTN	MRKT	NONF	ITEC	AGRE	NRM	IRRI	ORFM	DDEV	TOTAL
1	ANDHRA PRADESH	3.50	86.66	4.42	50.47	34.43	6.56	28.00	48.34	94.50	16.53	14.96	29.91	1.02	16.00	13.22	448.52					
2	ARUNACHAL PRADESH	9.99	5.42	0.99	10.29	0.59	7.32	1.00	28.27	20.41	100.22	14.00	28.55	0.75	11.88	4.46	408.25					
3	ASSAM	108.79	39.72	4.95	29.70	24.50	14.85	49.46	44.56	12.75	1.56	21.78	1.83	2.00	1.26	4.96	346.28					
4	BIHAR	328.35	12.00	23.43	15.40	28.32	14.20	10.85	3.00	103.64	31.66	13.13	1.25	18.80	90.45	39.09	340.86					
5	CHATTISHGARH	193.82	69.66	8.21	7.71	2.50	2.80	2.00	24.08	5.83	13.93	4.42	109.01	11.00	13.17	89.07	2.00	23.15	404.85			
6	GOA	6.97	107.86	1.00	7.56	7.27	0.20	2.34	0.60	1.45	4.16	4.00	6.70	5.76	7.50	162.67						
7	GUJARAT	20.40	0.26	27.70	1.20	0.00	0.20	1.50	116.10	72.00	40.00	31.00	3.11	5.41	1.64	123.22						
8	HARYANA	20.40	20.57	63.70	3.72	0.00	0.20	2.34	0.60	1.45	4.16	4.00	6.70	5.76	7.50	162.67						
9	HIMACHAL PRADESH	4.16	107.86	1.00	7.56	7.27	0.20	1.50	116.10	72.00	40.00	31.00	3.11	5.41	1.64	123.22						
10	JAMMU AND KASH-MIR	2.45	104.15	0.65	0.00	0.00	0.20	1.50	116.10	72.00	40.00	31.00	3.11	5.41	1.64	123.22						
11	JHARKHAND	11453.89									60.81				3.60	11518.30						
12	KARNATAKA	58.64	123.58	14.00	51.59	62.20	10.75	1.77	77.91	63.08	26.29	8.57	35.25	92.50	14.40	723.51						
13	KERALA	36.83	63.12	72.32	12.78	12.78	1.83	16.38	2.50	30.00	56.85	15.64	6.98	17.48	12.25	273.73						
14	MADHYA PRADESH	109.38	1052.96	99.67	18.50	10.71	5.40	2.60	3.07	1.41	3.34	33.01	1.57	4.50	3.00	29.47	1507.38					
15	MAHARASHTRA	98.10	135.46	8.67	89.80	2.75	11.50	0.94	0.33	22.35	2.41	2.48	52.58	214.00	4.88	55.76	785.20					
16	MANIPUR	3.00	3.00	1.00	4.05	5.40	5.40	2.60	3.07	1.41	3.34	33.01	7.25	0.29	1.60	33.01						
17	MEGHALAYA	8.64	2.78	6.55	3.44	11.50	0.94	0.33	22.35	2.41	2.48	2.48	11.37	6.50	0.05	1.33	124.36					
18	MIZORAM	41.59	10.58	3.00	12.06	10.31	6.40	1.50	0.80	1.00	0.80	3.20	13.30	2.00	0.60	51.91						
19	NAGALAND	5.20	6.07	1.50	6.17	1.18	6.40	1.50	0.80	1.00	0.80	3.20	29.81	56.13	67.23	912.46						
20	ORISSA	258.92	93.26	40.36	55.88	59.96	92.65	2.88	3.79	0.31	79.08	52.80	19.40	29.81	56.13	67.23	912.46					

S.N.	STATE NAME	CROP	HORT	SERI	ANHB	OTHR	FISH	COOP	IPMT	SEED	FINM	AMEC	EXTN	MRKT	NONF	ITEC	AGRE	NRM	IRRI	OREM	DDEV	TOTAL
21	PUNJAB	59.90	348.94	0.72	80.63		1.08										31.42	51.00			29.80	603.49
22	RAJASTHAN				64.29		1.25		3.00	25.06	4.42	4.50	0.40	19.95			4.00	32.52				159.39
23	TAMILNADU	85.51	41.82		19.28		6.96	1.40			6.00	162.10	44.00	19.90		13.02	3.60				25.54	429.13
24	TRIPURA	24.87	9.06		9.67		12.20					2.25						4.54	0.63		2.52	65.74
25	UTTAR PRADESH	348.89	30.44	1.30	47.48	26.11	12.12	25.00	2.03	90.41	14.59	47.40	1.00	17.00		0.64	3.61	40.67	151.01	95.03	34.98	989.71
26	UTTARAKHAND	12.96	7.56		11.39	4.53				7.47	0.35	3.20	1.10	19.10				76.84		19.42	16.80	180.72
27	WEST BENGAL	5.67	31.35	10.72	48.85	14.92	17.67	16.50	0.21	13.90	4.33	60.00		80.11				20.00	5.00		5.74	334.97
28	TOTAL	13278.78	2412.14	55.70	869.50	277.38	261.31	235.43	16.35	469.97	42.73	894.26	356.36	462.45	56.40	16.74	119.34	518.44	643.83	220.64	339.31	21547.06

Total Cost :Rs. 21547.06

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/HORTI/ANIMAL HUSBANDRY etc); NRM - NATURAL RESOURCE MANAGEMENT; IRRI - MICRO/MINOR IRRIGATION; ORFM - ORGANIC FARMING / BIO FERTILISER; DDEV - DAIRY DEVELOPMENT

Sector wise Approved Projects Cost under RKVY 2014-15

(Rs. in crore)

S.N.	STATE NAME	CROP	HORT	SERI	ANHB	OTHR	FISH	COOP	IPMT	SEED	FINM	AMEC	EXTN	MRKT	NONF	ITEC	AGRE	NRM	IRRI	ORFM	DDEV	TOTAL
1	ANDHRA PRADESH		44.15	6.44	80.12	2.22	14.70		7.63	29.50	17.45	28.09	2.09	16.96			12.63	3.62		10.97	20.84	297.41
2	ARUNACHAL PRADESH	9695.75	9.14	2.45	12.50	6.28	8.89	2.02				4.40		3.00								9744.43
3	ASSAM	128.36	64.68	3.28	6.05	9.46	5.07			20.65		62.50	4.15	17.00	5.35		3.20		65.60	11.00	7.74	414.09
4	BIHAR	610.19		1.44	23.37	9.95		77.36		2.88	3.07	31.75		15.08					30.20			805.29
5	CHATTISHGARH	179.82	46.00		15.16		28.02	6.07		32.58	18.70						15.36		17.00		8.35	367.06
6	GOA						9.77				0.41		0.45			10.88		15.90				37.41
7	GUJARAT	8.35	172.19		34.40		10.24		2.14	58.20		281.04					0.70	450.00	15.00	0.20	15.89	1048.35
8	HARYANA	125.27	62.34		47.54		6.77	0.34	2.25	29.98		22.75		16.30			21.48	13.51	99.22		14.86	462.61
9	HIMACHAL PRADESH	3.82	18.50	1.00	23.03		1.89						5.44	1.40			1.19	6.70	12.00	8.00	2.40	85.37
10	JAMMU AND KASHMIR	1.74	10.30	0.80	14.72	100.94	0.60	0.40		2.66	3.58		1.01	0.75	2.56		0.71	1.75	4.98	3.02		150.52
11	JHARKHAND	209.59						14.31	7.69				1.85			0.77				7.85		242.06
12	KARNATAKA	11.46	128.13	18.05	131.35	42.50	10.89		5.10	49.00	1.50	72.68	38.94	178.74	25.00		39.15	41.53	51.68	12.45	2.00	860.15
13	KERALA	65.22	74.55		57.72		49.01			0.78		4.00		14.60	46.44		18.08	21.98	4.33	1.40	8.74	366.85
14	MADHYA PRADESH	23.78	23.30	5.04	38.47	49.89	7.32		5.50	105.38		100.08	46.60				3.74		93.29			502.39
15	MAHARASHTRA	105.00	239.14	6.02	88.65	1.44	4.43			13.69	13.95		57.19	34.49			3.77	91.10	600.00	3.10	37.81	1299.78
16	MANIPUR		4.31	3.12	5.83		5.33	1.30		3.42		0.94	2.18		1.71		0.25	5.09		3.67	1.00	38.15
17	MEGHALAYA		2.60	7.54	4.33		10.00		0.69			0.30							8.73			34.19
18	MIZORAM	9.68	11.65	10.42	17.89	2.75	13.98		2.55	0.11		9.13	6.03	0.66			1.33	17.79	6.80	0.21	2.02	113.00
19	NAGALAND	10.00	10.66	4.00	9.27	4.34	9.50	4.00	2.50	5.50	3.49	11.00	2.60	3.00	1.96			20.84	1.00	1.43		105.09
20	ORISSA	223.21	87.80	25.41	1.06				2.06	11.43	0.85	24.95				3.75	12.85		24.45			417.82
21	PUNJAB	284.11	11.39		177.28		18.34					43.72			9.03		35.76		59.36		72.53	711.52

S.N.	STATE NAME	CROP	HORT	SERI	ANHB	OTHR	FISH	COOP	IPMT	SEED	FINM	AMEC	EXTN	MRKT	NONF	ITEC	AGRE	NRM	IRRI	ORFM	DDEV	TOTAL
22	RAJASTHAN	2.32	73.85		159.20	7.52	4.75	38.50	0.15	183.51	16.80	0.87	126.13	13.12	1.99		5.15	47.39	184.39	4.77	3.03	873.44
23	SIKKIM		3.50					1.19		1.20												5.89
24	TAMILNADU	74.00	520.95		7.30	1.72	7.02	5.25		0.28	16.66	57.68	5.81	24.07			6.49	11.75	3.20		32.62	774.80
25	TELANGANA		36.06	1.12	28.79	2.85	3.74	5.66	0.20	36.92	1.00	53.03		2.47	1.03		15.83		1.00	5.00	13.11	207.81
26	TRIPURA	25.38	16.97	1.00	11.00	7.10	10.50					4.77	7.49		0.90			1.60	1.26	1.00		88.97
27	UTTAR PRADESH	263.99	0.11	10.57	4.33	7.16	0.27	100.00		7.07		55.95		14.58		3.16		0.12	37.37	0.42	28.17	533.27
28	UTTARAKHAND	4.79	5.43		14.60	26.22			0.25			29.22	3.75	16.63		76.15	7.88	11.153		42.34		338.79
29	WEST BENGAL	106.06	36.08	9.91	118.75	51.43	98.87	25.45	6.96	32.75		59.25	32.75	148.49	2.49		3.11	26.43	88.13		30.24	877.15
30	TOTAL	12171.89	1713.78	117.61	1132.71	333.77	339.90	281.85	45.67	627.49	93.88	961.68	344.46	521.34	98.46	94.71	208.66	888.63	1407.99	116.40	302.78	21803.66

Total Cost :Rs. 21803.66

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/HORTI/ANIMAL HUSBANDRY etc); NRM - NATURAL RESOURCE MANAGEMENT; IRRI - MICRO/MINOR IRRIGATION; ORFM - ORGANIC FARMING / BIO FERTILISER; DDEV - DAIRY DEVELOPMENT

Annexure-13.3

State wise List of Flagship Projects Documented by NIRD

1	ANDHRA PRADESH	1	Seed Management
		2	Intensified mechanisation
		3	Integrated vegetable programme in A.P.
		4	Induction of milch animals
2	ASSAM	1	Shallow Tube Wells with electrically operated pump sets - increase in irrigated area and crop production in areas where SWT have been installed.
		2	Establishment of Organic agriculture produce market
		3	Agri-mechanisation through increased use of power tillers
3	BIHAR	1	Farm mechanisation especially Power tillers
		2	Seed production and distribution programme
		3	Dairy activities undertaken under RKVY
4	GUJARAT	1	Water & Soil Conservation Project including reclamation of degraded Bhal areas and checking of salinity ingress in coastal areas and farm ponds.
		2	Export oriented clustering and infrastructure in PPP mode for banana
		3	Large animal surgery at Anand.
		4	Soil testing lab. operated in PPP mode.
5	HARYANA	1	Providing assistance on laying underground pipeline system for water conveyance so that water losses can be avoided and additional land brought under cultivation from the irrigation channels
		2	100% treatment of certified wheat seed
		3	Cattle health management to optimise fertility
6	HIMACHAL PRADESH	1	Construction of low cost green houses/ poly houses
		2	Organic cultivation
		3	Micro/minor irrigation and water harvesting
7	JAMMU AND KASHMIR	1	Protected cultivation of flowers & vegetables
		2	Creation of irrigation infrastructure for Horticulture
		3	Organic farming
8	KARNATAKA	1	Karnataka Seed Mission project
		2	Automated weather monitoring system
		3	Rainfed agriculture – Bhoo-chetana
		4	E-tendering project

9	KERALA	1	Paddy cultivation in fallow lands by leasing land to PadasekaramSamities
		2	Farm mechanisation for paddy harvesting, includes custom hiring of farm machinery by KAICO and giving agricultural machinery to district Panchayats and Padasekarams for collective use.
		3	Development of fishery seed farms, seed production and group mobilisation
10	MADHYA PRADESH	1	Micro irrigation schemes - Percolation tanks, minor irrigation tanks
		2	Seed replacement
		3	Development and promotion of hybrid rice varieties
		4	Kisan Call Centers
11	MAHARASHTRA	1	Construction of farm ponds
		2	Creation of low cost onion storage structures
		3	Surveillance and Monitoring of Pest and Disease on soybean and cotton
		4	AI delivery system
12	MEGHALAYA	1	Water conservation structures mini irrigation check dams
		2	Horticulture hubs
		3	Fisheries
13	ORISSA	1	Development of 100 new watersheds
		2	Acidic soil treatment
		3	Renovation of horticulture farms
14	PUNJAB	1	Animal insurance
		2	Conservation of irrigation water
15	RAJASTHAN	1	PPP for innovation in olive, date palm and jojoba
		2	Operation golden rays PPP for livelihood of 7.5 lakh families through hybrid maize
		3	DiggiProgramme
16	TAMILNADU	1	Precision Farming sugarcane, banana
		2	Automated weather stations in 224 Blocks
		3	Promoting SRI through conduct of demonstrations in 40,000 ha
		4	Use of Paddy transplanters in outsourced mode
17	TRIPURA	1	SRI
		2	Pineapple cultivation
		3	Development of demonstration unit on piggery
18	UTTAR PRADESH	1	Production of high value vegetable crops through nursery production in low tunnel Polyhouses
		2	Land Reclamation of Katri Area
		3	Adoption & certification of Organic Agriculture Management System
		4	Saghan Mini Dairy Yojna

19	WEST BENGAL	1	PraniBandhu Scheme
		2	Hybrid paddy seed production involving NGOs
		3	Implement hub at block level
20	SIKKIM	1	Hi-tech green houses
		2	Integrated farming system for sustainable agriculture
21	CHATTISHGARH	1	Establishment of model villages 'Adarsh Gram'
		2	Performance linked incentives to AI workers
22	JHARKHAND	1	Micro Lift Irrigation
		2	Vermi-composting
23	UTTARAKHAND	1	Strengthening organic vision
24	ARUNACHAL PRADESH	1	Area expansion by land terracing for paddy.
		2	Development of way side market sheds for fruits and vegetables
		3	Development of commercial fish farms through private fish farmers
25	GOA	1	Establishing modern rice mill processing facilities
		2	Incentivizing paddy cultivation through SHGs

Annexure-13.4

Statement Showing release and utilization of funds under RKVY during the period 2007-08 to 2015-16 (As on 10.12.2015)

(Rs. In Crore)

Sl. No	Name of the State/UT	2007-08		2008-09		2009-10		2010-11		2011-12		2012-13		2013-14		2014-15		2015-16	
		Re-lease	UC Recd.	Release	UC Recd	Release	UC Recd	Release	UC Recd	Release	UC Recd	Release	UC Recd	Re-lease	UC Recd	Release	UC Recd	Release	UC Recd
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
1	Andhra Pradesh	61.08	61.08	297.17	297.17	410.00	410.00	432.29	432.29	734.20	734.20	577.79	577.79	456.87	456.87	263.54	263.54	83.10	29.47
2	Arunachal Pradesh	1.90	1.90	0.00	0.00	15.98	15.98	28.95	28.95	10.68	10.68	24.94	24.94	33.04	33.04	13.92	13.92	15.77	2.69
3	Assam	0.00	0.00	144.12	144.12	79.86	79.86	216.87	216.87	227.77	227.77	399.57	399.57	218.87	206.47	267.71	175.69	94.10	0.00
4	Bihar	57.77	57.77	148.54	148.54	110.79	110.79	415.10	415.10	506.82	506.82	700.20	687.39	254.26	246.56	545.73	403.20	111.20	0.00
5	Chhatisgarh	52.96	52.96	117.45	117.45	136.14	136.14	503.42	503.42	212.61	210.47	571.22	570.92	233.82	231.70	341.75	341.75	145.07	52.90
6	Goa	1.70	1.70	0.00	0.00	0.00	0.00	7.07	7.07	24.78	24.78	35.27	35.27	10.43	10.10	0.00	0.00	21.70	0.00
7	Gujarat	49.81	49.81	243.39	243.39	386.19	386.19	388.63	388.63	515.48	515.48	610.87	610.87	476.89	476.89	290.03	254.45	108.20	0.00
8	Haryana	21.52	21.52	39.50	39.50	112.77	112.77	226.80	226.80	176.87	176.57	179.88	179.62	159.29	158.15	254.68	152.50	71.56	0.00
9	Himachal Pradesh	16.17	16.17	15.11	15.11	33.03	33.03	94.85	94.85	99.93	99.93	59.27	59.27	77.40	77.40	86.11	86.11	14.15	0.00
10	Jammu & Kashmir	0.00	0.00	1.20	1.20	42.85	42.85	96.42	96.42	63.03	59.28	103.22	102.01	88.52	86.87	78.25	31.79	37.36	0.00
11	Jharkhand	55.68	55.68	29.31	29.31	70.13	70.13	96.90	96.90	174.56	174.56	219.38	216.19	147.10	136.95	153.15	96.59	59.88	0.00
12	Karnataka	154.30	154.30	314.14	314.14	410.00	410.00	284.03	284.03	595.90	595.90	549.15	549.15	467.29	466.53	632.22	632.22	176.97	129.23
13	Kerala	55.40	55.40	30.06	30.06	110.92	110.92	149.65	149.65	182.89	182.45	253.03	252.69	256.24	255.64	300.70	287.31	56.52	0.00
14	Madhya Pradesh	101.62	101.62	146.05	146.05	247.44	247.44	559.18	559.18	398.37	398.37	448.13	448.13	276.25	276.25	511.78	444.47	131.80	69.18
15	Maharashtra	128.20	128.20	261.77	261.77	404.39	404.39	653.00	653.00	735.44	735.44	1050.81	1050.81	959.69	959.69	942.09	312.57	219.00	0.00
16	Manipur	0.00	0.00	0.90	0.90	5.86	5.86	15.50	15.50	22.25	22.25	47.97	47.97	23.66	23.66	43.00	43.00	20.46	6.91
17	Meghalaya	6.37	6.37	6.77	6.77	24.68	24.68	46.12	46.12	20.44	20.44	22.68	22.68	37.98	37.95	60.64	34.19	8.26	0.00
18	Mizoram	0.00	0.00	0.80	0.80	0.00	0.00	3.75	3.75	36.63	36.63	184.73	184.73	77.41	77.41	113.92	113.92	19.39	0.00
19	Nagaland	3.19	3.19	6.95	6.95	20.38	20.38	13.25	13.25	37.54	37.54	85.75	85.75	30.07	30.07	52.75	52.75	12.63	12.63

Sl. No	Name of the State/UT	2007-08		2008-09		2009-10		2010-11		2011-12		2012-13		2013-14		2014-15		2015-16	
		Re-lease	UC Recd.	Release	UC Recd	Release	UC Recd	Release	UC Recd	Release	UC Recd	Release	UC Recd	Re-lease	UC Recd	Release	UC Recd	Re-lease	UC Recd
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
20	Orissa	39.30	39.30	115.44	115.44	121.49	121.49	274.40	274.40	356.96	356.96	468.28	468.28	529.42	529.42	482.07	462.64	149.79	58.14
21	Punjab	36.05	36.05	87.52	87.52	43.23	43.23	179.12	179.12	145.87	145.87	86.83	86.83	229.44	229.44	413.71	156.13	107.97	0.00
22	Rajasthan	55.76	55.76	233.76	233.76	186.12	186.12	628.01	628.01	692.08	692.08	348.18	348.18	735.24	728.95	695.28	687.24	168.82	108.67
23	Sikkim	2.77	2.77	5.68	5.68	15.29	15.29	6.56	6.56	24.64	24.64	15.21	15.21	10.20	10.20	9.49	7.94	3.57	0.00
24	Tamil Nadu	153.60	153.60	140.38	140.38	127.90	127.90	250.03	250.03	333.06	333.06	613.27	613.27	269.96	269.96	298.95	298.95	182.36	52.49
25	Telangana															179.64	179.64	98.88	27.55
26	Tripura	4.16	4.16	16.08	16.08	31.28	31.28	116.48	116.48	25.63	25.63	56.43	56.43	70.50	70.50	80.27	62.83	13.55	0.00
27	Uttar Pradesh	103.90	103.90	316.57	316.57	390.97	390.97	695.36	695.36	762.83	762.83	294.52	294.52	561.09	525.50	589.47	439.67	123.99	0.00
28	Uttarakhand	28.25	28.25	10.30	10.30	71.46	71.46	1.31	1.31	128.84	128.84	8.21	8.21	44.03	44.03	80.70	71.24	36.20	2.11
29	West Bengal	54.93	54.93	147.38	147.38	147.38	147.38	335.98	335.98	486.65	486.65	374.58	374.58	265.08	265.08	582.34	475.24	142.28	0.00
	Total States	1246.39	1246.39	2876.34	2876.34	3756.53	3756.53	6719.03	6719.02	7732.75	7732.75	8389.37	8371.26	7000.04	6921.28	8363.89	6581.49	2434.53	551.97
30	A & N Islands			2.26	0.01	1.28												0	0
31	Chandigarh			0.14		0.42												0	0
32	D & N Haveli			0.00														0	0
33	Daman & Diu			0.26														0	0
34	Delhi	0.10		0.00		0.24												0	0
35	Lakshadweep			6.14	6.04	1.09												0	0
36	Pudducherry	0.40	0.40	0.00		0.00												0	0
	Total UTs	0.50	0.40	8.80	6.05	3.03	0.00											0	0
	District Agri Plan																	0	0
	NIRD, ISEC, IEG, IIM-CMA, & Admn Contingency			1.66		1.37		1.03		61.34		10.63		52.47		79.31		0.27	
	Grand Total	1246.89	1246.79	2886.80	2882.39	3760.93	3756.53	6720.06	6719.02	7794.09	7736.10	8400.00	8371.26	7052.51	6921.28	8443.20	6581.49	2434.80	551.97

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Annexure-18.1**Women in Agriculture at a Glance**

S. No	Divisions/Subject Matter Area	Scheme/Component	Flow of benefit to women in schemes/programmes
1.	Horticulture	Horticulture Mission for North East & Himalayan States (HMNEH), National Bamboo Mission (NBM), Central Sector Scheme of National Horticulture Board (NHB), Coconut Development Board (CDB) and Central Institute for Horticulture (CIH), Nagaland.	Implementing agencies viz. State Horticulture Missions have been directed to ensure that at least 30% of budget allocation is earmarked for women beneficiaries/farmers. During the current financial year 2015-16 funds to the tune of Rs. 2000 crores have been earmarked for implementation of schemes MIDH. Women beneficiaries such as women farmers, women Self Help Groups, women entrepreneurs are encouraged to obtain the benefits of the schemes under the Mission.
2.	Agriculture Extension	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 3 women FSGs/block to be formed annually for ensuring 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 • At least 30% scheme beneficiaries are to be women farmers/farm women;

S. No	Divisions/Subject Matter Area	Scheme/Component	Flow of benefit to women in schemes/ programmes
			<ul style="list-style-type: none"> • 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 • Preferential involvement of women as 'Farmer Friends' under the extension delivery mechanism below the block level (@1Farmer Friend/2 Villages) <p>Since inception of the scheme in 2005-06, total 85,26,870 farm women (25.73% of the total benefited farmers) have participated in farmer oriented activities like Exposure Visits, Training, Demonstrations & Kisan Melas including 2,47,851 women farmers benefited during 2015-16 (up to 31st December, 2015).</p>
3.		National Gender Resource Centre in Agriculture (NGRCA)	The Centre acts as a focal point to converge of all gender related activities & issues in agriculture & allied sectors within and outside the Department of Agriculture & Cooperation, add gender dimension to agriculture policies & programmes, render advocacy / advisory services to the States/ UTs to internalize gender specific interventions and ensure that the policies and programmes in agriculture are fully engendered & reflect the national commitment to empowerment of women.

S. No	Divisions/Subject Matter Area	Scheme/Component	Flow of benefit to women in schemes/ programmes
4.		Establishment of Agri-Clinics & Agri-Business Centres (ACABC)	<p>The AC&ABC scheme has been revised during 2010-11 with changes in relevant operational aspects aiming to provide better services to farmers, improvements in the quality of training and simplify the process of subsidy disbursement and provision of extension service to farmers by these agripreneurs has been made a mandatory component of the said Scheme.</p> <p>The subsidy is 44% in respect of women, SC/ST & all categories of the candidates from North-Eastern and Hill States and 36% in respect of other categories.</p> <p>Since Inception of the scheme, a total number of 46,231 candidates have been trained and 19,471 agri-ventures have been established in the country which includes 3339 women candidates trained and 1043 Agri-ventures established by them.</p>
5.	Crops	National Food Security Mission (NFSM)	30% of budgetary allocation is earmarked for women beneficiaries/farmers. Concerned Implementing Agencies are responsible for monitoring implementation of these components, i.e., allocation of resources for SC/ST/Women beneficiaries.
6.	Oilseeds	National Mission on Oilseeds & Oil Palm	As per direction of planning Commission, States have been asked to earmark 30% of budgetary allocation for women farmers/beneficiaries.
7.	Agricultural Marketing	Integrated Scheme for Agricultural Marketing (ISAM)	Women under AMI are eligible for subsidy @ 33.33% as against 25% for others.
8.	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.

S. No	Divisions/Subject Matter Area	Scheme/Component	Flow of benefit to women in schemes/ programmes
			<ul style="list-style-type: none"> • 10% more assistance for women beneficiary to procure Agricultural Machinery, implements and equipments including PHT under component 2 and 3. • In order to reduce the drudgery and increasing efficiency in farm operations, a number of agricultural implements and hand tools suitable for farm women have been developed by Research & Development organizations under ICAR. The list of gender friendly equipments has been sent to all States/UTs for popularizing them through various schemes of Government. <p>Gender Friendly Equipment for Women: Under the component 1 of SMAM, Agricultural Mechanization through Training, Testing, and Demonstration, a total 1027 women were trained during 2014- 15 till 31st March, 2015. During the current Financial Year 2015-16, (till October. 2015) 947 women farmers have been trained at FMTTIs.</p>
9.	Seed	Sub-Mission for Seed and Planting Material (SMSP)	States/Implementing agencies are requested to allocate adequate funds/give preference to women farmers.

S. No	Divisions/Subject Matter Area	Scheme/Component	Flow of benefit to women in schemes/ programmes
10.	Cooperation	National Cooperative Development Corporation	<p>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 Food grain Processing, Plantation Crops, Oilseed Processing, Fisheries, Dairy & Livestock, Spinning Mills, Handloom & Powerloom Weaving, Integrated Cooperative Development Projects etc. Women Cooperatives are also covered under Weaker Section Programme for the purpose of availing subsidy and concessional funding by NCDC.</p> <p>As on 31.03.2015, NCDC has sanctioned and released financial assistance of Rs. 191.50 crore and Rs. 92.86 crore respectively for the development of cooperative societies exclusively promoted by women. In the 1047 projects/units sanctioned in 2014-15, it is estimated that 5.79 lakh women are enrolled as members, out of which 910 women members are on the Board of Directors.</p>





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