

# NATIONAL FOOD SECURITY MISSION

## *REPORT OF THE* NATIONAL LEVEL MONITORING TEAM (NLMT)

(RABI, 2015-16)

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## **ABBREVIATIONS**

1. AICRP-All India Coordinated Research Project
2. APC – Agriculture Production Commissioner
3. ATMA-Agriculture Technology Management Agency
4. CCE- Crop Cutting Experiment
5. CSBD-Cropping System Based Demonstration
6. CDDs- Crop Development Directorates
7. CIAE-Central Institute of Agricultural Engineering
8. CHCs-Custom Hiring Centre
9. CLR- Commissioner of Land Revenue
10. DAP- Diammonium Phosphate
11. DFSMEC-District Food Security Mission Executive Committee
12. DES- Directorate of Economics and Statistics
13. FLD-Front Line Demonstration
14. FPOs-Farmer-Producer Organization
15. HYV-High Yielding Varieties
16. ICAR-Indian Council of Agricultural Research
17. ICARDA-International Center for Agricultural Research in Dry Areas
18. IGKVV- Indira Gandhi KrishiVishvaVidyalaya
19. INM-Integrated Nutrient Management
20. IPM-Integrated Pest Management
21. JNKVV- Jawaharlal Nehru KrishiVishvaVidyalaya
22. KVK- KrishiVigyan Kendra
23. MIDH-Mission for Integrated Development of Horticulture
24. MIS- Micro Irrigation System
25. MULLaRP- MungbeanUrdbean Lentil LathrusRajmashandPea
26. NHM- National Horticulture Mission
27. NMAET - National Mission on Agricultural Extension & Technology
28. NFSM-National Food Security Mission
29. NFSMEC-National Food Security Mission Executive Committee
30. NLMT-National Level Monitoring Team
31. NMOOP –National Mission on Oilseeds&Oilpalm
32. NMSA- National Mission for Sustainable Agriculture
33. NPV- Nuclear Polyhedrosis Virus
34. NRM- Natural Resource Management
35. NSKE- Neem Seed Kernel Extract
36. PMT- Project Management Team

- 37. RAO-Rural Agriculture Extension Officer
- 38. RCT-Resource Conservation Technology
- 39. SAUs-State Agriculture University
- 40. SHGs- Self Help Group
- 41. SDA- State Department of Agriculture
- 42. SFSMEC-State Food Security Mission Executive Committee
- 43. SRI- System of Rice Intensification
- 44. TA – Technical Assistant
- 45. TOT-Transfer of Technology
- 46. ZRS-Zonal Research Station

## PREFACE

Government of India, The Department of Agriculture, Co-operation & FW, Ministry of Agriculture & FW, vide letter No. CPS 2-29/2014-NFSM dated the 31<sup>st</sup> July, 2014, constituted a National Level Monitoring Team (NLMT) for monitoring the implementation/execution of National Food Security Mission (NFSM-Rice, Wheat, Coarse Cereals and Commercial Crops) activities in respect of the NFSM states. The NLMT-Madhya Pradesh, under the Chairmanship of Director, DPD, Bhopal, comprises of Principal/Sr. Scientists from ICAR/SAU, State NFSM Nodal officer. The Terms of Reference (TOR) of the apex monitoring Team include i) The Director, Crop Development Directorate (CDD) to act as NLMT Convenor /Team leader; ii) to undertake field visit at least once in each Crop Season; iii) to conduct in-depth inspection of the executed activities in consonance to Mission's mandate and approved Action Plan and to study the "Local Initiatives"; iv) to study quantitative, qualitative achievements and impact of the delivery mechanism through supplementation of visuals and video films; v) To prepare analytical report on observation with suggestions/recommendations for further necessary corrections at the level of stake holders for better implementation of the Mission and desired outcome.

The composition of the NLMT for Madhya Pradesh was broad based and included the experts from Research organizations/SAUs. The Team interacted with the farmers individually in the field and also by organising *Kisan Goshties*. The Wrap-up Meeting with district Collectors, the Chairman of the District Food Security Mission Executive Committee (DFSMEC) could not be materialized due to co-ordination issues between State NFSM HQ and district (DDA/DC). The report has tried to capture the impact of NFSM during XII<sup>th</sup> Plan period in comparison to pre-NFSM five year Plan (11<sup>th</sup> Plan). The observations and recommendations have been categorized under broad heads.

I am thankful to the VCs of IGKV, Raipur, JNKVV, Jabalpur and RVSKVV, Gwalior, for nominating experts/SMS to represent NLMT and to members for their valuable inputs in summarizing the report outcome. I also acknowledge the Mission Administration, Deptt. of Agriculture, Cooperation & FW, New Delhi for their sustained guidance and support of Technical Team of DPD, Bhopal, especially Dr. A.K. Shivhare, Assistant Director for coordination of NLMT Team and in bringing out the report publication.

Bhopal (M.P.)  
06<sup>th</sup> May, 2016

(A.K. Tiwari)  
Director/Team Leader (NLMT)

# **REPORT OF NATIONAL LEVEL MONITORING TEAM TO REVIEW THE IMPLEMENTATION OF NATIONAL FOOD SECURITY MISSION (WHEAT, PULSES, COARSE CEREALS AND COMMERCIAL CROPS) IN THE STATE OF M.P. DURING RABI, 2015-16.**

## **1. Background**

1.1 The Centrally Sponsored Scheme of Crop development programme on National Food Security Mission for 03 commodities(viz. Rice, Wheat and Pulses)was launched during the 11<sup>th</sup> five year plan (2007-08 to 2011-12) with the objectives to achieve additional food-grain production consisting of Rice, Wheat & Pulses by 10, 8 and 2 million tonnes respectively by the terminal year of Eleventh Plan. With the critical interventions on demonstrations of improved package of practices, SRI and Hybrid Rice Technology, Seed etc., the envisaged targets of 20 million tonnes of food-grain was achieved.

1.2 Alongwith the other four Missions, viz. NMAET, NMSA, NMOOP & MIDH, the revamped NFSM, cleared by Cabinet Committee on Economic Affairs, has been continued during the 12<sup>th</sup> five year plan (2012-13 to 2016-17) with an allocation of Rs. 12350 Crores. The revamped NFSM. From 2015-16 is the sharing pattern has been changed to 60:40 for general category states and 90:10 for NE and Hill states (*Ministry's letter no. 20-1/2012- NFSM (CA V) dated 12<sup>th</sup> Nov. 2015*).

The NFSM, from 2014-15, during Twelfth Five Year Plan have five components viz. NFSM-Rice, Wheat, Pulses, Coarse Cereals and Commercial Crops (sugarcane, jute, cotton) *has targeted an additional production of 25 million tons of food grains consisting of Rice-10 million tones, Wheat- 8 million tones, Pulses- 4 million tones& Coarse Cereals-3 million tones.*

1.3 **The basic strategy** of the Mission is to promote and extend improved technology package. The interventions include organisation of Cluster Demonstrations, including 30% of total demonstrations under Cropping System Based Approach focusing *low productivity and high potential districts* by SDA with technical backstopping of ICAR/SAUs/ on Rice, Wheat, Pulses; distribution of certified HYV seeds/Hybrid seeds, RCT tools, irrigation machineries/MIS, trainings and *undertaking local initiatives to the tune of 5% of total budgetary allocation to improve productivity.*

1.4 The NFSM strategy further envisages to targeting reclamation of problematic soils, water logging areas and mitigation of adverse effect of climate change for highproductivity areas, value chain integration (FPOs),and assistance for Custom Hiring Centre (CHCs).

## 2. Area of Operation

S.No.	Commodities	All India		M.P. (No. of districts)
		States	District	
i.	Wheat	11	126	16
ii.	Pulses	29	644	51
iii.	Rice	25	194	8
iv.	Coarse cereals(Maize, Small Millet, Pearl Millet etc.)	28	623	16
v.	<b>Commercial Crops</b> (Cotton ,Sugarcane, Jute)	15		15
		13		8
		09		-

## 3. Monitoring Mechanism

S.No.	Level	Formation	Mission structure/ (Composition)	Frequency of Meeting
i.	National	i) General Council (GC)	Union Minister of -Chairman Agriculture Mission Director-Member Secretary	6 Monthly
		ii) National Food Security Mission Executive Committee (NFSMEC)	Secretary (A & C)- Chairman Mission Director- Member Secretary	Quarterly
		iii) National Level Monitoring Team (NLMT)	Director CDDs-Convener Principle Scientist/SMD NFSM-Member	Once in a crop season
ii.	State	State Food Security Mission Executive Committee (SFSMEC)	Chief Secretary –Chairman State Mission Director–Member Secretary	6 Monthly
iii.	District	District Food Security Mission Executive Committee (DFSMEC)	District Collector/CEO-Chairman JilaParishad DDA/DAO -Member Secretary	Quarterly

#### 4. NLMT MP : Composition

S.No.	Organization	Names and Designation
i.	Government of India (Deptt. of Agri. Coopn. & Farmer Welfare) Ministry of Agri. Coopn. & Farmer Welfare <b>Directorate of Pulses Development</b> VindhyachalBhavan, Bhopal, (M.P.)	Dr. A.K. Tiwari Director  -(Convenor & Team leader)
ii.	IGKV, Raipur, Department of Entomology (Chhatisgarh).	Dr. Sanjay Sharma Principal Scientist (Entomology) (PI- AICRP Rice) - (Member)
iii.	RVSKVV, RAK College of Agriculture, Sehore, Gwalior, (M. P.).	Dr. M. Yasin Principal Scientist (Plant Breeding & Genetics) RAK College of Agriculture, Sehore) - (Member)
iv.	JNKVV, Jabalpur, Zonal Agriculture Research Station, Powerkheda, Hoshangabad, (M. P.).	Dr.P.C.Mishra Principal Scientist - (Member)
v.	Government of India (Deptt. of Agri. Coopn. & Farmer Welfare) Ministry of Agri. Coopn. & Farmer Welfare <b>Directorate of Pulses Development</b> VindhyachalBhavan, Bhopal, (M.P.)	Dr. A.K. Shivhare Assistant Director - (Member)
vi.	Government of Madhya Pradesh Deptt. of Farmers Welfare and Agriculture Development, Bhopal, (M. P.).	Shri. B.D. Sharma Joint Director, Gwalior Division - (Member)

#### 5. State Profile: MP

Agro-climatic zones (Nos.)	11
Net Cultivable area (lakh ha)(2012-13)	154.55
Fallow land(lakh ha) (2012-13)	10.49
Area sown (lakh ha) (Kharif, 2015)	126.45
(Rabi, 2015-16)	106.66
Gross Cropped Area (lakh ha) (2012-13)	232.33
Area sown more than once (lakh ha) (2012-13)	77.78
Cropping Intensity (%)	154.37
Gross Area under Irrigation (lakh ha) (2012-13)	89.70 (38.61%)
Net Area under Irrigation (lakh ha) (2012-13)	59.67
Area irrigated more than once (lakh ha) (2012-13)	27.84
Rainfed Area(lakh ha) (%)	142.63 (61.39 %)
No. of Holdings (lakh) (2010-11)	88.73
No. Holdings with SMF (lakh) (2010-11)	41.36 (71%)
Area with SMF (lakh ha) (2010-11)	53.81 (33.98 %)
Power Consumption (KW/ha)	1.36



## 6.1. Production Scenario: Plan analysis (XI<sup>th</sup>-XII<sup>th</sup> Plan)

(A-Lakh ha, P.-Lakh tonnes, Y-kg/ha)

Crops	Districts / State	XI Plan (2007-08 to 2011-12)			XII Plan (2012-13 to 2014-15)			% Share in XII Plan			Increase/decrease over XI Plan (%)		
		A	P	Y	A	P	Y	A	P	YI	A	P	Y
Kharif Crops													
Cereals													
Paddy	MP	15.90	16.57	1042	19.88	30.81	1550	4.56	2.92	64	25.03	85.94	49
	All India	436.48	972.42	2228	435.82	1055.59	2422				-0.15	8.55	9
Jowar	MP	4.57	5.89	1289	2.53	4.41	1743	4.39	8.33	190	-44.64	-25.13	35
	All India	73.42	69.70	949	57.69	52.91	917				-21.42	-24.09	-3
Bajra	MP	1.72	2.79	1622	2.01	3.74	1861	2.71	4.15	153	16.86	34.05	15
	All India	91.23	92.02	1009	74.09	90.15	1217				-18.80	-2.03	21
Maize	MP	8.49	11.32	1333	9.48	16.91	1784	10.53	7.23	69	11.66	49.38	34
	All India	83.78	197.78	2361	89.99	233.97	2600				7.42	18.30	10
C.C. (Kodo-Kutki)	MP	2.55	0.74	291	0.69	0.27	386	5.90	1.45	25	-72.85	-63.93	33
	All India	13.00	20.41	1570	11.75	18.51	1575				-9.58	-9.29	0
Small millet	MP	2.79	0.84	301	1.95	0.90	462	28.95	21.77	75	-30.11	7.14	53
	All India	8.75	4.54	519	6.74	4.13	614				-22.98	-8.99	18
Pulses													
Arhar	MP	4.06	2.56	631	5.05	5.11	1012	13.17	17.08	130	24.38	99.61	60
	All India	37.89	26.64	703	38.35	29.92	780				1.21	12.31	11
Urd	MP	5.61	1.95	348	6.86	2.99	436	25.54	19.97	78	22.33	53.35	25
	All India	23.48	9.90	422	26.87	14.99	558				14.44	51.41	32
Moong	MP	0.83	0.26	312	1.10	0.47	429	4.47	4.36	97	32.19	82.04	38
	All India	25.50	9.18	360	24.56	10.83	441				-3.69	17.97	22
Kulthi (Horse Gram)	MP	0.22	0.17	783	0.18	0.25	1345	7.89	23.36	296	-16.05	44.29	72
	All India	4.37	1.72	394	2.31	1.05	455				-47.14	-38.95	15
Oilseeds													
Soybean	MP	54.44	61.89	1137	59.62	67.53	1133	52.86	50.91	96	9.52	9.11	0
	All India	95.68	111.58	1166	112.79	132.64	1176				17.89	18.88	1
Ground nut	MP	2.00	2.68	1339	2.15	3.41	1586	3.76	4.73	126	7.39	27.24	18
	All India	49.02	57.20	1167	57.14	72.05	1261				16.58	25.95	8
Sesamu m/Til	MP	3.05	1.37	449	3.20	1.70	531	18.91	24.29	128	4.92	24.09	18
	All India	19.07	7.38	387	16.92	7.00	414				-11.27	-5.12	7
Niger/ Ramtil	MP	1.15	0.24	211	0.81	0.29	358	26.56	29.29	110	-29.32	19.83	70
	All India	3.82	1.06	278	3.05	0.99	325				-20.24	-6.95	17
Cotton	MP	6.11	9.28	1518	5.79	11.60	2002	4.71	3.30	70	-5.23	24.98	32
	All India	104.73	280.76	2681	123.10	351.50	2855				17.54	25.19	7

**RABI CROPS****(A-Lakh ha, P.-Lakh tonnes, Y-kg/ha)**

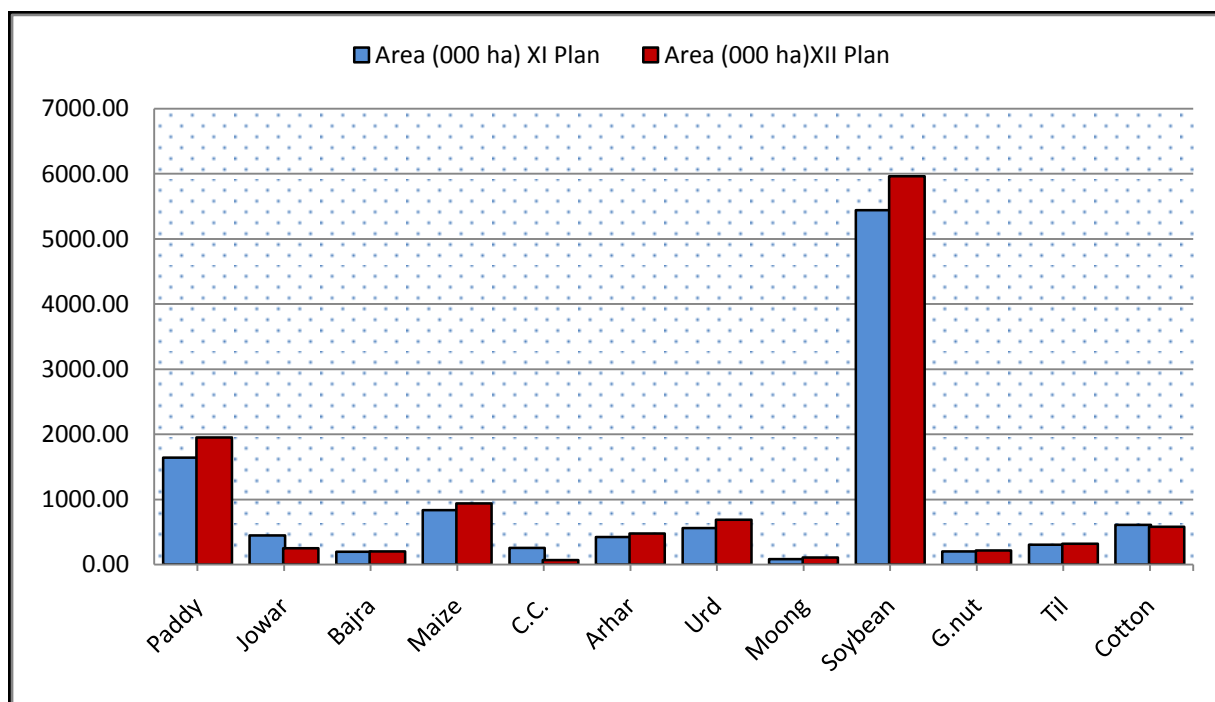
Crops	Districts / State	XI Plan (2007-08 to 2011-12)			XII Plan (2012-13 to 2014-15)			% Share in XII Plan			Increase/decrease over XI Plan (%)		
		A	P	Y	A	P	Y	A	P	YI	A	P	Y
Cereals													
Wheat	MP	39.26	95.31	2428	58.52	174.83	2988	19.20	18.85	98	49.06	83.43	23
	All India	286.36	843.62	2946	304.82	927.65	3043				6.44	9.96	3
Barley	MP	0.74	0.99	1336	0.70	1.04	1487	10.24	6.04	59	-5.02	5.72	11
	All India	6.56	15.04	2292	6.86	17.28	2520				4.53	14.90	10
Pulses													
Gram	MP	28.08	26.11	930	28.84	30.12	1044	40.58	35.39	87	2.72	15.33	12
	All India	82.18	72.42	881	71.07	85.10	1197				-13.52	17.51	36
Lentil	MP	5.71	2.35	411	5.19	3.36	648	37.56	31.27	83	-9.04	43.37	58
	All India	14.64	9.60	656	13.82	10.76	779				-5.60	12.08	19
Lathyrus	MP	0.53	0.36	683	0.45	0.32	708	9.05	8.81	97	-15.31	-12.21	4
	All India	6.32	3.84	608	4.92	3.58	728				-22.15	-6.77	20
Peas	MP	2.09	0.81	388	2.58	2.25	871	29.91	25.48	85	23.47	177.34	125
	All India	7.31	6.58	900	8.63	8.82	1022				18.06	34.04	14
Oilseeds													
Rapeseed /Mustard	MP	7.22	7.69	1065	7.73	8.82	1141	11.88	11.09	93	7.06	14.69	7
	All India	61.01	68.85	1128	65.04	79.53	1223				6.60	15.51	8
Linseed	MP	1.19	0.46	387	1.10	0.56	509	37.29	38.62	104	-7.56	21.74	32
	All India	3.80	1.57	413	2.95	1.45	492				-22.36	-7.68	19
Commercial Crops													
Sugarcane	MP	0.55	21.95	40055	0.82	34.60	42195	1.63	0.99	61	49.64	57.63	5
	All India	47.14	2976.41	63146	50.45	3508.91	69548				7.04	17.89	10

**Impact Analysis:**

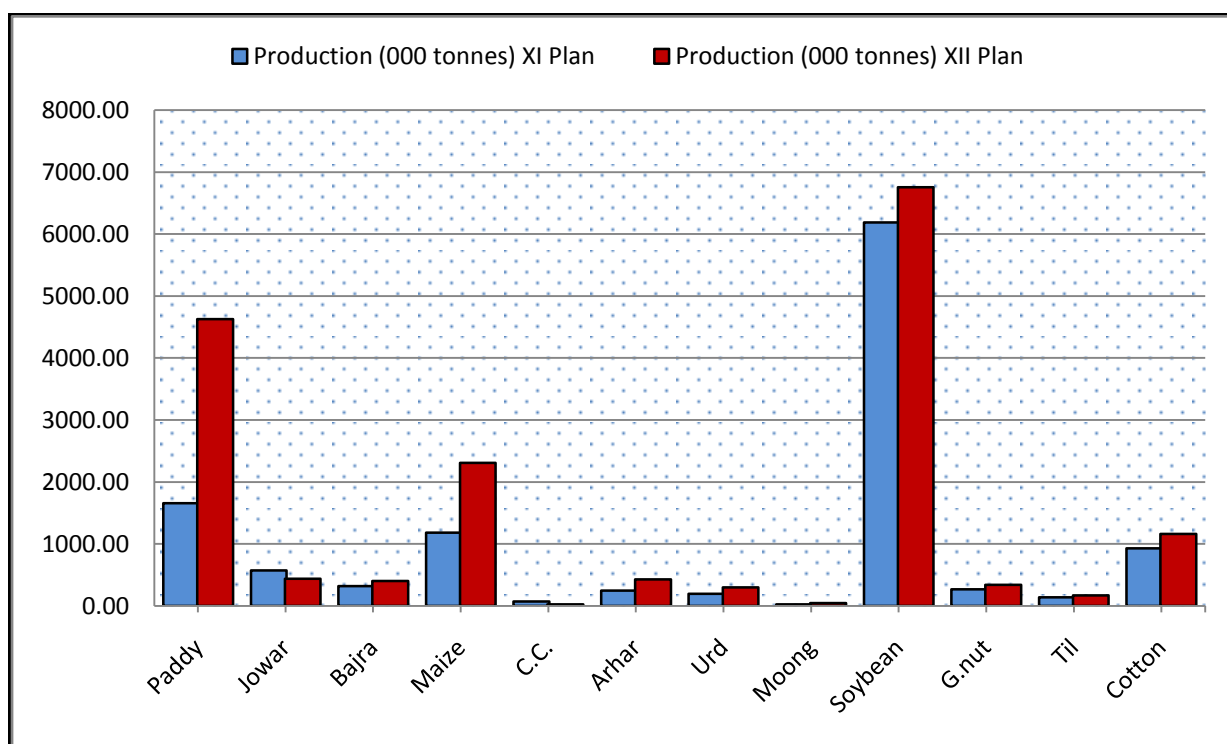
The comparative analysis of the two Plan period reveal that the NFSM launched during 11<sup>th</sup> Plan has paid dividends in the productivity of Paddy *which was 49% higher during the 12<sup>th</sup> Plan* (2012-13 to 2014-15) over its previous five year Plan in M.P. Similarly, the productivity of wheat, gram, lentil and peas were also increased at 23%, 12%, 58% & 125% respectively during 12<sup>th</sup> Plan from the 11<sup>th</sup> Plan.

It is relevant to record that the arhar and gram productivity during the first 03 years of 12<sup>th</sup> Plan for the state was higher i.e. 60 % and 12% than the all India levels of 780 & 1197 kg/ha respectively. M.P. recorded 1012 kg/ha in arhar and 1044 kg/ha in gram.

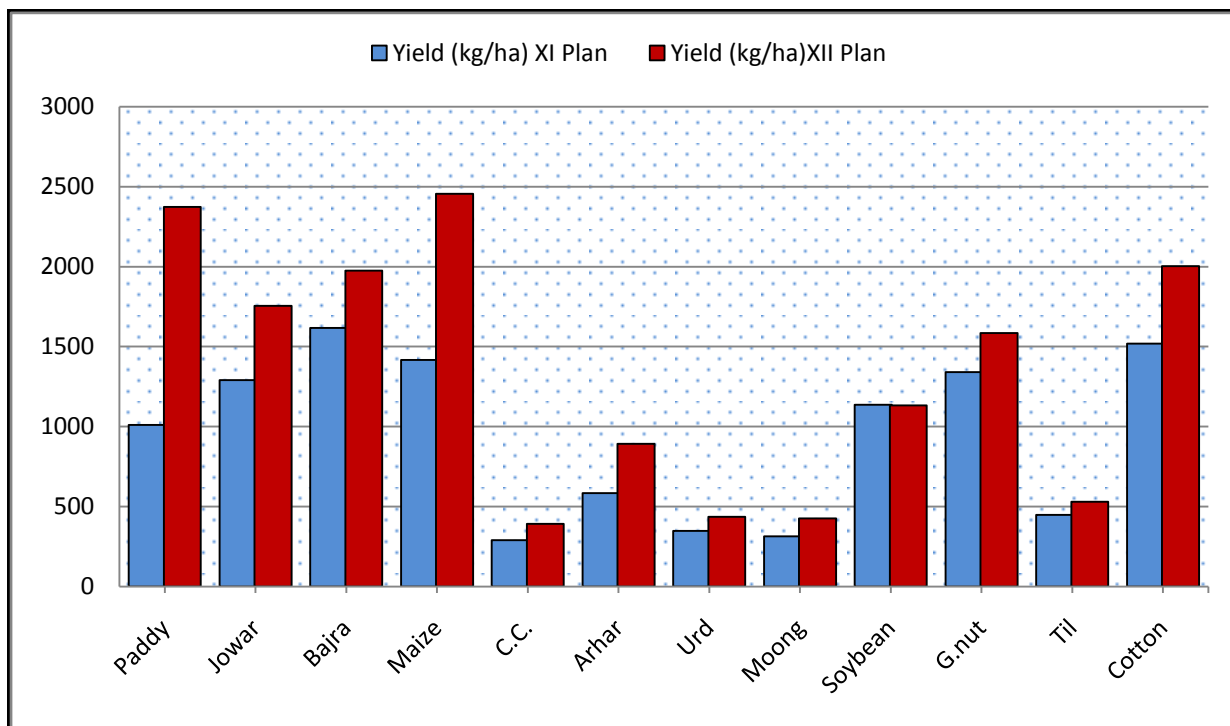
## KharifCrop Scenario: XI<sup>th</sup>&XII<sup>th</sup> Plan



**Crop Coverage :**Pre-NFSM (XI<sup>th</sup> Plan) and Post - NFSM Period (XII<sup>th</sup>Plan)

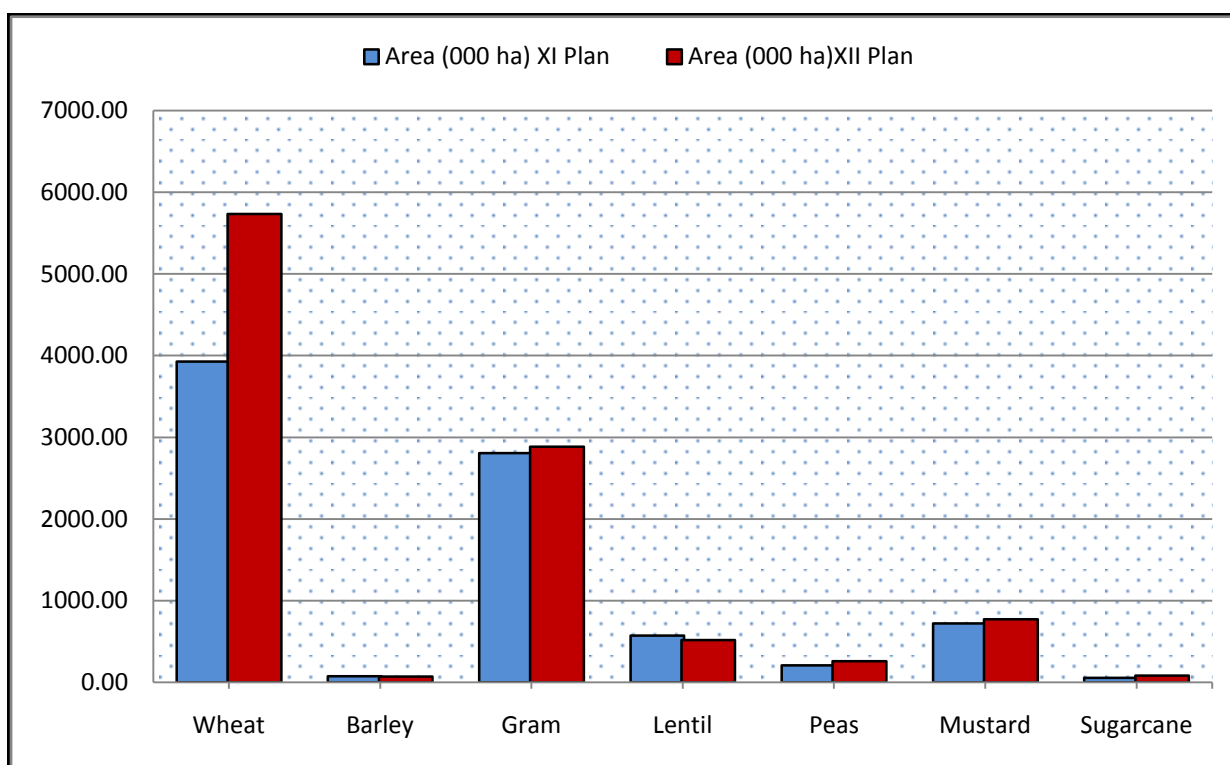


**Production:** Pre-NFSM (XI<sup>th</sup> Plan) and Post NFSM Period (XII<sup>th</sup>Plan)

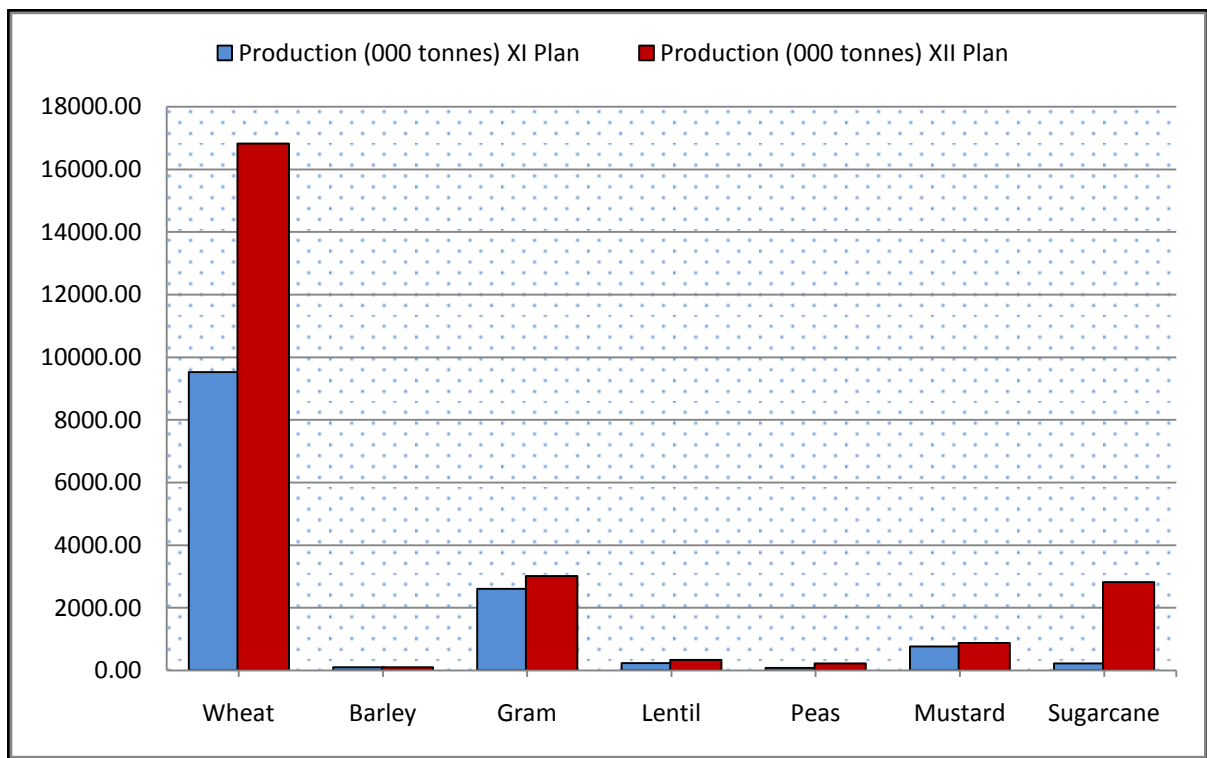


**Yield:** Pre-NFSM (XI<sup>th</sup> Plan) and Post - NFSM Period (XII<sup>th</sup> Plan)

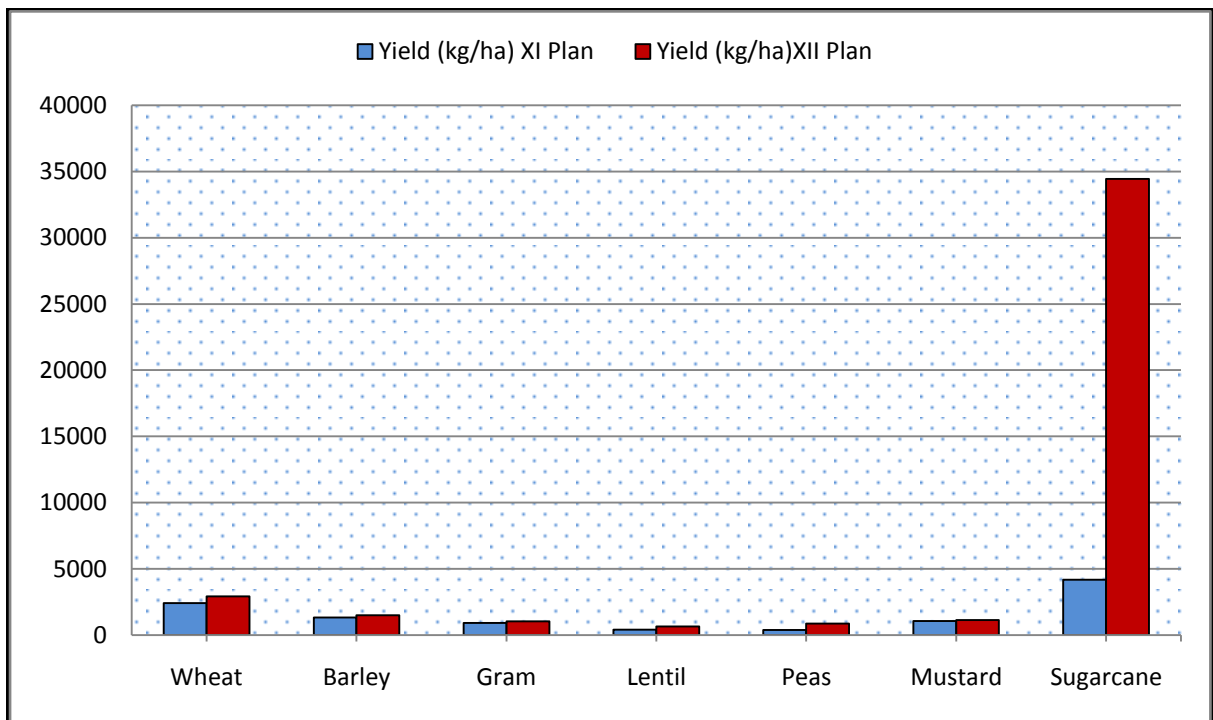
### Rabi Crop Scenario: XI<sup>th</sup> & XII<sup>th</sup> Plan



**Crop Coverage :**Pre-NFSM (XI<sup>th</sup> Plan) and Post - NFSM Period (XII<sup>th</sup> Plan)



**Production:** Pre-NFSM (XI<sup>th</sup> Plan) and Post NFSM Period (XII<sup>th</sup>Plan)



**Yield:** Pre-NFSM (XI<sup>th</sup> Plan) and Post - NFSM Period (XII<sup>th</sup>Plan)

## 6.2 Crop Scenario (Kharif& Rabi): 2014-15

A-lakh ha, P- lakh tonnes, Y-kg/ha

S.No.	Crop	Area (lakh ha)		Production(Lakh T)		Yield (Kg/ha)	
		DES	SDA	DES	SDA	DES	SDA
1	Paddy	21.53	21.43	36.25	54.29	1684	2534
2	Sorghum	2.20	2.20	3.77	3.73	1714	1699
3	Maize	11.32	11.32	20.26	25.31	1790	2236
4	Arhar	5.21	5.21	5.11	5.11	981	981
5	Urd	8.82	8.61	4.37	4.27	495	496
6	Moong	2.61	1.55	1.24	0.70	476	451
7	Soybean	55.78	55.64	56.53	63.48	1013	1141
8	Wheat	55.60	59.94	141.82	184.68	2551	3081
9	Bajra	2.25	2.25	4.45	4.44	1978	1970
10	Small Millets	1.23	1.34	0.72	0.76	585	566
11	Barley	0.43	0.43	0.54	0.54	1256	1251
12	Gram	28.53	28.53	29.64	29.64	1039	1039
13	Rapseed& Mustard	7.16	6.66	7.17	6.70	1001	1006
14	Linseed	1.15	1.11	0.59	0.60	513	541
15	Groundnut	2.31	2.29	3.41	3.65	1476	1595
16	Sesame	3.59	3.59	1.53	1.86	426	517
17	Cotton	5.74	6.31	17.50	12.39	3049	1963
18	Sugarcane	1.11	1.09	50.82	45.31	45784	41682

Source-DES, M/A (4<sup>th</sup> Advance) / SDA-4<sup>th</sup> Advance Estimate

## 6.3 Crop Coverage : 2015-16

### A. Kharif

A-Lakh Ha, P-Lakh Tonnes, Y-Kg/ha

Kharif Crop	2015-16 (2nd Forecast)		
	A	P	Y
Paddy	20.24	52.31	2584
Jowar	2.05	4.10	2000
Bjara	2.67	6.33	2371
Maize	10.98	31.06	2829
Kodo-kutki	1.30	1.05	808
Other (Ragi& Small Millets)	0.50	0.32	640
<b>Total Cereals Kharif</b>	<b>37.74</b>	<b>95.17</b>	<b>2522</b>
Tur	5.79	5.78	998
Urad	9.32	3.37	362
Moong	1.93	0.41	212
Kulthi	0.14	0.04	286
<b>Total Pulses Kharif</b>	<b>17.18</b>	<b>9.60</b>	<b>559</b>
Groundnut	2.36	3.12	1322
Soybean	59.06	38.40	650
Sesame	3.65	1.97	540
Niger Seed	0.8	0.26	325

A-Lakh Ha, P-Lakh M.Tonnes, Y-Kg/ha

Kharif Crop	2015-16 (2nd Forecast)		
	A	P	Y
<b>Total Oilseeds Kharif</b>	<b>65.87</b>	<b>43.75</b>	<b>664</b>
Jute	0.06	0.06	1000
Mesta	0.02	0.01	500
<b>Total Jute &amp; Mesta</b>	<b>0.08</b>	<b>0.07</b>	<b>875</b>
Cotton (T)	5.47	12.53	2291
<b>Total FoodgrainKharif</b>	<b>54.92</b>	<b>104.77</b>	<b>1908</b>
<b>Total Kharif Crops</b>	<b>126.34</b>	<b>161.12</b>	<b>1275</b>

## B. Rabi

A-Lakh Ha, P-Lakh M.Tonnes, Y-Kg/ha

Rabi Crop	2015-16 (1st Advance Forecast)		
	A	P	Y
Wheat	51.84	148.8	2870
Barley	0.97	0.96	990
<b>Total Cereal Rabi</b>	<b>52.81</b>	<b>149.76</b>	<b>2836</b>
Gram	30.17	30.54	1012
Peas Lentil	4.50	6.55	1456
Teora	5.46	3.75	687
Other Pulses Rabi	0.10	0.05	500
<b>Total Pulses Rabi</b>	<b>40.23</b>	<b>40.89</b>	<b>1016</b>
Rapeseed & Mustard	0.01	0.05	5000
Linseed	6.17	6.47	1049
Safflower	1.16	0.4	345
Castor	0.10	0.05	500
<b>Total Oilseeds Rabi</b>	<b>7.44</b>	<b>6.97</b>	<b>937</b>
Sugarcane (Gur)	0.05	0.02	400
<b>Total Foodgrain Rabi</b>	<b>93.04</b>	<b>190.65</b>	<b>2049</b>
<b>Total Rabi Crops</b>	<b>100.53</b>	<b>197.64</b>	<b>1966</b>

## 7.0 Financial Progress

### 7.1 Allocation & Expenditure: 2015-16

(Rs. in Lakh)

Name of Crop/ Scheme	Unspent Balance(31.11.2015)	Allocation	Release	State share	Expenditure (up to Nov., 15)
Paddy	436.22	1916.95	479.25	479.25	522.29
Wheat	1406.24	4813.00	1203.25	1203.25	1000.26
Pulses	4655.86	23276.40	5594.10	5594.10	6532.35
Coarse Cereals	1100.29	1971.29	342.25	342.25	186.50
Commercial- Sugarcane, Cotton	13.20	40.16	9.00	9.00	4.80
Addln.PulsesProg.	8789.15	11500	5750.00	5750.00	2710.85
<b>Total</b>	<b>16400.96</b>	<b>43517.80</b>	<b>13377.85</b>	<b>13377.85</b>	<b>10957.05</b>

*Details of physical and financial progress is at Annexure –I*

## 8. Details of field visit/ Activities

Ashoknagar, Shivpuri and Guna districts of Madhya Pradesh were visited during 25-26<sup>th</sup> February, 2016. Dr. A. K. Shivhare, Assistant Director, Directorate of Pulses Development, Bhopal was associated as member with the visit to cover maximum area in limited time.

S. N.	District	Block	Village/Institute	Activities
1.	Ashoknagar	Ishanagar	Pataie	Multi crop thresher provided under NMAET scheme 2014-15
				Sprinkler set under NFSM with state top up subsidy
				Cluster Dem. of Chickpea variety JAKI-9218 under NFSM
				Wheat cultivation- <b>Root aphid</b> is the emerging problem
			Chandanbehta	Cluster demonstration of Chickpea variety JAKI 9218 line sowing with single box seed drill under NFSM
			Barodiya	Cluster demonstration of Wheat variety HI1531 under NFSM, the crop was irrigated three times but the performance was poor
2.	Shivpuri	Shivpuri	Piparsama	Visit of KVK activities
		Kolaras	Manipura	Straw reaper provided under RKVY 2014-15
			Anantpur	Cluster demonstration of Chickpea variety JAKI 9218 and Wheat variety GW 366 under NFSM
		Badarwas	BudhaDongar	Reaper cum Binder provided under RKVY 2014-15
3.	Guna	Guna	Taknera	Irrigation pipe provided under NFSM 2014-15
			Gurvaikheda	Cluster demonstration of Chickpea variety JG 16 under NFSM
			Torea	Seed production programme of pea variety Aricle for private company under non- NFSM programme. Shri. Ganga Ram (Mob. 9770021988) farmer has taken Seed production Programme of pea (Var.- Arkil).The crop was sown Single box seed drill provided under NFSM 2014-15.
			Behataghat	Cluster demo. of Wheat variety HI 8663 under NFSM. Programme is registered for seed production. Sprinkler set provided under NFSM 2015-16.
			Pagara	Mustard demonstration var. JM-8.



9. List of improved recommended varieties is at **Annex-A**.

## 10.OBSERVATIONS

- 10.1 *The total seasonal rainfall* during the current SW monsoon (14.06.2015 to 30.09.2015) was 823.1 mm which is 13% less as against the state's normal rainfall of 949.1 mm. As per the data, 5 districts received. Excess, 23 normal and 23 received deficit rainfall.
- 10.2 *The winter rains/showers were received* in some districts of the state during last week of October, 2015. (28<sup>th</sup> -29<sup>th</sup>). During the *3<sup>rd</sup> week of January good winter showers have been received across the state*. The day & night temperatures have also declined, however, at the end of February the rabi crops especially wheat and pulses improved in whole the state due congenial temperature from January 15<sup>th</sup> to February 15<sup>th</sup>, 2016. It further helped in proper grain filling. The weather however, again became abnormal beginning March and hail storm with rain was observed in various pockets in state.
- 10.3 Crop scenario (Area, Production and Yield) during 2015-16 (Kharif+Rabi) are given at **Para No.6.3**.
- 10.4 The normal area under Rabi crops is about 85 lakh ha. Wheat is a major rabi cereal crop occupying 48% of the total normal area. This year, as per the WWWR (Weekly Weather Watch Report), wheat has been planted in 56.34 lakh ha which is 4% less against the targeted area of 58.70 lakh ha. The pulses has been planted in 40.77 lakh ha which is 10 % higher against the targeted area of 36.98 lakh ha. Rabi crops have been sown in an area of 106.66 lakh hectares which is also above the normal (85.14 lakh ha) as well as targeted area (105.36 lakh ha).
- 10.5 Spatial variation, less rainfall, early recession of SW monsoon associated with higher than the desired temperature regime during October onward may be attributed to delayed rabi crop sowing including wheat and pulses sowing this year. The rainfed regions usually opt for early sowings of crops including wheat during October on residual moisture. But this year there has been reports of replanting of early sown wheat due to poor or no germination owing to soil moisture stress and higher temperature.
- 10.6 Major wheat varieties grown in M.P. are - Sujata, C-306, HI-1531 (Harshita), HI1500 (Amar), HI-8627 (MalawKirti), GW-366, GW-322, JW-273, HI-1544 (Purna), HI-8498 (Malaw Shakti) HI 8381 (Malaw Shri), HI 8663 (Poshan), MPO 1106 (Sudha), MP 1203, MPO 1215, HD 4672 (MalawRatna).
- 10.7 Major rabi pulses varieties grown in M.P. are- Chickpea (*Desi*- JG16, JG 63, JAKI 9218, JG 130 *Kabuli*- KAK 2, JGK-1, JGK-2 ), Lentil- JL-3 (SagarMasara), JL-1, IPL 81 (Noori), Local variety (non descriptive), Pea- Prakash (IPFD 1-10), KPMR-400 (Indra), MalviyaMatar (HUDP 15).

- 10.8 Usually for almost all the visited cluster demonstrations organized in the sample districts, it is observed that the Demonstration Registers were not maintained / shown by any of the districts. The National Monitoring Team, therefore, could not ascertain the procurement / receipt of the exact quantities of prescribed inputs as well as their utilization in consonance to targets of Cluster Demonstrations allocated and reported as organized by the districts.
- 10.9 The Documentation details on technological recommendations / interventions on laying out a demonstration, such as size of the cluster, soil fertility status, soil types, no. of ploughings, preceding crop (var.) grown, yield performance / CCE results in the Cropping System Based Demonstration (CSBD), inter-culture operations, IPM practiced and number of varieties used in a cluster, varietal characteristics of the crop variety demonstrated, existing variety (ies) for control etc have not been maintained / recorded by any of the districts. This observation stands non-compliant.
- 10.10 On asking the record for inspection by Team Members, the RAEO, shown the only available document i.e. "Input distribution register". This register also did not have any mention / remark of the supervisory officer to physically monitor / visit the demonstration plot.
- 10.11 In general, the "Control Plots" both for the varieties or technology, were either not maintained or identified for comparison, similarly field days and trainings were not organized.
- 10.12 The Team has noticed a poor or no involvement of ZRS/ SAUs, ATMA, KVKs and reputed NGOs and other line departments in execution of the scheme in general and in organization of a certain percentage of demonstrations, in particular.
- 10.13 The Team could also not conclude the equitable distribution of benefits of the scheme in quantitative terms to beneficiaries under Special Component Plan (SCP) (16%), Tribal Sub-Plan (TSP) (8%), SMF (33%), Women (30%), **as such records were not maintained/shown by the DDAs.**
- 10.14 As mandatory for physical verification of all demonstrations / components viz; JD-2%, DDA-5%, ADA (scheme)-10%, SADO-25%, ADO-50% and RAEO-100%, the Members could not come across to such details, neither the state HQ nor the DDAs in sample districts provided such documents.
- 10.15 CSBD were generally reported as not conducted in visited districts and observed poor performance of production and protection technologies, lack of quality demonstrations, under sole crops at many a sites, may be attributed to ad-hoc and weak monitoring mechanism and lack of documentation at all levels. The observation stands non-complaint as ATRs for earlier NLMT reports still awaits.
- 10.16 Skill development component such as organisation of **orientation training programme, dates/days of field day organized during the reproductive phase /**

**grain filling stage of crop, season long trainings** (02 in each season) etc., was reported as not organized in district Ashoknagar. However in Shivpuri & Guna CSBD training were reported as organised but the fact is that when no CSBD were conducted how these training could be organized. None of the visited farmers confirmed to have undergone such training. The very basic objective of technology transfer is defeated when the demonstrations do not integrate the skill development components.

- 10.17 Involvement of District Consultants/TA NFSM in monitoring and conduct of demonstration was noticed in district Shivpuri with least involvement in other.
- 10.18 The prescribed guidelines to erect display boards for wide publicity and extension of message were generally missing and it had a mixed performance.
- 10.19 Appropriate Lay-out of cluster demonstration was also lacking at the sites visited by Team. Although these demonstration sites were not randomly selected by Team but decided by DDAs. **(The team was devoid of detailed commodity wise/district beneficiary list to randomly select the site of their choice).**
- 10.20 The NFSM- funded FLDs allocated to SAU/KVKs/NGOs etc were not in the notice of the DDAs.  
The Team is of the opinion that the FLDs, either given to NGOs or KVKs should be widely publicized and here also the laid down criteria of organizing FLDs such as assessment of soil fertility status, Agronomic recommendations, IPM and maintenance of control plot etc should be holistically followed.
- 10.21 Most of the farmers are not aware of the names of descript/recommended pulse varieties of Mung, Urd, Pigeonpea and Lentil. Non-descript varieties of lentil in Ashoknagar, Shivpuri and Guna and other adjoining parts are being grown. New trend of crop diversion under pea was observed in Shivpuri.
- 10.22 It is observed that micronutrient Boron (B) is being supplied as blank recommendation without any soil test report.
- 10.23 Man-animal conflict/wild animals attack on crops have been reported from districts/block adjoining forest area at many a places, prospects of summer pulse programme has been reported as badly affected due to stray cattles/open grazing, apart from other natural resource issues.
- 10.24 Cluster demonstrations of Chickpea (JAKI 9218) were seen in Isagarh block of Ashoknagar district. The crop was affected with wilt, plants are tall & sown late (1<sup>st</sup> week of December, 2015) as compared to the farmers field crop.
- 10.25 Under Farm Mechanisation, Multi-Crop-Thresher provided under NMAET. Year of distribution and the Scheme under which it is provided, however, not mentioned. Multi-Crop-Thresher, Straw reaper, combine harvesters etc are gaining popularity.

- 10.26 There is mis-match in prescribed per hectare demonstrations cost norms and the expenditure in input cafeteria provided to the beneficiaries. The farmers share has also been charged. Team has opined that the prescribed demonstrations cost of Rs. 7500/- should reach for the demonstration and the beneficiaries only. Approved norms and input cafeteria provided to beneficiaries is **Annexed C**.
- 10.27 The Light Traps have been reported as distributed @ Rs. 1800/- per unit. This amount has been deducted from Rs. 7500/- (the per ha demo. cost). The Team could not come across the physical installation of this equipment. Further feasibility of electrical Light Trap reach of electricity wire at each farm, quality of bulbs, the maintenance etc. issues were also pointed out.
- 10.28 Cluster demonstration of Wheat variety HI-1531 in Barodia village of district Ashoknagar was visited. Three irrigation were provided but performance was poor. Weeds like Hirankhuri, Jangli Jai and Mustard observed in demo plot.
- 10.29 Team also visited KVK Shivpuri. The On-Farm-Trials (OFT) of KVK to demonstrate Wheat, Musturd, Chickpea, Lentil, Linseed etc. were seen. KVK has also taken seed production programme of Chickpea variety JG-6, was found satisfactory. Integrated farming with fisheries, poultry, dairy, fruits and crops approach was appreciable. This KVK has good Liaison with SDAs but cluster demonstration of wheat and gram under NFSM allocated by DDA were not conduct.
- 10.30 Cluster demonstration of Chickpea variety JAKI 9218 in village Manipura, Block-Kolaras district Shivpuri was visited. Crop performance was poor due to water scarcity. Cluster demo. of Wheat variety GW 366 was also seen. Crop condition was good.
- 10.31 In Village Anantpur, **Straw-reaper** and in village BudhaDongar**Reaper-Cum-Binder** was seen which were provided under RKVY-2014-15. Beneficiary farmer of Reaper cum Binder was happy and earned Rs. 80000/- last year. It has given very good employment apart from economy of scale.
- 10.32 Cluster demonstration of Chickpea variety JG-16 was seen in Guna block of Guna district. Demo plot was undulating, sowing operation adopted across the slope which is useful for soil and water conservation. Inputs like Rhizobium culture, Molybedenum, PSB, Trichoderma and light trap were provided. Crop condition was good.
- 10.33 In village Torea (Guna), seed production of pea for private companies is popular. Team interacted with farmers involved in seed production programme of pea. Farmers are shifting towards [pea cultivations by diverting chickpea due to wilt/natural calamity etc. They also fetch better prices in pea.

- 10.34 Shri. Ganga Ram (Mob. 9770021988) farmer has taken Seed production Programme of pea (Var.-Arkil) for private companies under Non-NFSM Programme. He obtained the yield @ 40 qtls/ha. The quality of seed was very good. The crop was sown on Oct. 6-7 Feb.15. The Seed rate was 1 qtls/ha @ (Rs. 8000/qtls). The seed would be sold as per MoU @ Rs. 3500/qtls. The other cost of cultivation was DAP 23 bags @ (Rs. 1000/qtls), Urea 01 bags @ (approx..Rs. 300/-) The crop was sown Single box seed drill provided under NFSM.
- 10.35 Wheat cluster demonstration under NFSM programme with variety HI 8663 was visited in village Behataghat of Guna district. Crop condition was good and the programme is register for seed production. Rouging was adviced to the farmer.
- 10.36 Wheat and Chickpea demonstrations were not organised by NGO/KVK under Innovative component of NFSM programme. However DDAs allotted FLDs to concerned district KVK in visited district.
- 10.37 Team also interacted with beneficiaries of Irrigation pipe, Seed drill and Sprinkler set, provided under NFSM.
- 10.38 In visited districts it was observed that area under coriander increased this year due to less rainfall.
- 10.39 Team has concluded that the demonstrations were delayed organized due to delay in input delivery.
- 10.40 The entire area was suffering from water scarcity due to deficit rainfall subsequently less availability of water for irrigation.
- 10.41 Wheat variety WH-147 replaced with HD 2932, HI 1544, MP 1202 GW 322 & GW 366 in visited areas. Farmers reported a problem of **root aphid in wheat** as an emergence issue for the last two years.
- 10.42 Most of the area under dwarf varieties showed 5% mixture of tall varieties in visited districts. Hence short training of seed production may bring great change in farmers saved seed and their quality.
- 10.43 Farmers are not using seed cum fertilizer drill due to lack of awareness, mostly they are using single box seed drill where seed and further is mixed together which is affecting the germination of seed.
- 10.44 The farmers are not taking interest for lentil cultivation due to non availability of quality seed, wilt problem, institution support is required for boosting lentil cultivation.

- 10.45 Major varieties in visited area are Soybean-JS 9305, JS 9560, JS 335 & NRC 7, Mustard-JM 3, Laxmi&Pusa bold, Groundnut- GG 20, Blacgram- Ajad 2, T 9 & PU 31, Chickpea- JAKI 9218, JG 315 & JG 130, Wheat- HD 2932, HI 1544, HI 1531, GW 366 & GW 322.
- 10.46 Nine Seed Production Societies in Shivpuri districts taken seed production programme of various crops since last three years and fulfil the requirement of seed this area.

## **11.RECOMMENDATIONS/SUGGESTIONS**

- 11.1 Under Farm mechanization, Seed drill, Rotavator and Diesel pumps etc., are being provided. It is suggested that in view of the Natural Resource Management issues (NRM), Resource conservation technologies (RCT) such as Double Box Seed Drill, Machinery for BBF / Ridge Furrow planting coupled with micro-irrigation system need popularization. The District Agriculture functionaries need orientation in this regard.
- 11.2 To combat the situations arising out of deficient rainfall, lowering water table and increase in numbers of gray zone areas /blocks, two days orientation workshop for district level functionaries may be organized with Borlaug Institute of South Asia Centre, (BISA-CIMMYT),Lakhanwada, Jabalpur (M.P.) ([www.irri.org](http://www.irri.org); [www.csisa.cimmyt.org](http://www.csisa.cimmyt.org)).
- 11.3 Agricultural implement subsidy programme need more budget to propagate ferti-cum-seed-drill and other RCT among farmers. Problem of fertilizer chocking in pynes may be resolved at the level of CIAE/Directorate of Engineering.
- Farm implement beneficiaries, especially foe implements with > 40,000/- subsidy, should be mandatorily encouraged to formation of User Groups involving 7-11 farmers to enhance the level of mechanization and also to bring the SMF groups to benefit with higher amount of subsidised implements like Rotavator, Straw-Reaper-Cum-Binder etc.
- 11.4 The increasing awareness in mechanized farming and existing machineries with the farmers is creating the demand of implement Servicing Centre, farmers at present hire the services of technicians from Punjab who are charging @ Rs.50, 000/month during the crop season for repair of combine harvester, reaper etc.
- 11.5 The seed grower societies may be facilitated and advised to get seed indent of appropriate crop/varieties. The efficient societies which are very enthusiastic in production of seeds; must be encouraged in hand holding for the benefits of farming community. The SDA may chalk out the programme accordingly.

- 11.6 Weed management should be mandatory activity and done on the demonstration plot, the programme should be registered under seed production programme, as mandatory for cluster demonstration.
- 11.7 The R.C.T. Tools beneficiaries be motivated to formulate a Machinery User's Group of 10-15 farmers extending benefits to SMF on Custom Hiring basis.  
The detail of programme should be exhibited / written over the implements, and impact assessment of farm mechanization should also be done in the subsequent years by the DDAs and state for making success story/documentation. It is observed that no impact assessment has been conducted by any of the district at the behest of district Agriculture Officer.
- 11.8 The staff appointed under NFSM are engaged only for report preparation, active involvement of Staff (Consultant and TA) appointed under this programme (TA and Consultant) is necessary for effective implementations of NFSM programme.
- 11.9 GPS data of beneficiaries plot may be given for all the field demonstration programmes in their respective official documents for its authenticity, verification and wider publicity.
- 11.10 The information on Programme/activity/list of beneficiaries must be displayed in the Panchayat Bhavan/ other common place. This observation also awaits ATR.
- 11.11 Farmers and field level extension worker should be educated about seed indent system so the appropriate seed can be made available to the farmer well in time.
- 11.12 Suitable orientation training is required for district/block level extension worker on conduction, supervision and Monitoring of cluster demonstration programme.
- 11.13 Documentation of Programme (Demonstration) should be in a common format for all the district consisting of all information like Name of beneficiaries, crop cafeteria, supply of inputs, field day organised Input distribution, Field operations, Monitoring and supervision and Crop Cutting Experiments, so that this information may be utilized in future.
- 11.14 Looking to the bright future of Farm Mechanization, implement repairing and maintenance training programme may be organized at the village level so that minor maintenances can be done locally and someone may get expertise in this field and opt this as a profession.
- 11.15 Site selection and Timely availability of inputs reflects on success or failure of programme, proper planning and their execution need a serious attention at district level.
- 11.16 The cluster demonstration beneficiaries should also be motivated and facilitated for taking seed production programme of their demonstration plot.

- 11.17 Permanent display board should be erected at the cluster demonstration site with all relevant information.
- 11.18 Necessary improvement in seed cum fertilizer seed drill is required for solving the chocking problem of fertilizer.
- 11.19 The training programmes under NFSM were not organized in Ashoknagar and the reason told that no advance provided by treasury which may not be justified reason. In Shivpuri and Guna training programme organised but beneficiaries of cluster demonstration not benefitted. One orientation training before the crop season and another as field day should have been organized. Otherwise these demonstrations cannot be rated as demo organised. The funds utilized under such incomplete demonstration may be audited as “not properly utilized”.
- 11.20 Water conservation programme should be implemented in this area. The basic principles of soil and moisture conservation should be followed for increasing water efficiency and getting good yield.
- 11.21 Ridge bed planting of lentil and use of sprinkler for irrigation may be reduced wilt problem in lentil.
- 11.22 Misconceptions of farmers & extension workers about the irrigation system as flood irrigation is more profitable as compare to sprinkler irrigation in their soil type. Need to be change farmers mind set through extension. It should be well established facts through demo.
- 11.23 Farmers perception of use of more seed rate and more fertilizer to get the more crop yield, need to be changed by demonstrating recommended seed rate and balance fertilizer on the basis of soil type and soil testing report.
- 11.24 Potential increase in area under irrigation by way of intervention of efficient water application tools (Sprinkler, Pipes, Pumpsets, Rain gun) need to be compile in order to evaluate the impact these interventions.
- 11.25 There is urgent need of impact evaluation by NCIPM for each district on the efficacy utility, practicability and quality of Electric Light Trap over Solar Light Traps by cost cuttings on NFSM Cluster demonstration component of Rs. 7500/- per hectare.
- 11.26 District-wise farmers share taken due to difference in input cafeteria an overall impact on quality of cluster demonstrations owing to this diversion an use of the savings may be obtained from the state for further assessment and future planning of such central scheme.
- 11.27 The state may also provide the details on total hectares of cluster demonstration on wheat, pulses etc. registered with SSICA for seed production.
- 11.28 Use of wilt resistant cultivars of pulses, seed treatment of pulses with Trichoderma, mandatory follow-up of IPM in place of sole dependency on pesticides, is recommended.
- 11.29 Single box seed drills should be replaced by double box seed drill (Seed-cum-fertilizer drill).



## DISTRICT-ASHOKNAGAR



District-Ashoknagar, Block-Ishanagar, Vilage-Barodiya ,Wheat Demo. (Var. HI1531)



District-Ashoknagar, Block-Ishanagar, Vilage-Pataie, Multi crop thresher provided under NMAET scheme 2014-15





District-Ashoknagar, Block-Ishanagar, Vilage-Pataie, Interraction with farmers



District-Ashoknagar, Block-Ishanagar, Vilage-Chandanbehta, Cluster demonstration of Chickpea (var. JAKI 9218) under NFSM

## **DISTRICT-SHIVPURI**





District-Shivpuri, Oraganization. – KVK-Shivpuri, Vermi compost site visit



Interaction with Shivpuri -KVK, Scientist





District –Shivpuri , Integrated Farming System Module Visit in KVK-Shivpuri



Organisation-KVK, Shivpuri, Activity-plantation in KVK-Shivpuri





Seed Production Programme in KVK-Shivpuri on chickpea (Var. JG 11)



KVK-Shivpuri Field visit of Different cultivars of Azvina





Soil Testing Laboratory Visit , KVK-Shivpuri & Interaction with Nodal Officer



District-Shivpuri, Block-Kolaras, Vilage-Anantpur , Interaction with Farmers



## DISTRICT-GUNA



District-Guna, Block-Guna, Vilage Taknera, Irrigation Pipe provided under NFSM



District-Guna, Block-Guna, Vilage-Behataghat ,Wheat Demo. (Var. HI 8663)





District-Guna, Block-Guna, Village Gurvaikheda , Cluster Demo. Of Chickpea Variety JG-16



District-Guna, Block-Guna, Village-Torea , ***Farmer Name- Shri. Ganaga Ram***, seed production of pea (Variety-Arkel)





District-Guna, Block-Guna, Village-Torea, Implement-Single Box Seed Drill under NFSM



District-Guna, Block-Guna, Interaction with district officer, Official and Farmers

## LIST OF VARIETIES RECOMMENDED FOR MADHYA PRADESH

## 1. CHICKPEA

Variety	Year of Release /Notification	Source	Maturity (Days)	Yield (q/ha)	Special feature
Bharati (ICCV-10)	1992	ICRISAT	95-100	18-20	Resistant to <i>Fusarium</i> wilt & dry root rot. Drought tolerant
Vijay (Phule G 81-1-1)	1994	MPKV	105-110	18-20	Resistant to wilt, Tolerant to terminal moisture stress.
JG-218	1996	JNKVV	115-120	18-19	Early maturing, Tolerant to wilt.
Vishal (Phule G-87207)	1996	MPKV	110-115	20.00	Resistant to wilt, Tolerant to pod borer, Early maturing
Pusa-391 (BG-391)	1997	IARI	110-120	17-18	Mod. Resistant to wilt & root rot. Bold seeded. Light brown
JGG-1	1997	JNKVV	120-125	13-15	Resistant to wilt, Thin pinkish smooth seed coat
Gujarat Gram-1	1999	GAU	115-120	17-22	Wilt resistant, Dark brown, medium bold.
Dharwad Pragati (BGD 72)	1999	IARI	115-120	25-30	Resistant to wilt & root rot, bold seeded
JG-322	1999	JNKVV	110-115	18-20	Suitable for wilt prone areas.
PKVKabuli-2(KAK 2)	2000	PKV	125-130	17-18	Bold seeded, <i>Fusarium</i> wilt resistance
SAKI-9516 (Jawahar gram 16)	2001	JNKVV	110-120	18-20	Resistant to wilt
JG 130	2002	JNKVV	120-125	13-15	Resistant to <i>Fusarium</i> wilt, Mod. resistant to dry root rot and tolerant to Helicoverpa.
JGK 1	2002	JNKVV	100-110	18-20	Tolerant to wilt
JAKI 9218	2006	PDKV, Akola	112	18-20	Resistant to lodging shattering, Rainfed / irrigated conditions
JG 63	2006	JNKVV	110-120	20-25	Resistance to wilt, dry root rot
JGK-2	2007	JNKVV	95-110	15	Resistant to collar root, root rot
Lam shanaya (LBeG 7)	2007	ANGRAU	90	20-25	Tolerant to Wilt and rot condition
JGK-3 (JGK 19)	2007	JNKVV	92-121	14-15	Resistant to wilt
Jawahar Gram 226 (JG 226)	2007	JNKVV	112-115	15	Resistant to wilt and root rot complex
JG 6	2008	JNKVV	103-132	20.0	Resistant to <i>Fusarium</i> wilt
Shubhra (IPCK 2002-29)	2009	IIPR	104-108	20.0	Moderately resistant to wilt. Escaping to pod borer.
JG 14	2009	JNKVV	113	20-25	Moderate resistant to wilt
Ujjawal (IPCK 2004-29)	2010	IIPR	103-111	20.00	Moderate resistant to wilt and tolerant to BGM
Phule G 0517	2010	MPKV	105-110	18.00	Tolerant to <i>Fusarium</i> wilt,
PKV Kabuli 4	2010	PDKV	100-110	15-16	Mod. resistant to <i>Fusarium</i> wilt dry rot and Botrytis grey mould
Raj Vijay Kabuli gram 101 (JSC 42)	2012	RVSKVV	90-110	15-20	Resistant to <i>Fusarium</i> wilt and moderate tolerant to pod borer

Variety	Year of Release /Notification	Source	Maturity (Days)	Yield (q/ha)	Special feature
Raj Vijay gram 201 (JSC 40 )	2012	RVSKVV	95-113	20-25	Resistant to fusarium wilt, Tolerant to pod borer ( <i>Helicoverpa</i> )
Raj Vijay Kabuli gram 203 (RVG-203)	2012	RVSKVV	100	19-20	Mod. resistant to wilt & dry root rot, and stunt. Tolerant to pod borer ( <i>Helicoverpa</i> )
Raj Vijay Kabuli gram 202 (RVG 202)	2014	RVSKVV	105	18-20	Tolerant to drought and terminal temperature. Resist. to fusarium wilt and Mod. Resistant to collar rot.
JG 12	2014	JNKKV	110	21-22	Tolerant to drought, Resistant to fusarium wilt

## 2. PIGEONPEA

Variety	Year of Release /Notification	Source	Maturity (Days)	Yield (q/ha)	Special feature
JA-4	1991	JNKKV	180-200	16-18	Tolerant to wilt & SMD
Asha (ICPL-87119)	1993	ICRISAT	160-170	16-18	Resistant to wilt & SMD, Bold seeded Indeterminate
Jawahar 7 (JKM-7)	1996	JNKKV	173-180	18-20	Tolerant to wilt Phytophthora blight.
MalviyaVikalp (MA-3)	1999	BHU	178-162	20-22	Constricted Pod,resistant to pod fly.
Jawahar (JKM-189)	2007	JNKKV	116-124	21	Res. to wilt, Mod. Resist. to sterility mosaic and Phytophthora blight
TT-401	2007	BARC	138-156	16	Tolerant to pod borer & tolerant to wilt
TJT 501	2009	BARC & ZARS, Khargone	135-183	18	Tol.to SMD, wilt and phytophthro. Tol. to pod borer and pod fly
Rajeshwari (Phule T 0012)	2013	MPKV, Rahuri	135-150	18-20	Mod. Resistance to <i>Fusarium</i> wilt, SMD, & tolerant to pod borer and pod fly
ICPH 2671*	2014	ICRISAT, ICAR,	180-184	26-30	Drought tolerance and gives good yield under stress conditions.

\*-Hybrid

## 3. LENTIL

Variety	Year of Release /Notification	Source	Maturity (Days)	Yield (q/ha)	Special feature
JL 1	1991	JNKKV	120-125	8	Early, Tolerant to wilt, Resistant to drought.
Lens-4076	1993	IARI	130-135	14	Tolerant to wilt & Rust.
JL-3	1999	JNKKV	115-120	15-19	Resist. to wilt & drought tolerant
Noori (IPL-81)	2000	IIPR	110-120	17-18	Tolerant to Rust, wilt
RVL 30	2010	RVSKVV	107-110	14-15	Resistant to wilt, lodging and shattering
IPL 316	2013	IIPR	110-115	14-15	Resistant to rust and moderately tolerant to wilt.

Raj Vijay Lentil 31	2014	JNKVV	110-115	14-15	Resistance to <i>Fusarium</i> wilt drought and frost
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#### 4. FIELDPEA

Variety	Year of Release /Notification	Source	Maturity (Days)	Yield (q/ha)	Special feature
JP-885	1992	JNKVV	120-140	21	Resistant to PM
Ambika	2000	IGKV	100-125	15-20	Resistant to PM, Tall Plants
(KPMR-400)	2001	CSAUAT	105-115	20	Dwarf type, Resistant to PM
Adarsh (IPF 99-25)	2004	IIPR	110-115	23	Resistant to Powdery Mildew
Vikas (IPFD 99-13)	2005	IIPR	102	23	Resistant to PM and tolerant to rust
Prakash (IPFD-1-10)	2006	IIPR	94-121	21	Resistant to PM and tolerant to rust
IPF 4-9	2011	IIPR	129	17	Resistant to PM, Stem fly & pod borer
IPFD 10-12	2014	IIPR	110-115	22-25	Dwarf Type, Resistant to powdery mildew.

#### 5. URD

Variety	Year of Release /Notification	Source	Maturity (Days)	Yield (q/ha)	Special feature
TPU-4	1992	BARC/ MAU1	75	7.5	Plant erect, medium tall. seed bold & dull black
Barkha (RBU-38)	1999	RAU, Bansawara	12.0	7.5	Bold seeded, Res. to Cercospora leaf spot
KV 96-3 (Azad Urd -3)	2006	CSAUAT	70-73	8.0	Resistant to jassids and thrips and had low incidence of pod-borer
MadhraMinumu 207	2009	ARS, Madhira	75-80	13	Tolerant to YMV & stress. Suitable for Kharif, Rabi & Summer
Vishwas (NUL-7)	2012	Nirmal seeds, pachora	69-73	10	Tolerant to major disease

#### 6. MOONG

Variety	Year of Release / Notification	Source	Maturity (Days)	Yield (q/ha)	Special feature
BM-4	1992	MAU	65	10-12	Early, Bold Seeded
JM-721	1995	JNKVV	70-75	12	Tolerant to PM
HUM-1	1999	BHU	60-65	8-9	Res. To YMV, Summer season
Pusa-9531	2000	IARI	60	10-12	Res. To YMV, Tolerant to Jassids and whitefly, suitable for summer
TromdayJawahar mung-3 (TJM-3)	2006	JNKVV	61-75	8-10	Kharif& summer, Resistant to YMV, PM and Rhyzoctonia root rot

## 7. WHEAT

Variety	Year of Release / Notification	Source	Maturity (Days)	Yield (q/ha)	Special feature
GW 173	1994	JNKVV	100-105	43-45	Resistant to rust, blight and loose smut.
GW 273	1998	GAU, VIJAPUR	91-136	44-45	Resistant to rust leaf as well as stem rust
HI 8498 (Malava Shakti)	1999	JNKVV	115-120	50-57	Resistant to rust, bold shining grain.
GW 322	2002	WRS, GUJARAT	104-140	55-60	Resistant to rust leaf as well as stem rust
MP 1203	2003	JNKVV	99-118	45-50	Terminal heat tolerant, Res. to brown rust and black rust.
MP 1106 (d)	2003	JNKVV	115-120	55-60	Resistant to rust, blight and loose smut
SNEHIL (MP) (JW)-1142	2004	JNKVV	105-110	45-50	Resistance to leaf, stem and strip rusts
HD 2864	2004	JNKVV	125	45-50	Terminal heat tolerant
JW 3020	2005	JNKVV	135	35-38	Resistant to lodging , Resistant to all the rusts
GW 366	2007	JAU, Junagarh	116-120	51-52	High degree of resistance to both leaf and stem rusts.
MP-3269	2010	JNKVV	110	42-45	Tolerant to drought and rusts.
JW 3211	2010	JNKVV	118-125	40-45	Resistant to drought and rusts, Tolerant to lodging due to stiff stem and semi dwarf in nature
JW 1202	2010	JNKVV	97-115	45-50	Resistance to brown & black rust as well as other diseases
JW 1215	2010	JNKVV	115-122	50-57	Resistant to black & brown rusts.
JW 1201	2011	JNKVV	105-120	55-60	Resistant to rust.
JW -3288	2012	JNKVV	122	45-47	Resistant to black rust, leaf rust & leaf blight, tolerant to drought and heat
MP-3336	2013	JNKVV	107-118	44-45	Resistant to rust, Tolerant to brown and black rusts

## 8. PADDY

Varieties	Year of Release/ Notification	Source	Maturity (Days)	Yield (q/ha)	Special feature
<b>IR 64</b>	1991	TNRRI, Aduthurai	124-126	52-55	Resistant to blast. blb, rtv, bph, glh, /bph and gallnidge
Pusa NR-381 (IET-9208)	1992	IAR, New Delhi	90-105	55	Resistance to blast, Sh.R, GM, SB, RH, WBPH, Mod. Resist. To RTV, Brown spot & Sh. b
<b>Mahamaya (IET 10749)</b>	1995	I.G.A.U., RAIPUR	125-130	45-50	Tolerance to blast, sheath rot, brown spot and bacterial blight.
<b>JR 353</b>	1996	JNKVV	110-120	28-32	Resistant to drought.
Poornima (IET-12284)	1997	IGKV,	100-105	30	Resistance to major diseases & Pest

		Raipur			
Shyamala (IET-12561)	1997	IGKVV	130-140	30-35	Resist. To Bacterial leaf blight, and gall midge is comparable to purple leaf varieties namely cross-51 and Nagkesar.
Karanataka Rice-2	1998	GKVK	125-130	75-85	Tolerant to LN, BS & Other Diseases
Jawahar Rice 3-45 (IET-13623)	1998	AICRP, Rewa	85-90	20-23	Resistant to Blast, WBRI and stem borer
Pooja (IET-12241)	1999	CRRI, Cuttuk	150-155	40-50	Resistant to Blast, Tolerant to BLB,blast and RTY
<b>Vivek Dhan-62 (IET-14621)</b>	2001	VPKAS, Almora	120-128	46	Resistance to blast, neck Sh.R blast, & tolerant to low temperature.
Hybrid-6444 (IET -16434)	2001	HRI, Hyderabad	135-140	60-80	Resistant to neck blast and rice tungro virus as compared to tested varieties.
Pant Dhan-16 (IET-14807)	2001	GBPAU&T	105-120	35-40	Moderately resistant to leaf blast and brown spot & stem borer and brown plant hopper
Pusa RH-10	2001	IARI, New Delhi	120-125	43-44	Moderately resistant to bph and leaf folder
Pusa Sugandh-2 (IET-16310)	2001	IARI, New Delhi	120-130	37-38	Moderately resistant to blast and neck blast. being early maturity it also escapes bacterial leaf blight
Pusa Sugandh- 3 (IET-16313)	2001	IARI, New Delhi	120-130	39-40	Resistant to brown spot and moderately resistant to blast, early, also escapes bacterial leaf blight
Vivek Dhan-82 (IET-15473)	2001	VPKAS, Uttranchal	130-135	45-50	Resistance against leaf and neck blast, tolerance to stem borer and leaf folder
Vasumati (IET-15391)	2002	DRR, Hyderabad	133	45-50	Moderately resistant to leaf blast and brown spot, white backed plant hopper ,gall midge
<b>JRH 5</b>	2007	JNKVV	105-108	60-80	Susceptible to false smut, low incidence of BLB.
<b>JRH 4</b>	2007	JNKVV	105-108	60-80	Susceptible to false smut, low incidence of BLB.
<b>JRH-8</b>	2009	JNKVV	110-115	75-80	Susceptibility to biotic stress very low,
IGKV R 1 (R1124-258-3-86-1)	2011	IGKVV, Raipur	105-115	51-52	Moderate resistance for leaf blast, sheath blight, brown spot





**CAFETERIA OF INTERVENTIONS FOR CLUSTER DEMONSTRATIONS IN MADHYA PRADESH FOR 2015-16****(COARSE CEREALS)****CLUSTER DEMONSTRATION :MAIZE****Amount in Rs.**

<b>S.No.</b>	<b>Name of Interventions</b>	<b>Recommended by Agriculture Scientist</b>	<b>Total cost/ha</b>
1	Demonstration of Hybrid Maize :- Introducing newly released hybrids and quality protein maize varieties with specific to region	Seed rate 20 kg/ha	1150
2	Seed treatment (appropriate & recommended)	Seed treatment with Trichoderma viride @ 5 g/ kg seed or carbendazem 3 g/kg seed	100
3	Zinc	<b>Zinc :</b> Zinc sulphate @ 25 kg/ha is recommended as basal application for every three cropping sequences. If deficiency of Zinc is appears on the standing crop, 0.5% foliar application of Zinc sulphate is recommended (Neutrilize with 0.25% lime) two to three spray at the interval of 10-15 days are required.	500
4	Weedicide (appropriate& recommended)	· Atrazine/Simazine 1.0 Kg a.i./ha as pre-emergence (2.0 Lt/ha commercial prod.)	350
		· 2,4-D (Ethyl ester) 0.5 Kg a.i. /ha as post emergence	
		( 1.33 kg/ha commercial product)	
5	Bio-fertilizers (Azotobactor, PSB, Potash mobilizing	<b>Azotobacter, Azosprillum and PSB</b>	300
		· 2- 3 kg of each inoculant should be taken.	
		· It should be mixed with 150 kg well powered FYM/Compost/Vermicompost/soil and incubate in shade for 7 days before soil treatment (about 40% moisture should be maintained).	
		· Broadcast the mixture over one hectare land before sowing	
6	Demonstration on IPM	Light trap safer to beneficial and light trap for managing insect (Without ballast )	1800
7	Publicity material/Visit of Scientists/Field Day	-	800
	<b>Total</b>		<b>5000</b>



# CLUSTER DEMONSTRATION MILLETS (COARSE CEREALS)

Amount in Rs.

S.No.	Name of Interventions	Recommended by Agriculture Scientist	Total cost /ha
1	Seed including seed treatment	Seed rate 5-10 kg/ha	500
		Seed treatment with Trichoderma virideorCarbendazim 3 g/ kg seed.	
		For Shoot fly : Chloropyriphos @2ml/kg of seed	
2	Promotion of line sowing	Same as recommended	550
3	Micro nutrients (zinc, boron)	25 kg Zinc Sulphate/ha &Borex 10 kg/ha at the time of sowing(as per deficiency)	500
4	Weedicide (appropriate & recommended)	<ul style="list-style-type: none"> <li>2,4-D (Ethyl ester) 0.5g a.i. /hg as post emergence ( 1.33 Lit/ha commercial product)</li> </ul>	350
		<ul style="list-style-type: none"> <li>Fenoxaprop-ethyl 100 g a.i./ha as post -emergence (1Lit/ha commercial prod., 20 to 25 day after sowing)</li> </ul>	
5	Insecticides (appropriate & recommended)	For Stem borer: Carbaryl 85% WP @ 5.75 kg/ha	400
6	Bio-fertilizers (Azotobactor, PSB, Potash mobilizing bacteria and zinc solubilizing bacteria)	<b>Azotobacter, Azosprillum and PSB</b>	300
		<ul style="list-style-type: none"> <li>3 kg of each inoculant should be taken.</li> </ul>	
		<ul style="list-style-type: none"> <li>It should be mixed with 150 kg well powered FYM/Compost/Vermicompost soil and incubate in shade for 7 days before soil treatment (about 40% moisture should be maintained).</li> </ul>	
		<ul style="list-style-type: none"> <li>Broadcast the mixture over one hectare land.</li> </ul>	
7	Demonstration on IPM	Light trap safer to beneficial insect and light trap for managing insect (Without Blast )	1800
8	Publicity material/Visit of Scientists/Field Day	-	600
	<b>Total</b>		<b>5000</b>

Note : 1.If the seed is already treated, amount on seed treatment will not be used

2. Above intervention may be changed region wise according to the availability of inputs

**CLUSTER DEMONSTRATION: PULSES** Amount in Rs.

S.No.	Name of Interventions	Recommended by Agriculture Scientist	Total cost /ha
1	Popularization of improved varieties		
1.1	Urd Moong, Moth, Cowpea, Tur pea	Seed rate 20 kg/ha	3800.00
1.2	Chick Pea/field pea	Seed rate 80 kg/ha	
1.3	Lentil/Horse gram	Seed rate 40 kg/ha	
2	Seed treatment fungicides/Molybdenum	For disease control	100.00
		Seed treatment with Trichoderma viride 5 g/kg seed or Carbendazim + Thiram (1:2) @ 3 g/kg seed.	
		Pigeonpea- Seed treatment with Metalaxyl @ 3 g/kg seed and foliar spray of Metalaxyl @ 3 g/lit of water, at appearance of phytophthora blight	
		Chickpea – Soil incorporation of Trichoderma viride @ 2.5 kg/ha along with FYM	
3	Promotion of use of Micro Nutrients and bio-fertilizers		
3.1	Zinc/Boron/Molybdenum (Based on soil testing value)	Zinc : Zinc sulphate @ 25 kg/ha is recommend -ed as basal application for every three cropping sequences. If deficiency of Zinc is appears on the standing crop, 0.5% foliar application of Zinc sulphate is recommended (Neutrilize with 0.25% lime) two to three spray at the interval of 10-15 days are required. Supplement Molybdenum @ 1 g Amonium Molibdate/kg seed with Rhizobium + PSB inoculation.	500.00
3.2	Rhizobium and PSB, Potash mobilizing bacteria and zinc solubilizing bacteria)	Specific Rhizobium, PSB and Trichoderma	300.00
		Rhizobium	
		· Every year each pulse crop should be inoculated with appropriate Rhizobial inoculants.	
		· Seed should be treated first with fungicide as per recommendations.	
		· Prepare a slurry of 1 kg of Rhizobium culture in one litre of jaggery solution (by dissolving 200 g Jaggery in one litre of hot water and cool it.)	
		· Spread inoculant slurry over 80-100 kg of seed	
		· It found difficult to treat such a big quantity of seed then it should be divided in 3-4 parts and accordingly inoculants slurry should also be divided.	
		· Mix the inoculants slurry in shade with seed so that every seed should be coated well.	
		· Molybdenum Supplement @ 1 g Amonium Molybdate/kg seed (as seed inoculation with Rhizobium + PSB in Chickpea).	
		· Sow the inoculated seed as early as possible and do not keep the treated seeds overnight.	
		PSB and Trichoderma	
		· 3 kg of each inoculants should be taken.	
		· It should be mixed with 150 kg well powered FYM/Compost/Vermicompost (about 40% moisture should be maintained)	
		· Broadcast the mixture over one hectare land.	
4	Plant Protection	Pigeonpea: Profenofos 50 EC @ 1.5 Lit/ha, Dimethoate 30 EC @ 1 Lit/ha, Chickpea : Profenofos 50 EC @ 1.5 Lit/ha, Letnil : Dimethoate 30 EC @ 1 Lit/ha, Field pea, Cowpea, Urd, Moong : Triazophos 40EC @ 1 Lit/ha	1000.00
5	Demonstration on IPM	Light trap safer to beneficial insect and light trap for managing insect (Without Blast )	1800.00
	Total	-	7500.00

## Cropping system based Demonstration : Pulses – Wheat

Amount in Rs.

S.No.	Name of Interventions	Recommended by Agriculture Scientist	Total cost /ha
1	Popularization of improved varieties		
1.1	Urd Moong, Moth, Cowpea, Pigeon pea	Seed rate 20 kg/ha	3800.00
1.2	Chick Pea/field pea	Seed rate 80 kg/ha	
1.3	Lentil/Horse gram	Seed rate 40 kg/ha	
2	Seed treatment fungicides/Molybdenum	<p>For disease control</p> <p>Seed treatment with Trichoderma viride + Carboxin (1:1) @ 5 g/kg seed or Carbendazim + Thiram (1:2) @ 3 g/kg seed.</p> <p>Pigeonpea- Seed treatment with Metalaxyl @ 3 g/kg seed and foliar spray of Metalaxyl @ 3 g/lit of water, at appearance of phytophthora blight</p> <p>Chickpea – Soil incorporation of Trichoderma viride @ 2.5 kg/ha along with FYM</p>	100.00
3	Promotion of use of Micro Nutrients and bio-fertilizers		
3.1	Zinc/Boron/Molybdenum (Based on soil testing value)	Zinc : Zinc sulphate @ 25 kg/ha is recommend -ed as basal application for every three cropping sequences. If deficiency of Zinc is appears on the standing crop, 0.5% foliar application of Zinc sulphate is recommended (Neutrilize with 0.25% lime) two to three spray at the interval of 10-15 days are required. Suppliment Molybdenum @ 1 g AmoniumMolibdate/kg seed with Rhizobium + PSB inoculation.	800.00
3.2	Rhizobium and PSB, Potash mobilizing bacteria and zinc solubilizing bacteria)	<p>Specific Rhizobium, PSB and Trichoderma</p> <p>Rhizobium</p> <ul style="list-style-type: none"> <li>· Every year each pulse crop should be inoculated with appropriate Rhizobial inoculants.</li> <li>· Seed should be treated first with fungicide as per recommendations.</li> <li>· Prepare a slurry of 1 kg of Rhizobium culture in one litre of jaggery solution (by dissolving 200 g Jaggery in one litre of hot water and cool it.)</li> <li>· Spread inoculant slurry over 80-100 kg of seed</li> <li>· It found difficult to treat such a vig quantity of seed then it should be divided in 3-4 parts and accordingly inoculants slurry should also be divided.</li> <li>· Mix the inoculants slurry in shade with seed so that every seed should be coated well.</li> <li>· Molybdenum Suppliment 1 g AmoniumMolibdate/kg seed(as seed inoculation with Rhizobium + PSB in Chickpea.</li> <li>· Sow the inoculated seed as early as possible and do not keep the treated seeds overnight.</li> </ul> <p>PSB and Trichoderma</p> <ul style="list-style-type: none"> <li>· 3 kg of each inoculants should be taken.</li> <li>· It should be mixed with 150 kg well powered FYM/Compost/Vermicompost (about 40% moisture should be maintained)</li> <li>· Broadcast the mixture over one hectare land.</li> </ul>	300.00
4	Plant Protection	Pigeonpea:Profenofos 50 EC @ 1.5 Lit/ha, Dimethoate 30 EC@1 Lit/ha, Chickpea : Profenofos 50 EC @ 1.5 Lit/ha, Letnil :Dimethoate 30 EC@1 Lit/ha, Field pea, Cowpea, Urd, Moong :Triazophos 40EC @ 1 Lit/ha	700.00
5	Demonstration on IPM	Light trap safer to beneficial insect and light trap for managing insect (Without Blast )	1800.00

	Total	-	7500.00
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### CLUSTER DEMONSTRATION : RICE HIGH YIELDING

			Amount in Rs.
S. No.	Name of Interventions	Recommended by Agriculture Scientist	Total cost /ha
1	Demonstration of potential of high yielding varieties of rice. (Transplanted and directed seeded)	Seed rate 60 kg/ha(directed seeded rice) 25 Kg/ha (transplanted rice)	2000.00
2	Seed treatment (appropriate and recommended)	Seed treatment with Thiram @ 2 g/kg seed or carbendazim 1.5 g. + Streptocycline 2.5 g per 10 kg seed.	250.00
<b>3</b>	<b>Promotion of use of micro nutrients and biofertilizers</b>		
3.1	Zinc/Boron (Based on soil testing value)	<b>Zinc :</b> Zinc sulphate @ 25 kg/ha is recommended as basal application for every three cropping sequences. If deficiency of Zinc is appears on the standing crop, 0.5% foliar application of Zinc sulphate is recommended (Neutrilize with 0.25% lime) two to three spray at the interval of 10-15 days are required. <b>Boron:</b> 10 kg Borex /ha is recommended in Boron deficient soils as basal application If deficiency of Boron is appears on the standing crop, 0.2% foliar application of Borex is recommended. Two to three sprays at the interval of 10-15 days are required.	900.00
3.2	Blue green alage	<b>BGA</b>	300.00
		· 3 kg of each inoculant should be taken.	
		<b>For transplanted rice</b>	
		· Inoculant slurry is to be prepared in 150 liter of water.	
		· Dip the roots of seedlings (required for 1 ha) in inoculants slurry for 10 min.	
		· Root dipping should be done in shade.	
		· Inoculant seedlings should be transplanted as early as possible.	
		<b>Direct seeded rice</b>	
		· It should be mixed with 150 kg well powered FYM/Compost/Vermicompost soil and incubate in shade for 7 days before soil treatment (about 40% moisture should be maintained).	
		· Broadcast the mixture over one hectare land before sowing.	
		<b>Blue Green Algae</b>	
		· Soil based BGA inoculums @ 10 kg/ha for both the conditions.	
4	Demonstration on effectiveness of weedicides (appropriate and recommended)	Herbicide for direct seeded rice (DSR)	400.00
		· Butachlor 1.5 kg a.i./ha (3.0 kg/ha commercial product)	
		· 2,4 D (Ethyl ester) 0.5 kg a.i./ha (1.33 kg/ha commercial product)	
		· Bispyribac – Na 20 g a.i/ha (0.2 kg/ha commercial product)	
5	Insecticide	Fipronil G 10kg/ha, Chlorpyriphos 20 EC@1 Lit/ha	1050
6	Demonstration on IPM	Light trap safer to beneficial insect and light trap for managing insect (With out Blast )	1800
7	Publicity material/Visit of Scientists/Field Day	-	800.00
	<b>Total</b>	-	<b>7500.00</b>

# CLUSTER DEMONSTRATION : RICE Hy. (SRI)

Amount in Rs.

S.No.	Name of Interventions	Recommended by Agriculture Scientist	Total cost /ha
1	Demonstration of potential of Hybrid varieties of rice. (Transplanted SRI system)	Seed rate 05 kg/ha	2000.00
2	Seed treatment (appropriate and recommended)	Seed treatment with Thiram @ 2 g/kg seed or carbendazim 1.5 g. + Streptocycline 2.5 g per 10 kg seed.	250.00
<b>3</b>	<b>Promotion of use of micro nutrients and biofertilizers</b>		
3.1	Zinc/Boron (Based on soil testing value)	<b>Zinc :</b> Zinc sulphate @ 25 kg/ha is recommended as basal application for every three cropping sequences. If deficiency of Zinc is appears on the standing crop, 0.5% foliar application of Zinc sulphate is recommended (Neutrilize with 0.25% lime) two to three spray at the interval of 10-15 days are required. <b>Boron:</b> 10 kg Borex /ha is recommended in Boron deficient soils as basal application If deficiency of Boron is appears on the standing crop, 0.2% foliar application of Borex is recommended. Two to three sprays at the interval of 10-15 days are required.	900.00
3.2	Blue green alage	<b>BGA</b> · 3 kg of each inoculant should be taken. <b>For transplanted rice</b> · Inoculant slurry is to be prepared in 150 liter of water. · Dip the roots of seedlings (required for 1 ha) in inoculants slurry for 10 min. · Root dipping should be done in shade. · Inoculant seedlings should be transplanted as early as possible. <b>Direct seeded rice</b> · It should be mixed with 150 kg well powered FYM/Compost/Vermicompost soil and incubate in shade for 7 days before soil treatment (about 40% moisture should be maintained). · Broadcast the mixture over one hectare land before sowing. <b>Blue Green Algae</b> · Soil based BGA inoculums @ 10 kg/ha for both the conditions.	300.00
4	Demonstration on effectiveness of weedicides (appropriate and recommended)	Herbicide for direct seeded rice (DSR) · Butachlor 1.5 kg a.i./ha (3.0 kg/ha commercial product) · 2,4 D (Ethyl ester) 0.5 kg a.i./ha (1.33 kg/ha commercial product) · Bispyribac – Na 20 g a.i./ha (0.2 kg/ha commercial product)	400.00
5	Insecticide	Fipronil G 10kg/ha, Chlorpyriphos 20 EC@1 Lit/ha	1050
6	Demonstration on IPM	<a href="#">Light trap safer to beneficial insect and light trap for managing insect (With out Blast )</a>	1800
7	Publicity material/Visit of Scientists/Field Day	-	800.00
	<b>Total</b>	-	<b>7500.00</b>

## Cropping system based Demonstration : A. Rice – Pulses

Amount in Rs.

S.No.	Name of Interventions	Recommended by Agriculture Scientist	Total cost /ha
1	Demonstration of potential of high yielding varieties of rice. (Transplanted and directed seeded)	Seed rate 60 kg/ha(directed seeded rice) 25 Kg/ha (transplanted rice)	2000.00
2	Seed treatment (appropriate and recommended)	Seed treatment with Thiram @ 2 g/kg seed or carbendazim 1.5 g. + Streptocycline 2.5 g per 10 kg seed.	100.00
3	<b>Promotion of use of micro nutrients and biofertilizers</b>		
3.1	Zinc sulphate	<b>Zinc :</b> Zinc sulphate @ 25 kg/ha is recommended as basal application for every three cropping sequences. If deficiency of Zinc is appears on the standing crop, 0.5% foliar application of Zinc sulphate is recommended (Neutrilize with 0.25% lime) two to three spray at the interval of 10-15 days are required.	400.00
3.2	Blue green alage	<b>BGA</b>	300.00
		· 3 kg of each inoculant should be taken.	
		<b>For transplanted rice</b>	
		· Inoculant slurry is to be prepared in 150 liter of water.	
		· Dip the roots of seedlings (required for 1 ha) in inoculants slurry for 10 min.	
		· Root dipping should be done in shade.	
		· Inoculant seedlings should be transplanted as early as possible.	
		<b>Direct seeded rice</b>	
		· It should be mixed with 150 kg well powered FYM/Compost/Vermicompost soil and incubate in shade for 7 days before soil treatment (about 40% moisture should be maintained).	
		· Broadcast the mixture over one hectare land before sowing.	
		<b>Blue Green Algae</b>	
		· Soil based BGA inoculums @ 10 kg/ha for both the conditions.	
3.3	Boron (BoroxDeca hydrate, Borox Penta hydrate)	<b>Boron:</b> 10 kg Borex /ha is recommended in Boron deficient soils as basal application If deficiency of Boron is appears on the standing crop, 0.2% foliar application of Borex is recommended. Two to three sprays at the interval of 10-15 days are required.	700.00
4	Demonstration on effectiveness of weedicides (appropriate and recommended)	Herbicide for direct seeded rice (DSR)	350.00
		· Butachlor 1.5 kg a.i./ha (3.0 kg/ha commercial product)	
		· 2,4 D (Ethyl ester) 0.5 kg a.i./ha (1.33 kg/ha commercial product)	
		· Bispyribac – Na 20 g a.i./ha (0.2 kg/ha commercial product)	
5	Insecticide	Fipronil G 10kg/ha, Chlorpyriphos 20 EC@1 Lit/ha	1050.00
6	Demonstration on IPM	Light trap safer to beneficial insect and light trap for managing insect (Without Blast )	1800.00
7	Publicity material	-	250.00
8	Visits of Scientists	-	300.00
9	Field days	-	250.00
	<b>Total</b>	-	<b>7500.00</b>

## Cropping system based Demonstration :B. Pulses

Amount in Rs.

S.No.	Name of Interventions	Recommended by Agriculture Scientist	Total cost /ha
1	Popularization of improved varieties		
1.1	Urd Moong, Moth, Cowpea, Pigeon pea inculding seed treatment	Seed rate 20 kg/ha	1800.00
1.2	Chick Pea/field pea inculding seed treatment	Seed rate 80 kg/ha	
1.3	Lentil/Horse gram inculding seed treatment	Seed rate 40 kg/ha	
2	Promotion of use of Micro Nutrients and bio-fertilizers		
2.3	Rhizobium and PSB, Potash mobilizing bacteria and zinc solubilizing bacteria)	Specific Rhizobium, PSB and Trichoderma	250.00
		Rhizobium	
		· Every year each pulse crop should be inoculated with appropriate Rhizobial inoculants.	
		· Seed should be treated first with fungicide as per recommendations.	
		· Prepare a slurry of 1 kg of Rhizobium culture in one litre of jaggery solution (by dissolving 200 g Jaggary in one litre of hot water and cool it.)	
		· Spread ioiculant slurry over 80-100 kg of seed	
		· It found difficult to treat such a vig quantity of seed then it should be divided in 3-4 parts and accordingly inoculants slurry should also be divided.	
		· Mix the inoculants slurry in shade with seed so that every seed should be coated well.	
		· Sow the inoculated seed as early as possible and do not keep the treated seeds overnight.	
		PSB and Trichoderma	
		· 3 kg of each inoculants should be taken.	
		· It should be mixed with 150 kg well powered FYM/Compost/Vermicompost (about 40% moisture should be maintained)	
		· Broadcast the mixture over one hectare land.	
3	Demonstration on use of sulphur as a nutrient	Sulphur: 20 kg S/ha.	600.00
4	Demonstration on IPM	Light trap safer to beneficial insect and light trap for managing insect (Without Blast )	1800.00
5	Visit of Scientists	-	300.00
6	Field Day	-	250.00
	Total	-	5000.00

- Note :
1. If the seed is already treated, amount on seed treatment will not be used
  2. Above intervention may be changed region wise according to the availability of inputs

**Cropping system based Demonstration :A. Rice – Wheat** Amount in Rs.

S.No.	Name of Interventions	Recommended by Agriculture Scientist	Total cost /ha
1	Demonstration of potential of high yielding varieties of rice. (Transplanted and directed seeded)	Seed rate 60 kg/ha(directed seeded rice) 40 Kg/ha (transplanted rice)	2000.00
2	Seed treatment (appropriate and recommended)	Seed treatment with Thiram @ 2 g/kg seed or carbendazim 1.5 g. + Streptocycline 2.5 g per 10 kg seed.	100.00
3	Promotion of use of micro nutrients and biofertilizers		
3.1	Zinc sulphate	Zinc : Zinc sulphate @ 25 kg/ha is recommended as basal application for every three cropping sequences. If deficiency of Zinc is appears on the standing crop, 0.5% foliar application of Zinc sulphate is recommended (Neutrilize with 0.25% lime) two to three spray at the interval of 10-15 days are required.	400.00
3.2	Blue green alage	BGA	300.00
		· 3 kg of each inoculant should be taken.	
		For transplanted rice	
		· Inoculant slurry is to be prepared in 150 liter of water.	
		· Dip the roots of seedlings (required for 1 ha) in inoculants slurry for 10 min.	
		· Root dipping should be done in shade.	
		· Inoculant seedlings should be transplanted as early as possible.	
		Direct seeded rice	
		· It should be mixed with 150 kg well powered FYM/Compost/ Vermicompost soil and incubate in shade for 7 days before soil treatment (about 40% moisture should be maintained).	
		· Broadcast the mixture over one hectare land before sowing.	
		Blue Green Algae	
		· Soil based BGA inoculums @ 10 kg/ha for both the conditions.	
3.3	Boron (BoroxDeca hydrate, Borox Penta hydrate)	Boron: 10 kg Borex /ha is recommended in Boron deficient soils as basal application If deficiency of Boron is appears on the standing crop, 0.2% foliar application of Borex is recommended. Two to three sprays at the interval of 10-15 days are required.	700.00
4	Demonstration on effectiveness of weedicides (appropriate and recommended)	Herbicide for direct seeded rice (DSR)	350.00
		· Butachlor 1.5 kg a.i./ha (3.0 kg/ha commercial product)	
		· 2,4 D (Ethyl ester) 0.5 kg a.i./ha (1.33 kg/ha ommercial product)	
		· Bispyribac – Na 20 g a.i./ha (0.2 kg/ha commercial product)	
5	Insecticide	Fipronil G 10kg/ha, Chlorpyriphos 20 EC@1 Lit/ha	1050.00
6	Demonstration on IPM	Light trap safer to beneficial insect and light trap for managing insect (Without Blast )	1800.00
7	Publicity material	-	250.00
8	Visits of Scientists	-	300.00
9	Field days	-	250.00
	<b>Total</b>	-	<b>7500.00</b>



## Cropping system based Demonstration :B. Wheat

Amount in Rs

S.No	Name of Interventions	Recommended by Agriculture Scientist	Total cost /ha
1	Demonstration on new HYV	Seed rate 100 kg/ha	2200.00
	Introducing newly released high yielding varieties with specific to region including seed treatment		
2	Promotion of use of Micro Nutrients and bio-fertilizers		
2.1	a)Zinc Sulphate	Zinc : Zinc sulphate @ 25 kg/ha is recommended as basal application for every three cropping sequences. If deficiency of Zinc is appears on the standing crop, 0.5% foliar application of Zinc sulphate is recommended (Neutrilize with 0.25% lime) two to three spray at the interval of 10-15 days are required.	800.00
2.2	Boron (Borax Deca hydrate, Borax penta hydrate)	Boron: 10 kg Borex /ha is recommended in Boron deficient soils as basal application. If deficiency of Boron is appears on the standing crop, 0.2% foliar application of Borex is recommended. Two to three sprays at the interval of 10-15 days are required.	600.00
4	Demonstration on use of chemical weedicides (appropriate&recommonded)	· Metsulfuran – 4.0 g a.i/ha as post emergence (20 g/ha commercial prod.)	1400.00
		· Fenoxoprop-P-ethyl 100g. a.i./ha as post emergence (1000 g/ha commercial product)	
		· 2,4-D (Ethyl ester) 0.5 kg a.i. /ha as post emergence ( 1.33 kg/ha commercial product)	
	<b>Total</b>		<b>5000.00</b>

- Note :
1. If the seed is already treated, amount on seed treatment will not be used
  2. Above intervention may be changed region wise according to the availability of inputs
  3. For Hybrid rice Demonstrations B. wheat Part should be followed this same

## Cropping system based Demonstration for Wheat

Amount in Rs.

S.No.	Name of Intervention	Recommended by Agriculture Scientist	Total Cost/ha.
1	Demonstration on new HYV		
	Introducing newly released high yielding varieties with specific to region	Seed rate 100 kg/ha	3000.00
2	Promotion of use of Micro Nutrients and bio-fertilizers		
2.1	a) Zinc Sulphate (Soil test based)	Zinc : Zinc sulphate @ 25 kg/ha is recommended as basal application for every three cropping sequences. If deficiency of Zinc is appears on the standing crop, 0.5% foliar application of Zinc sulphate is recommended (Neutrilize with 0.25% lime) two to three spray at the interval of 10-15 days are required.	900.00
2.2	Boron (Borax Deca hydrate, Borax penta hydrate (Soil test based)	Boron: 10 kg Borex /ha is recommended in Boron deficient soils as basal application. If deficiency of Boron is appears on the standing crop, 0.2% foliar application of Borex is recommended. Two to three sprays at the interval of 10-15 days are required.	800.00
3	Promotion of line sowing using seed drills with the Custom Hiring	Same as recommended	700.00
4	Demonstration on use of chemical weedicides (appropriate&recommended)	<ul style="list-style-type: none"> <li>· Metsulfuran – 4.0 g a.i/ha as post emergence (20 g/ha commercial prod.)</li> <li>· Fenoxoprop-P-ethyl 100g. a.i./ha as post emergence (1000 g/ha commercial product)</li> <li>· 2,4-D (Ethyl ester) 0.5 kg a.i. /ha as post emergence ( 1.33 kg/ha commercial product)</li> </ul>	1500.00
5	Publicity material/ Visit of Scientists / Field Day		600.00
	<b>Total</b>		<b>7500.00</b>

Note : 1. If the seed is already treated, amount on seed treatment will not be used

2. Above intervention may be changed region wise according to the availability of inputs

## Cropping system based Demonstration :Wheat +Urd/ Summer Moong

Amount in Rs.

S.No.	Name of Intervention	Recommended by Agriculture Scientist	Total Cost/ha.
1	<u>Demonstration on new HYV</u>		
	Introducing newly released high yielding varieties with specific to region	Seed rate 100 kg/ha	3000.00
2	Promotion of use of Micro Nutrients and bio-fertilizers		
2.1	a)Zinc Sulphate	Zinc : Zinc sulphate @ 25 kg/ha is recommended as basal application for every three cropping sequences. If deficiency of Zinc is appears on the standing crop, 0.5% foliar application of Zinc sulphate is recommended (Neutrilize with 0.25% lime) two to three spray at the interval of 10-15 days are required.	900.00
2.2	Boron (Borax Deca hydrate, Borax penta hydrate)	Boron: 10 kg Borex /ha is recommended in Boron deficient soils as basal application. If deficiency of Boron is appears on the standing crop, 0.2% foliar application of Borex is recommended. Two to three sprays at the interval of 10-15 days are required.	800.00
3	Promotion of line sowing using seed drills with the Custom Hiring	Same as recommended	700.00
4	Demonstration on use of chemical weedcides (appropriate&recommonded)	· Metsulfuran – 4.0 g a.i/ha as post emergence (20 g/ha commercial prod.)	1500.00
		· Fenoxoprop-P-ethyl 100g. a.i./ha as post emergence (1000 g/ha commercial product)	
		· 2,4-D (Ethyl ester) 0.5 kg a.i. /ha as post emergence ( 1.33 kg/ha commercial product)	
5	Publicity material/ Visit of Scientists / Field Day		600.00
	<b>Total</b>		<b>7500.00</b>

Note : 1. If the seed is already treated, amount on seed treatment will not be used

2. Above intervention may be changed region wise according to the availability of inputs

## Cropping system based Demonstration B. Pulses

Amount in Rs.

S.No.	Name of Interventions	Recommended by Agriculture Scientist	Total cost /ha
1	Popularization of improved varieties		
1.1	Urd Moong, Moth, Cowpea, Pigeon pea including seed treatment	Seed rate 20 kg/ha	1800.00
1.2	Chick Pea/field pea including seed treatment	Seed rate 80 kg/ha	
1.3	Lentil/Horse gram including seed treatment	Seed rate 40 kg/ha	
2	Promotion of use of Micro Nutrients and bio-fertilizers		
2.3	Rhizobium and PSB, Potash mobilizing bacteria and zinc solubilizing bacteria)	Specific Rhizobium, PSB and Trichoderma	300.00
		Rhizobium	
		· Every year each pulse crop should be inoculated with appropriate Rhizobial inoculants.	
		· Seed should be treated first with fungicide as per recommendations.	
		· Prepare a slurry of 1 kg of Rhizobium culture in one litre of jaggery solution (by dissolving 200 g Jaggery in one litre of hot water and cool it.)	
		· Spread inoculant slurry over 80-100 kg of seed	
		· It found difficult to treat such a big quantity of seed then it should be divided in 3-4 parts and accordingly inoculants slurry should also be divided.	
		· Mix the inoculants slurry in shade with seed so that every seed should be coated well.	
		· Sow the inoculated seed as early as possible and do not keep the treated seeds overnight.	
		PSB and Trichoderma	
		· 3 kg of each inoculants should be taken.	
		· It should be mixed with 150 kg well powered FYM/Compost/Vermicompost (about 40% moisture should be maintained)	
		· Broadcast the mixture over one hectare land.	
3	Demonstration on use of sulphur as a nutrient	Sulphur:40 kg S/ha.	600.00
4	Demonstration on IPM	1-Light trap safer to beneficial insect and light trap for managing insect ( Without Blast )	1800.00
		2-Dimethoate 30 EC /1 Lit / ha	500.00
	<b>Total</b>	<b>-</b>	<b>5000.00</b>

Note : 1. If the seed is already treated, amount on seed treatment will not be used

2. Above intervention may be changed region wise according to the availability of inputs.

**A. Pulses:**

(Amount in Rs.)

S.No.	Name of Interventions	Recommended by Agri. Scientist	
		Recommendation	Total Cost /ha
1	Popularization of improved varieties		
1.1	Urd Moong, Moth, Cowpea, Pigeon pea	20 kg/ha	3800.00
1.2	Chick Pea/field pea	80 kg/ha	
1.3	Lentil/Horse gram	40 kg/ha	
2	Seed treatment fungicides/Molybdenum		100.00
3	Promotion of use of Micro Nutrients and bio-fertilizers		
3.1	Zinc/Boron/Molybdenum (Based on soil testing value)		500.00
3.2	Rhizobium and PSB, PMB and ZSB		300.00
4	Plant Protection		1000.00
5	<b>Demonstration on IPM</b>		1800.00
	<b>Total</b>		<b>7500.00</b>

**B. Wheat**

(Amount in Rs.)

S.No.	Name of Interventions	Recommended by Agri. Scientist	
		Recommendation	Total Cost /ha
	<b>Popularization of improved varieties</b>		
1	<b>HYSY</b>	100 kg/ha	3000.00
2.	Promotion of use of Micro Nutrients and bio-fertilizers		
2.1	Zinc Sulphate (Soil test based)	25 kg/ha	900.00
2.2	Boron	10 kg/ha	800.00
3.	Promotion of line sowing using seed drills with the Custom Hiring		700.00
4.	Weedicides		1500.00
5.	Publicity material/ Visit of Scientists / Field Day		600.00
	<b>Total</b>		<b>7500.00</b>

Note: 1. If the seed is already treated, amount on seed treatment will not be used

2. Above intervention may be changed region wise according to the availability of inputs

**District Agriculture provided input to the beneficiaries for cluster demonstrations.**

**1. SHIVPURI DISTRICT**

**A. NFSM-Wheat** Amount in Rs.

S.No.	Input	Packing	Quant. /ha	Rate / Rs.	Amount	Farmer share	Saving Amount
1	Seed	-	100 kg	3150.00	3150.90	150.00	
2	Zinc sulphate	25 kg	25 kg	591.09	591.09	0.00	308.91
3	Boron	10 kg	10 kg	584.54	584.54	0.00	314.46
4	To promote line sowing with CHC					0.00	700.00
5	Weedicide (Metasalfuron)	8 gm	20 gm	92.62	231.55	46.31	1268.45
	<b>Total</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>4558.18</b>	<b>196.31</b>	<b>2591.82</b>

**B. NFSM-Pulses (Gram)** Amount in Rs.

S,No.	Input	Packing	Quant./ha	Rate /Rs.	Amount	Farmer share	Saving Amount
1	Seed	-	80 kg	74.00	5920.00	2120.00	
2	Seed Treat.(Ammo. Molybdate)	100 gm	100 gm	221.34	221.34	121.34	
3	Zinc sulphate	25 kg	25 kg	591.09	591.09	91.09	
4	Culture for treatment						
a	Rhizobium (seed treat.)	150 gm	3 pkt.	13.00	39.00	341.49	
b	PSB (soil treat.)	250 gm	12 pkt.	16.00	192.00		
c	Tricoderma (soil treat.)	1 kg	3 kg	136.83	410.49		
4	Plant Protection Chemicals/IPM						
a	Propenophos	1 lit.	1.50 lit.	262.47	762.41	0.00	237.59
b	IPM demo. (light Trap)	1(Nos.)	1(Nos.)	1800.00	1800.00	0.00	0.00
	Total	9936.33	2673.92	237.59			

**2. District-Ashoknagar**

**NFSM-Wheat**

Amount in Rs.

S.No.	Input	Packing	Quant. /ha	Rate/ Rs.	Amount	Farmer share
1	Seed (HYVS)	-	100 kg	3550.00	3550.00	550.00
2	Zinc sulphate	25 kg	25 kg	589.40	589.40	198.08
3	Inorganic Micronutrient Mix. (foliar Spray)	1 lit.	3 (Nos.)	169.56	508.68	
3	Boron	10 kg	10 kg	485.53	485.53	
4	To promote line sowing with CHC (Approved Rs. 700/-/ha)					
5	Weedicide					
5.1	Metasalfuron Methyl	8 gm	24 gm	92.62	277.86	92.45
6	Bio-pesticide					
6.1	Neem Oil	1 lit.	1 lit.	497.83	497.83	
6.2	BaveriaBasiana	1 kg	4 kg	204.19	816.76	
7	Publicity Material/ Scientist Visit/field Day (Dispaly Board)	1 (Nos.)		250.00	250.00	
	<b>Total</b>				<b>6976.06</b>	<b>840.53</b>

**C. Pulse Amount in Rs.**

S. No.	Input	Packing	Quant. /ha	Rate/Rs.	Amount	Farmer share	Remark
1	Seed	-	80 kg	74.00	5920.00	2120.00	
2	Seed Treat. (Ammo. Molybdate)	100 gm	100 gm	221.34	221.34	121.34	
3	Micronutrient Mixture	25 kg	25 kg	589.40	589.40	89.40	
4	<b>Culture</b>						
4.1	Rhizobium (seed treat.)	150 gm	7 pkt.	13.00	91.00	64.66	
4.2	Tricoderma (soil treat.)	1 kg	2 kg	136.83	273.66		
5	Plant Protection Chemicals/	/IPM					
5.1	Propenophos	1 lit.	2 lit.	499.94	999.88	0.00	
5.2	IPM demo. (light Trap)					0.00	शासनस्तर से निर्देश अपेक्षित है
	<b>Total</b>				<b>8095.28</b>	<b>2395.40</b>	

## Physical and Financial Progress during 2015-16

## 1. NFSM-Rice

Month-November 2015

(Rs. In lakh)

S. No.	Intervation	Approved rate /Unit	Targets		Achievment		% Achiv.
			Phy.	Fin.	Phy.	Fin.	(Fin.)
1	*Cluster Demonstrations by State Department of Agriculture with the technical backstopping of ICAR/SAUs/IRRI (One Cluster of 100 ha)						
	a) Direct seeded rice	Rs.7500/ha.	1200	90.00	700	52.50	58.33
	b) Line transplanting		1200	90.00	500	37.50	41.67
	c) SRI		1200	90.00	500	37.50	41.67
	d) Demonstration on pigeonpea planting		-	-	-	-	-
Sub total 1 (a to d)			3600	270.00	1700	127.50	47.22
1.1	(a) Demonstrations on Hybrid Rice (One cluster of 100 ha) Target 0.5% of Area of District	Rs.7500/ha	400	30.00	100	7.50	25.00
	(b) Cropping system based demonstration Rice-Pulses, (Urd, Mung, Moth, Cowpea &Pigeonpea), Rice-Wheat	Rs. 12500/ha	2000	250.00	800	100.00	40.00
	Sub Total 1.1 (a to b)		2400	280.00	900	107.50	38.39
2	Seed Distribution						
	(a) Hybrid Rice Seed	Rs.5000/qtl	5000	250.00	0.00	0.00	0.00
	(b) HYVs Seeds	Rs.1000/qtl	25000	250.00	4617	46.17	18.47
	2 (a+ b) total		30000	500.00	4617	46.17	9.23
3	Plant and Soil Protection Management						
	(a) Micronutrients	Rs.500/ha	25000	125.00	10870	54.35	43.48
	(b) Plant Protection Chemicals and bio-agents	Rs.500/ha	25000	125.00	13005	65.03	52.02
	(d)Weedicides	Rs.500/ha	20000	100.00	8400	42.00	42.00
	Sub-Total 3 (a) to 3 (d)		70000	350.00	32275	161.38	46.11
4	Resource Conservation Techniques/Tools:						
	(a) Cono-weeder	Rs.600/Unit	1404	8.42	0.00	0.00	0.00
	(b) Manual Sprayer	Rs. 600/Unit	1400	8.40	806	3.40	40.48
	(c) Power knap Sack sprayer	Rs3000/Unit	20	0.60	0	0.00	0.00
	(d) Multi Crop Planter	Rs.15000/Unit	5	0.75	0	0.00	0.00
	(e) Seed drill	Rs.15000/Unit	450	67.50	44	3.75	5.56
	(f) Power Weeder	Rs.15000/Unit	20	3.00	1	0.15	5.00
	(g) Zero Till Multi Crop Planter	Rs.15000/Unit	10	1.50	0	0.00	0.00
	(h) Drum seeder	Rs.1500/Unit	25	0.38	0	0.00	0.00
	(i) Rotavator	Rs.35000/Unit	300	105.00	35	10.50	10.00
	Sub-Total 4(a) to 4 (l)		3634	195.55	886	17.80	9.10



S. No.	Intervation	Approved rate /Unit	Targets		Achievment		% Achiv. (Fin.)
			Phy.	Fin.	Phy.	Fin.	
5	Incentive for Pump Sets	Rs.10000/Unit	1200	120.00	418	41.80	34.83
6	Paddy thresher/multi-crop thresher	Rs.40000/Unit	20	8.00	5	2.00	25.00
7	Self Propelled Paddy transplanter	Rs.75000/Unit	3	2.25	0	0.00	0.00
8	Cropping System based trainings (4 Sessions i.e. one before Kharif and rabi seasons, One each during Kharif and Rabi crops )	Rs.3500/ Sess. Rs.14000/Trai.	130	18.20	96	13.44	73.85
9	Local Initiatives						
	Winnover (hand opereted machine)	Rs. 2500/Unit	5400	135.00	188	4.70	3.48
10	Other intiatives						
	(a) Demonstration by NGO	Rs. 8250	506	37.95	0	0.00	0.00
<b>Total (5 to 10)</b>			<b>7259</b>	<b>321.40</b>	<b>707</b>	<b>61.94</b>	<b>19.27</b>
<b>Grand Total (1 to 10)</b>				<b>1916.95</b>		<b>522.29</b>	<b>27.25</b>

## 2. NFSM – PULSES

Month- December 2015					(Rs. In lakh)		
S. No.	Intervention	Approved rates /Unit	Target		Achievement		% Achiv
			Phy.	Fin.	Phy.	Fin.	(Fin.)
1	<b>*Demonstrations on Improved Technologies:</b>						
	(a) Cluster Demonstrations (of 100 ha each)	Rs.7500/-ha	83000	6225.00	76213	4606.72	74.00
	(b) Cropping System based Demonstration(Pulse(Urad,moon g, Moth,Cowpea, Pigeonpea) - Wheat)	Rs.12500/-ha	20500	2562.50	6950	693.07	27.05
	<b>Sub Totl ( a+ b)</b>		<b>103500</b>	<b>8787.50</b>	<b>83163</b>	<b>5299.79</b>	<b>60.31</b>
2	<b>Distribution of Certified Seeds:</b>						
	HYVs seeds	Rs.2500/-Qtls	170000	4250.00	7789	93.63	2.20
3	<b>Integrate Nutrient Management:</b>						
	(a) Micro-nutrients	Rs.500/-ha	130000	650.00	62897	202.42	31.14
	(b) Gypsum/80% WG Sulphur	Rs.750/-ha	50000	375.00	25284	100.25	26.73
	(d) Bio-fertilizers	Rs.300/-ha	300000	900.00	101580	85.43	9.49
	<b>Sub Total 2 (a) + 3 (a to d)</b>		<b>650000</b>	<b>6175.00</b>	<b>197550</b>	<b>481.73</b>	<b>7.80</b>
4	<b>Integrated Pest Management (IPM)</b>						
	(a) Distribution of PP Chemicals	Rs.500/-ha	150000	750.00	114840	381.05	50.81
	(b) Weedicides	Rs.500/-ha	90000	450.00	25271	72.92	16.20
	<b>Sub Total 4 (a to b)</b>		<b>240000</b>	<b>1200.00</b>	<b>140111</b>	<b>453.97</b>	<b>37.83</b>

S. No.	Intervention	Approved rates /Unit	Target		Achievement		% Achiv	
			Phy.	Fin.	Phy.	Fin.	(Fin.)	
5	Resource Conservation Technologies/Tools:							
	(a) Manual Sprayer	Rs. 600/Unit	20000	120.00	7154	22.59	18.82	
	(b) Power Knap Sack Sprayer	Rs.3000/Unit	3000	90.00	422	1.55	1.72	
	(c) Zero Till Seed Drill	Rs.15000/Unit	30	4.50	3	0	0.00	
	(d) Multi Crop Planter	Rs.15000/Unit	30	4.50	0	0	0.00	
	(e) Seed Drill	Rs.15000/Unit	3500	525.00	661	75.04	14.29	
	(f) Zero Till Multi Crop Planter	Rs.15000/Unit	15	2.25	0	0	0.00	
	(g) Ridge Furrow Planter	Rs.15000/Unit	15	2.25	0	0	0.00	
	(h) Chiseller	Rs.8000/Unit	15	1.20	0	0	0.00	
	(i) Rotavator	Rs.35000/Unit	3000	1050.00	649	253.66	24.16	
	(j) Laser Land Leveler	Rs.150000/Unit	10	15.00	0	0	0.00	
	(k) Tractor mounted sprayer	Rs. 10000/Unit	32	3.20	0	0	0.00	
	(i) Multi crop thresher	Rs. 40000/Unit	1000	400.00	222	87.95	21.99	
	Sub total 5 ( a to i)			30647	2217.90	9111	440.78	19.87
6	Efficient Water Application Tools:							
	(a) Sprinkler Sets	Rs.10000/-	5000	500.00	2483	235.08	47.02	
	(b) Pump Sets	Rs.10000/Unit	3000	300.00	835	76.54	25.51	
	(c) Pipe for carrying water from source to the field	Rs. 15000 or Rs.25/m	3000	450.00	444	94.79	21.06	
	(d) Mobile Rain gun	Rs. 15000/Unit	40	6.00	0	0.14	2.33	
	Sub Total 6 (a to d)			11040	1256.00	3762	406.56	32.37
7	Cropping System based trainings	Rs.3500/ Sess. Rs.14000/ Trai.	1500	210.00	1311	145.55	69.31	
8	Miscellaneous Expenses Project Management Team & Other Miscellaneous Expenses at District level	Rs. 14.00 lakh unit of state PMT	0	345.80	5	277.89	80.36	
	Sub total 7 to 8			1500	555.80	1316	423.435	76.18
9	Local Initiative							
(a)	Seed Treatment Drum	Rs. 1000/Unit	49998	499.98	495	2.15	0.43	
(b)	Spiral Grader	Rs. 2000/Unit	50888	1017.76	1611	9.76	0.96	
10	Demonstrations by (KVK)	Rs.7500/ha	5700	427.50	736	32.98	7.71	
11	Miscellaneous Expenses (Other Miscellaneous Expenses at Distt. level			51.00	0.00	8.11	15.90	
	Sub total 9 to 11			106586	1996.24	2842	52.99	2.65
	Grand Total (1 to 11)				22188.00		7559	34.07

### 3. Additional Area Coverage for Increasing Pulse Rabi / Summer 2015-16

Month-December 2015

(Rs. In lakh)

S. No.	Intervention	Approved rates /Unit	Target		Achievements		% Achiv.
			Phy.	Fin.	Phy.	Fin.	Fin.
1	*Demonstrations on Improved Technologies:						
a)	Cluster Demonstrations (of 100 ha each)	Rs.7500/-ha	61000	4575.00	53825	2793.07	61.05
2	Distribution of Certified Seeds:						
	HYVs seeds	Rs.2500/-Qtls	73000	1825.00	525	0.20	0.01
	Sub total (1 to 2)		134000	6400.00	54350	2793.26	43.64
3	Integrate Nutrient Management:						
	(a) Micro-nutrients	Rs.500/-ha	101000	505.00	43950	85.8.0	16.99
	(b) Gypsum/80% WG Sulphur	Rs.750/-ha	40000	300.00	15155	42.38	14.13
	(d) Bio-fertilizers	Rs.300/-ha	50000	150.00	9665	5.55	3.7
	Sub total 3 (a to d)		191000	955.00	68770	133.73	14
4	Integrated Pest Management (IPM)						
	(a) Distribution of PP Chemicals	Rs.500/-ha	250000	1250.00	103670	240.10	19.21
5	Resource Conservation Technologies/Tools:						
	(a) Manual Sprayer	Rs. 600/Unit	4000	24.00	800	2.60	10.85
	(b) Power Knap Sack Sprayer	Rs.3000/Unit	900	27.00	102	2.05	7.60
	(e) Seed Drill	Rs.15000/Unit	4000	600.00	400	25.70	4.28
	(i) Rotavator	Rs.35000/Unit	3000	1050.00	572	83.28	7.93
	(i) Multi crop thresher	Rs. 40000/Unit	60	24.00	15	0.30	1.24
	Sub total 4 to 5 (a -i)		261960	2975.00	105559	354.03	11.90
6	Efficient Water Application Tools:						
	(a) Sprinkler Sets	Rs.10000/ha	5300	530.00	1900	130.21	24.57
	(b) Pump Sets	Rs.10000/Unit	4000	400.00	592	28.93	7.23
	(c) Pipe for carrying water from source to the field	Rs.25/m with maximum limit of 600 mtr and costing Rs. 15000	1600	240.00	231	23.18	9.66
	Sub total 6 (a to c)		10900	1170.00	2723	182.32	15.58
	Grand total			11500.0		3463.34	30.12

#### 4. NFSM-Wheat

Month-November 2015

(Rs. In lakh)

S. No.	Intervention	Approved rates /Unit	Target		Achievements		% Achiv.
			Phy.	Fin.	Phy.	Fin.	Fin.
1	Demonstration on improved technology						
	a) Cluster demonstration (100 ha each)	Rs. 7500/-ha	13000	975.00	6700	502.50	51.54
	b) Cropping system based demonstration (Rice-Wheat, Pulses -Wheat)	Rs. 12500/-ha	8000	1000.00	15836	192.00	19.2
	Sub total 1 (a+b)		21000	1975.00	22536	694.50	35.16
2	Seed Distribution : HYVs seeds	Rs. 1000/-ha	95000	950.00	7100	71.00	7.47
3	Need based Plant/ Soil management						
	(a) Micronutrients	Rs 500/ha	80000	400.00	13100	65.50	16.38
	(b) Gypsum	Rs 500/ha	18000	135.00	2200	16.50	12.22
	(c) Plant protection chemicals and Bio-agents	Rs 500/ha	21000	105.00	1530	7.65	7.29
	(d ) Weedicide	Rs 500/ha	6000	30.00	820	4.10	13.67
	Sub Total 3(a) to 3(c)		125000	670.00	17650	93.75	13.99
4	Resource Conservation Technologies/ Tools :						
	(a) Manual Sprayer	Rs. 600/Unit	1625	9.75	0	0.00	0.00
	(b) Power Knap Sack Sprayers	Rs. 3000/Unit	100	3.00	0	0.00	0.00
	(c ) Zero Till Seed Drills	Rs 15000/Unit	15	2.25	0	0.00	0.00
	(d) Multi-crop planters	Rs 15000/ Unit	15	2.25	0	0.00	0.00
	( e ) Power Weeder	Rs 15000 Unit	30	4.50	0	0.00	0.00
	(f) Seed Drills	Rs 15000/Unit	700	105.00	22	3.30	3.14
	(g) Zero Till Multi Crop Planter	Rs 15000/Unit	15	2.25	0	0.00	0.00
	(h) Rotavators/ Turbo seeder	Rs 35000/Unit	800	280.00	92	26.25	9.38
	(i) Chiseller	Rs8000/Unit	20	1.60	0	0.00	0.00
	(j) Leaser Land lever	Rs 150000/Unit	10	150	0	0.00	0.00
	(k) Tractor Mounted Sprayer	Rs 10000/Unit	15	1.50	0	0.00	0.00
	(l) Multi Crop Thresher	Rs 40000/Unit	115	46.00	13	5.20	11.3
	Sub Total 4(a) to 4(h)		3460	473.10	127	34.75	7.35
5	Efficient Water Application Tools						
	(a) Water Carrying Pipe	Rs. 15000/-meter (Rs. 25/ m. upto 600 m.)	400	60.00	144	16.14	26.90
	(b) Incentive for pump sets	Rs.10000/ Unit	800	80.00	168	12.69	15.86
	(c ) Distribution of Sprinkler sets	Rs.10000/- Unit	1200	120.00	425	39.17	32.64
	(d) Mobile Rain gun	Rs.15000/-Unit	30	4.50	0.00	0.00	0.00
	Sub Total 5(a) to 5(b)		2430	264.50	737	68.00	25.71
6	Cropping System based trainings	Rs.3500/-Sess. Rs.14000/-Tra.	340	47.60	239	33.46	70.29
7	Local Initiatives						
	(a) Multi Crop Thresher	Rs.40000/ Unit	842	336.80	21	4.80	1.43
8	Other Initiatives						
	(a) Demnstration by NGO	Rs. 8250/Unit	1280	96.00	0.00	0.00	0.00
	Sub Total (6-8)		2462	480.40	260	38.26	7.96
	Total Finacial (1 to 8)			4813.00		1000.26	20.78

## 5. NFSM-Coarse Cereals

Month-November 2015

(Rs. In lakh)

S. No.	Intervention	Approved rates /Unit	Target		Achievements		% Achiv. Fin.
			Phy.	Fin.	Phy.	Fin.	
1	Demonstration of Improved package						
	(a) Maize	Rs. 5000/ha	25080	1254.00	1300	65.00	5.18
	(b) Pearl Millet	Rs. 5000/ha	1400	70.00	1100	55.00	78.57
	(c) Small Millet (KodoKutki)	Rs. 5000/ha	2000	100.00	900	45.00	45
	<b>Sub-total 1(a)'1(b) and 1( c)</b>		<b>28480</b>	<b>1424.00</b>	<b>3300</b>	<b>165.00</b>	<b>11.59</b>
2	Distribution of Certified Seed						
	(a) HYVs seeds	Rs.1500/-Qtls	9499	142.49	0	0.00	0
	(b) Hybrid Seeds	Rs.5000/-Qtls	8096	404.80	430	21.50	5.31
	<b>Sub-total 2(a)and 2 (b)</b>		<b>17595</b>	<b>547.29</b>	<b>430</b>	<b>21.50</b>	<b>3.93</b>
	<b>Sub-total 1 to 2</b>			<b>1971.29</b>		<b>186.50</b>	<b>9.46</b>

## 6.NFSM- Sugarcane

Month-December 2015(Rs. In lakh)

Sl. No.	Interventions	Approved rate /Unit	Target		Achievement		%Achiv (Fin.)
			Phy.	Fin.	Phy.	Fin.	
1.	Demonstration on Intercropping and single bud chip technology with sugarcane	Rs. 8000/-ha (Rs.7000 for inputs & Rs.1000 for Cont.)	411	32.88	410	4.21	12.80
2	State level training	Rs. 40000/Training	7	2.80	0	0.00	
	<b>Total</b>			<b>35.68</b>	<b>410</b>	<b>4.21</b>	<b>11.80</b>