



# 3 YEARS OF MODI GOVERNMENT



Continuous Progression on Prosperity Path



Ministry of Agriculture & Farmers Welfare  
Government of India



**Shri Radha Mohan Singh**

Minister of Agriculture and Farmers Welfare



**Shri S.S. Ahluwalia**

Minister of State for  
Agriculture and Farmers  
Welfare, and Parliament Affairs



**Shri Parshottam Rupala**

Minister of State for  
Agriculture and Farmers  
Welfare



**Shri Sudarshan Bhagat**

Minister of State for  
Agriculture and Farmers  
Welfare

**Healthy Soil, Wealthy Farmer**

# 2016-17: Agricultural Growth Rate: 4.4%



## Agri Research

**596** high yielding climate resilient crop varieties/hybrids of field crops released during last three years.

Established **150 pulses seed hub** to produce quality pulse seeds.



## Green Revolution

**8.67%** boost in foodgrains output

2015-16: 251.57 million tonnes yield  
2016-17: 273.38 million tonnes yield



## Agri Extension

Efforts for strengthening 669 KVKs by increasing the staff from 16 to 22 per KVK.

**27%** increase in trained candidates in 2014-17

**18%** increase in agriventures



## Blue Revolution

In comparison to 2011-14, growth in fisheries production during 2014-17 is

**20.1%**

Target to produce 15 million metric tonnes by 2020-21



## Agri Education

Undergraduation in Agriculture & allied subjects declared as Professional degree.

Remuneration for research associates increased from ₹12000 to ₹13000/month in first 2 years & ₹14000 to ₹17500/month in final year.

**5<sup>th</sup> Dean Committee Recommendations approved**



## White Revolution

In comparison to 2011-14, growth in milk production during 2014-17 is

**16.9%**

## Agriculture Budget Estimate & Expenditure

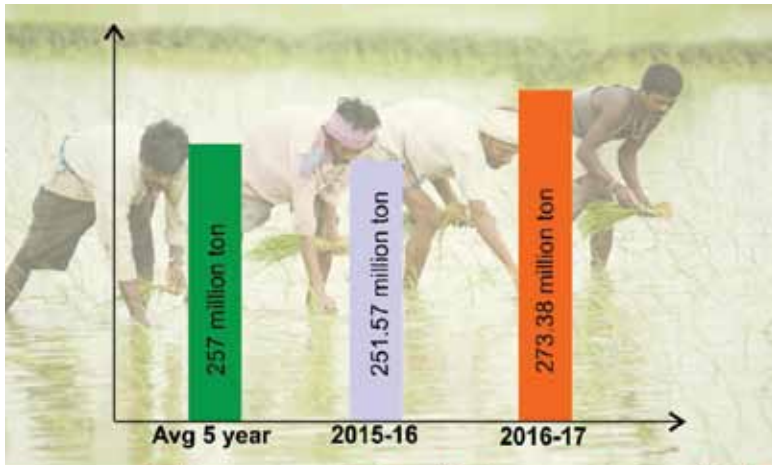
### During UPA Government

Budget Year	Budget Estimate	Expenditure
2011-12	₹ 24,526 crore	₹ 23,290 crore
2012-13	₹ 28,284 crore	₹ 24,630 crore
2013-14	₹ 30,224 crore	₹ 25,896 crore

### During Modi Government

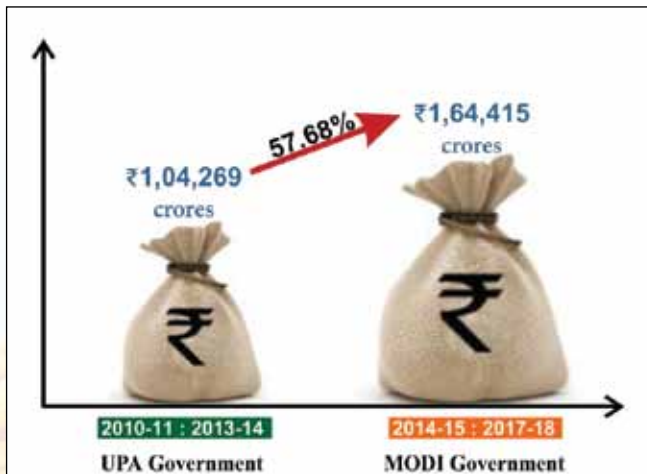
Budget Year	Budget Estimate	Expenditure
2016-17	₹ 45,053 crore	₹ 57,503 crore

## Highest ever food grain production during 2016-17



Record food grain production in 2016-17 which is 6.37% higher than last 5 years average production and 8.6% more as compare to 2015-16

## More budget allocation to agriculture by Modi Government



# **Continuous Progression on Prosperity Path**

*A Glimpse of Achievements during  
June 2014 to March 2017*

**Department of Agriculture, Cooperation & Farmers Welfare**

**Department of Animal Husbandry, Dairying & Fisheries**

**Department of Agricultural Research & Education/  
Indian Council Agricultural Research**



**Ministry of Agriculture & Farmers Welfare  
Government of India**





**Department of Agriculture,  
Cooperation & Farmers Welfare**





# Soil Health Card Scheme (SHC)

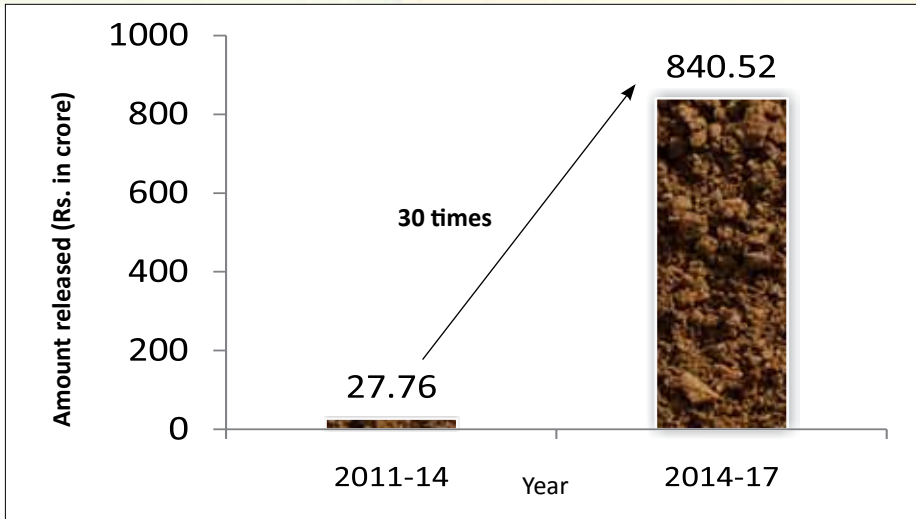
## Soil Health Card

- ◆ Soil Health Card was launched in February, 2015.
- ◆ Soil Health Cards will be issued every two years for all land holder in the country.
- ◆ Nation-wide program to conduct farm level soil analysis.
- ◆ Provide customized crop specific recommendation for nutrient application.
- ◆ 2.80 Crore samples have been collected of which 14 Crore cards are being made.
- ◆ 7.1 Crore 'Soil Health Cards' have been distributed till 2nd May 2017 to the farmers and rest within the next 3 months.
- ◆ The Cycle Second commenced from 1st May, 2017.



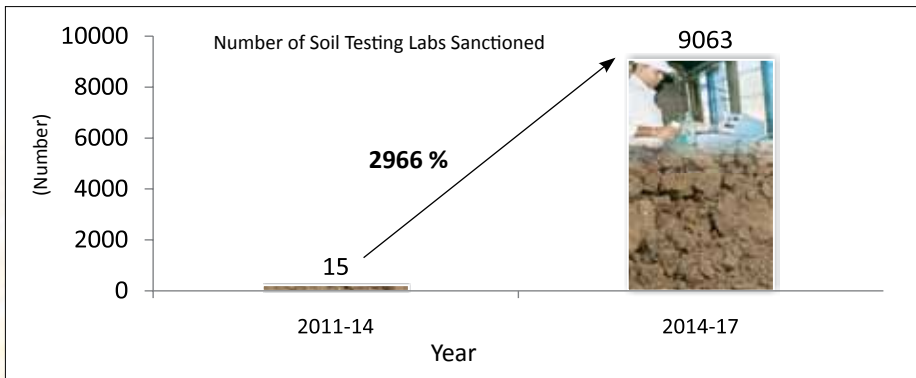
Hon'ble PM Inaugrated Soil Health Card on 19 February, 2015 at Suratgarh (Rajasthan)

## Amount Released under Soil Health Management Scheme



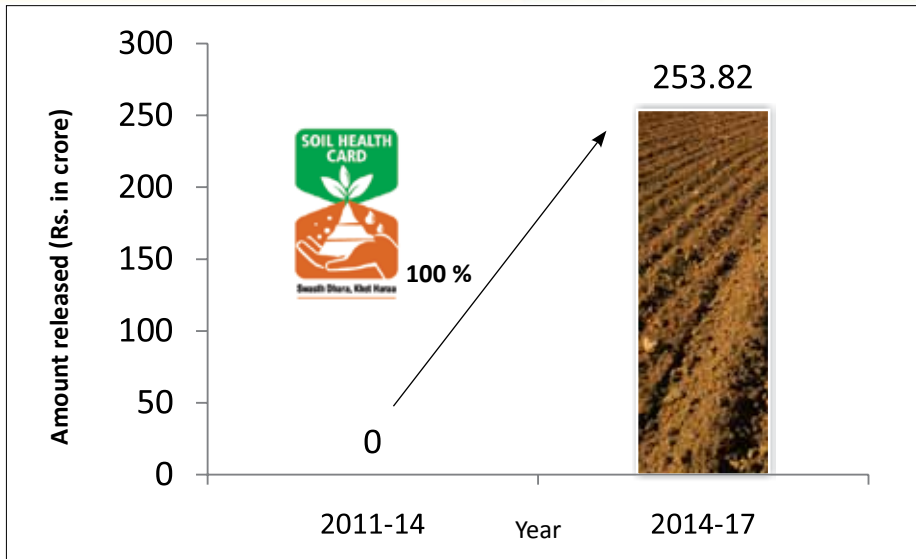
During 2014-17, Rs. 840.52 crore released to states which is 30 times more as compared to Rs. 27.76 crore released during 2011-14.

## Soil Testing Labs (Static + Mobile + Mini-Labs) Sanctioned



In the year 2011-14, there was only 15 soil testing laboratories sanctioned which has increased upto 9063 during 2014-17.

## Amount Released under Soil Health Card Scheme



Under Soil Health Card scheme, no amount was released during 2011-14. During 2014-17 Rs. 253.82 crores was released under this scheme.



## Paramparagat Krishi Vikas Yojana (PKVY)



**Sikkim: First organic state of India**

Hon'ble Prime Minister inaugurated National Conference on Organic Farming at Gangtok (Sikkim) on 17th January 2016.

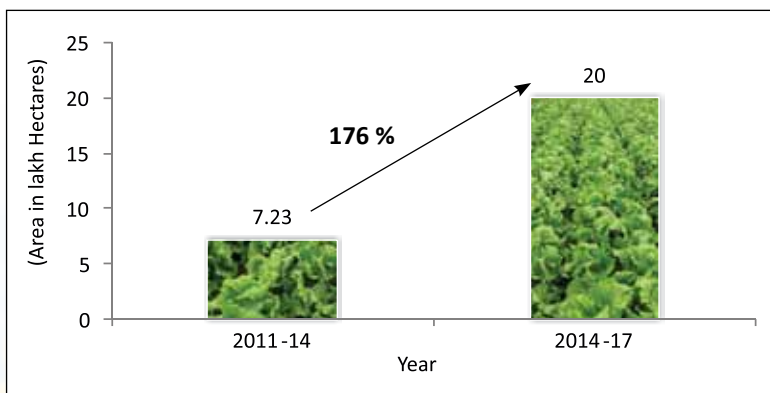
- ◆ Assistance to farmers for cluster formation, mobilization of farmers, PGS certification, conversion of land to organic farming, establishment of vermi compost unit, labelling or branding of organic products, etc.
- ◆ Financial assistance is provided for collection and transportation of organic produce to market at Rs. 1,20,000 maximum assistance for one cluster.
- ◆ Every farmer of a cluster will be provided financial assistance Rs. 50,000 per ha. during 3 years period. 10,000 organic clusters of 20 ha. will be developed to cover certified area by 2 lakhs ha. during the 3 years. So far 9,186 clusters have been formed.
- ◆ Government will promote organic farming with usage of traditional resources, adoptive eco-friendly low cost technologies and for higher returns, etc.

## Budget Estimate 2015-16, 2016-17 & 2017-18 (PKVY)



Paramparagat Krishi Vikas Yojna is first big scheme of India. So far 9186 Cluster have been approved.

## Cumulative Area Under Organic Farming (PKVY)



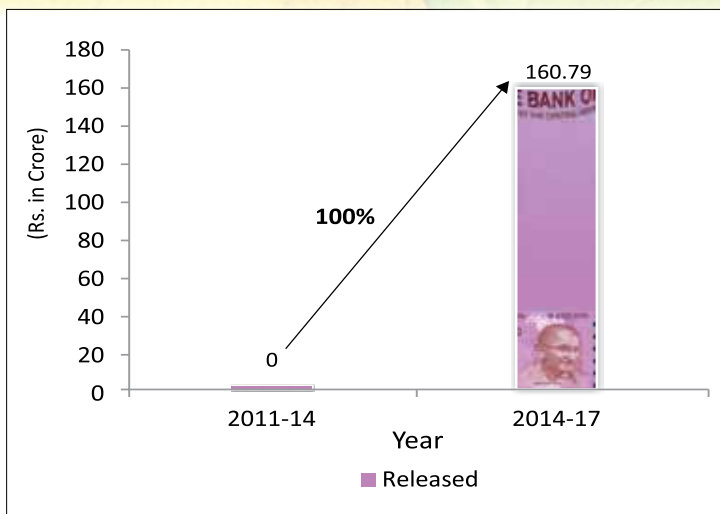
Substantial increase of 176% area under organic farming during 2014-17 as compared to year 2011-14.

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

- ◆ The Central Sector scheme was launched on 11th January, 2016 with an outlay of Rs. 400 crore for 3 years from 2015-16 to 2017-18. The scheme is being implemented in NER states of Assam, Arunachal Pradesh, Manipur, Meghalaya, Mizoram, Nagaland, Sikkim and Tripura through State Lead Agencies (SLA) to cover an area of 50,000 hectares in 3 years.
- ◆ So far as 2321 farmer cluster and 8 farmer producer organization has been formed.

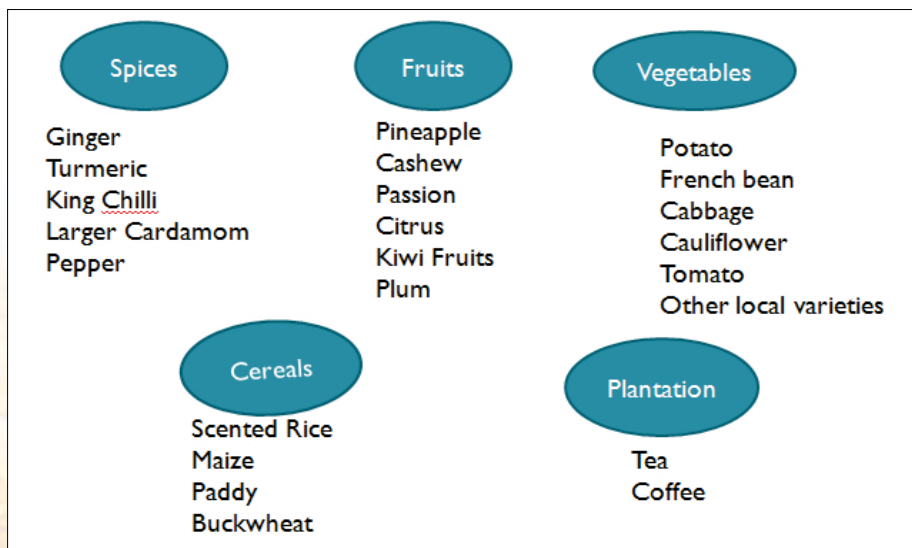


## Amount Released under MOVCDNER during 2014-17



Substantial increase in the budget under MOVCDNER during the year 2014-17

## The potential crops commodities identified in the NER for this scheme:



## National Agriculture Market (e-NAM)



On 14th April, 2016 Hon'ble Prime Minister Sh. Narendra Modi launched the pilot of e-NAM on the 125th Birth Anniversary of Baba Saheb Dr. Bhimrao Ambedkar in 21 markets of 8 states.

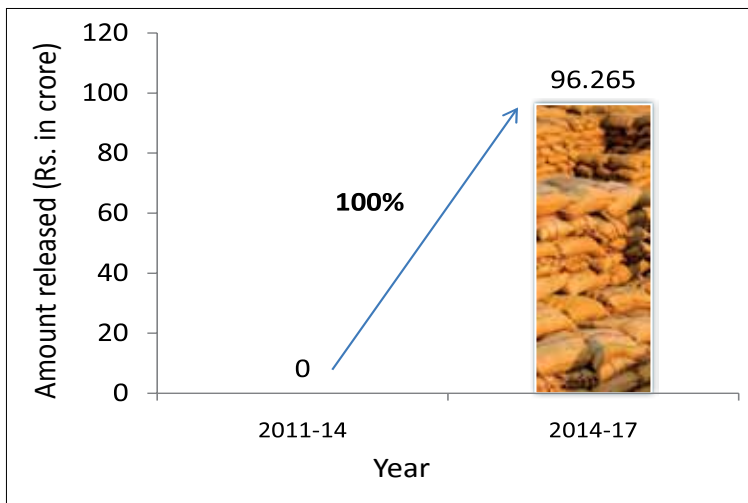
- ◆ National Agriculture Market (e-NAM) scheme was approved on 1st July, 2015 with an initial allocation of Rs. 200 crore to link 585 wholesale APMC mandis across the country through a common e-platform.
- ◆ 417 mandis of 13 states have been integrated with e-NAM so far.
- ◆ In principle approval given to integrate 542 mandis in 16 States with e-NAM.
- ◆ To facilitate assaying of commodities for trading on e-NAM, common tradable parameters have been developed for 69 commodities.
- ◆ By 15th May 2017, 83.57 lakh tonnes of agricultural produce worth Rs. 19,802.98 crores has been transacted; 45,45,850 farmers, 89,934 traders and 46,411 commission agents were registered on e-NAM platform.
- ◆ The portal is available in English, Hindi, Gujarati, Marathi, Telugu and Bengali.

### Reforms in Agricultural Marketing

- ◆ Department of Agriculture, Cooperation and Farmers Welfare (DAC&FW) has drafted a new model "Agricultural Produce and Livestock Marketing (Promotion and Facilitation) Act 2017" in place of earlier model APMC Act, 2003. The Act was released to States for adoption on 24 April 2017 by the Hon'ble Union Agriculture Minister.



## Fund released under National Agriculture Market (e-NAM)



- ◆ Central assistance @ Rs. 30 lakh/market given.
- ◆ This has been increased to Rs. 75 lakh/market in the budget for 2017-18.
- ◆ One mandi analyst provided for a year.
- ◆ e-NAM software developed by Gol is provided.

### National Institute of Agricultural Marketing (NIAM) Jaipur:

- ◆ Pilot testing of kisan business school at Chomu, Rajasthan and Hyderabad on principles of functional and business management to individual farmers.
- ◆ Training of CEOs of FPOs on entrepreneurship and business management.
- ◆ Training of Government officials of 11 countries on emerging trends of marketing of fruits and vegetables.

# Small Farmers Agribusiness Consortium (SFAC)

## Venture Capital Scheme (VCA)

Venture Capital Assistance Scheme is being implemented for Agribusiness Development to catalyze private investment in setting up agribusiness projects for increasing rural income and employment.

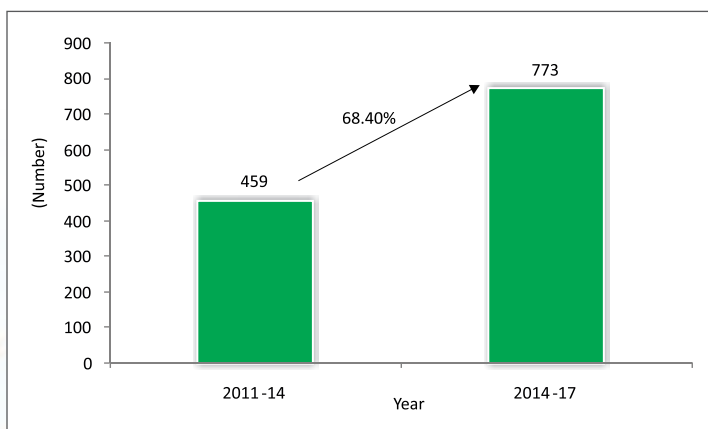
## Equity Grant Scheme (EGS)

In order to support the equity base of FPCs, a matching Equity Grant upto a maximum of Rs 10 lacs is given to FPCs. During 2014-17, equity grants have been sanctioned to 94 Farmer Producer Companies (FPCs).

## Credit Guarantee Fund Scheme (CGFS)

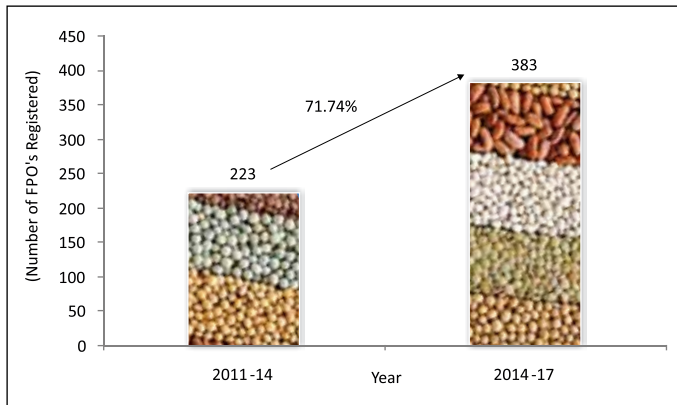
The Credit Guarantee Fund offers a cover of 85% to loans extended by banks to FPCs without collateral, upto a maximum of Rs. 1.00 Crore. During 2014-17, a total of 21 FPCs have taken benefit under the scheme.

## Venture Capital Scheme (VCA)



68.40% increase as 773 VCA projects set up during 2014-17 as compared to 459 during previous 3 years (2011-14)

## Farmer Producer Organizations (FPOs)



383 FPOs have been registered during 2014-17 as compared to 223 FPOs during 2011-14 with total increase of 71.74% towards collectivization of farmers.

## NAFED

### Business Achievements of NAFED

- ◆ NAFED is one of the Central Nodal Agencies for procurement of 16 notified agricultural commodities of Oilseeds, Pulses and Cotton.
- ◆ During the year 2016-17, NAFED procured record quantity of 877222.09 MT Pulses and recorded highest gross Profit of Rs 132.69 crore in last two decades.
- ◆ Procurement of Pulses, Oilseeds and other commodities by NAFED improved significantly in 2014-17 against the performance during 2011-14.



## Farmers Benefited from Procurement of NAFED



7,37,071 numbers of farmers benefited from procurement by NAFED between 2014-17 against 2,70,352 between 2011-14, which is 172% higher.

## Increase in Business of NAFED



Total Rs. 6,953.4 crore business increased in the year 2014-17 which is 27% more as compared to Rs. 5,472.37 crore in the year 2011-14.

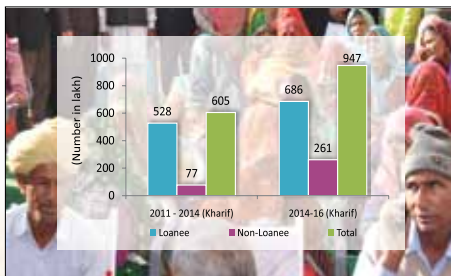
# Pradhan Mantri Fasal Bima Yojana (PMFBY)

## Important Features of Pradhan Mantri Fasal Bima Yojana (PMFBY):

- ◆ Covers all food grains, oilseeds and annual commercial/ horticultural crops.
- ◆ One season one rate - maximum 2% for Kharif, 1.5% for Rabi and 5% for Annual Commercial/ Horticultural Crops.
- ◆ Covers all risks of crop cycle – preventive sowing; risks to standing crops and post harvest losses.
- ◆ For losses due to hailstorm, landslide and inundation assessment of yield losses at individual field level.
- ◆ Post harvest losses for cut & spread crops on field upto 14 days due to cyclone/ cyclonic rains and unseasonal rains.
- ◆ On account payment upto 25% of sum insured due to prevented sowing or mid season adversity.

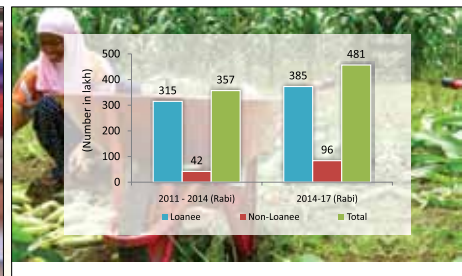


## Farmers covered under crop insurance schemes



### Kharif Season

Total farmer covered under loanee and non loanee during Kharif 2014-17 has increased 56.52% as compared to Kharif 2011-14. For non loanee coverage has increased by 238.96%.



### Rabi Season

Total farmer covered under loanee and non loanee during Rabi 2014-17 has increased 34.73% as compared to Rabi 2011-14. For non loanee coverage has increased by 128.50%.

**Soil Health Card Scheme - Swasth Dhara, Khet Haraa**

To maintain the soil health and to advise the farmers on appropriate doses of fertiliser and manures, Govt. of India is providing Soil Health Card (SHC) to all farmers free of cost indicating status of soil with respect to 12 parameters including macro & micronutrients.

**Pradhan Mantri Krishi Sinchayee Yojana**

With a view to promote efficient and judicious use of water for all farmers, Govt. has launched Pradhan Mantri Krishi Sinchayee Yojana which will ensure end-to-end solution right from water source to farm level by implementing Micro Irrigation through Drip and sprinkler systems.

**eNAM (Electronic National Agriculture Market)**

Government has set up an electronic marketing platform for enabling farmers to sell their produce at the best possible price across the country. 100 regulated markets across country are targeted to link to this platform by March 2018.

**Department of Agriculture, Cooperation & Farmers Welfare**  
**Ministry of Agriculture & Farmers Welfare**  
 Government of India  
 Krishi Bhawan, Rajendra Prasad Road, New Delhi-110002  
[www.agri-insurance.gov.in](http://www.agri-insurance.gov.in)

**Shri Narendra Modi**  
 Hon'ble Prime Minister of India

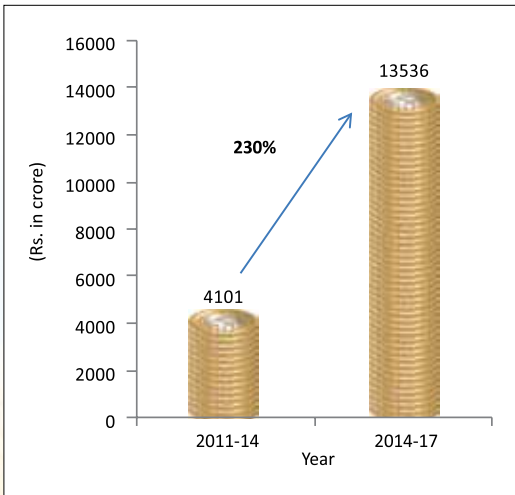
**Pradhan Mantri Fasal Bima Yojana**

**Department of Agriculture, Cooperation & Farmers Welfare**  
**Ministry of Agriculture & Farmers Welfare**  
 Government of India

**Kisan Call Centre : 1800 180 1551**

### Fund released under PMFBY

- ◆ A pocket size folio along with an acknowledgement receipt containing details of insurance which will also serve as a policy document has been distributed from Rabi 2016-17.
- ◆ First time the receipt is being distributed among farmers from Rabi 2016 onward.

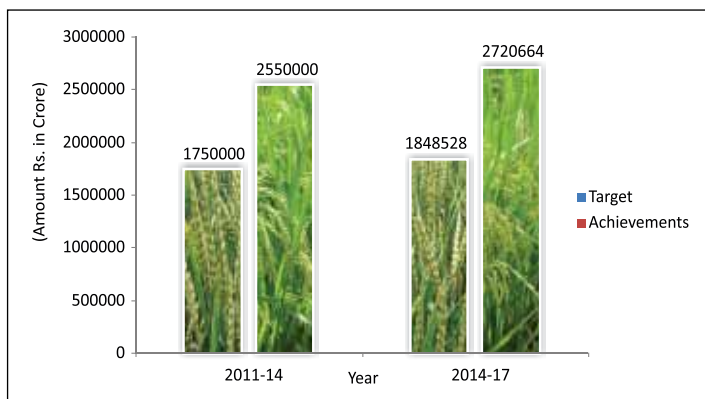


Substantial fund has been released under PMFBY during 2014-17

# Agricultural Credit and Joint Liability Group

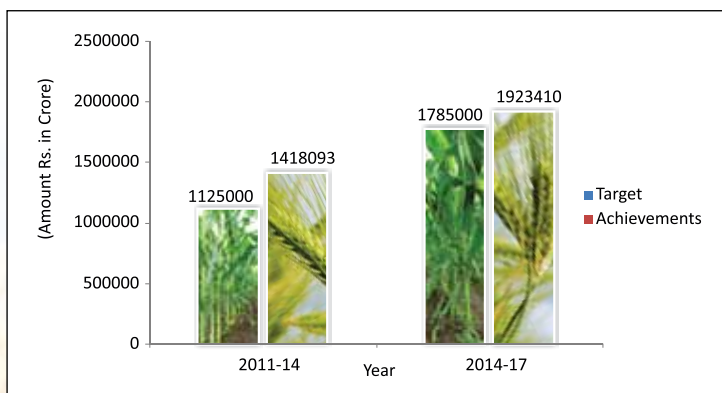
## Agricultural Credit

### Ground Level Credit Flow (Short Term and Total Credit)



There was 47.18% increase in ground level agriculture credit flow during the year 2014-17 as compared to 2011-14.

### Agricultural Credit: Short Term Crop Loan



The achievement of short term credit exceeded 35.63% during 2014-17 as against the 2011-14.

## Joint Liability Group

### Formation of Joint Liability Group(JLG)



In the seven years from 2007-14 only 6.72 lakh JLG were formed and Rs. 6630 crore given to JLG while during 2014-17 total 15.85 lakh JLG formed and Rs. 16268 crore were given to them.

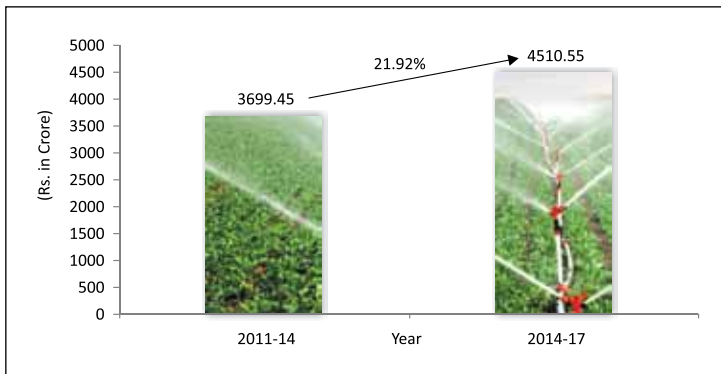




# Pradhan Mantri Krishi Sinchayee Yojana (PMKSY)

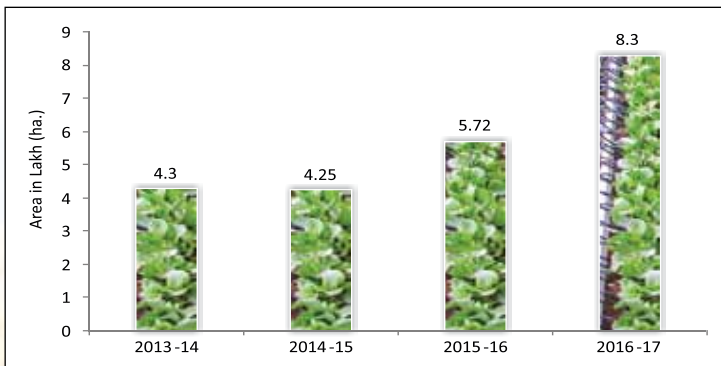
- With the mission of **PER DROP MORE CROP**, the present government has allocated more funds under PMKSY so that more area can be covered over irrigation.

## Fund Released for Micro-Irrigation



During the year 2014-17, Rs. 4510.55 crore has been released which is 21.92% more as compared to year 2011-14 (Rs. 3699.45 crore).

## Area Covered Under Micro-Irrigation

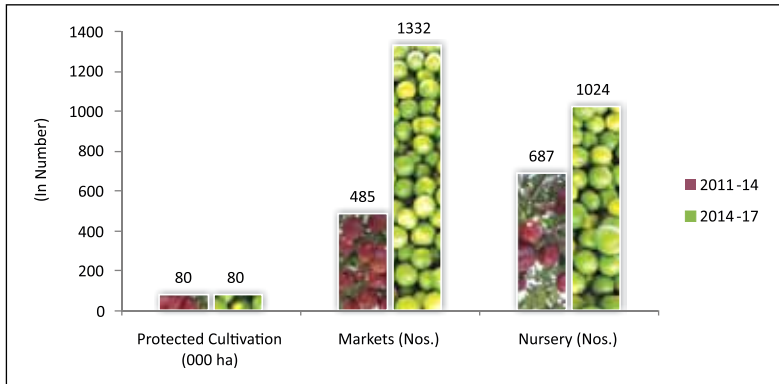


Substantial increase in area covered under micro-irrigation i.e. Drip and Sprinkler Irrigation over the year 2014-17.

# Horticulture Development

## Horticulture Development Mission

### Achievement under Major Component of MIDH during 2011-14 & 2014-17

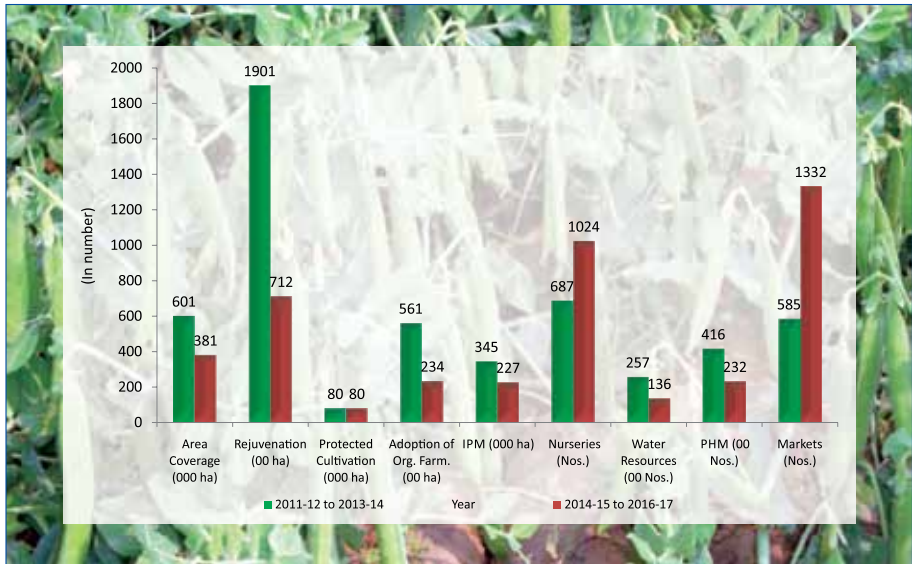


In the year 2014-17, there is significantly higher achievements in various components of MIDH as compare to 2011-14.

## National Horticulture Board (NHB)

- ◆ NHB assisted over 3100 Cold Storage projects with installed capacity of 140.10 Lakh MT across the country.
- ◆ During 2016-17, Board assisted 32 Cold Storage with installed capacity of 1.88 Lakh MT.
- ◆ During 2017-18, Board has set target of creation of 3.00 Lakh MT cold storage capacity.
- ◆ Technology Development and Transfer for Promotion of Horticulture: NHB supported 674 projects/events for Transfer of Technology which includes 127 projects during 2016-17.
- ◆ NHB accredited 1591 nurseries for production of superior quality planting material.

## Comparison between previous three years performance Vs. Achievement in last three years (NHB)



# Horticulture Development

## Prime Minister's Package for J&K:



- ◆ Rs. 500 crore special package announced on 07.11.2015 towards restoration of damaged horticulture areas and development of horticulture in J&K.
- ◆ J&K Govt. submitted its 3 year's Action Plan for Rs. 500 crore for 2016-17 to 2018-19.
- ◆ Cabinet Committee on Economic Affairs approved one time relaxation of MIDH cost norms for;
  - ◆ Import of planting material at the maximum cost of Rs. 460 per plant.
  - ◆ Import of four wire trellis system @ of 9.8 lakh per hectare.
  - ◆ Enhanced rate of subsidy @ 90% for provision of planting material.
  - ◆ Administrative approval for implementation of CCEA's decision has been issued on 08/12/2016.
  - ◆ Rs. 47.89 crore of (Gol Share) released in 2016-17.

## Saffron Park:

- ◆ DAC&FW assigned NHB the task of setting up of Saffron Park at Pampore Pulwama (J&K) at a total cost of Rs. 24.45 crores. Park will have facility for Quality Control Lab, Export Promotion Activity and E-auction Centre.
- ◆ Civil work of park is almost complete. Plant & Machinery supplied and ready for installation.
- ◆ Park likely to become operational during October 2017.

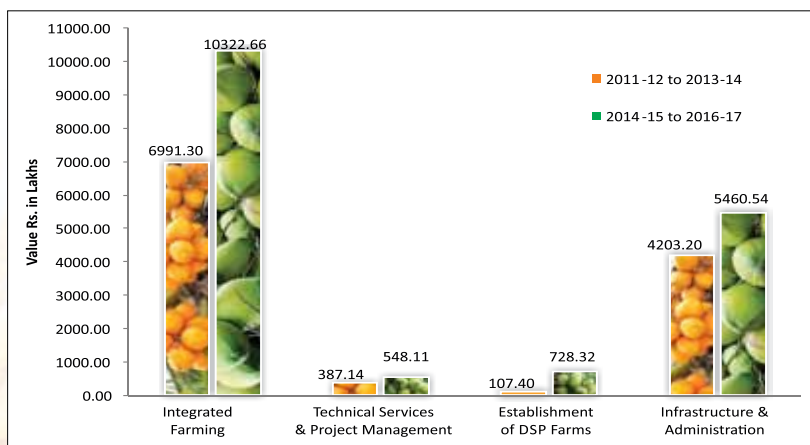


Hon'ble Union Agriculture Minister laid the foundation stone of Saffron Park at Pampore, Pulwama, J&K on 23rd August, 2014.

## Coconut Development Board (CDB)

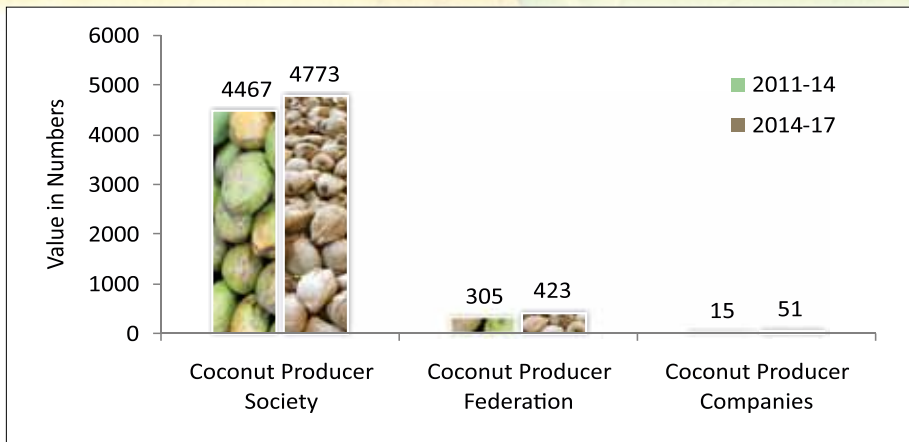
- ◆ During the period 2011-14, CDB established 7 Nucleus Coconut Seed Gardens, 39 small Coconut nurseries and 295 organic manure units while in 2014-17 CDB established 15 Nucleus Coconut Seed Gardens, 90 small Coconut nurseries and 331 organic manure units.
- ◆ Trained 2601 Neera Technicians since scheme started in 2014-15.
- ◆ 8851 Ha has been brought under New Plantation during 2014-17 as compare to 6934 hectare during 2011-14.
- ◆ Export of various coconut products was 8500 million tonnes during 2015-16 against import of 5400 million tonnes. This indicates that during 2015-16 India become one of the exporting countries.
- ◆ In new Foreign Trade Policy 2015-20, to promote export of coconut products provision is made to provide 5% of FOB(Frieght on Board) value as incentives.
- ◆ As a result, since the beginning of the financial year 2016-17, India started exporting coconut oil to Malasia, Indonesia and Sri Lanka. While during the previous year we were importing coconut oil from these countries.
- ◆ For the first time, India is exporting dry coconut in large quantity to USA and European countries.

### Achievement Under Various Component of Coconut Development



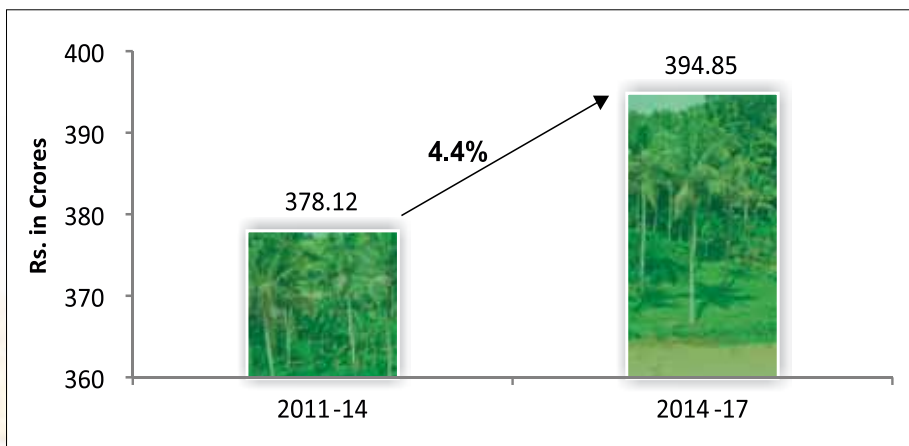
Substantial increase in the output under various component of Coconut Development Board.

## Society, Federeation and Coconut Development Company Under CDB



Substantial increase in Coconut Producer Society, Federtion and Producer Companies during last 3 years.

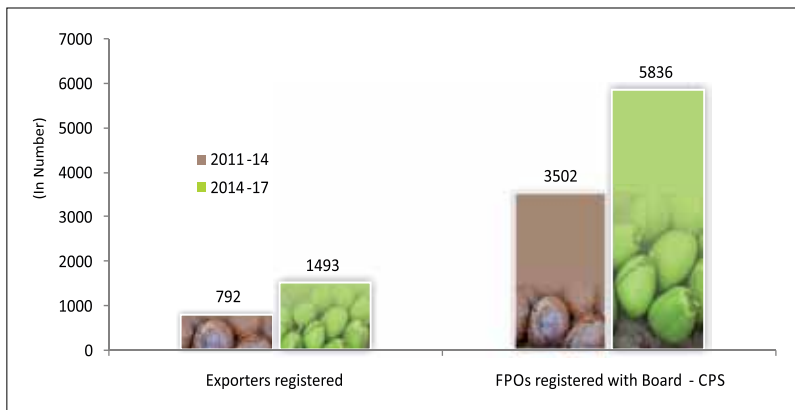
## Expenditure on Coconut Development



More emphasis is being given for promotion of Coconut development in the country through more budget allocation.

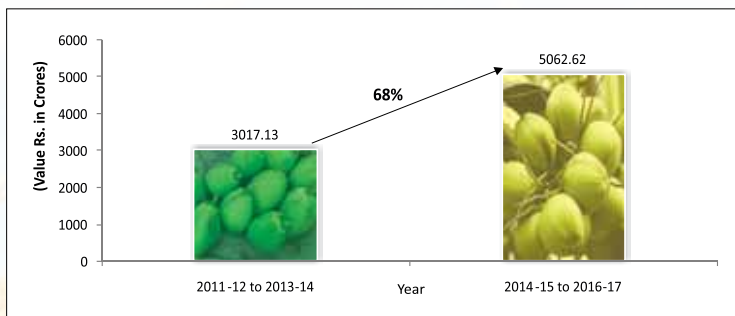
- Exports increased substantially because Government of India extended export incentives to various coconut products in the new FTP 2015-20, facilitated production of value added products of international quality through the scheme “Technology Mission on Coconut”, disseminated important trade information to prospective exporters and facilitated participation of exporters in international trade fairs.

### CDB Schemes - Physical Achievements



Substantial increase in Exporter Registration as well as FPO’s Registration with Coconut Development Board (CDB) during the period 2014-17 as compared to 2011-14.

### Export of Coconut & Coconut Products

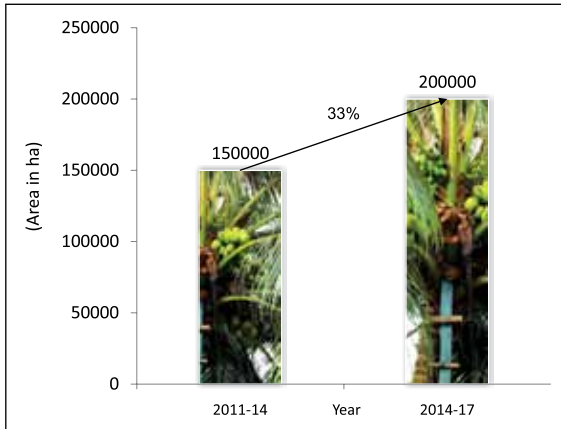


Export of Coconut oil increased by 68% during the period 2014-17 as compared to that of 2011-14.



- ◆ Replanting & Rejuvenation Scheme was implemented on pilot scale in 3 districts for 2011-12 to 2013-14 and extended for implementation in 11 districts of Kerala from 2013-14 onwards directly by the Board through Farmer Producers' Organizations.

### Replanting and Rejuvenation of Coconut



33% increase in area covered under the scheme "Replanting and Rejuvenation of Coconut" during the period 2014-17 as compared to 2011-14.

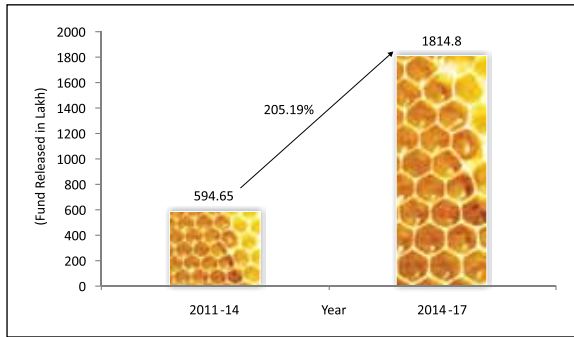


# National Bee Board (NBB)

## Bee Keeping

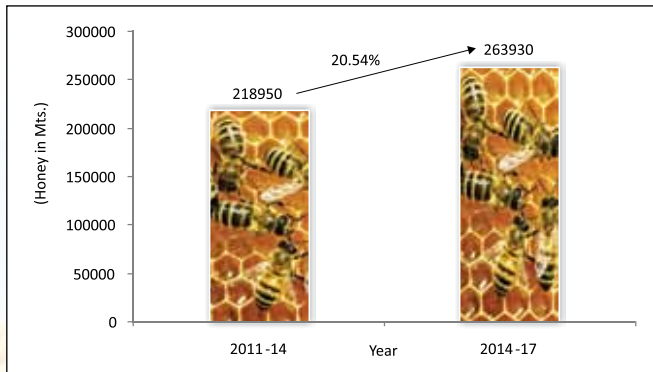
- 6636 beekeepers/beekeeping & honey societies/firms/companies etc. with 10.86 lakh colonies have been registered upto March 31, 2017.

### Fund Released for Promotion of Bee Keeping



Budget for beekeeping has increased almost 205.19% in last 3 years (2014-17) as compared to the period 2011-14.

### Total Honey Production in Metric Tonnes (MTs)



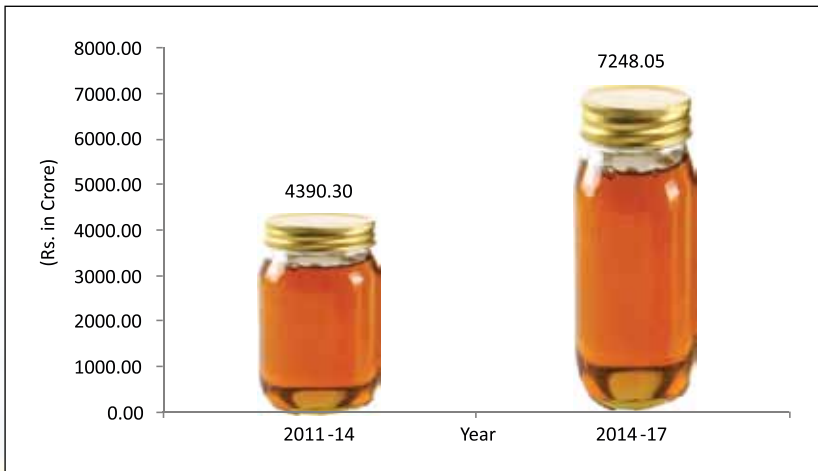
20.54% increase in Honey Production due to increase in assistance and other facilities/support of farmers/beekeepers by NBB.

## Bee Keeping

- ◆ 18223 farmers/beekeepers have been trained in scientific beekeeping by National Bee Board (NBB) upto 2016-17.
- ◆ Honey production increased from 72,300 MTs in 2012-13 to 94,500 MTs in 2016-17.
- ◆ Designed technical standards for food grade plastic containers for storing honey.

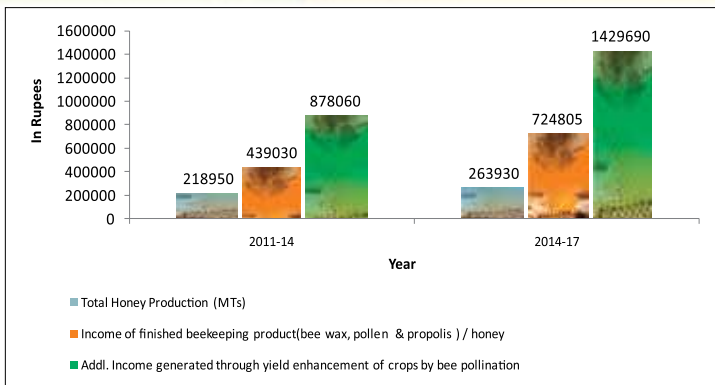


### Income of finished product/honey (Rs. in Crores)



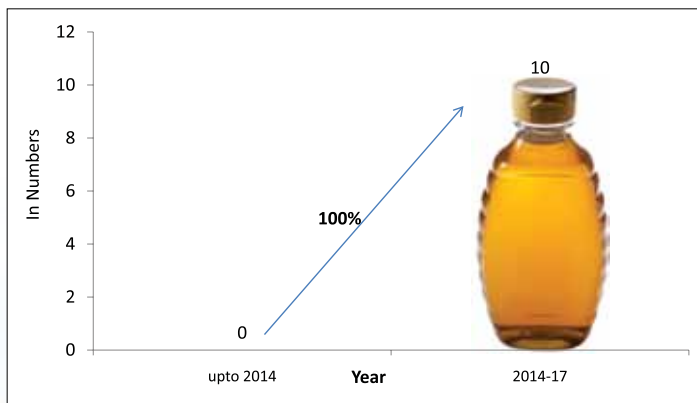
This has been happened due to increase in budget allocation to NBB and training of farmers/ beekeepers , seminars on beekeeping, distribution of bee colonies, hives etc. and other facilitation/support to beekeepers/farmers by NBB.

## Additional income generated through development of beekeeping



Additional income accrued to both beekeepers as well as farmers.

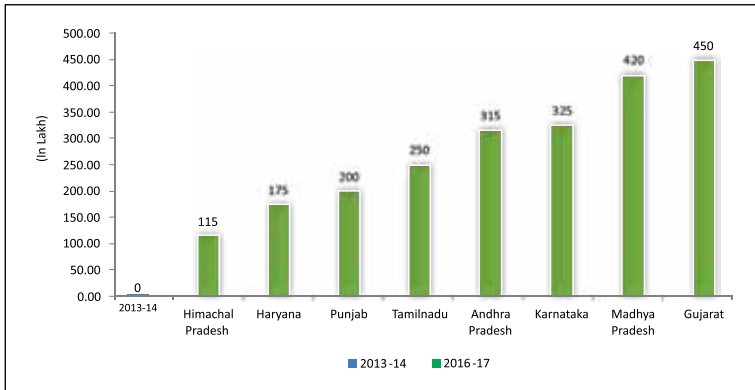
## Number of Integrated Beekeeping Development Centres (IBDCs)/Centres of Excellence (CoEs) Setup/ Approved



10 Integrated Beekeeping Development Centres (IBDCs) have been setup/ approved by NBB during the years 2015-16 & 2016-17 in Haryana, (Dept. of Horticulture, Kurukshetra), New Delhi (IARI, Pusa), Bihar (KVK, Piprakothi), Punjab (PAU, Ludhiana), MP (KVK, Morena), UP (IIVR, Varanasi), Manipur (CAU, Imphal), Uttarakhand (KVK, Dehradun), J&K (SKUAST, Srinagar) and Tamil Nadu (TNAU, Coimbatore).

# Sub Mission on Agroforestry

## Fund Released for Promotion of Agroforestry (Rs. Lakh)



Substantial amount has been released to the states for promotion of Agroforestry.

- ◆ National Agroforestry Policy formulated to augment farmer's income and achieve climate resilience.
- ◆ A dedicated scheme "Sub-Mission on Agroforestry" is launched with aim "HAR MEDH PAR PED" during 2016-17.
- ◆ Budget provision for central share of Rs. 50 crore (RE) for the year 2016-17.
- ◆ Relaxation of transit regulations is pre-requisite for assistance under Sub-Mission on Agroforestry (SMAF).
- ◆ 13 States (2016-17 in 8 states and 2017-18 in 5 states) have relaxed this regulation; and all states is being motivated in this direction.



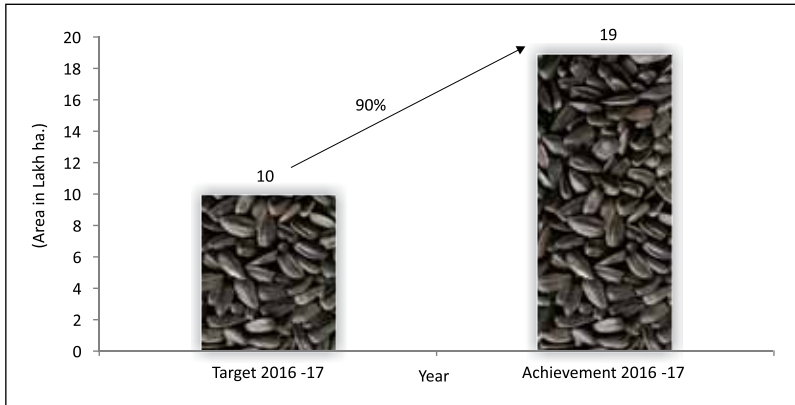
## National Food Security Mission (NFSM)



### Steps taken to increase production of pulses:

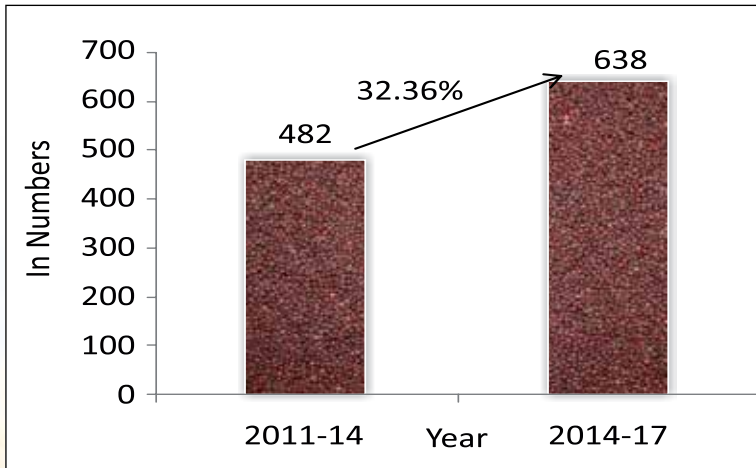
- ◆ A special scheme under RKVY “Targeting Rice Fallow Areas in Eastern India for Pulses” has been initiated from Rabi 2016 to bring rice fallow areas under cultivation.
- ◆ Pigeonpea on rice bunds has been encouraged.
- ◆ 31,000 clusters front line demonstrations through 574 KVKs during 2016-17 have been conducted.
- ◆ 150 seed hubs established in SAUs/KVKs/ICAR institutes for production of quality seeds of pulses.
- ◆ 15% allocation of pulses component of NFSM is earmarked for production of quality seeds from Kharif 2016.
- ◆ After taking above mention efforts the total production of pulses during 2015-16 was 16.35 million tonnes whereas in 2016-17 production has reached upto 22.15 million tonne which is 35.8% increased over the year 2015-16.

## Promotion of Oilseeds and Pulses in Rice Fallows of Eastern States



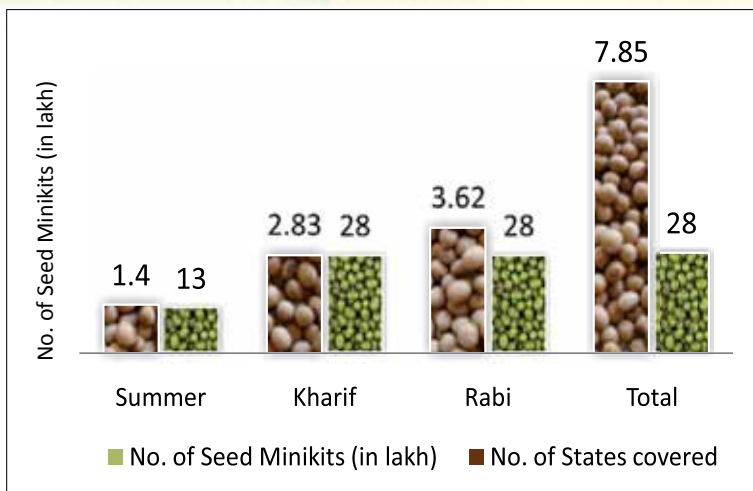
Area under Oilseed and Pulses in rice fallow areas in Eastern India has increased by 90%.

## Numbers of districts covered



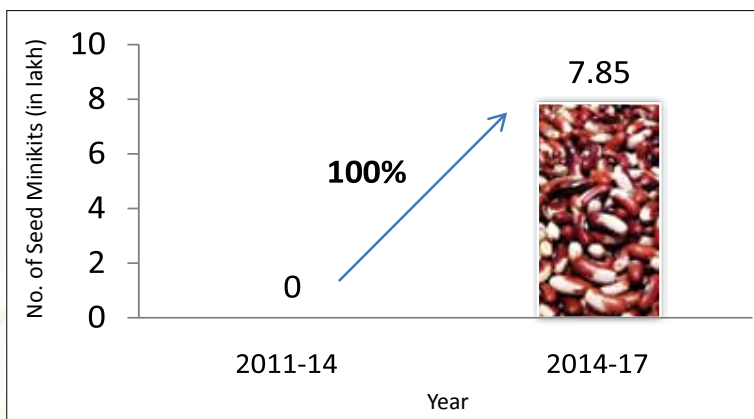
Number of District under NFSM has been increased from 482 to 638 which is almost 32.36 % increase.

## Pulses seed minikits distribution during 2016-17



For the first time, pulses seed minikits were distributed across the entire country.

## Pulses Seed minikits distribution targets under NFSM



This intervention is included under NFSM from Kharif 2016 onwards

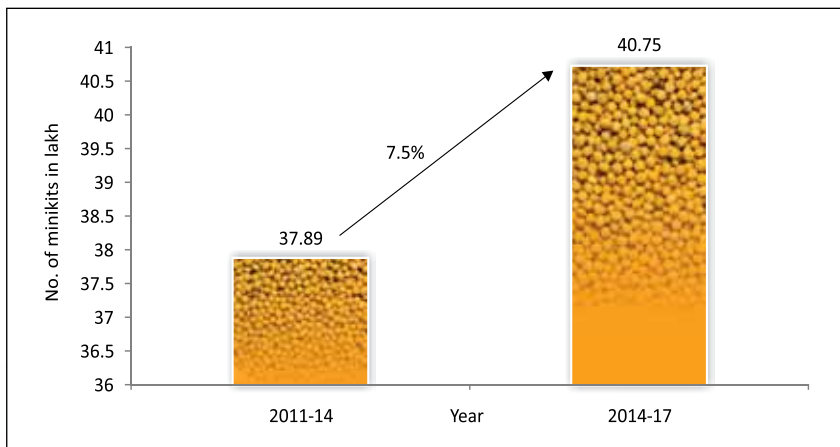


# National Mission on Oilseeds and Oil Palm (NMOOP)

## Oil Seeds

- ◆ NMOOP aims to enhance production of oilseeds from 28.93 million tonnes to 35.51 million tones palm by end of 2016-17.
- ◆ Subsidy on water carrying pipes increased from Rs. 25/- per mt to Rs.50/- per mt for HDPE pipes, Rs. 35/- per mt for PVC pipes and inclusion of HDPE laminated woven lay flat tubes with subsidy of Rs. 20/- mt from Kharif– 2016.
- ◆ Seed subsidy for certified seed distribution oilseeds was increased by more than 100%.

## Distribution of Oil Seeds, Mini-kits of new varieties free of cost to farmers



- ◆ Seed minikit of latest released/ pre-released varieties / hybrids are distributed free of cost to the farmers
- ◆ Central Seed producing agencies are supplying crop-wise minikits as per the indent given by the states.
- ◆ As a result of minikit distribution the variety and seed replacement rate of oilseed crops have been increased in many states.



## Promotion of Oilpalm in the Country

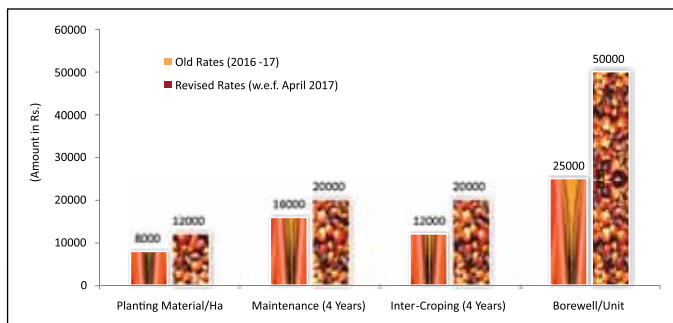
- ◆ NMOOP aims at bringing additional area of 1.25 lakh ha under Oil Palm with focus on productivity improvement of Fresh Fruit Bunches (FFBs).
- ◆ Oil palm growers have been supported through Market Intervention Scheme (MIS) to assured FFBs prices as and when the international price of CPOs falls below \$ 800.

## Cabinet Decision Dated 12th April 2017.

**Decision 1:** In order to encourage large scale plantation under Oil Palm cultivation, assistance has been approved for undertaking plantation in more than 25 ha. area under Oil Palm.

**Decision 2:** Enhanced assistance for the components of Oil Palm such as planting material, maintenance cost, intercropping and Bore-well.

### Increase in Assistance for Various Components of Oil Palm Development



Substantial increase in the rates of Assistance under various components of Oil Palm.



# Plant Protection

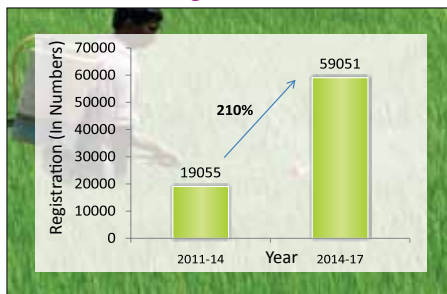
- ◆ As a result of concerted efforts of PP Division, ban on Indian Groundnut has been lifted by Vietnam.
- ◆ Process of pesticides registration has got accelerated with the approval of 59,051 registration certificates during 2014-15 to 2016-17. Majority of backlogs are cleared.
- ◆ The pesticides registration for export has also got accelerated steeply with the approval of 3277 registration certificate during 2014-15 to 2016-17.
- ◆ Requirement of import permit for import of agri-commodities has been abolished.
- ◆ Requirement for renewal of manufacturing licence of pesticides has been removed.
- ◆ IPM Package of Practice for 87 important agricultural crop revised made available online.

## Plant protection pesticides export registration



Increases of 62% in Plant Protection Pesticide Export Registration over 2011-14.

## Plant protection pesticides registration



The number of Pesticide Registration has been increased by 210% on account of better monitoring and use of technology.

## Reforms made in the last three years

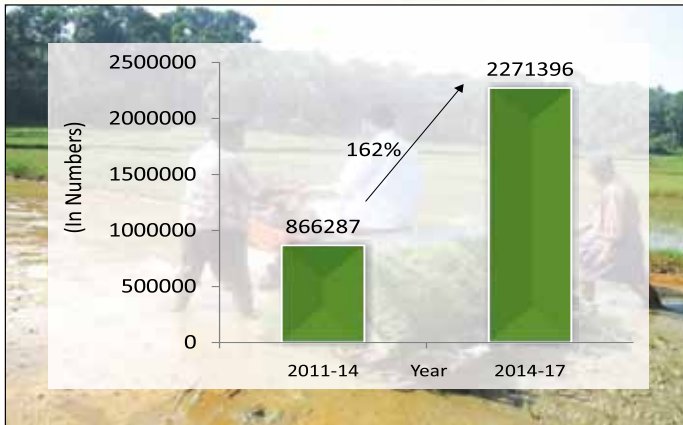
- ◆ Four new Plant Quarantine Station has been opened at Lucknow, Bagdogra, Goa and Port Blair.
- ◆ Under 'Single Window System', the integration of Customs EDI System (ICEGATE) with PQIS at 51 PQ Stations at national level has been implemented through online message exchange system for according import clearance.
- ◆ The online issuance of the phyto-sanitary certificates is in advance stage. Digital signatures of the phytosanitary issuing Officers are being prepared for issuing e-phyto.

# Agricultural Mechanization

A one-day conference on India-Poland Bilateral Cooperation in Agriculture & Allied Sectors was held on March 8, 2017, at NASC complex, Pusa, New Delhi. The conference was co-chaired by Dr. S.K. Pattanayak, Seceratory, Department of Agriculture & Farmers Welfare and Ms. Ewa Lech, Hon'ble Deputy Minister of Agriculture of the Republic of Poland. The conference was attended by Government officers, scientists and industry representative of both the countries. The conference apprised both sides on the latest developments of the activities in the fields of seed, horticulture, animal husbandry, plant protection, machenization, food processing and allied agriculture sectors. Both the countries reaffirmed their commitment to maintain close contacts through the established channels. Both sides will continue to foster cooperation in priority fields of mutual interest.

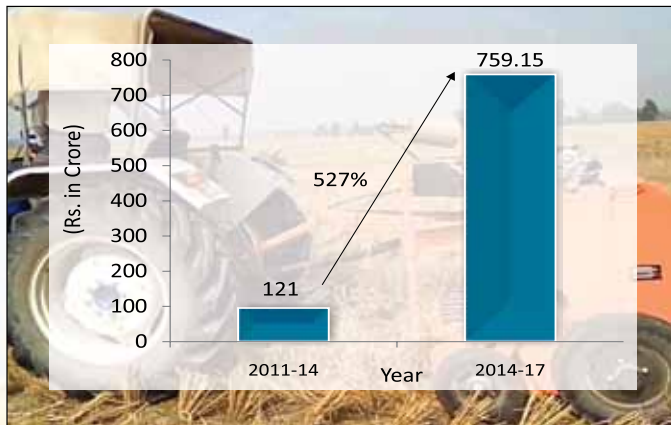


## Numbers of machinery distributed to farmers



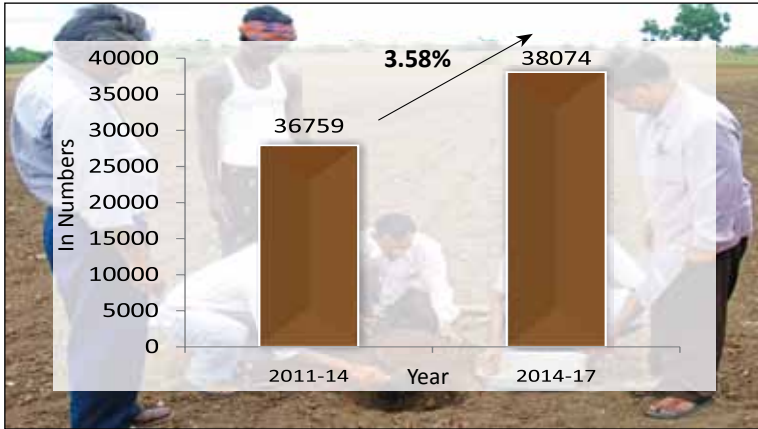
An increase of 162% in number of machineries distributed to farmers under various schemes during 2014-17 as compared to the number of machinery distributed during 2011-14.

## Allocation of funds



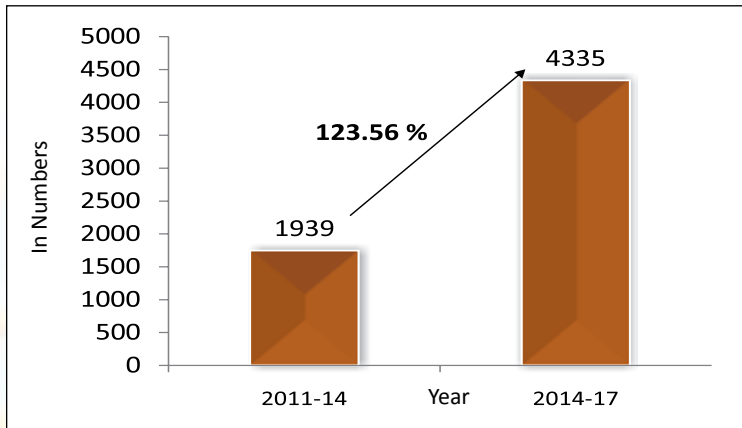
Allocation of funds increased almost by 527 % in 2014-17, under Agriculture Machanization as compared to allocation of funds during 2011-14.

### Numbers of trainees trained of FMTTIs



More Number of trainees trained at FMTTIs and State Agriculture Departments during 2014-17 as compared to number of trainees trained during 2011-14.

### Numbers of machinery tested



123.56 % increase in Machinery Tested during 2014-17 as compared to during 2011-14.

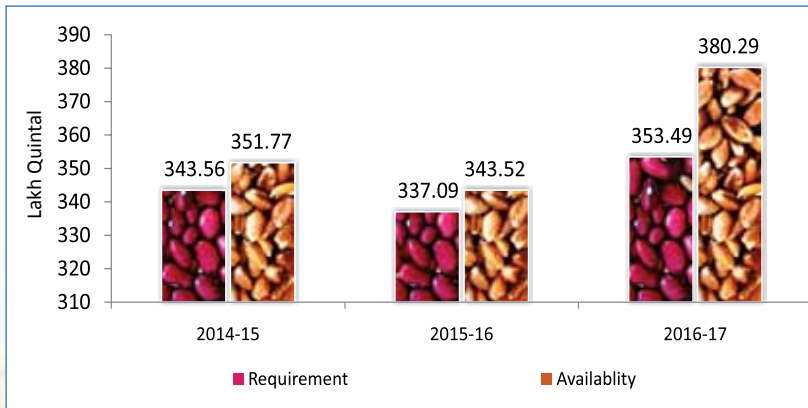
# Seed

## Initiatives and Achievements of the Seed Devison

- ♦ The Department has issued Cotton Seed Price Control Order, 2015 under Section 3 of the Essential Commodities Act, 1955 for regulating the maximum sale price (MSP) of Bt cotton hybrid seeds. The maximum sale price of Bt cotton seed for Kharif 2016 was as under:

BG I Cotton	BG II Cotton
Rs. 635/- (with zero trait value) as per pkt. of 450 grams.	Rs. 800/- (with Rs. 49/- trait value) as per pkt. of 450 grams.

- ♦ The same maximum sale price of Bt cotton seeds for Kharif 2017 was retained at par with Kharif 2016.
- ♦ In the last three years, 96,778 Seed Village Programmes were organised and 316.31 lakh Qtl. seed were produced involving 66.56 lakh farmers under Seed Village Programme.
- ♦ Proposals for transfer of Germplasm/plant genetic resources under Multilateral Systems of the International Treaty on Plant Genetic Resources for Food and Agriculture (ITPGRFA) were examined and 3158 accessions of various crops were recommended for export to various countries.

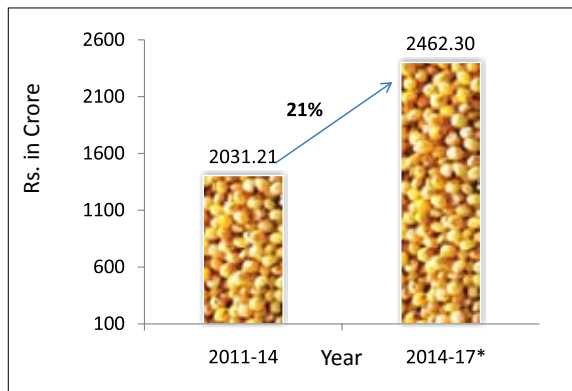


Due to effective implementation of GoI schemes, availability of certified / quality seeds are adequately available than the requirement.

## National Seed Corporation (NSC)

- ◆ 661 varieties of agricultural crops and 136 varieties of horticulture crops were released and notified during the period 2014-15 to 2016-17.
- ◆ 528 cases for export and 579 cases for import of seeds and planting material were recommended by the EXIM committee during the period 2014-15 to 2016-17.

### National Seed Corporation Turnover

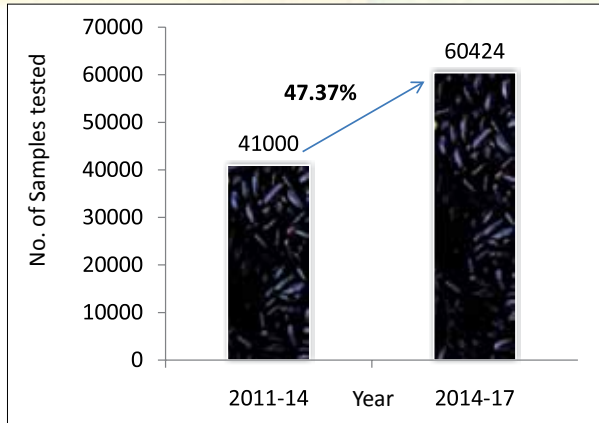


21% increase in turnover of NSC during 2014-17 as compared to 2011-14 due to more sale of seeds of crops and vegetables.



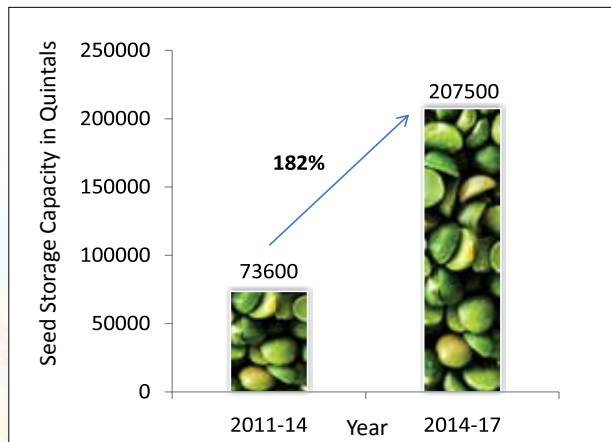


## Seed Samples Tested



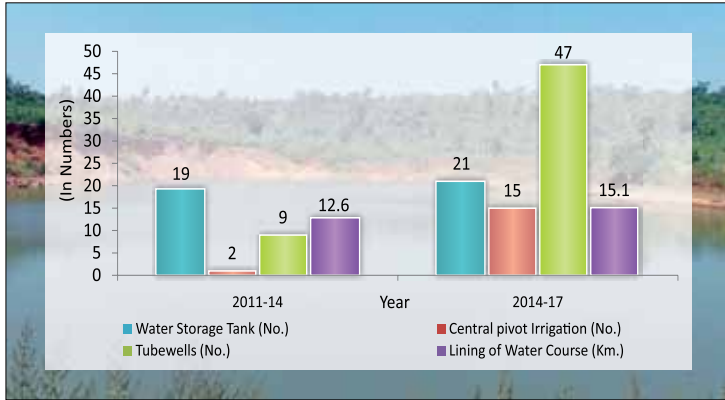
47.37% more Seed samples have tested in 2014-17 as compared to previous 3 years (2011-14). Seed sample were increased due to increase in total seed production during 2014-17.

## Seed Storage Capacity Created



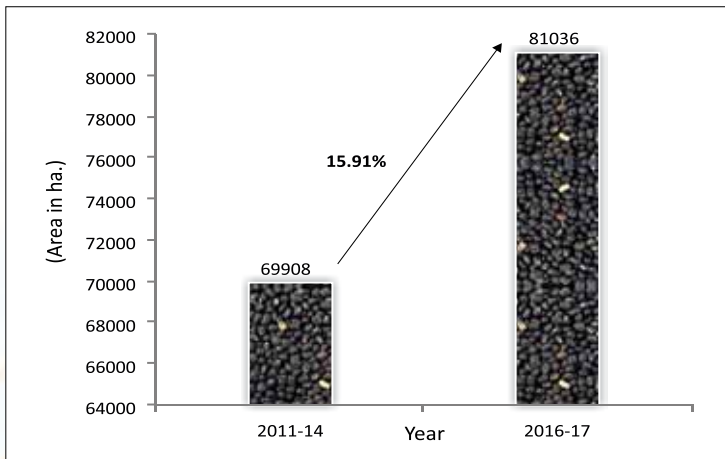
182% more storage capacity created to minimize outflow of expenditure on rent.

## Water storage infrastructure



Reason for increasing the water storage tank were (a) To store surplus canal water and Rainfall (b) Saving of water compare to flood irrigation (c) To overcome problem of irrigation water (d) To reduce seepage losses.

## Comparative Area Expansion in Pulse Seed Production for 3 Years



Area expansion in pulses seed production (a) due to special attention of Gol to increase pulse production. (b) subsidy on pulses varieties released in 15 years against 10 years.

## Protection of Plant Varieties & Farmers Rights Authority (PPV&FRA)

Three New Branch Offices of PPV&FR Authority have been approved recently for establishment at Palampur (H.P.) which will cover the States of Northern Hill Zone, another at Pune (Maharashtra) which will cover the Central and Western Zone States and third one at Shivamogga (Karnataka) for Southern States.

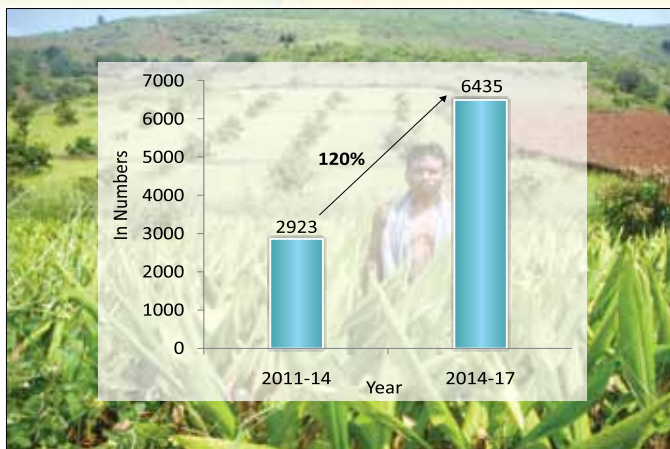


Shri Radha Mohan Singh, Hon'ble Union Minister of Agriculture and Farmers Welfare, Govt. of India conferring Plant Genome Saviour Award of Rs. 10 Lakhs with Memento and Citation to the Representatives of Community of Kharchi Village, Rajasthan for their unique salt tolerant wheat on 24 August 2016 at IARI, Pusa, New Delhi. Hon'ble Minister of State for Agriculture & Farmers Welfare and Panchayati Raj, Sh. Parshottam Rupala, Hon'ble Minister of State for Agriculture & Farmers Welfare Sh. Sudarshan Bhagat also graced the occasion.



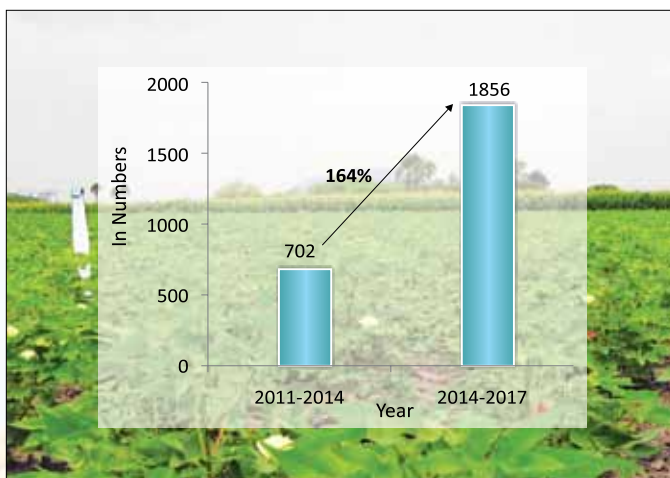
On 19th April, 2017 at Motihari, East Champaran, Bihar 5 Plant Genome Saviour Community Award, 10 Plant Genome Saviour Farmers Reward and 20 Plant Genome Saviour Farmers Reorganization Award were conferred by Hon'ble Union Minister of Agriculture.

## Application received under PPV&FR Act, 2001



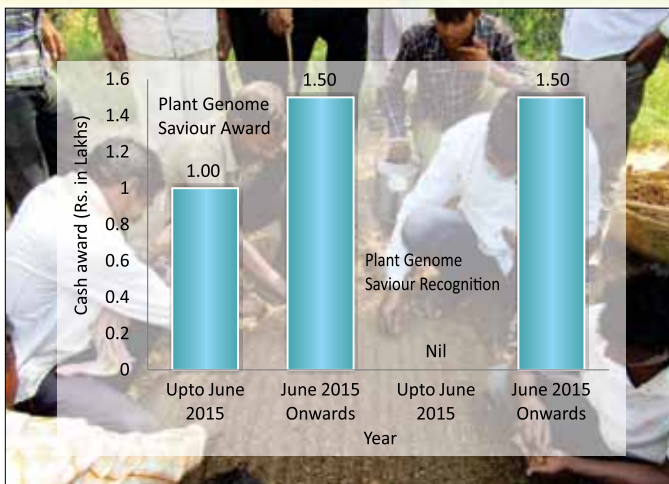
Under PPV&FRA, 120% increase in application received during 2014-17 as compared to the year 2011-14.

## Varieties registered under PPV&FR Act, 2001



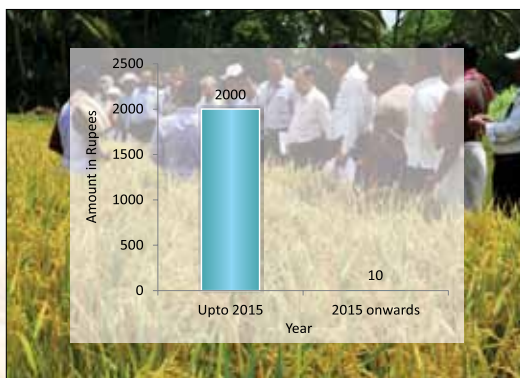
Under PPV&FRA, 164% increase in Varieties registered during 2014-17 as compared to the year 2011-14.

## Enhancement of cash for plant genome saviour awards under PPV&FR ACT



The Government through a Gazette notification 495 (E) dated 15 June 2015 decided that the amount of cash award shall be decided by the Central Government. Accordingly, the Central Government enhanced the amount of cash reward for “Plant Genome Saviour” Farmer Award from Rs.1.00 lakh to Rs.1.50 lakh and for Farmers’ Recognition from Nil to Rs. 1.00 lakh.

## Reduction of annual fee of farmers’ varieties under PPV&FR ACT

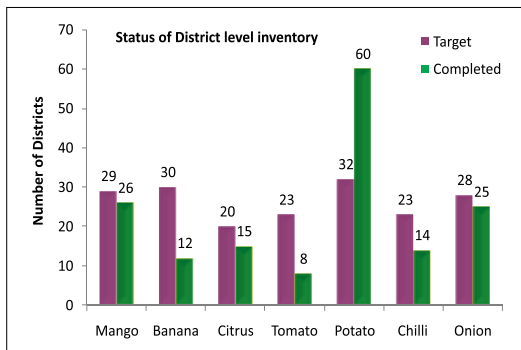


The Government through a Gazette notification S.O. 1598(E) dated 15 June 2015 reduced the Annual fee of Farmers Varieties from Rs. 2000 to Rs. 10.

# Mahalanobis National Crop Forecast Centre (MNCFC)

## CHAMAN (Coordinated Horticulture Assessment and Management using geo-Infomatics)

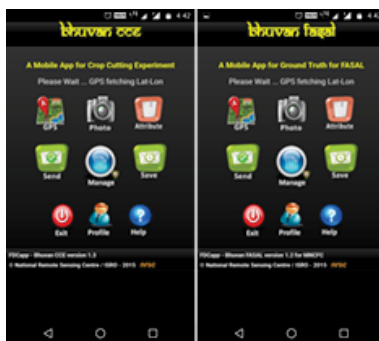
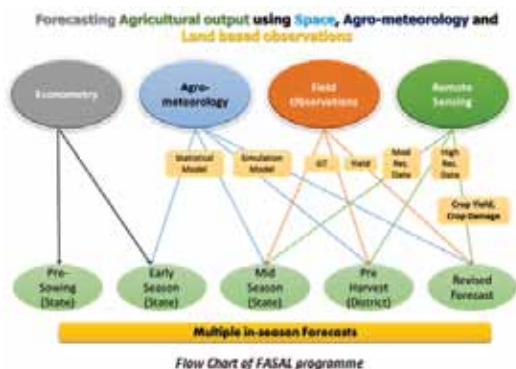
- ◆ Launched in September 2014.
- ◆ Use of Remote Sensing and GIS for crop area and production assessment of 7 horticultural crops in 159 districts (Target 185).
- ◆ Use of Remote Sensing for horticultural development planning in Site Suitability, Orchard Rejuvenation, Post-Harvest Infrastructure, Aquahorticulture.
- ◆ Using sample survey methodology for area and production assessment of all major fruits and vegetables, field work for Phase-I work completed in 4 States, viz., Maharashtra, himachal Pradesh, Tamil nadu and Andhra Pradesh and field work of Phase-II is in progress.



Identification of Priority villages in Darbhanga District of Bihar for Makhana cultivation

## FASAL (Forecasting Agricultural output using Space, Agro-meteorology & Land based observations)

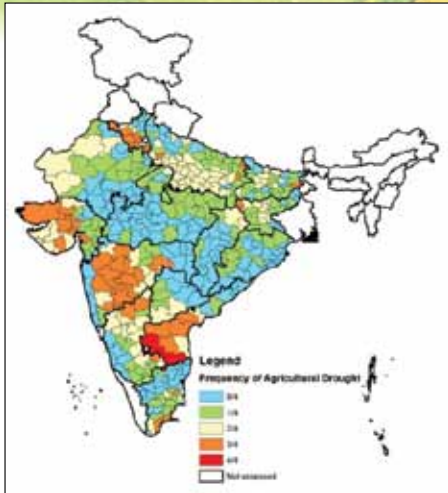
- ◆ Use of Remote Sensing for Pre-harvest Crop Production Forecasting of 8 major crops in the Country.
- ◆ Estimations at District/State/National Level.
- ◆ Smartphone based Field Data Collection and geocoding of Crop locations.
- ◆ Remote sensing based yield model development.
- ◆ Capacity Building of State Agriculture Department Officials.



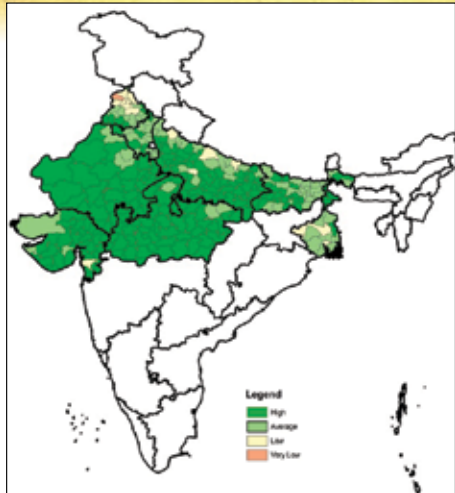
*CCE and Ground Truth App*

## NADAMS (National Agricultural Drought Assessment and Monitoring System)

- ◆ Periodic Agricultural Drought Monitoring, during Kharif Season, using satellite, ground and meteorological Data.
- ◆ District and Sub-district level drought assessment for 14 major agricultural and drought-prone states of India.
- ◆ Rabi season crop alerts using satellite data.
- ◆ Crop damage assessment caused by floods, hailstorms and pest/disease.



District Level Drought Frequency map as assessed under NADAMS



Rabi Season Vegetation Health Index during January, 2017

## KISAN (C[K]rop Insurance using Space technology and geo-informatics)

- ◆ Launched in October 2015.
- ◆ Use of high resolution remote sensing from Satellite and UAV for improved crop yield estimation.
- ◆ Crop Cutting Experiment (CCE) site selection for Rice, Cotton and Rabi Sorghum districts in Karnataka under PMFBY
- ◆ Development of Protocols for quality checking of CCE Data.
- ◆ Development of methodology for smart sampling of CCE.



UAV/Drone Imaging



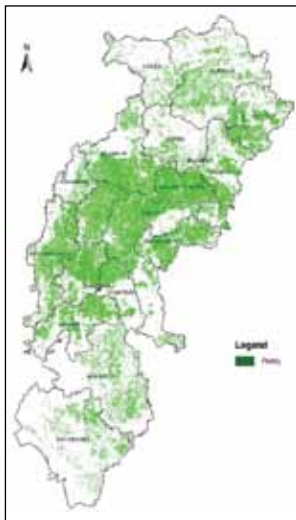
Crop Cutting Experiment



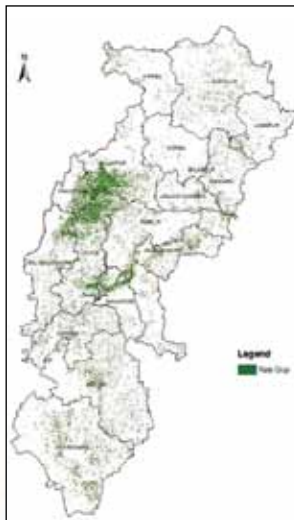
## Crop Intensification in post kharif rice-fallow area

- ◆ Launched in September 2016.
- ◆ Objective: Rice-Fallow area assessment and characterisation for crop intensification for Rabi Pulses in 6 states.
- ◆ Rice area mapping in Chhattisgarh, Odisha and West Bengal.
- ◆ Post Kharif Rice Fallow area mapping in Chhattisgarh.
- ◆ Block level suitability analysis for 2 districts each in Chhattisgarh and Odisha.

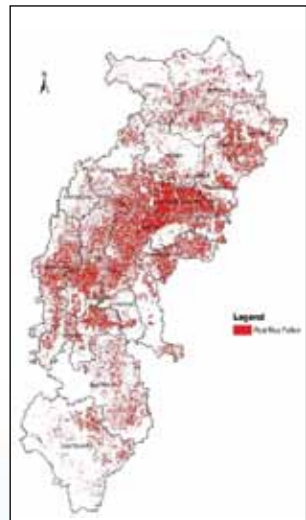
Paddy Crop Area (2015-16) Chhattisgarh



Rabi Crop Area (2015-16) Chhattisgarh



Post Rice Fallow (2015-16): Chhattisgarh



# Climate Change

## Impact of Climate Change

- ◆ The impact of climate change on agriculture has large detrimental effects on availability of food, livelihoods and the overall economy.
- ◆ Small & Marginal farmers pastoralists and fisher folk are affected.
- ◆ Agriculture has contributed 18% of the total emission in India. Major Contributor in GHG: Enteric fermentation, Paddy cultivation, fertilisers & crop residue burning.

CLIMATE CHANGE RISKS		Contributory Factors	Recommended Practices
DIRECT EFFECT	INDIRECT EFFECT		
❖ Productivity	❖ Soil Fertility	<input type="checkbox"/> Submerged rice cultivation	<input type="checkbox"/> Efficient use of water/ water harvesting
❖ Quality of Produce	❖ Live stock & Fishery	<input type="checkbox"/> Unscientific use of fertilizer	<input type="checkbox"/> Climate resilient crop varieties
	❖ Soil & Water Resources	<input type="checkbox"/> Gas emission from livestock	<input type="checkbox"/> Crop diversification & crop alignment
	❖ Crop Health	<input type="checkbox"/> Low organic matter in soil	<input type="checkbox"/> Organic Farming
			<input type="checkbox"/> Soil Health Card based Integrated Nutrient Management
			<input type="checkbox"/> Feed Management of livestock
			<input type="checkbox"/> Agroforestry

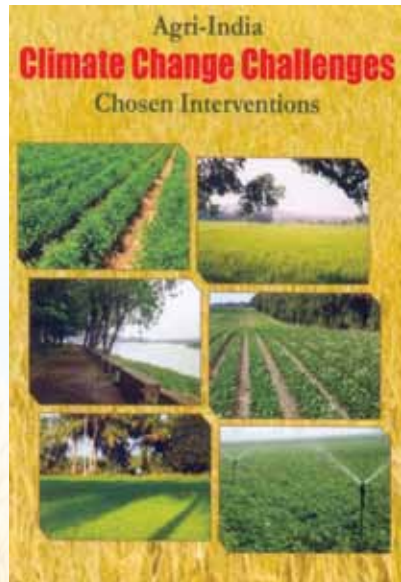
Union Government Schemes and Policy Initiatives	
➤ Soil Health Card Scheme	➤ National Initiative and Climate Resilient Agriculture
➤ Pradhan Mantri Krishi Sinchayee Yojana	➤ National Mission on Sustainable Agriculture
➤ Paramapagat Krishi Vikas Yojana	➤ National Agroforestry Policy
➤ Sub-Mission on Agroforestry	➤ National Policy for Management of Crop Residues
➤ Mission for Integrated Development of Agriculture	➤ Ration Balancing Programme
➤ National Mission on Agriculture Extension and Technologies	

# Climate Change & Agriculture

## Actions & Progress

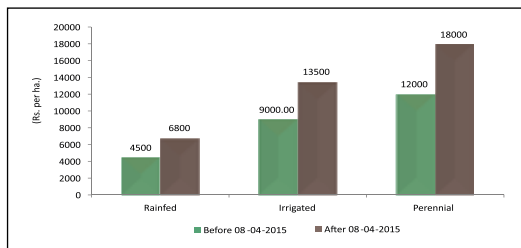
### Chosen interventions of National Mission for Sustainable Agriculture (NMSA) under National Action Plan on Climate Change (NAPCC):

- ◆ Representation in Conference of Parties-21 (COP-21) under the United Nations Framework Convention on Climate Change (UNFCCC). Facilitation of Paris Agreement issues related to Agriculture Sector.
- ◆ Representation in Conference of Parties-22 (COP-22) at Morocco under the United Nations Framework Convention on Climate Change (UNFCCC).
- ◆ Ratification of Paris Agreement issues related to Agriculture Sector.
- ◆ Participation in five review meetings Executive Committee on Climate Change of Prime Minister's Council on Climate Change (PMCCC) under National Action Plan on Climate Change (NAPCC).
- ◆ A draft vision document for 15 years i.e. upto 2030 with 7 year Strategy and 3 year action plan on Sustainable Development Goals (SDGs) has been submitted to NITI Aayog.
- ◆ Published booklet on initiatives related to climate change.
- ◆ During last four years 18.64 lakh ha area under Organic Farming, 24.22 Lakh ha area under Precision Irrigation, 8.14 Lakh ha under SRI/DSR Rice Cultivation, 2.59 Lakh ha area under Crop Diversification and 7.48 Lakh ha additional area under plantation in arable land has been brought.
- ◆ 57 New genotypes with enhanced CO<sub>2</sub> fixation potential have been identified.
- ◆ 55 New Climate Resilient varieties have been released.
- ◆ 21.66 lakh milch animals covered under Ration Balancing Programme.



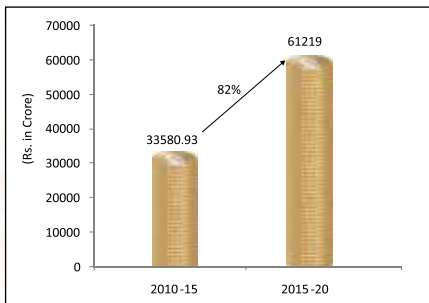
# Drought Management

- ◆ Norms for assistance for all categories increased by 1.5 times.
- ◆ The threshold for eligibility for assistance due to crop loss lowered to 33% from 50%.
- ◆ The admissibility for assistance raised from 1 ha. to 2 ha. in all cases.
- ◆ The financial assistance paid to the farmers in the event of death increased to Rs. 4 lakh from Rs. 1.5 lakh.
- ◆ To execute relief assistance to the effected persons due to natural calamities, first time, UT-DRF fund has been created with an allocation of Rs. 50 crore.



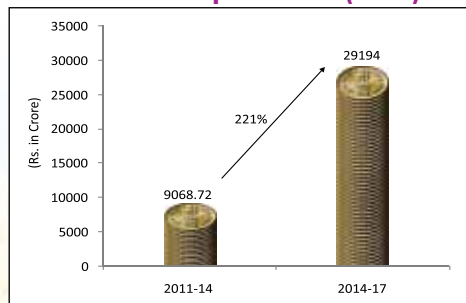
Norms for assistance for all categories increased by 1.5 times.

## Allocation of the Funds to States under State Disaster Response Fund (SDRF)



Allocation of Funds to states under SDRF has increase 82% during 2014-17 as compared to 2011-14.

## Central Assistance Approved to States by Gov. under National Disaster Response Fund (NDRF)



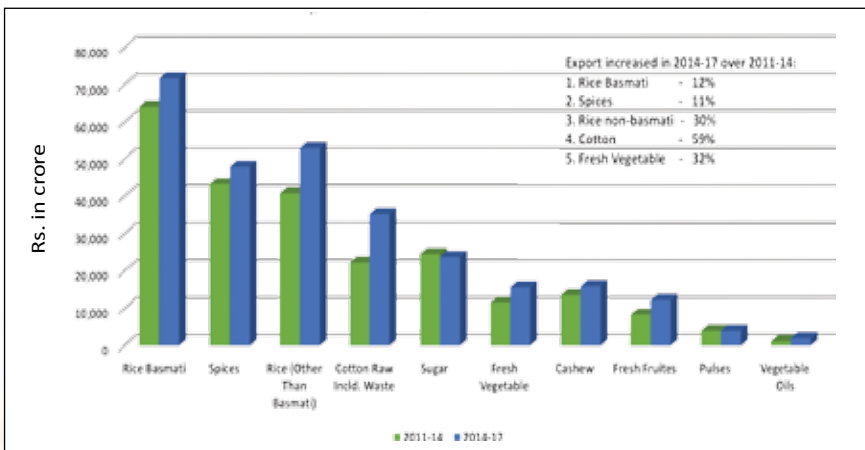
Assistance of Fund under NDRF to states as increase 215% during 2014-17 (Rs. 28605.38 crore) as compared to year 2011-14(Rs. 9068.72 crore) while states of Karnataka, Kerala and Pondicherry are under consideration.

# Trade

## Steps Taken for increasing Agriculture Export

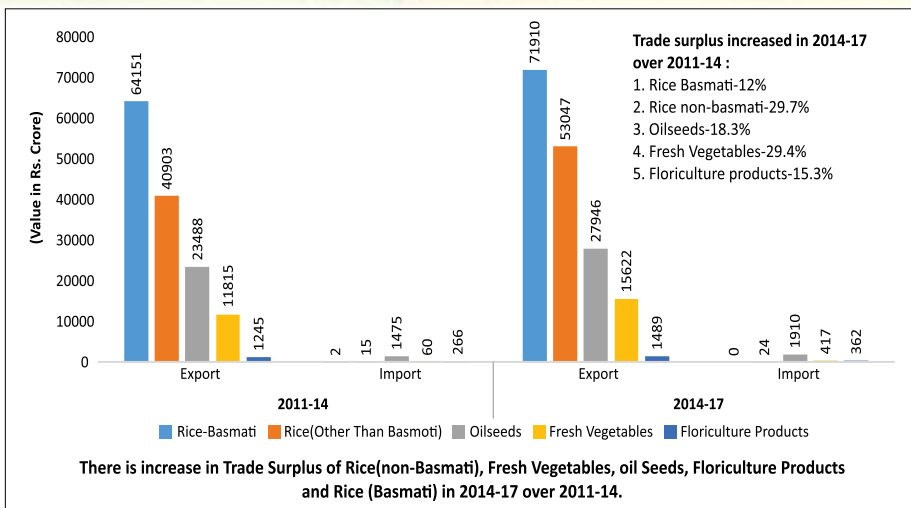
- ◆ Import duty on wheat was raised from zero to 10% with effect from 28.3.2017.
- ◆ Import duty on Tur (Arhar) was raised from zero to 10% with effect from 28.3.2017.
- ◆ Export restriction (packaging norms) were relaxed for edible oil (sesame oil, groundnut oil, soybean oil, and maize (corn) oil) by reviewing the packaging restriction w.e.f. 27th March, 2017.
- ◆ Import duty on crude edible oil was increased from 7.5% to 12.5% and refined edible oil from 15% to 20% w.e.f. 17.9.2015.
- ◆ Import duty on sugar was raised from 25% to 40% with effect from 30.4.2015.

## Export of Major Agri-Item from 2011-14 to 2014-17



There has been substantial increase in Export of Cotton, Fresh fruits, Fresh vegetables, Rice (non-Basmati), Rice (Basmati) in 2014-17 over 2011-14.

## Trade Surplus of major agri-items during 2011-14 to 2014-17



# National Cooperative Development Corporation (NCDC)

- ◆ National Cooperative Development Corporation (NCDC) gives comprehensive support to cooperative sector in terms of government grant and loan.

## Disbursement of amount by NCDC



During the year 2014-17, Rs. 28771.31 crore has release which is 89.98% more as compare to year 2011-14 (Rs. 15143.76 crore).



# Information Technology

## Launch of Kisan Suvidha Mobile App



Kisan Suvidha App was launched by Hon'ble PM on 19 March, 2016.

**Kisan Suvidha App:** This app provides information to the farmers on critical parameters viz Weather, Plant Protection, Input Dealers, Agro-advisories and Market Prices, etc.

Downloads till March 31, 2017: 424752



**Pusa Krishi mobile app** has been launched by Union Agriculture Minister on March 21, 2016 to help farmers to get information about technologies developed by IARI to realize the dream “LAB to LAND” of our Prime Minister.

Downloads till March 31, 2017: 29086







**Crop Insurance mobile app** is used to calculate the Insurance Premium for notified crops based on area, coverage amount and loan amount in case of loanee farmer. It can also be used to get details of normal sum insured, extended sum insured, premium details and subsidy information of any notified crop in any notified area.

Downloads till March 31,2017:21230

**AgriMarket app** is used to fetch the market price of commodities from markets within the range of 50 km of the device's location using mobile GPS.

There is another option to get price of any market and any crop in case person does not want to use GPS location.

Downloads till March 31, 2017:32148



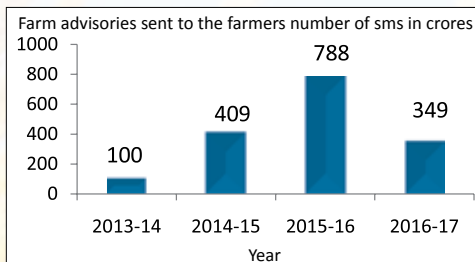
## CCE Agri – Mobile App



- ◆ CCE Agri mobile app has been developed to digitize the information of crop cutting experiment conducted in field.
- ◆ It automatically captures the location of field through GPS.
- ◆ Photographs and data captured through the app are transfer to web server immediately.
- ◆ Reduced claim settlement time and a level of transparency has achieved.
- ◆ Experiments done till March 31,2017:235935

## Crop Insurance Portal

- ◆ The only Portal for all stakeholders including Farmers, States, Insurance Companies & Banks
- ◆ Both Insurance Schemes viz. PMFBY and WBCIS Covered
- ◆ Information to Farmers on Premium, Cut Off Dates & Company Contacts for their Crop & Location on Web and through mobile app.
- ◆ Insurance Premium Calculator and Creation of Database of Notified / Allotted Dynamically
- ◆ Farmer’s Application for Loan / Insurance and its Integration with Banks
- ◆ Total downloads: 21230.



### SOCIAL MEDIA ACTIVITIES:

Facebook: [www.facebook.com/agrigoi](http://www.facebook.com/agrigoi)

Likes: 8487

Twitter @agrigoi

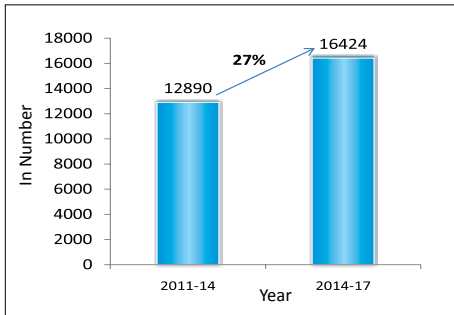
Followers: 49000

Youtube Channels: AgricultureIndia &

Videos: 1200

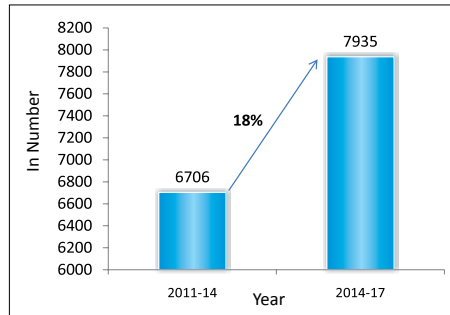
# Agricultural Extension

## Candidates Trained Under Agri-Clinics & Agri-Business Centres (AC&ABC)



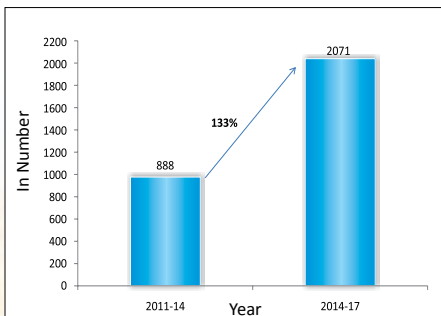
Substantial increase in the candidates trained under AC&ABC scheme during 2014-17.

## Agri Ventures Established Under Agri-Clinics & Agri-Business Centres (AC&ABC)



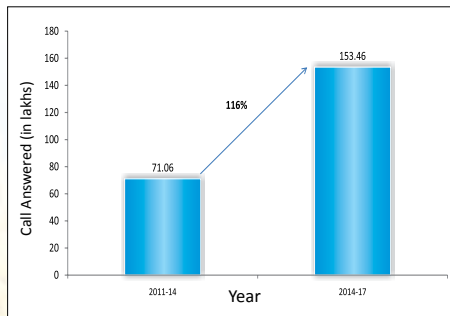
Substantial increase in the Agri-Ventures established under AC&ABC scheme during 2014-17.

## Input Dealers Trained Under Diploma in Agricultural Extension Services for Input Dealer (DAESI)



Substantial increase in the Input Dealers trained during 2014-17.

## Calls Answered at Kisan Call Centre: 1800-180-1551



Substantial increase in the number of calls answered at Kisan Call Centre during 2014-17.

## Skill Development in Agriculture:

- ◆ First time during 2016-17, skill training programme conducted by DAC&FW from RKVY funds in collaboration with Extension Division of ICAR and Agriculture Skill Council of India.
- ◆ Accredited 100 KVKs and 8 Training institutes by Agriculture Skill Council of India (ASCI) for skill training during 2016-17.
- ◆ Rs. 3.52 crores sanctioned for conducting 216 skill training during 2016-17; 206 training programmes have been organised.
- ◆ 168 QPS developed by ASCI for skill training in agriculture and allied sector.



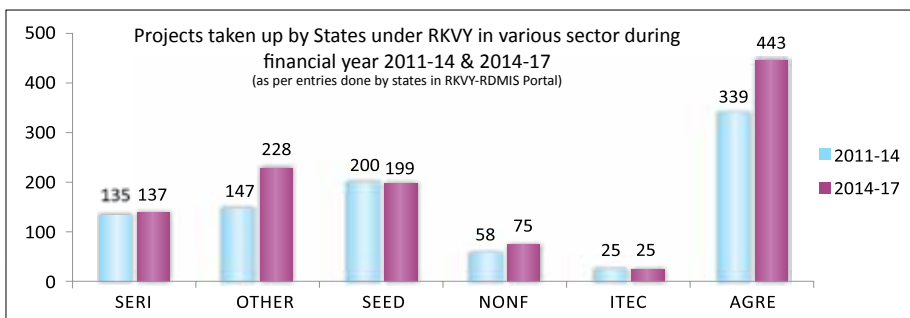
National Skill Development Workshop, "Kaushal Vikas Se Krishi Vikas" has been organised by DAC&FW on January 5, 2017 at New Delhi.



Regional Skill Development Workshop has been organised by MANAGE at Hyderabad on February 20, 2017 for Southern States.

# Rashtriya Krishi Vikas Yojana (RKVY)

- ♦ Government launched revised RKVY Scheme in 2014-15 to provide more flexibility to the State for boosting investment and enhancing productivity in agriculture and allied sector.
- ♦ Sub-scheme on Targeting Rice Fallow for Pulses & Oilseeds was introduced under RKVY as special scheme during 2016-17. The Allocation of Sub-Scheme was Rs. 50 crore.
- ♦ In order to address the problem of soil acidity, alkalinity and salinity, a sub scheme of Reclamation of Problematic Soils was introduced under RKVY in 2016-17. The Allocation of Sub-Scheme was Rs. 50 crore.
- ♦ During 2014-15 to 2016-17 Maharashtra, Karnataka have taken up 5 projects under Public Private Partnership for Integrated Development of Agriculture.
- ♦ During 2014-15, Additional Fodder Development Programme was initiated under RKVY to address the fodder needs of cattle in drought affected states. During 2014-15, 2015-16 AND 2016-17 an amount of Rs 78.14 crores was released to the states.



SERI = Sericulture | OTHER = Innovative programme | NONF = Non Farm Activities  
ITEC = Information Technology | AGRE = Agri/Horti/Animal Husbandary

Substantial increase in the projects under RKVY.



# International Cooperation



## Bilateral Cooperation (MoU / MoC / Agreements / Work Plans)

- ◆ DAC&FW has signed a Memorandum of Understanding (MOU) on cooperation in the field of agriculture and its allied sectors with 9 countries during the last three years:– Armenia, Madagascar, Lithuania, Japan, Kyrgyzstan, Portugal, Kenya, Mauritius and UAE.
- ◆ An MoU was signed by Govt. of India with UN-World Food Programme on 18th Aug. 2015 and the Global Crop Diversity Trust (GCDDT), Bonn, Germany on 7th Nov. 2016.



## International Events

- ◆ Brics Agriculture Minister's Meeting: The Department successfully organized the 6th meeting of Agriculture Ministers of the BRICS countries on September 23, 2016 in New Delhi.
- ◆ MoA&FW in collaboration with FICCI successfully organized the India Africa-Agribusiness Forum, at New Delhi on 10-11th February, 2016 in which several Ministers, Government officials and company representatives participated.

# Swachhta Pakhwada



## एक कदम स्वच्छता की ओर

- ◆ 271 Agricultural Mandis were covered in Swachhta Drive during the Pakhwada and cleaning drives were also undertaken in Krishi Bhawan Hqr. as well as attached offices.
- ◆ It has been decided to make provision of Rs. 5 lakhs each mandi for setting up waste management plants under e-NAM scheme.
- ◆ It was decided to formulate a solid & liquid waste management in agriculture plan as a Sub Scheme of Rashtriya Krishi Vikas Yojana (RKVY) for which 1% of the allocation of RKVY be made under this sub scheme for release to the states.
- ◆ A video conference was held on 27.10.2016 with representatives of States/UTs and they have been briefed about the “Swachhta Pakhwada Activities”. They have also been requested to make adequate provisions in their existing Schemes to prepare Compost from farm wastes.
- ◆ During 16th to 31st May 2017 again Swachh Pakhwara organized by different Divisions of this depratment in Agriculture and Mandies.









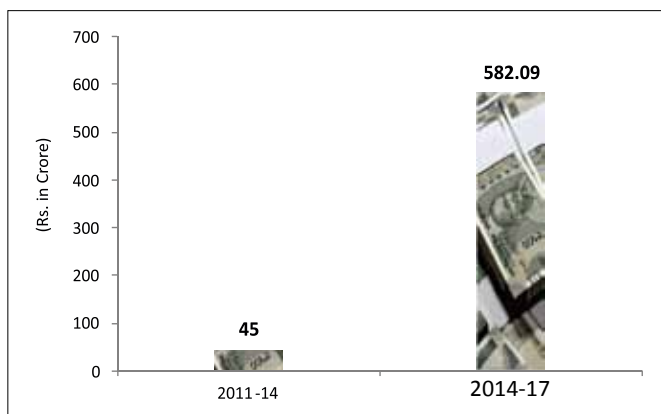
**Department of Animal Husbandry,  
Dairying & Fisheries**



# Dairy Development – Rashtriya Gokul Mission

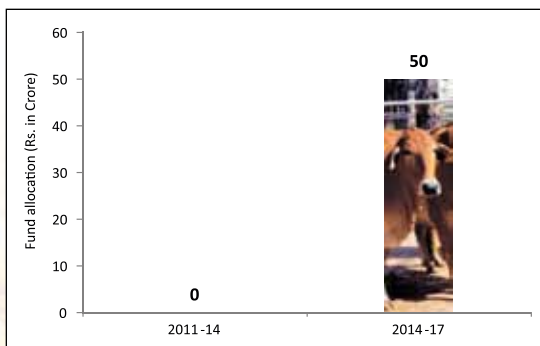
## Funds sanctioned for Development and Conservation of Indigenous Breeds

Rashtriya Gokul Mission has been started with manifold increase in budget allocation for Development and Conservation of Indigenous Breeds in a scientific and holistic manner.



Budget allocation 13 times more during last three years compared to 2011-14.

## National Kamdhenu Breeding Centre

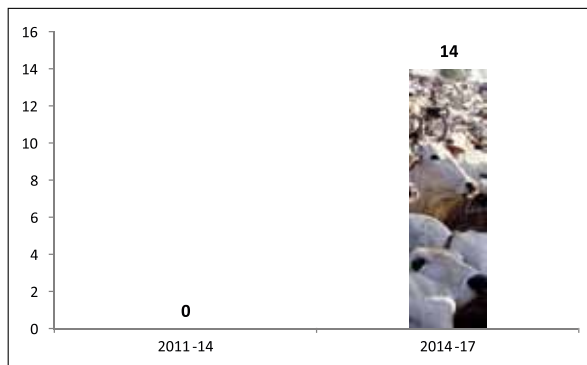


Two new National Kamdhenu Breeding Centre (one in north India- Itarsi, Hosangabad District in Madhya Pradesh and one in the south India- Chintladevi, Nellore District in Andhra Pradesh) are being set up for which an amount of Rs. 50 crore has been released (Rs 25 crore to Madhya Pradesh and Rs 25 crore to Andhra Pradesh).

## Rashtriya Gokul Mission

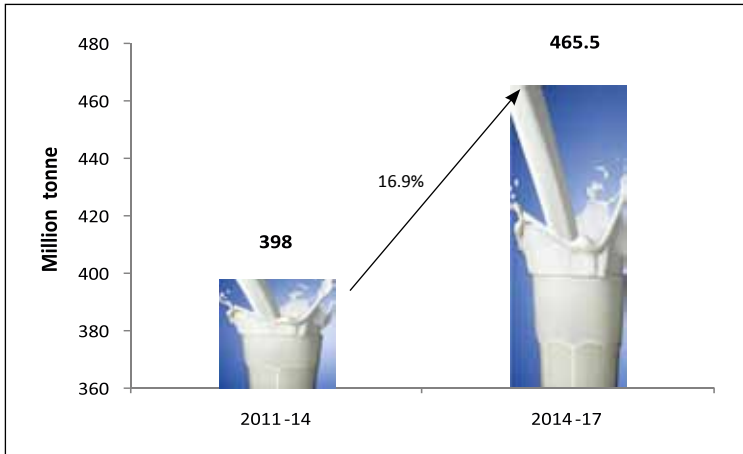
First time in the country- Focus on development and conservation of Indigenous Breeds under Rashtriya Gokul Mission

### Establishment of Gokul Gram



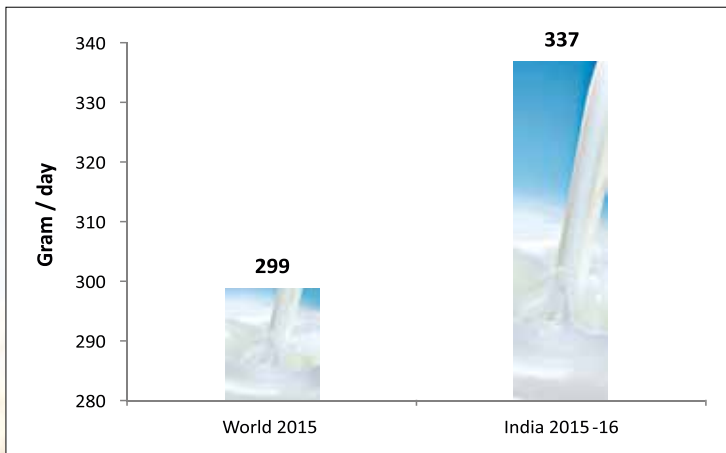
- ◆ First time in the country for development and conservation of indigenous breeds 14 gokul grams are being established. Under the Rashtriya Gokul Mission scheme, approval given for establishment of 14 Gokul Grams {3 in Maharashtra, 1 in Punjab, 2 in Chhattisgarh, 1 in Andhra Pradesh, 2 in Gujarat, 2 in Uttar Pradesh, 1 in Madhya Pradesh, 1 in Karnataka and 1 in Haryana }.
- ◆ Funds approved and first instalment released for strengthening 41 bull mother farms of indigenous bovine breeds.
- ◆ 3629 bulls of indigenous breeds inducted by the States for natural and 81 bulls of indigenous breeds have been inducted at the semen stations for semen production.
- ◆ Funds approved for establishing separate line for marketing of A2 milk in the State of Karnataka and Odisha.
- ◆ Funds approved and first instalment released for establishment of Field Performance Recording Programme (FPRP) for 1,50,000 indigenous animals.
- ◆ 301 bulls of indigenous breeds inducted at the semen stations for semen production. Bull production programme for natural service for indigenous breeds have been initiated by MP, Kerala, UP, Punjab, Haryana and Gujarat.
- ◆ Allocation of Rs. 190 crore for 2017-18 for Rashtriya Gokul Mission.

## 1. Milk Production



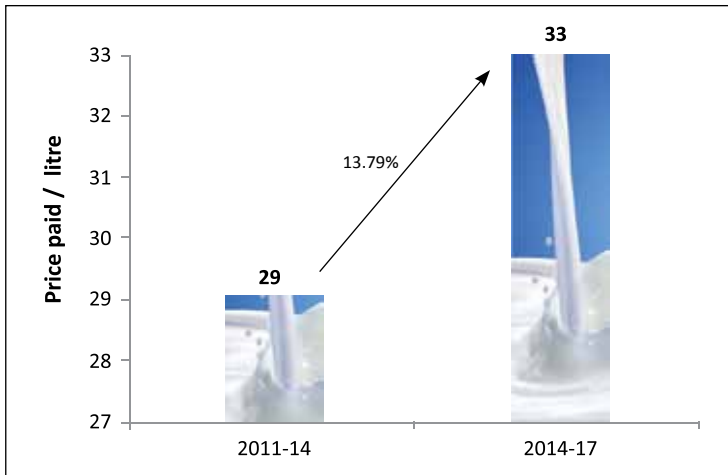
As compared to 2011-14, growth in milk production during 2014-17 is 16.9%.

## 2. Per capita availability of milk (gms/day)



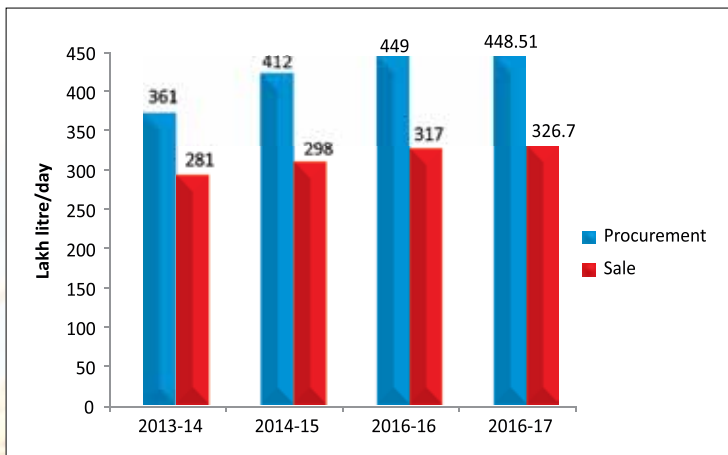
India is on First place in milk Production and it contributes 19% of the total World Milk Production.

### 3. Increase in average milk procurement price paid to milk producers by dairy cooperatives



The earnings of dairy farmers registered an average increase of 13.79% during last three years.

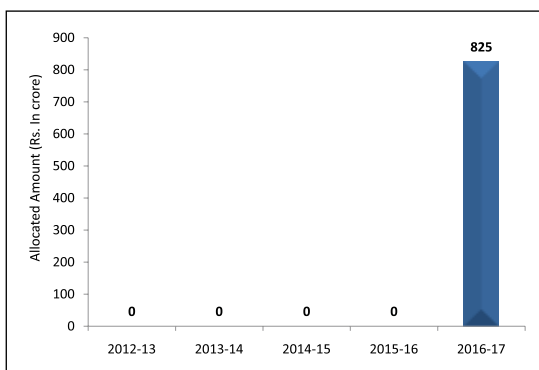
### 4. Status of milk procurement/sale by Dairy Cooperative



## New Schemes

1. Consequent to the Union Budget 2017-18 announcements by Ministry of Finance, Department has initiated formulation of scheme for setting up of corpus fund titled “Dairy Processing and Infrastructure Development Fund (DIDF)” for augmenting and strengthening of processing infrastructure of dairy cooperatives with loan assistance from NABARD @ 6-6.5% p.a. under DIDF. Dairy Processing and Infrastructure Development Fund to be set up with a corpus of Rs. 2000 crores for 2017-18 and will be increased to Rs. 8000 crores over 3 years.

### National Bovine Productivity Mission



2. In India Dairy is considered as one of the most important activity. It provides livelihood support to 60 million rural households which own majority of dairy animals out two third are with small and marginal farmers and landless labour. Livestock is equitably distributed among farmers in comparison to land holdings. Therefore profits from dairying are equally distributed among the farmers especially landless labours and small and marginal farmers. During 2015-16, 155.49 million tonnes of milk is produced with worth of approximately Rs 5 billion. Dairy cooperatives are known for their unique distinction for providing 75% to 80% of their sales to the farmers which is not available to the farmers from other industry. In order to enhance milk production and productivity and to make dairying more remunerative to the farmers, Government of India has initiated new scheme National Mission on Bovine Productivity with an allocation of Rs 825 crore over a period of three years. Details of the components of the scheme are as under:

### **a) Pashudhan Sanjivani :**

- ◆ An animal Wellness Programme; encompassing provision of Animal Health cards ('Nakul Swasthya Patra') along with UID identification of animals in milk and a National Data Base.
- ◆ Under the scheme 8.8 crore animals in milk will be identified using UID and their data will uploaded in the INAPH data base.
- ◆ Animal Health Cards (Nakul Swasthya Patra) will be issued to the animals covered under the scheme. The health card will have information on vaccination of animal, de-worming and treatment of animals
- ◆ This will play crucial role in control of spread of animal diseases, implementation of scientific breeding programmes. This will also lead to increase in trade of livestock and livestock products.

### **b) Advanced breeding Technology:**

- ◆ Assisted Reproductive Technique to improve availability of disease free female bovines through of sex sorted semen technology.
- ◆ Under the scheme 150 sex sorting machines will be established at 10 semen stations in the country including semen stations managed by dairy cooperatives. Scheme envisages creation of facility for production of 8 million doses annually.
- ◆ Under the scheme 50 embryo transfer technology labs and In Vitro Fertilization labs will be established for exponential multiplication of elite animals of indigenous breeds.
- ◆ This will lead to increase in milk production and productivity of animals in an exponential manner.

### **c) National Bovine Genomic Centre for Indigenous Breeds (NBGC-IB)**

- ◆ In developed dairy countries genomic selection is used to increase milk production and productivity for attaining faster genetic gain.
- ◆ In order to increase milk production and productivity of indigenous cattle, a National Bovine Genomic Centre will be established in the country.
- ◆ By using genomic selection indigenous breeds can be made viable within few generations.
- ◆ This centre will play crucial role in identification of disease free High genetic merit bulls of indigenous breeds.



- d) Creation of e-pashudhan Haat: An e-market portal for bovine germplasm for connecting breeders and farmers of indigenous bovine breeds.

## E-Pashudhan Haat Portal (First Time in Country) :

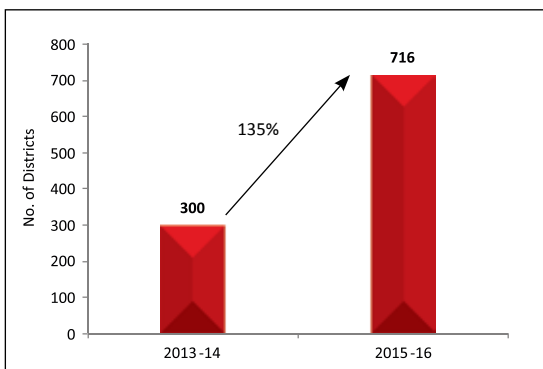
The screenshot shows the E-Pashudhan Haat Portal interface. At the top, it features the Government of India logo, the Department of Animal Husbandry, Dairying & Fisheries, and a cow illustration. Below this is a navigation bar with links for Home, Germ Plasm Market Place, FAQ, e-Learning, Services, Get in Touch, and Help Desk. The main content area includes a central image of a cow, portraits of officials, and four data boxes: 4,30,21,342 (Favour Semen across products), 2,99,42,528 (Favour Semen across Sale), 4,28,59,742 (Stock of Favour Semen Cows), and 375 (No. of Embryo).

- ◆ For the first time in the country under National Mission on Bovine Productivity E-Pashudhan Haat portal has been developed. This portal will play important role in connecting breeders and farmers of indigenous breeds.
- ◆ At present there is no authentic market for bovine germplasm in the form of semen, embryos, male & female calves; heifers and adult bovines. Farmers depend on middlemen for sale and purchase of quality germplasm.
- ◆ Breed wise information on availability of bovine germplasm is not available which is essential for promotion of indigenous bovine breeds.
- ◆ Through this portal farmers will be aware about breed wise information on indigenous breeds. Farmers/breeders can sale animals of indigenous breeds through this portal. Information on all forms of germplasm has been uploaded on the portal. Immediately farmers can obtain benefits of the portal.
- ◆ This portal will give new dimensions to development and conservation of indigenous breeds as at present information on availability of germplasm of indigenous breeds is not available with the farmers.
- ◆ Through the portal there will be no involvement of middlemen in sale and purchase of animals. Portal for sale and purchase of germplasm in all the forms is not available even in developed dairy countries.

## National Livestock Mission

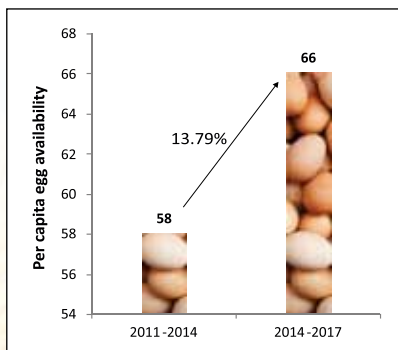
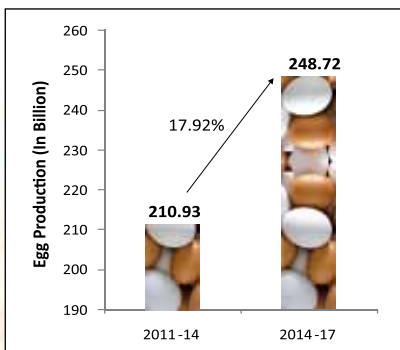
The scope and coverage of Livestock Insurance has been increased from 300 districts to all 716 districts. Simultaneously, the coverage of livestock insurance has been extended from only 2 milch animals to 5 milch animals/other animals or 50 small animals.

### Districts covered under Livestock Insurance



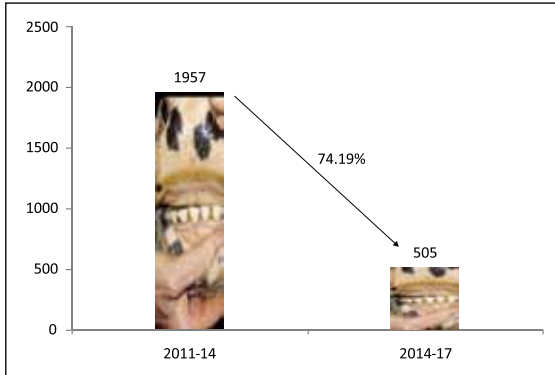
Livestock Insurance was implemented in 300 districts where as in 2016-17, all 716 districts are covered under Livestock Insurance which is an increase of 135 percent.

### Perceptible increase in Egg production & per capita availability of protein



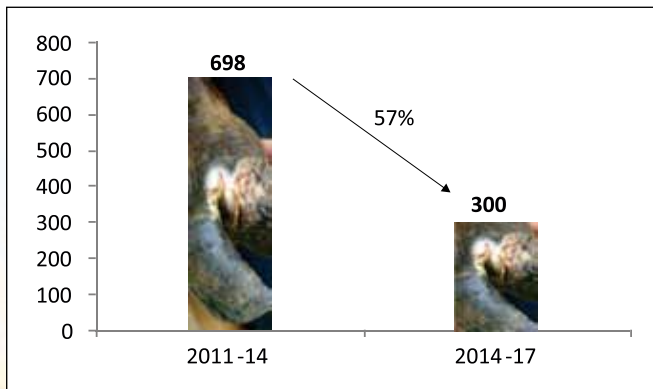
Per capita availability has increased to 66 eggs per annum. During the year 2011-14 Egg production was 210.93 billion which increased to 248.72 billion during 2014-17 which is an increase of 17.92 percent.

## Reduction in Foot and Mouth Disease Outbreaks



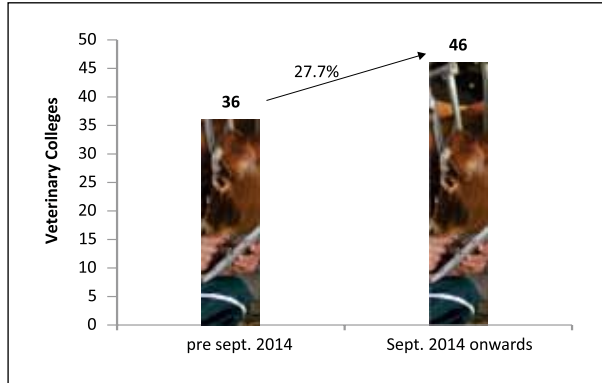
Based on effective implementation of FMD control programme, three zones have also been established as FMD free zones with vaccination. FMD Outbreaks which were 1957 during 2011-2014 have been drastically reduced to 505 only during the period 2014-2017. It is reduced by 74.19 percent.

## Reduction in Haemorrhagic Septicaemia Disease Outbreaks



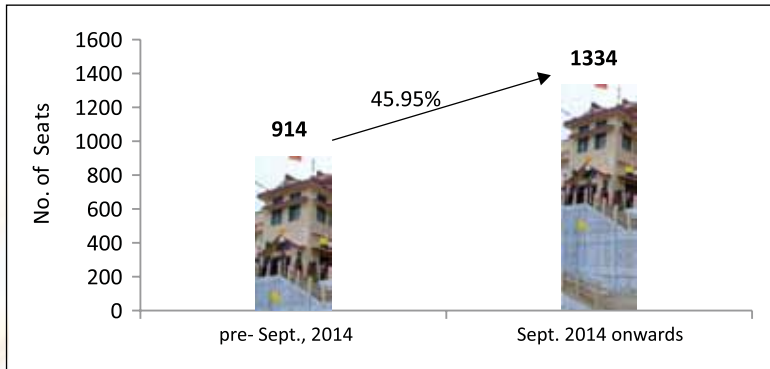
HS outbreaks which were 698 during 2011-2014 have been reduced significantly to 300 during 2014-2017. It is reduced by 57 percent.

## Increase in Veterinary Colleges



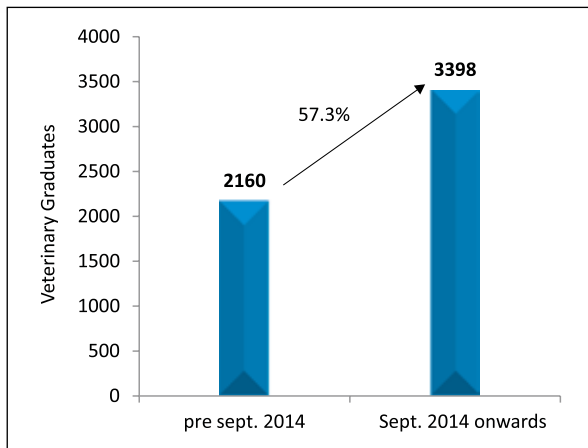
During the period of 2011-14 total number of Veterinary Colleges in the first schedule was 36. During 2014 to 2017 the total number of veterinary colleges has been increased to 46 which is an increase of 27.7 percent.

## Increase in seats of Veterinary Colleges



In order to meet the shortage of trained veterinary manpower, intake of students in various Veterinary Colleges was enhanced from 60 to 100 seats. Total number of seats has been increased to 1,334 from 914 in 17 Veterinary Colleges which is an increase of 45.95 percent.

## No. of Veterinary Graduates Increased



Due to increase in the number of colleges in the first schedule total number of graduate will be 3398 each year during 2014-17 which was 2160 during 2011-14

## New Initiatives under Minimum Standards for Veterinary Education Regulations:

The VCI has amended the existing MSVE Regulations, 2008 and now MSVE Regulations, 2016 has been notified on 8.07.2016. The salient features in the Revised MSVE are as under:

- Increase in annual admissions in B.V.Sc and AH course to 80 from 60 in the present MSVE.
- Increased in time for B.V.Sc& A.H. courses from 5 years to 5 and half years with enhance internship programme from six months to one year and course work for four and half years.
- Introduction of reservation policy for SC & ST/ OBC and Physically Handicapped has which was not in the earlier MSVE.
- The credit hours for B.V. Sc& A.H. courses have been reduced from 179 hr to 81 hr. and the courses will be of annual basis instead of semester.
- Introduction of additional courses such as Animal Welfare, SPS Agreement, OIE, Codex Food Safety & Food borne infections and intoxications associated

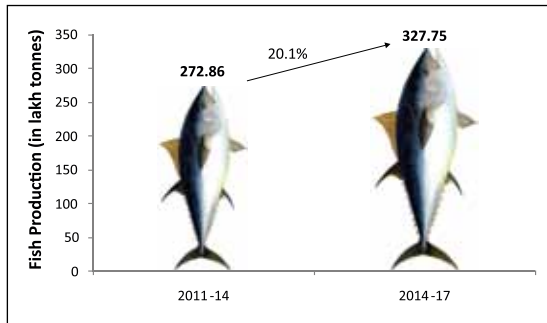
with foods of animal origin, Toxic residues (pesticides, antibiotics, metals and hormones) in foods and associated health hazards, Types of biohazards, Hazard analysis and critical control points (HACCP) system, Importance of ISO 9000 and 14000 series in meat industry, Risk analysis, assessment and management, International food safety standards, World Organisation for Animal Health (OIE), World Trade Organization (WTO) agreements, Codex Alimentarius Commission, Sanitary and phytosanitary measures in relation to foods of animal origin, Food Safety and Standards Act and Regulations, Role of Food Safety and Standards Authority of India (FSSAI), Bureau of Indian Standards (BIS).

### **Initiatives under “Ease of Doing Business”**

- ◆ Implementation of Single Window System for on-line clearance of livestock and livestock products by all six Animal Quarantine & Certification Services Stations at Delhi, Mumbai, Kolkata, Chennai, Hyderabad and Bengaluru.
- ◆ Sanitary Import Permit (SIP) website for online receipt and processing of SIP applications for import of livestock products fully implemented since 01.10.2016.
- ◆ 10 new additional entry points viz, Atari (Punjab), Raxaul (Bihar), Sunauli Land Custom Station, Jogbani (Bihar), Kandla, Kochi, Krishnapatnam, Vishakhapatnam, Mundra and land port of Agartala (Tripura) notified vide notification S.O. 948(E) 22nd March, 2017 for the import / export of livestock and livestock products.
- ◆ AQCS office at Petrapole ICP, West Bengal has been inaugurated to facilitate export/import of livestock and livestock products from Bangladesh.

# Fisheries - Blue Revolution

## Fish Production



The Fish Production during 2011-14 was 272.86 lakh tonnes which increased to 327.75 lakh tonnes during 2014-17 which is an increase of 20.1 percent.

## Assistance for Deep Sea Fishing

The high value tuna and other resources occurring in deeper waters has remained under-exploited and beyond the reach of traditional fishers. This Department, on 09 March, 2017 has introduced a sub component namely, "ASSISTANCE FOR DEEP SEA FISHING" under the existing component 'Development of Marine Fisheries, Infrastructure and Post Harvest Operations' of Blue Revolution Scheme. This will promote capacity building in traditional fishermen to venture into deep sea fishing and to support their livelihood with comparatively higher income generation. The sub-component aims to introduce intermediate size of modern deep sea fishing vessels (DSFVs) to the traditional fishermen for operating in the Indian Exclusive Economic Zone (EEZ), beyond territorial waters to enable our fishers to harness fishery resources in the deep sea.

Objectives of the proposed sub-component on 'Assistance for deep sea fishing' are as under:

- ◆ To enable traditional fishermen to operate in the Indian EEZ for deep-sea fishing
- ◆ To reduce fishing pressure on coastal resources
- ◆ To enhance income and employment generation to traditional fishers
- ◆ To promote livelihood of traditional fishers

- ◆ To boost export of tuna and other oceanic fishery resources
- ◆ To develop capacity and promote deep-sea fishing sector in the country

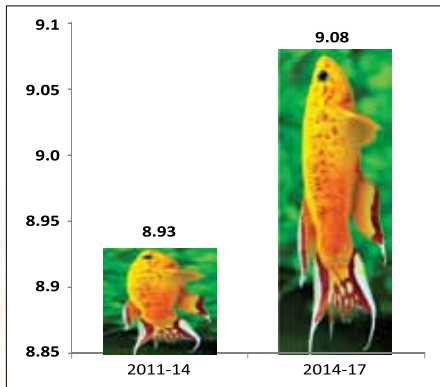
The Government of India will provide 50% financial assistance of the project cost subject to maximum of Rs. 40 lakh per fishing vessel under the sub component namely, "ASSISTANCE FOR DEEP SEA FISHING".

Beneficiaries will be group of 10 to 20 active traditional fishermen, fishers Self Help Groups (SHGs), Fisheries Producer Organization (FPOs), Cooperatives of traditional fishermen, Fishermen Societies and their Associations. Only bonafide fishermen having valid Marine Fishers Biometric Identity Card would be eligible for this scheme. Preference shall be given to traditional fishers owning traditional fishing boats. The beneficiaries will be selected by the Dept. of Fisheries of the respective States/UTs following agreed procedure.

## Saving Cum-Relief

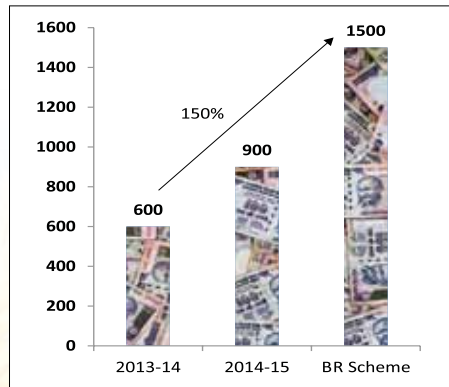
Comparison of fishers covered for Saving-cum-Relief under the CSS on National Scheme for Welfare of Fishermen

**Fishers covered (in lakh)**



Fishers covered for saving-cum-relief during 2011-14 were 8.93 lakhs which increased to 9.08 lakh during 2014-17

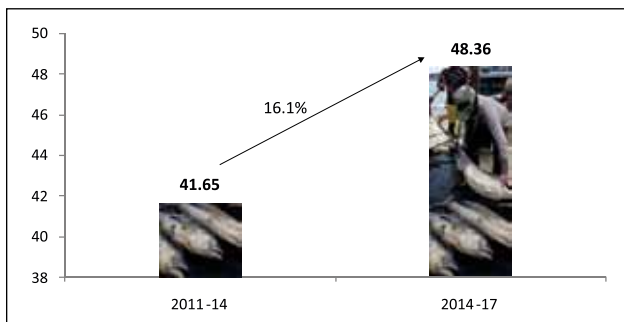
**Saving-cum-relief amount enhanced for welfare of fisherman**



Blue Revolution : Under Integrated Development Management of Fisheries, Saving Cum Relief Amount increased by 150 percent during fishing ban in period of 3 months for welfare of fishermen



## Comparison of Fishers Insured under the CSS on National Scheme of Welfare of Fishermen



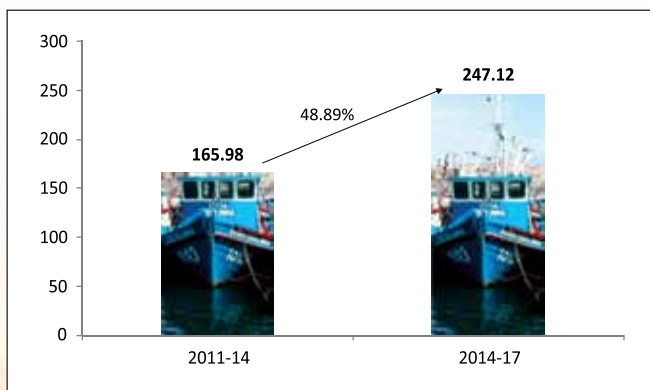
Fishers insured during 2011-14 were 41.65 lakhs which increased to 48.36 lakhs during 2014-17 which is an increase of 16.1 percent.

### Achievements under Fisherman Insurance Scheme

- ◆ Annual Insurance premium for fisher folk brought down to Rs. 20.34 from Rs. 29.00.
- ◆ Insurance cover increased to Rs. 2.00 lakh from Rs. 1.00 lakh for accidental death and permanent disability.

### Fisheries Infrastructure Development

Development of fisheries infrastructure is one of the thrust areas of the Blue Revolution scheme.



Central funds for fisheries infrastructure Development during 2011-14 was 165.98 Crores which increased to 247.12 crores during 2014-17 making an increase of 48.89 percent.

## Celebration of World Fisheries day on 21<sup>st</sup> of November, 2016



Department of Animal Husbandry Dairying and Fisheries has successfully organized World Fisheries Day on 21st of November, 2016 at VigyanBhawan, New Delhi. More than four hundred participants attended the function, comprising of VIPs, Senior Officials of Government of India, State Governments, UTs, Fishers, Fish Farmers, representatives of Fisheries Cooperatives, Entrepreneurs/Exporters and other related stakeholders.

## Celebration of World Egg Day 2016 on 14<sup>th</sup> October, 2016



The Department of Animal Husbandry, Dairying and Fisheries, Government of India is facilitated celebration of the “World Egg Day” on 14th October 2016 to increase awareness on the nutritive value of eggs and highlighting its importance in human nutrition. Around 250 poultry farmers were invited.

## Celebration of National Milk Day on 26<sup>th</sup> November, 2016



National Milk Day is celebrated in India on the birth anniversary of Dr. Verghese Kurien, the Father of White Revolution. National Milk Day was celebrated on November 26, 2016 at the Nasc Complex, Pusa, New Delhi. On this occasion, scientists, representatives of authorities and Milk Unions from around the country were present. On this occasion of National Milk Day, first time in the country, e- pashuhat portal was launched.







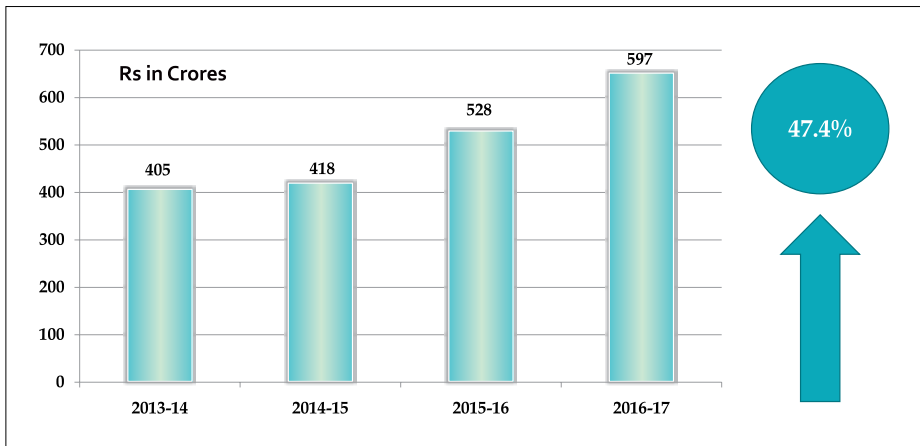
**Department of  
Agricultural Research & Education/  
Indian Council of Agricultural Research**



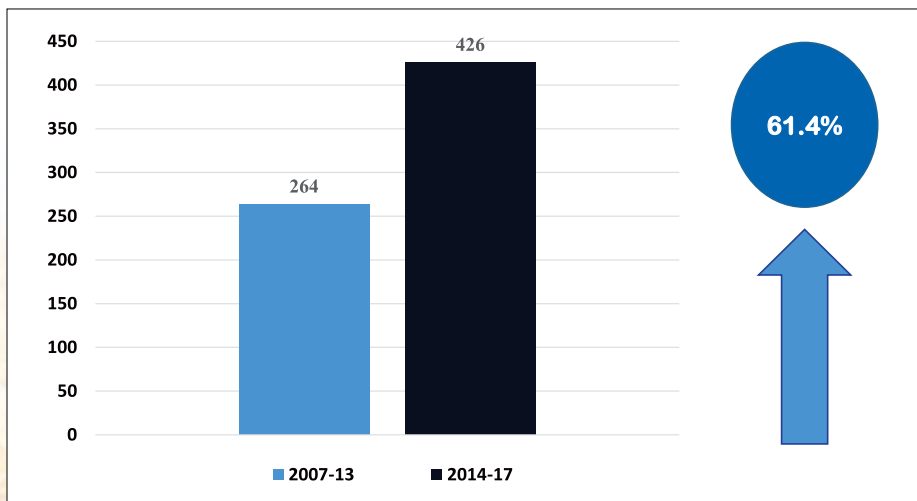
भाकृअनुप  
ICAR



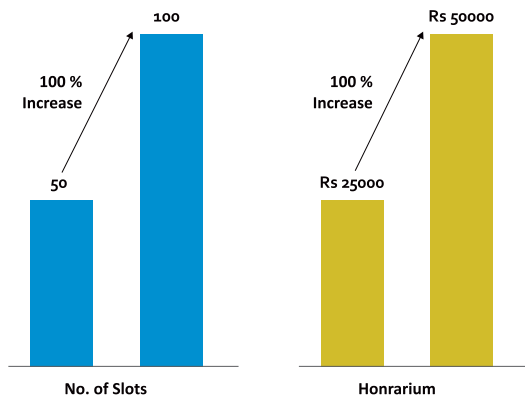
## Enhanced Agricultural Education Budget



## New Experiential Learning Units opened at Agricultural Universities

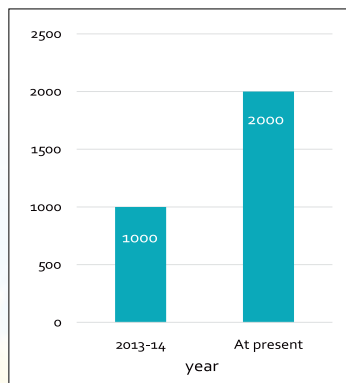


## Emeritus Scientist programme strengthened



- ◆ Increased the number of slots from 50 to 100
- ◆ Enhanced the honorarium from Rs 25,000 to Rs 50,000

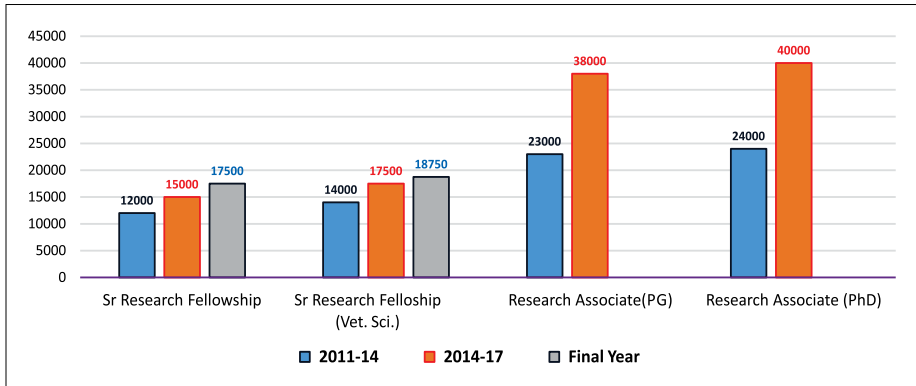
## National Talent Scholarship for UG doubled



- ◆ From Rs 1000 p.m. to Rs 2000 p.m.
- ◆ Number of beneficiaries: 1351



## Enhanced Fellowships to Research Scholars (Rs/month)



## Revised Curricula by Fifth Deans' Committee

Approval of Fifth Deans' Committee Report (29 June 2016)

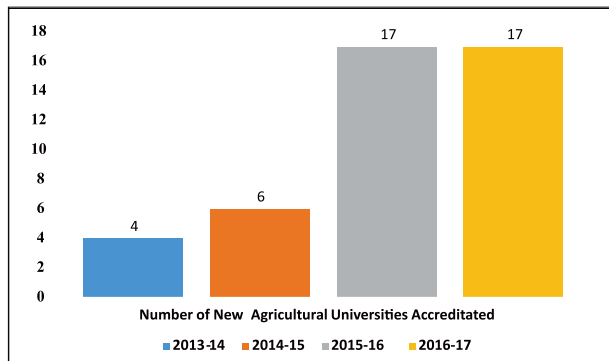
- ◆ **New Programmes introduced**
  - ◆ B. Tech (Biotechnology)
  - ◆ B.Sc. Community Science
  - ◆ B.Sc. Food Nutrition & Dietetics
  - ◆ B.Sc. Sericulture



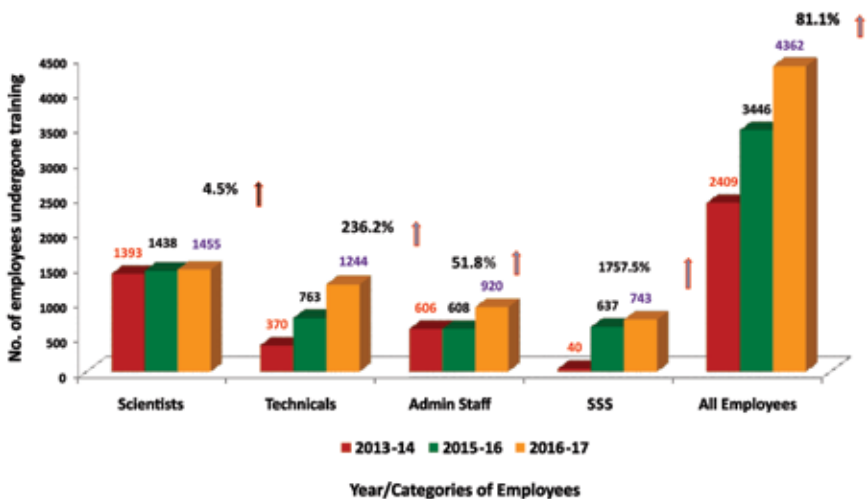
- ◆ **Degrees in Agricultural Sciences declared Professional**
- ◆ **Holistic distribution of courses in UG**
  - ◆ Traditional Courses in I Year • Technology based Courses in II Year
  - ◆ Talent based Courses in III Year • Trade based Courses in IV Year
- ◆ **Compulsory common courses introduced**

## Emphasis on Accreditation of Agricultural Universities

No. of universities accredited



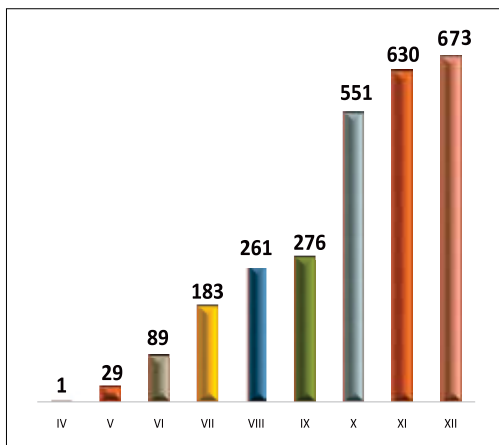
## Progress in Training and Capacity Building of ICAR Employees since creation of HRM Unit (September, 2014)



# Growth of Krishi Vigyan Kendras (KVKs)

Period	New KVKs established
2014-17	33
2012-14	7

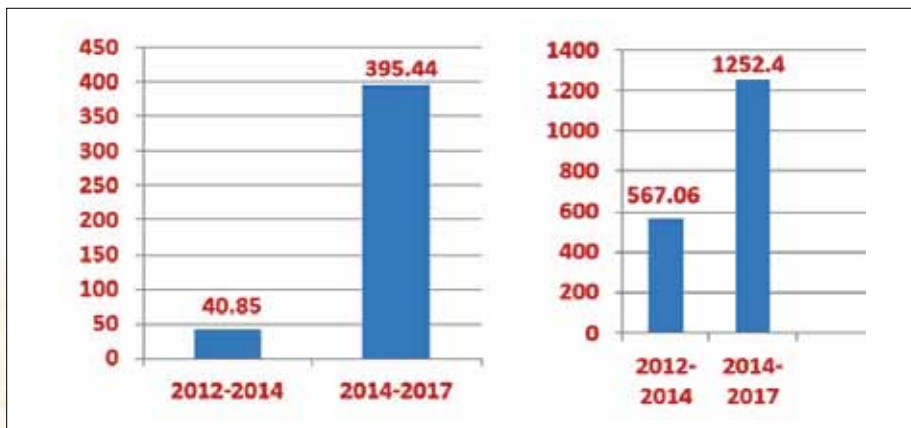
**Number of KVKs at the end of different Plan Periods**



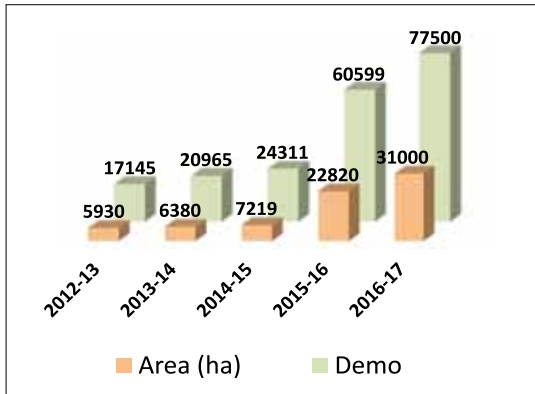
## ACHIEVEMENTS OF KVKs

**Mobile Agro advisory (Lakh)**

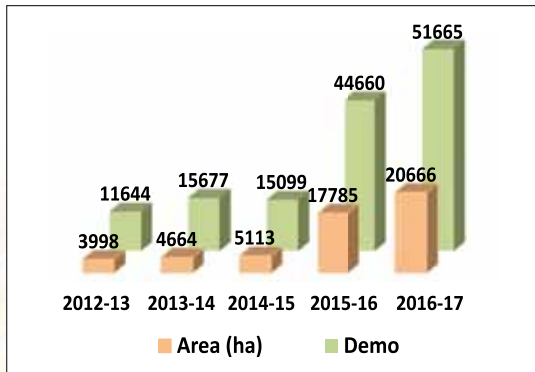
**Planting Material Produced (Lakh)**



## Pulses Demonstrations by KVKs

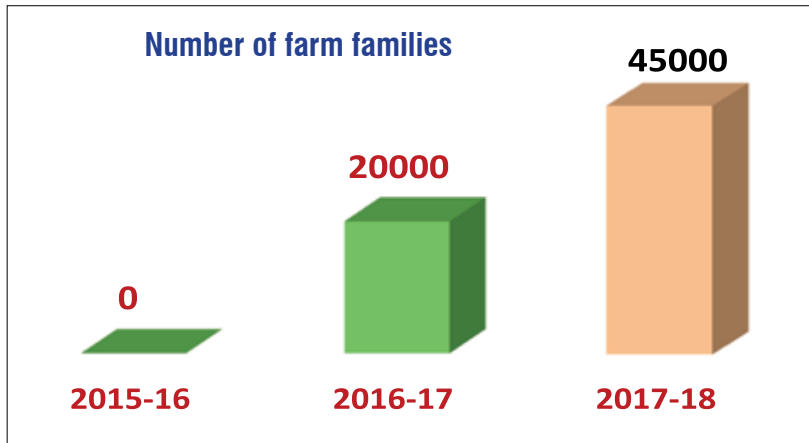


## Oilseeds Demonstrations by KVKs





## Farmer FIRST Enriching knowledge integrating technology

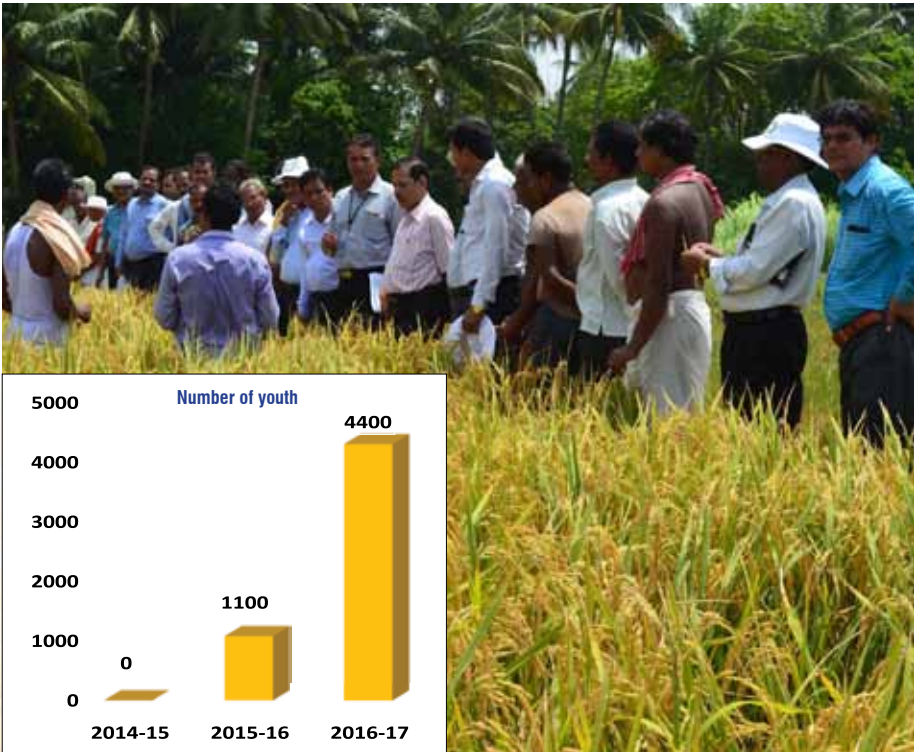


- ◆ Enhancing Farmers –Scientist interface
- ◆ Technology Assemblage, Application and feedback
- ◆ Partnership and Institution Building
- ◆ Content Mobilization
- ◆ 52 Projects sanctioned to ICAR Institutes/AUs with an outlay of Rs. 14.22 crore covering 45000 farmers



## Attracting and Retaining Youth in Agriculture (ARYA)

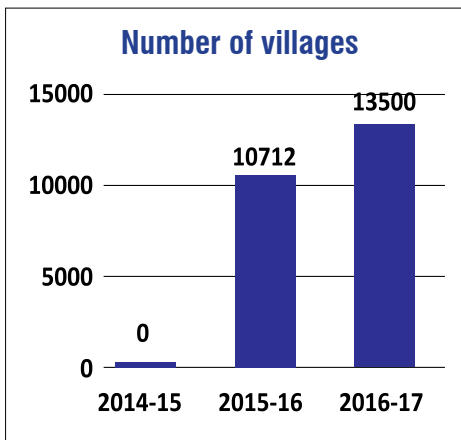
- ◆ Attract and empower the youth in rural areas for various agriculture, allied and service sector enterprises
- ◆ Emphasis on processing, value addition, marketing and networking
- ◆ Entrepreneurship development and value chain management
- ◆ 200-300 youth per district are involved through 25 KVKs in 25 States





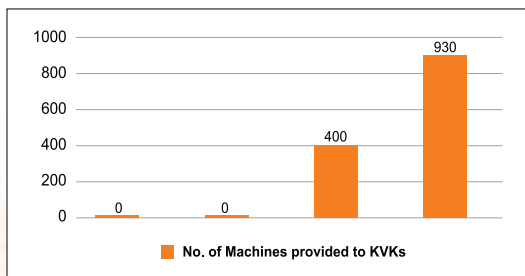
## Mera Gaon Mera Gaurav

- ◆ Group of 4 Agricultural Scientists working with 5 identified villages
- ◆ Facilitation of knowledge, skill and information to farmers
- ◆ Issuing timely alerts and advisories
- ◆ Providing information on inputs, service providers etc.,
- ◆ Develop convergence with different departments and organizations for the development of villages



## Soil Health

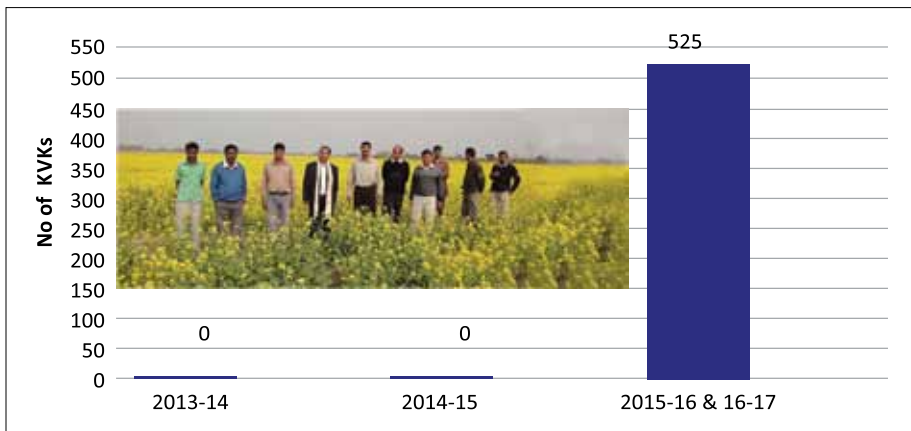
### Soil Testing Kits



- ◆ 400 Soil Testing Kits provided during 2015-16
- ◆ 930 Soil Testing Kits approved during 2016-17

- ◆ 2.5 lakh soil health cards distributed during 2015- 2016
- ◆ 6.37 lakh soil health cards distributed during 2016-17
- ◆ 97 MPs, 184 MLAs 10 Union Ministers, 34 Ministers from States, 1 Governor participated in the soil health card distribution function organised by KVKs on December 5, 2015.

## Awareness on Pradhan Mantri Fasal Bima Yojana



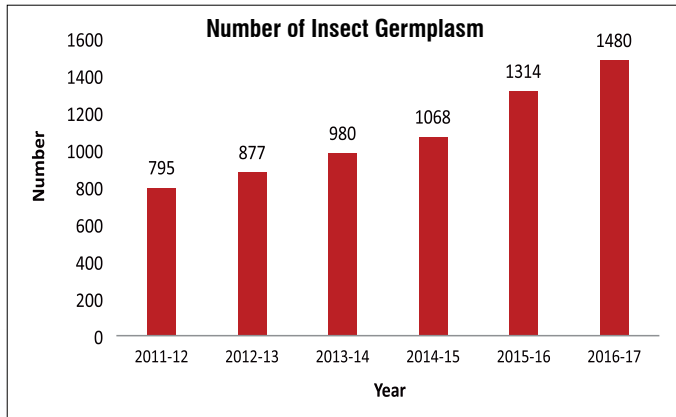
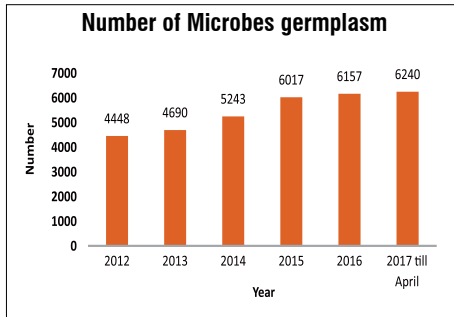
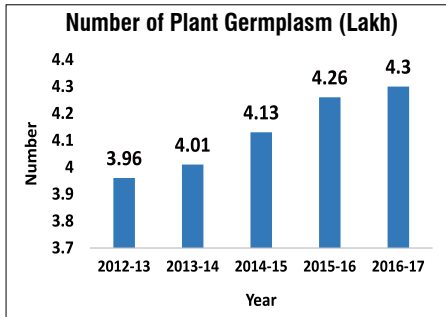
- ◆ Awareness campaign on Pradhan Mantri Fasal Bima Yojana was held by 525 KVKs of the country during March-April 2016 to bring awareness among the farmers.
- ◆ Beside 3.21 lakh farmers, people's representatives including 34 central ministers, 288 MPs and 207 MLAs participated in these programmes.

### New Initiatives through KVKs

- ◆ Web Portal- Krishi Vigyan Kendra Knowledge Network
- ◆ mKisan Portal- 90 lakh farmers are being provided advisory by the KVKs
- ◆ Rabi and Kharif Kisan Sammelan at each KVK
- ◆ Jai Kisan – Jai Vigyan Week at each KVK
- ◆ 200 Skill training for 4000 rural youth by 100 KVKs during 2016-17
- ◆ 600 Skill training for 12000 rural youth by 250 KVKs during 2017-18
- ◆ Automatic Weather Stations at 100 KVKs by India Meteorology Department
- ◆ Climate Resilient Initiatives at 121 KVKs (21 included in 2015-16)
- ◆ Tribal area focus program at 141 KVKs
- ◆ Integrated Farming System-100 KVKs
- ◆ National Initiative on Fodder Technology Demonstration (NIFTD)- 100 KVKs.
- ◆ Pulses seed hubs in 97 KVKs and 53 research institutes



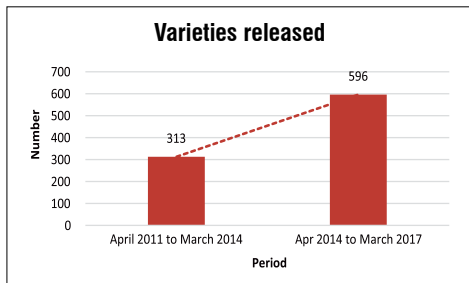
# Genetic Resource Management



## Genetic resources added since 2014

- ◆ 29000 plant germplasm
- ◆ 1550 microbes germplasm
- ◆ 500 insect germplasm

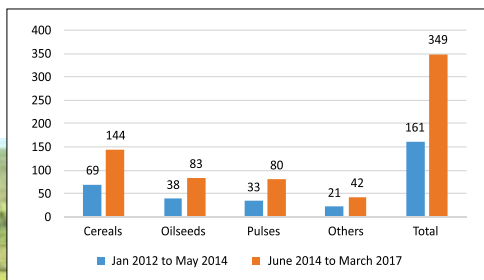
## Crop varieties released during the last five years



Crop group	Jan 2012 to May 2014	June 2014 to Dec 2016
<b>Cereals</b>	<b>158</b>	<b>238</b>
<b>Pulses</b>	<b>33</b>	<b>58</b>
<b>Oilseeds</b>	<b>38</b>	<b>70</b>
<b>Others</b>	<b>32</b>	<b>71</b>
<b>Total</b>	<b>261</b>	<b>437</b>

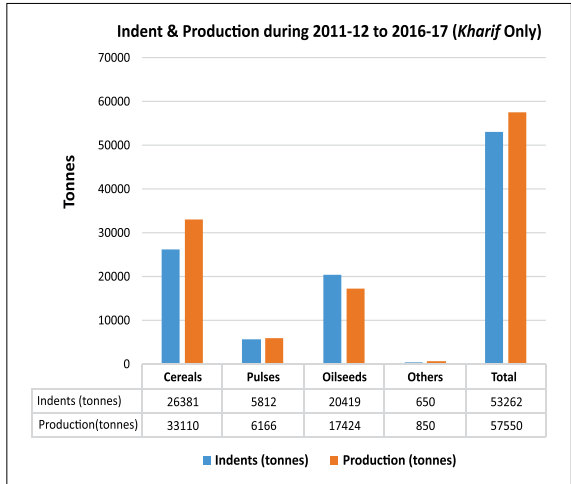
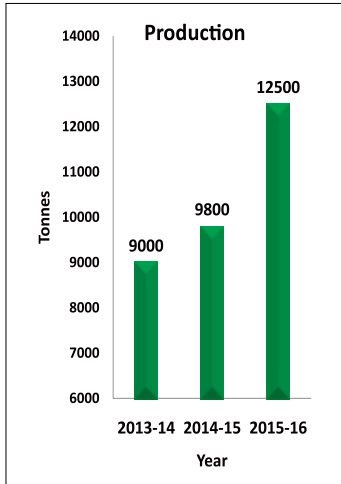
## Number of climate-resilient released varieties tolerant/ resistant to abiotic stresses

Crop	Jan 2012 to May 2014	June 2014 to March 2017
<b>Cereals</b>	<b>69</b>	<b>144</b>
<b>Oilseeds</b>	<b>38</b>	<b>83</b>
<b>Pulses</b>	<b>33</b>	<b>80</b>
<b>Others</b>	<b>21</b>	<b>42</b>
<b>Total</b>	<b>161</b>	<b>349</b>

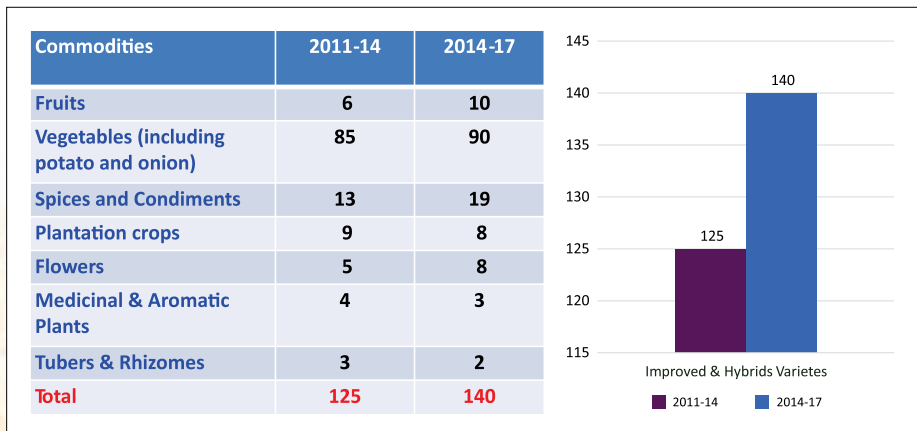


# Breeder Seed Production

Breeder seed production was higher than indent in most of the crops



# Varieties of Horticultural crops Developed

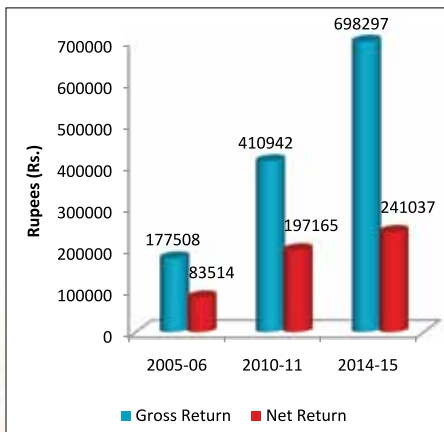


# Integrated Farming System Model for Doubling Farm Income



**Household size: 1.20 ha,  
7 member family**

Field crops	0.84 ha
Hort. crops	0.22 ha
Dairy	2 Buffalo + 1 Cow
Fishery	0.10 ha
Vermi-compost	0.01 ha
Mushroom	12 nos. 4 tier racks
Boundary Plantation (200m running length)	

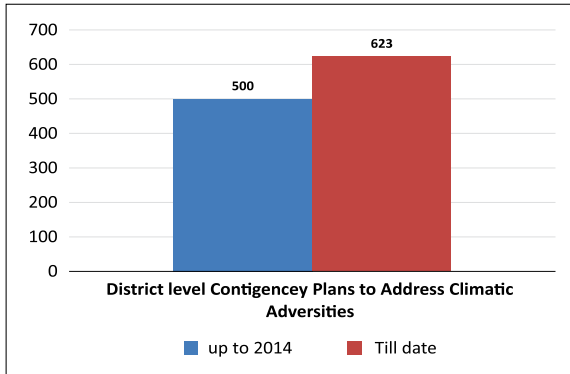


- ◆ 45 IFS models developed for different agro-ecological regions of the country.
- ◆ IFS linked to profitability, livelihood generation and risk minimization.
- ◆ IFS provide more stable incomes even during years of extreme weather events
- ◆ Need dedicated scheme for promotion of multi-entreprise IFS.

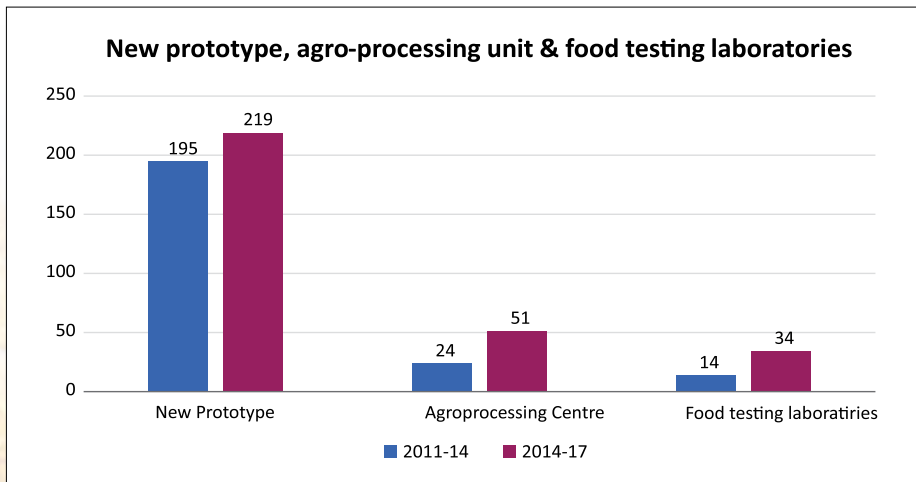
- ◆ Net Profit (mean of 3 years): Rs 2.5 lakhs during 2014-15
- ◆ Recycling: 34 % of total inputs except labour
- ◆ Value of additional employment: Rs. 88,000

# District Contingency Plans

Developed 623 District agricultural contingency plans: Technological interventions for various weather aberrations addressing different sectors of agriculture including horticulture, livestock, poultry, fisheries.



## New prototypes of farm machinery developed, agro-processing centers and food-testing laboratories established

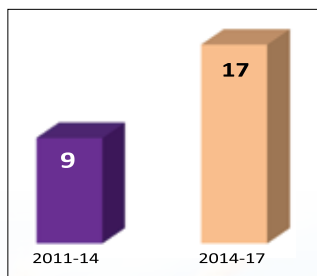


# Animal and Poultry Breeds Identified and Characterised

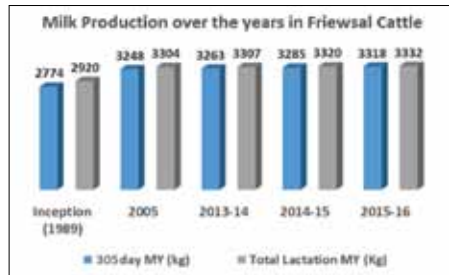
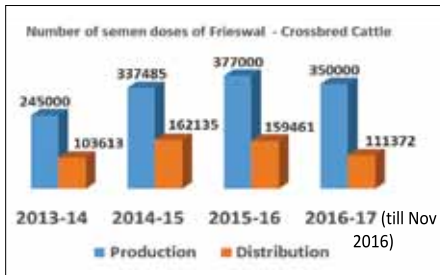
Species	No. of Breeds
Cattle	40
Buffalo	13
Goat	26
Sheep	42
Camel	9
Horse	6
Pig	6
Donkey	1
Chicken	17
<b>Total</b>	<b>160</b>



## New livestock and Poultry Breeds registered



# Impact of Technology Intervention

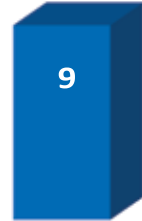


## Vaccines developed

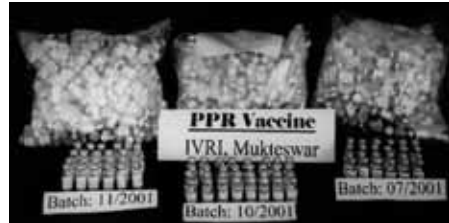
- ◆ Johne's disease
- ◆ Peste des petits ruminants (PPR)
- ◆ Goat Pox
- ◆ Equiherpabort
- ◆ Classical Swine Fever



2011-14



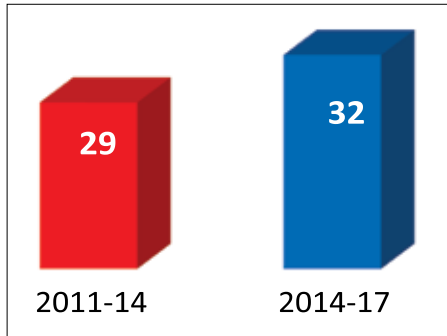
2014-17





## Diagnostics kits developed

- ◆ ELISA kit - Theileria equi
- ◆ ELISA kit - Japanese encephalitis
- ◆ Lateral Flow Assay - Brucellosis
- ◆ Lateral Flow Assay - Trypanosoma evansi
- ◆ Paper strip assay - Pesticides residues in milk

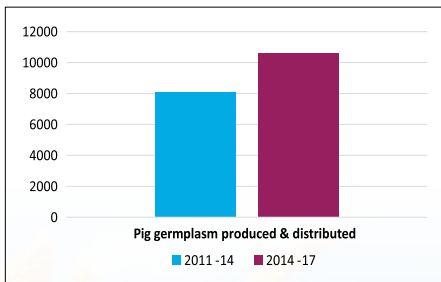
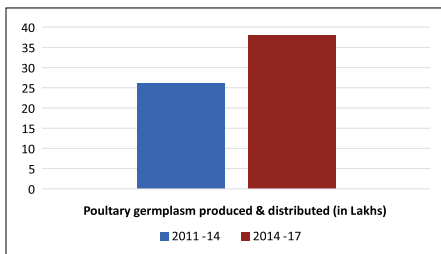
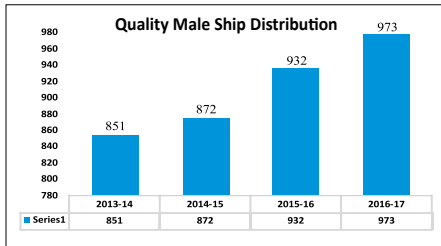


### DBT

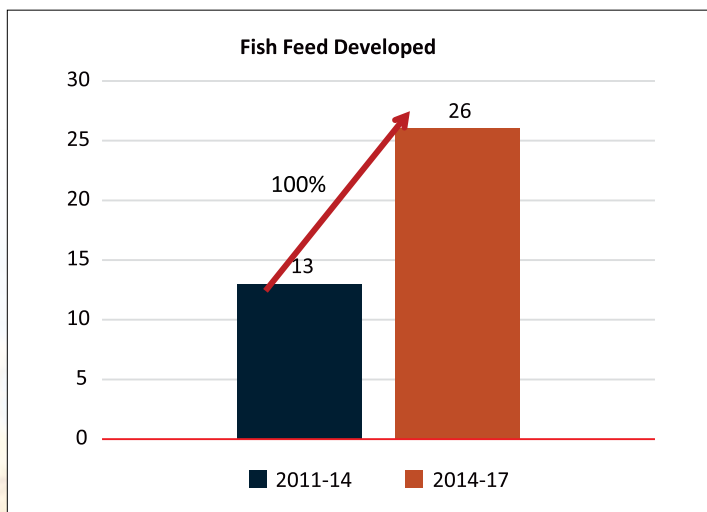
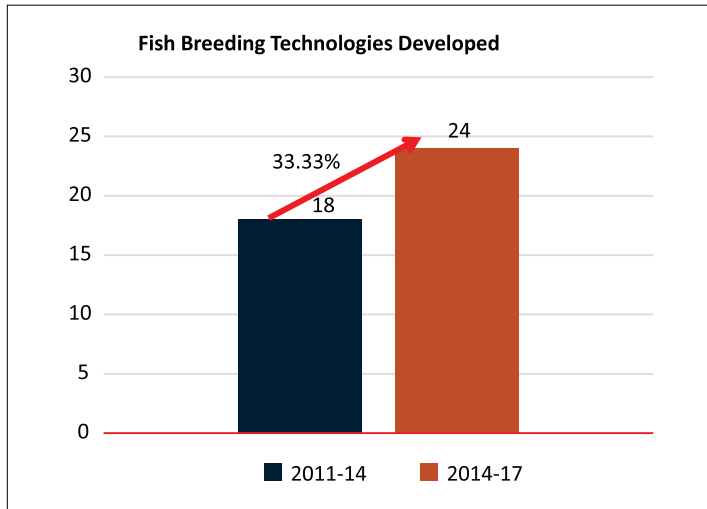
Biotech Product Award to NIVEDI For the development of ELISA kits for diagnosis of brucellosis



# Distribution of quality livestock germplasm



# Development of improved fish breeding technologies & fish feed

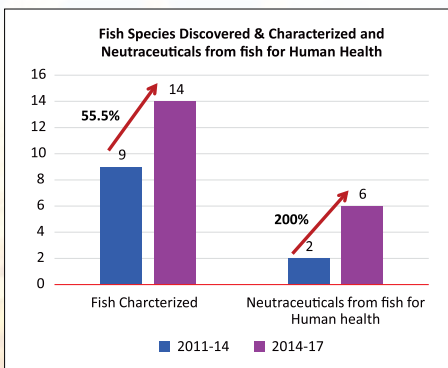
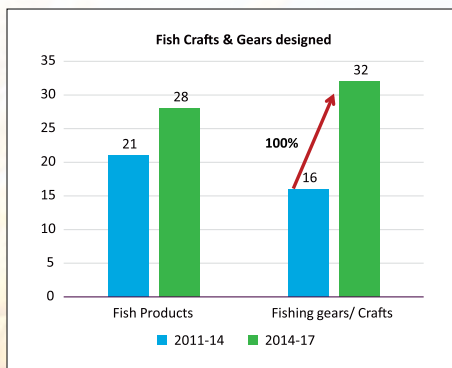


## Diversified Fish Species for Marine Cage Culture

- ◆ Developed breeding and seed production technologies for commercially-important marine species for open-sea cage culture
  - ◆ Cobia (*Rachycentron canadum*)
  - ◆ Silver pompano (*Trachinotus blochii*)
  - ◆ Orange-spotted grouper (*Epinephelus coioides*)



## Developed Fishing gears/crafts and New fish Species Characterized & Identified and Nutraceutical Products from Fish for Human Health



## Biofertilizers from Fish Waste

- ◆ Fish-waste serve as an excellent biofertilizer for agricultural/horticulture crops without harming the soil quality. Two new biofertilizers namely **Fish Biofert** and **Fishlizer** have been developed from fish-waste for effective utilization of waste into product.
- ◆ **CADALMIN™ Ache – Antihypercholesterolemic**, a nutraceutical product from seaweed extract to combat obesity/dyslipid Cadalmin Ache is an herbal product developed from seaweed extract for the control of high cholesterol levels in human beings. This opens avenues for utilization of seaweeds for commercial purpose



## Captive Breeding, Larval Rearing and Production of Marine Ornamental Fishes

Breeding, larval rearing and production technologies of three important and high valued marine fish species such as Tomato clown (*Amphiprion frenatus*), Saddle anemone fish (*Amphiprion ephippium*) and Redhead dottyback (*Pseudochromis dilectus*) was standardized in recent, thus open scope for its commercial production.

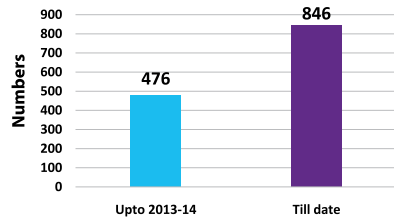


# Open-Sea Cage Aquaculture

- ◆ Marine cage culture of Cobia (*Rachycentron canadum*) and Silver Pompano (*Trachinotus blochii*) - technology demonstration
- ◆ Demonstrated avg. production levels of 3.0 tonnes in 6 months (6 m dia x 6 m depth) : 25-30 kg/m<sup>3</sup>
- ◆ Cost of production Rs. 120/kg; Farm gate price - Rs. 350/kg (cobia) & Rs. 300/kg (silver pompano)

- ◆ 846 cages installed all along the coast of India with the technical support of ICAR-CMFRI

Demonstration of Marine Cages

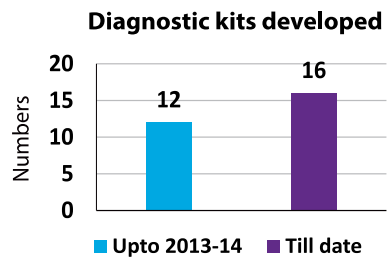


# Fish Health Management

- ◆ Operation of National Aquatic Animal Diseases Surveillance Programme (NSPAAD) - 15 states & 2 UTs in 115 districts - 25 organisations
- ◆ Preparedness for emerging disease outbreaks with establishment of 3 Referral labs and Emergency Response system under NSPAAD
- ◆ Established National Repository of Fish cell lines possessing 50 cell lines

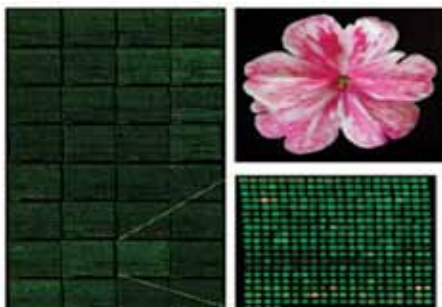
## Development of Disease Diagnostic Kits

- ◆  $\beta$ Nodadetect - for detection of  $\beta$ -nodavirus in marine finfish
- ◆ White Spot Syndrome Virus detection kit for shrimp
- ◆ Koi herpes virus (KHV) and Spring Viraemia of Carp Virus (SVCV) detection in freshwater fish



## Few landmarks achievements in agricultural research during the last years

- ◆ **Mridaparikshak** a minilab for soil analysis, capable of measuring 12 soil parameters of SHC (pH, EC, OC, available N, P, K, S and Fe, Zn, Cu, Mn & B)
- ◆ **India's First Nanocellulose Pilot Plant** for the production of natural rubber, craft paper and cement concrete as a filler or composite mix established at CIRCOT Mumbai
- ◆ Multi Plant Virus Detection Technology capable of simultaneously detecting 1155 viruses at this molecular diagnostic platform developed
- ◆ Breakthroughs achieved in the breeding and seed production of Milkfish (*Chanos chanos*), Hilsa (*Tenualosa ilisha*) and long whiskers catfish (*Mystus gulio*)





## Bringing self sufficiency in pulses: First-of-its-kind globally

- ◆ Earliest maturing mungbean variety “IPM 205-7 (Virat)” released
- ◆ The earliest maturing (52-55 days) summer mungbean variety
- ◆ Yield potential of 10-12 q/ha
- ◆ Highly resistant to Mungbean Yellow Mosaic Viral disease and other diseases

### Co-0238: The wonder variety of Sugarcane

- ◆ High in sugar recovery (up to 12%) in comparison to other varieties (up to 9%) in North India
- ◆ High cane yield (81 tonnes/ha)



**Reversal of trend:** Demands of seed also from tropical states like Maharashtra, Tamil Nadu and Andhra Pradesh for sub-tropical variety for the first time



## High Density planting and Canopy Management for Higher Apple Productivity

- ◆ Planting: high density (2.5m×2.5m).
- ◆ Tree training: Modified Central Leader System in combination with regular annual pruning.

- ◆ Drip irrigation & recommended manures, fertilizers and plant protection.
- ◆ Increased productivity from existing 9.2 t/ha to 30-35 t/ha



## Multipurpose Rubber Dam for Water Harvesting in Watersheds

- ◆ Developed multipurpose, inflatable, flexi Rubber Dam for watershed.
- ◆ Can store 20-25% additional water in comparison to traditional check dam.
- ◆ Facilitate ground water recharging.
- ◆ Provide irrigation in critical stages of crop growth
- ◆ Cost : Nearly Rs. 8 lakhs (width 5 m x 1.5 m height)
- ◆ Cost recovery within a span of 3 years.

- ◆ Installed 43 rubber dams in 6 states (Odisha, Uttarakhand, Maharashtra, Madhya Pradesh, Gujarat and Jharkhand)



## New improved agricultural machinery

- ◆ Broad bed former-cum-seeder
- ◆ Multipurpose platform for orchard management
- ◆ Single bud cutting machine and Single bud settling planter for Sugarcane



## New landmark crop varieties & technologies developed by ICAR

- ◆ High yielding rice varieties resistant to draught (1), Blast (3) and Bacterial leaf blight (5) developed using marker assisted selection
- ◆ Rice Variety (CR Dhan 310) with high protein content (10.3%) developed
- ◆ Rice Variety (DRR Dhan 45) with high Zn content (22ppm) developed
- ◆ Dual purpose wheat (grain & fodder) variety (VL Gehun 829) developed
- ◆ Low Erucic Acid (<2%) containing mustard variety Pusa Mustard 30
- ◆ Three Bt. cotton cultivars viz; PAU-1, RS- 2013 and F-1861 have been identified and recommended for commercial release by ICAR.



## New improved fruit varieties for export developed



**Grapes**



**Manjari Naveen** : Yield 25-30 t/ha, self-thinning berries

**Medika** : 30-35 t/ha, anti-oxidant rich, suitable for juice



**Cashew**



**Hybrid-126** jumbo nut (11-12 g)

## New improved fruit crop varieties & technologies developed

### Guava Varieties/Hybrids

- ◆ **Lalima**: 34-35 t/ha fruit yield with attractive crimson peel
- ◆ **Dhawal**: 38-40 t/ha fruit yield with excellent flavor & taste
- ◆ **Arka Kiran**: 30-35 t/h fruit yield, 6-7 mg lycopene /100 g

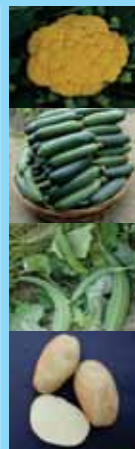
### Coconut hybrid:

- ◆ **Kalpa Samrudhi (DxT)**
- ◆ Yield (117 nuts/palm), 346 ml coconut water/ tender nut, copra out turn (25.72 kg/palm or 4.5 t/ha) under rain-fed conditions



## New landmark vegetable crop varieties & technologies developed

<b>Cauliflower</b>	<b>Pusa KesarivitA1-A</b>	Beta carotene rich (8 to 10 ppm), yield 40–45 t/ha
<b>Cucumber</b>	<b>Pusa Seedless cucumber-6</b>	Extra early (40-45 days for first harvest), ~ 126 t/ha potential fruit yield under protected cultivation
<b>Ridge gourd</b>	<b>VRRG-27</b>	18-20 t/ha yield, field resistant to downy mildew
<b>Potato</b>	<b>Kufri Mohan</b>	35-40 t/ha yield, resistant to late blight



## Vegetable varieties for specific needs

<b>Onion</b>	<b>Arka Swadista</b>	Yield 25t/ha, suitable for processing
	<b>Arka Lalima</b>	Suitable for Kharif, yield: 45 t/ha in 130-140 days,
	<b>Arka Ujjwal</b>	Yield 30 t/ha, ideal for export
	<b>Arka Kirtiman</b>	Suitable for Rabi, yield - 40t/ha in 125-130 days



## Vegetable varieties for specific needs

Tomato hybrids	Arka Rakshak	Triple disease resistance to bacterial wilt, early blight and leaf curl virus, yield ~100t/ha.
	Arka Samrat	Triple disease resistance to bacterial wilt, early blight and leaf curl virus, yield ~100t/ha.



## Improved strains of Mushrooms

Mushroom strains	Shiitake DMR-shiitake-38	Yield 40kg/100kg saw dust in 120 days
	DMR-shiitake-388	44kg/100kg wheat straw/saw dust in 120 days
	Macrocybe DMR-macrocybe-01	70kg/100kg dry paddy straw in 60 days



## Bio-control success stories

Success achieved	Natural enemy	Monetary benefits in India (Rs.) / year
• Sugarcane woolly aphid	<i>Dipha</i> / <i>Encarsia</i> / <i>Micromus</i>	1500 crore
• Papaya mealybug	<i>Acerophagus</i>	1600 crore
• Root grub on arecanut, sugarcane & groundnut	Entomopathogenic nematode	300 crore
• Sugarcane & Rice borers	<i>Trichogramma</i>	37500 / ha

### Natural Enemies



*Encarsia flavoscutellum*  
Woolly aphid parasitoid



*Heterorhabditis indica*



*Acerophagus papayae* – Exotic parasitoid of papaya mealybug



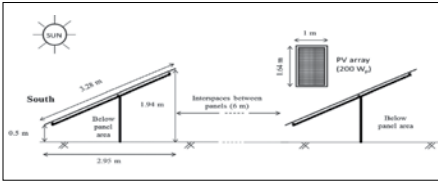
*Trichogramma chilonis* sugarcane and rice borers



# Agri-Voltaic System/Solar Farming

## Agri-voltaic system

Growing crops and generating electricity through PV modules simultaneously from a piece of land



## Model area: 1 ha

- ◆ Solar PV generation capacity: 0.5 MW
- ◆ Electricity generation per day: 2500 kWh
- ◆ Investment : Rs. 2.5 crores
- ◆ Income generation from electricity: About Rs 45 lakhs per annum
- ◆ Life of the system : 25 years
- ◆ Total cost recovery in 7 years
- ◆ Moong bean yield: 4 q/ha

Ridge furrow seed drill for in-situ soil moisture conservation in solar farming system



Development of solar PV sprayer for spraying agricultural chemicals in solar farming system



# Water/ Fertilizer Saving through Micro Irrigation

Centre	Crop	Yield (t/ha)	Water saving (%)	Fertilizer saving (%)
Rahuri	Banana	83	25	17
Parbhani	Cotton	2.9	20	25
Madurai	Dry Chilli	2.2	40	25
Bhavanisagar	Tomato	27	40	50
Centre	Crop	Yield (t/ha)	Yield increase(%)	Water saving(%)
Bathinda	Garlic	13.1	18	23
Gayeshpur	Onion	16.0	22	25
Bilaspur	Wheat	1.98	16	41
Belvatagi	Maize	8.28	21	12
Sriganganagar	Gram	2.57	14	32

Irrigation	Yield (q/ha)	WUE (kg/ha-mm)	Yield increase(%)	Water saving(%)
<b>Micro-sprinkler irrigation in onion</b>				
Flood irrigation	128.1	24.73	--	--
Micro-sprinkler	185.2	46.11	44.6	22.4

**Drip Irrigation**



**Sprinkler Irrigation**



**Micro Sprinkler Irrigation**



## Nano Fertilizers for enhanced nutrients use efficiency developed

Seed treatment with nano-ZnO @ 50 mg Zn/g seed found a successful method to meet the Zn requirement of the crop in Zn deficient areas

4G Nano based nutritional agri inputs (Phosphours, Magnesium, Zinc and Iron)

using microbial secrets. Micronutrient use efficiency increased to 5-7% from 1-2 %

Developed nano rock phosphate coated urea with P use efficiency comparable to SSP.



Soybean



Maize



## New technologies developed and commercialized



- ◆ A handy and user friendly electronic “Soil Moisture Indicator” to save water and facilitate irrigation scheduling
- ◆ Licensed to M/s Tech Source Soln, Bengaluru and others.

- ◆ Improved Light Trap safe to beneficial insects (parasitoids) & non-targeted insects
- ◆ Revenue of Rs. 3.02 crores generated during 2014-16.



- ◆ Sugarcane juice powder for usage as healthy drink
- ◆ Licensed to M/s G Beverages, Belgaum



## New improved varieties of pig and poultry developed

- ◆ Four new crossbred Pig varieties namely Rani, Asha, HD-K75 and Jahrsuk developed
- ◆ Three new varieties of Poultry birds (Kamrupa, Narmadanidhi and Jharsim) developed



# Indigenous fish feed formulation for enhancing efficiency & cutting cost developed

- ◆ **Vannamei+** - A grow-out feed for Pacific white shrimp, *L. vannamei* (Commercialized)
- ◆ Cost advantage- Rs 15/kg over commercial feeds (Cost of commercial feed Rs. 75/kg)



**Varna & Varsha** - Fish feeds for Marine and Freshwater ornamental fishes



**CIFABROOD** - A carp broodstock diet advancing gonad growth and maturation

## Neutraceuticals from aquatic organisms

- ♦ Development of high value compounds and neutraceuticals for human health:
  - ♦ Green mussel extract (Cadalmin™ GMe) - for pain & arthritis
  - ♦ Green algal extract (Cadalmin™ GAe) - for pain & arthritis
  - ♦ Seaweed antidiabetic extract (Cadalmin™ Ade) - a green remedy for type-2 diabetes
  - ♦ Seaweed nutraceutical drink - for enhancing micronutrients
  - ♦ Fish Sausage fortified with seaweed extract - for easy digestibility



## Development of New-Generation Fishing Vessels

- ♦ Design of a new-generation, fuel-efficient and multi-purpose fishing vessel developed and commissioned.

Multipurpose fishing vessel for Trawling, Gill-netting and Long-lining



# New Initiatives....

## Financial Support to New Universities



ANGRAU, Andhra Pradesh & SKLTSHU, Telangana  
Released Rs 122.5 crores each

## University Scholarships



Granted Professional Status to Degrees in  
Agriculture and Allied Sciences

Initiated Emeritus Professor Scheme in 2016-17 to utilize the services of outstanding superannuated teachers/scientists from NARES system for teaching specialized courses and develop instructional material.

Introduced National Talent Scholarships-PG from 2016-17 @ Rs. 3,000 p.m. for all the students who take admission in the State other than their domicile State.

Number of beneficiaries: 1,512

# Student READY

## Launched by Hon'ble Prime Minister on 25 July 2015

Introduction of Fellowship from 2016-17 @ Rs 3,000 p.m. for all the students for a period of 6 months during Student READY which was RS. 1000 p.m. earlier



### Components of Student READY

1. Experiential Learning (EL)
2. Rural Agriculture Work Experience (RAWE)
3. In Plant Training/ Industrial Attachment/Internship
4. Skill Development Training
5. Student Project

## Netaji Subhas – ICAR International Fellowships

- ◆ to develop competent human resources that are trained in the identified best laboratories in the world (for Indian candidates) - 79 students
- ◆ to expose overseas candidates to the best Indian Agricultural Universities (AUs) in the ICAR-AU system for creating a pool of scientist-envoys for enhanced future co-operation – 23 students

### Annually 30 Fellowships

- ◆ @ US \$ 2000 p.m. for Indian candidates and
- ◆ @ Rs 40,000 p.m. for Overseas candidates
- ◆ Fresh and in-service (ICAR / SAUs)





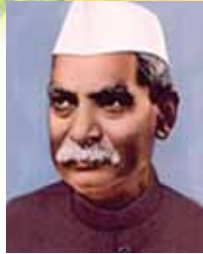


## Four New ICAR Awards

Name of Award (Numbers)	Year of Institution	Value of the Award
1) ICAR Administrative Awards (3 awards one each in Technical, administrative & supporting categories)	2014	Rs. 51,000/- each
2) Haldhar Organic Farmer Award (1)	2015	Rs. 1,00,000/-
3) Pandit Deendayal Antyodaya Krishi Puruskar (1 National & 11 Zonal Awards)	2016	National :Rs. 1,00,000/- Zonal Rs. 51,000/- each
4) Pandit Deendayal Rashtriya Krishi Vigyan Protsahan Puraskar (1 National & 11 Zonal awards)	2016	National :Rs. 25,00,000/- Zonal :Rs. 2,25,000/- each

## Pt. Deendayal Upadhyay Unnat Krishi Shiksha Yojana

- ◆ 130 training programmes on Organic Farming/Natural Farming and Cow based Economy in 32 SAUs
- ◆ Identified 100 Centers with budget - Rs. 5.35 crores
- ◆ Organized 5 regional workshops-cum-training (Lucknow, Kolapur, Avikanagar, Amritsar and Jhansi)



## **National Agricultural Education Day**

Declared 3rd December as National Agricultural Education Day in the memory of First Food and Agriculture Minister Dr. Rajendra Prasad



## **Jai Kisan - Jai Vigyan Week**

On the occasion of birthday of former Prime Ministers Shri Chaudhary Charan Singh ji and Shri Atal Bihari Vajpayee ji, the Jai Kisan - Jai Vigyan Week is being celebrated in the whole country since 2015.

## **Women Farmers' Day**

To acknowledge the contribution of women in Indian Agriculture 15th October declared as Women Farmers' Day and is celebrated across the country.

## **National Agricultural Higher Education Project**

- ◆ Proposed with an outlay of USD 165.0 million (Rs. 1000 crores)
- ◆ Funded by the World Bank and Government of India on 50:50 cost sharing basis
- ◆ Duration of the Scheme: six years (2016-17 to 2021-22)
- ◆ EFC circulated among the Departments concerned

# 2016 : The International Year of Pulses

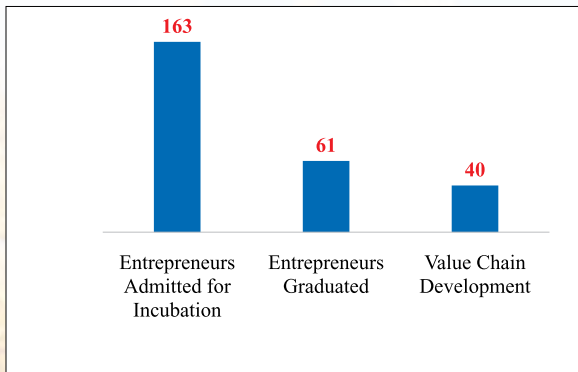
New Programmes on Pulses initiated under NFSM for attaining self-sufficiency



- ◆ Establishment of 150 “Seed-Hubs on Pulses” for augmenting the supply of quality seeds of pulses
- ◆ Production of minimum 3717 quintals additional breeder seed by 2016-17 and 5801 quintals by 2018-19
- ◆ Strengthening production and supply units of bio-fertilizer and bio-control agent at 24 centres

## Agri-Business at ICAR

25 Agri-Business Incubation (ABI) Centres Established (2015-16)



### Subject Area:

Animal Science:	5
Crop Science:	4
Agril. Engineering:	4
Agril. Education:	2
Horticulture:	5
Fisheries:	4
NRM:	1

## New ICT Apps and Portals



- ◆ PUSA KRISHI- Technology Mobile App
- ◆ Mobile app “riceXpert”
- ◆ E-Kapas Network and Technology Documentation
- ◆ PulsExpert for pests & diseases
- ◆ e-Pest Surveillance and Advisory System for Horti Crops
- ◆ Online Pest Monitoring and Advisory Services
- ◆ Pest Forewarning application
- ◆ KRISHI-Digital data portal
- ◆ Goat Management Information Software (GMIS)

## New initiatives by KVKs

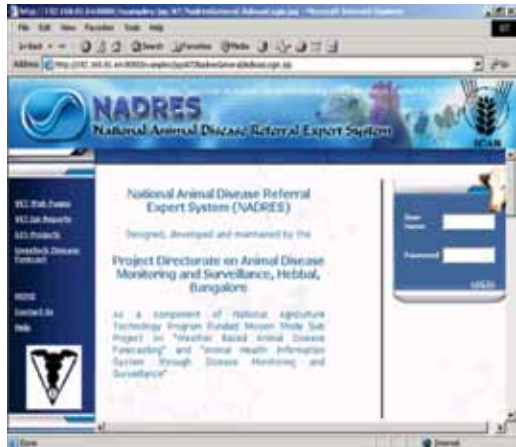
- ◆ Web Portal- Krishi Vigyan Kendra Knowledge Network
- ◆ mKisan Portal- 90 lakh farmers are being provided advisory by the KVKs
- ◆ Automatic Weather Stations at 100 KVKs by India Meteorology Department
- ◆ Climate Resilient Initiatives at 121 KVKs (21 included in 2015-16)
- ◆ National Initiative on Fodder Technology Demonstration (NIFTD)- 100 KVKs.

# Disease Forecasting

Lateral flow assay for diagnosis of brucellosis

**National Referral (NADRES)**     **Animal Expert System**     **Disease System**

Forecasting/forewarning of 15 important livestock diseases



# Cooperation

- ◆ **MoU with ICAR – ICMR Areas** (Zoonotic Diseases, Anti-microbial Resistance, Nutrition and Pesticide Resistance)
- ◆ **International Collaborations** (ILRI, CDC and MSU & BMGF, USA)



# Training and Entrepreneurship development for Jaggery and Gur making

- ◆ This initiative was taken with the objective of providing alternate avenues of income to the sugarcane growing farmers in the sugarcane belt of Bihar and UP where a large number of sugarcane mills have closed down.
- ◆ On 5th March 2016, the Agriculture and Farmers Welfare Minister Shri Radha Mohan Singh inaugurated the Training and Entrepreneurship Development Centre for Jaggery and Gur making at Motipur, research station of IISR, Lucknow.
- ◆ Union Minister while addressing the farmers informed that such processing centres are of crucial importance towards increasing the income of the farmers and the Motipur Jaggery unit will prove an important milestone in this regard.



# Krishi Unnati Mela 2016 and 2017



## Objective:

To acquaint the farmers about new varieties and technologies developed by ICAR.

- ◆ Live demonstrations of production technologies of crops
- ◆ Farmers' visits to experimental fields of IARI
- ◆ Technologies for protected cultivation of vegetables and flowers
- ◆ Display and sale of farm equipment and machinery by the ICAR Institute and private companies
- ◆ Live Demonstration of Farm Animal
- ◆ Sale of seeds of HYV's of crops, swaplings, and seedlings by IARI and other public and private organisations
- ◆ Free testing of soil and water
- ◆ Display and sale of bio-fertilizers and agro-chemicals

Krishi Unnati Mela was organized in 2016 & 2017 during which the various Agro Industries from all over the country participated. More than 5 lakh farmers attended and got benefited from these events.



- ◆ Irrigation technology for water saving
- ◆ Display and sale of Innovative Farmers products
- ◆ Kisan Gosthi
- ◆ Farm women empowerment workshop



## THREE YEAR ROADMAP (2017-2019)

Government is working on realizing the vision of Hon'ble Prime Minister for doubling of farmers' income by 2022. Towards this, the Ministry of Agriculture Cooperation & Farmers' Welfare will initiate and implement the following over the next three (3) year period of 2017-18 to 2019-20.

### 1. Agriculture Inputs:

#### 1.1 Seeds:

- ◆ Seed Village Programme will be expanded from 30,000 villages to 60,000 villages and 500 Seed Production and Processing Units will be set up at Panchayat Level.
- ◆ For self-sufficiency in pulses production, 1.5 lakh quintal hybrid seeds will be produced through 150 Seed Hubs.
- ◆ Seed Bill will be passed for effective regulation and mandatory registration of seeds.

#### 1.2. Soil Health Management:

- ◆ The present cycle of distribution of Soil Health Cards (SHCs) will

be completed and the next cycle started in May, 2017 and completed in May 2019. The third cycle will commence thereafter.

- ◆ 1000 mini labs will be promoted through the local entrepreneurs. Hand held devices for quick soil testing will be developed through start-ups.
- ◆ Software will be developed to generate fertilizer recommendations any time/any site/any crop.
- ◆ Customized/micro nutrient coated fertilizers will be promoted in additional 70 districts.
- ◆ 80,000 ha to problem soils (alkaline, saline and acid) will be reclaimed.



### 1.3. Water:

- ◆ A dedicated corpus fund of Rs. 5,000 crore through NABARD will be operationalized and 4.8 million hectare will be brought under micro irrigation.

## 2.0. Productivity improvement and Diversification:

### 2.1. Crops:

- ◆ Cropping intensity will be increased by 1 million ha per year through utilization of rice fallow areas for pulses and oilseeds to cover 3 million ha by 2020.
- ◆ Climate Resilient Crops will be promoted in chronically drought hit districts (100 nos.) by up-scaling NICRA programme.
- ◆ Cultivation of oil palm in wastelands will be promoted by increasing the area of cultivation from 3 lakh ha to 3.75 lakh ha in AP, Arunachal Pradesh, Assam, Karnataka, Mizoram, Nagaland, Tamil Nadu and Tripura and with this intervention, crude palm oil production will be increased from 2 lakh ton to 3 lakh ton in 4 years.
- ◆ Pulse production will be increased to 24 million MTs by 2019-20.

### 2.2. Horticulture:

- ◆ Bring 4.5 lakh ha of area under improved varieties of horticulture i.e. fruits, vegetables, plantation and other crops including flowers, spices

and aromatic plants by 2019-20; and increase protected cultivation for high value crops in additional 1.2 lakh hectare by 2019-20.

- ◆ To strengthen post-harvest infrastructure, 5 lakh MT cold storage, 1000 Pack Houses and 150 ripening chambers will be set up.
- ◆ Present area under cashew cultivation will be increased from 10.3 lakh ha to 11.5 lakh ha and its production will be enhanced from present 6.7 lakh ton to 9 lakh ton with 3 years gestation period.
- ◆ Area under cocoa production as an inter-crop in the states of AP, TN and Karnataka in coconut, oil palm and areca nut will be increased from the present 78,000 ha to 100,000 ha in 2 years.
- ◆ Saffron Park under National Saffron Mission will be completed by December 2018.
- ◆ Integrated Bee Develop Centres will be set up in the States of Bihar, Haryana, MP, Uttarakhand and Manipur for pollination support in cross-pollinated crops.
- ◆ For collection and marketing of honey through milk cooperatives, SAFAL brand of honey has been launched in Delhi. This initiative will further be expanded by NBB via Milk Federations in 2 more States (Gujarat and Rajasthan).

### **2.3. Natural Resource Management:**

- ◆ Under Agro-forestry Mission (Har Medh Par Ped), 3 lakh ha. area will be brought under agro-forestry (Har Medh Par Ped) by 2019-20.

### **2.4. Rainfed Area Development:**

- ◆ National Rainfed Area Authority (NRAA) has been revived to act as repository of knowledge for dryland agriculture besides other mandates. Action plans for 150 most vulnerable drought prone districts will be prepared by October 2017 and initiate appropriate interventions.

### **2.5. Organic Farming:**

- ◆ Organic farming will be promoted in 2.5 lakh ha. through 350 Farmer Producer Organizations (FPOs).
- ◆ Under Paramparagat Krishi Vikas Yojana, Government will increase the cluster size from 20 ha to 1000 ha (from 500 ha to 1000 ha under Mission Organic Value Chain Development for NE States) for efficient marketing and to realize potential of organic farming.

### **3.0. Marketing, Storage and other Post-production Infrastructure**

- ◆ Orient, persuade and handhold States & UTs in adoption of Model Agricultural Produce and Livestock Marketing (Promotion & Facilitation) Act, 2017.
- ◆ Roll out Model Contract Farming Act, 2017 by October 2017.

- ◆ Roll out Guidelines on 'Strengthening Warehouse Storage and Warehouse Receipt Based Pledge Loan System' by October 2017.
- ◆ Onboard a cumulative of 585 agricultural markets on e-NAM platform by March 2018; consolidate online trading and inter-market transactions.
- ◆ Prepare a map of all the dry and cold storage infrastructure in the country and provide information & access to the producers & other stakeholders on Google.
- ◆ Under Grameen Bhandar Yojana, link financial assistance to District Storage capacity derived from demand-supply status.

### **4.0. Credit and Crop Insurance**

- ◆ Agricultural credit
  - ◆ Increase coverage of small & marginal farmers under short term credit from the present 43 per cent to 50 per cent by 2018-19.
  - ◆ Special focus on enhancing credit absorption in Eastern and North-Eastern States of the country.
- ◆ Computerization of Primary Agricultural Cooperative Societies (PACSS).
  - ◆ Complete computerization of all the 63,000 PACSS in the country by 2019-20.

- ◆ Crop Insurance
  - ◆ Coverage of Gross Cropped Area (GCA) under PMFBY and WBCIS will be increased from the current 30 per cent (2016-17) to 40 per cent and 50 per cent by 2017-18 and 2018-19 respectively.
- ◆ Promote fodder development at the rate of 10,000 ha. per year through milk cooperatives and Gram Panchayats.

## 5.2. Fisheries

- ◆ Enhance productivity by setting up 474 no. of hatcheries in 20 states and introduce 1140 crores finger lings per year into these; and promote ornamental fish culture in 100 of these hatcheries of 8 states.
- ◆ Promote 20,000 cage culture & 500 re-circulatory aqua-culture.
- ◆ Promote deep sea fishing and mariculture by replacing 1600 bottom trawlers with tuna-long liners, introduction of 2800 ocean cages and investment of Rs.44 crore in island development Plan of Andaman & Nicobar and Lakshadweep.
- ◆ Promote tilapia/integrated paddy fish farming in Assam & Nagaland by tilapia cage culture; promote paddy fish farming in Kerala, West Bengal and North-Eastern Region.

## 5. Animal Husbandry, Dairy & Fisheries

### 5.1. Dairy

- ◆ Upgrade indigenous breeds/non-descript cows by setting up 50 embryo transfer labs to produce 1.1 lakh number of female cows.
- ◆ Under GOKUL Mission, triple artificial insemination (AI) coverage to 80 per cent by 2019-20.
- ◆ Ensure 100 per cent vaccination coverage for Foot & Mouth Disease (FMD) and Brucellosis; and track vaccinated animals through Pashu Sanjeevani App & Health Card.
- ◆ Strengthen milk procurement infrastructure:
  - ◆ Increase bulk milk collection from 16,000 to 50,000 villages by March, 2018.
  - ◆ Under Dairy Infrastructure Development Fund (DIDF), modernize old (10 to 30 years) cooperative dairies.
  - ◆ Work towards declaring five states as disease free by March, 2019 and tap export markets in Russia, Middle East and Asia.

### 5.3. Small Livestock (goat, sheep, piggery & poultry)

- ◆ Under National Livestock Mission (NLM) upgrade 2,50,000 no. of sheep and 5,00,000 no. of goats per year to benefit 2 lakh farmers.
- ◆ Set up National Livestock Development Agency (NLDA) on the lines of the National Dairy Development Board (NDDB).

- ◆ Transform 18000 backyard poultry units into boilers/layer farms under National Livestock Mission.

### **6.0. Agricultural Extension and Space Technology**

- ◆ Promote and consolidate use of Information Technology through mobile and web-based services as integral to man-power based extension services.
- ◆ Expand the services of Kissan Call Centres for easy reach to farmers (2018-19).
- ◆ Make provision to enable the companies investing in various extension services including Agriculture Technology Management Agency (ATMA), to avail themselves of the tax benefit u/s 35 ccc of the Income Tax Act (by 2018-19).
- ◆ Launch 'National Programme for Space Application in Agriculture (NPSAA)' as a comprehensive platform to harvest the advantages of space technology in agriculture & allied sectors.
- ◆ Space and Information Technologies will be leveraged to improve efficiency, speed & accuracy of Crop Cutting Experiments (CCEs) and ensure timely settlement of claims of the farmers in accordance with prescribed timelines in the Guidelines. This to be ensured in 2017-18.
- ◆ Other reforms

- ◆ Effect amendments to Multi-State Credit Cooperative Society Act, 2002 to make multi-state societies more efficient & accountable.
- ◆ Set up an independent office of the Central Registrar of Cooperative Societies (CRCS) with 4 Regional Offices by 2017-18. This will improve efficiency of administration and effectiveness of supervision & monitoring.

### **7.0. Agriculture Research**

- ◆ ICAR to undertake research in Genomics/Gene editing technologies for breakthrough in yield levels and inducing multiple stress tolerance in crops.
- ◆ Research in Bio-fortification for nutrient rich food (protein, zinc, vitamin A, anti-oxidants) will be undertaken.
- ◆ Address the issue of burning of crop residues through research on scientific management of crop residues by focusing on deconstruction of lignocelluloses for cattle feed and microbial-consortia based conversion for organic manure.
- ◆ Indigenous technology for sex sorted semen production will be developed and research undertaken on development of thermo-tolerant vaccines for animals.

- ◆ Long staple cotton and high yielding jute varieties will be released.
- ◆ For focused research, 75 schemes of ICAR will be restructured into 35 thematic areas.
- ◆ 8.0. Governance Framework
- ◆ Adopt the following as the basis of governance:
  - ◆ For all schemes of the Ministry:  
**Identify** through Aadhaar

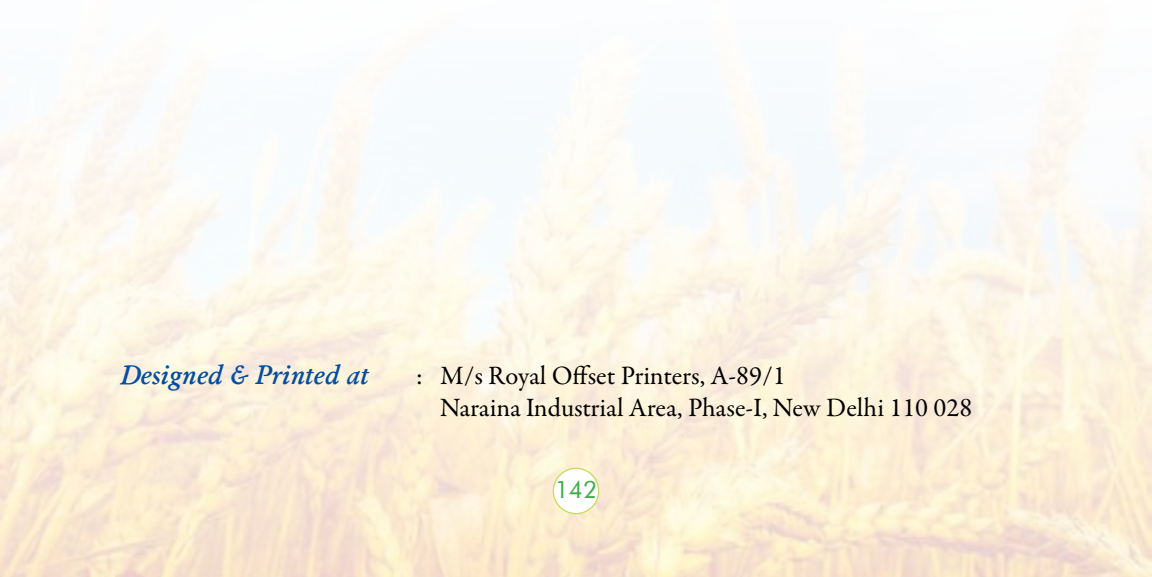
**Eligibility** through SECC/Gram Sabha

**Focus** on small & marginal farmers

**Aggregation** through SHGs, Cooperative and FPOs.

**Accountability** through use of IT, DBT & Space Technology; and social audit by GPs.





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## IMPORTANT DAY

1	World Forest Day	21 March
2	World Veterinary Day	Last Saturday of April
3	World Milk Day	1 June
4	National Fish Husbandry Day	10 July
5	Foundation Day of ICAR	16 July
6	World Honey Day	20 August
7	World Coconut Day	02 September
8	World Egg Day	Second Friday of October
9	National Women Farmers Day	15 October
10	World Food Day	16 October
11	World Fish Day	21 November
12	National Milk Day	26 November
13	National Agriculture Education Day	3 December
14	Worlds Soil Day	5 December
15	Jai Kisan Jai Vigyan Week	23 to 29 December



**Ministry of Agriculture & Farmers Welfare**  
**Government of India**