

# NATIONAL FOOD SECURITY MISSION

## *REPORT OF THE* NATIONAL LEVEL MONITORING TEAM (NLMT) (RABI, 2014-15)

### MADHYA PRADESH



सत्यमेव जयते

GOVERNMENT OF INDIA  
MINISTRY OF AGRICULTURE  
(DEPARTMENT OF AGRICULTURE AND COOPERATION)  
DIRECTORATE OF PULSES DEVELOPMENT  
BHOPAL (M.P.)

## **Contents**

<b>S. NO.</b>	<b>PARTICULARS</b>	<b>PAGE NO.</b>
	Preface	
1.	Background	1
2.	Area of Operation	2
3.	Monitoring Mechanism	2
4.	NLMT: Composition	3
5.	State Profile	3
6.	Major Crops	
	6.1 Crop Scenario: Plan analysis: (X-XI Plan)	4-6
	6.2 Crop Scenario: 2013-14	6
	6.3 Crop Coverage - 2014-15	7
7.	Financial Progress	
	7.1 Allocation & Expenditure - 2014-15	7
8.	Places of Visit/Activities	8
9.	List of improved recommended varieties	9
10.	Observations	9-14
12.	Recommendations/Suggestions	15-17
	Visuals/Photos	18-24
	Annex-A	25-29
	Annexure I	30-34


## PREFACE

Government of India, The Department of Agriculture and Co-operation, Ministry of Agriculture, 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-Chhattisgarh, 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 Gosthies. 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 11<sup>th</sup> Plan period in comparison to pre-NFSM five year Plan (10<sup>th</sup> Plan). The observations and recommendations have been categorized under broad heads.

I am thankful to the VCs of IGKVV, 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 and Cooperation, New Delhi for their sustained guidance and support of Technical Team of DPD, Bhopal, especially Dr. A.L. Waghmare, Sr.Tech.Asstt. in bringing out the report publication.

Bhopal (M.P.)  
23<sup>rd</sup> June, 2015

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

## **ABBREVIATIONS**

1. AICRP-All India Coordinated Research Project
2. APC ó 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. IGKV- Indira Gandhi Krishi Vishva Vidyalaya
19. INM- Integrated Nutrient Management
20. IPM-Integrated Pest Management
21. JNKVV- Jawaharlal Nehru Krishi Vishva Vidyalaya
22. KVK- Krishi Vigyan Kendra
23. MIDH-Mission for Integrated Development of Horticulture
24. MIS- Micro Irrigation System
25. MULLaRP- Mungbean Urdbean Lentil Lathrus Rajmash and Pea
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 óNational 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. RAEO-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 ó Technical Assistant
- 45. TOT-Transfer of Technology
- 46. ZRS-Zonal Research Station

**REPORT OF NATIONAL LEVEL MONITORING TEAM TO REVIEW THE IMPLEMENTATION OF NATIONAL FOOD SECURITY MISSION (RICE, PULSES, COARSE CEREALS AND COMMERCIAL CROPS) IN THE STATE OF M.P. DURING RABI, 2014-15 .**

**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 Along with 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, however, became operational from 2014-15. The NFSM during Twelfth Five Year Plan (2012-13 to 2016-17) have five components viz. NFSM- Rice, Wheat, Pulses, Coarse Cereals and Commercial Crops (Sugar, Jute, Cotton) from 2014-15, has targeted an additional production of 25 million tonnes of food grains consisting of Rice-10 million tonnes, Wheat- 8 million tonnes, Pulses- 4 million tonnes & Coarse Cereals-3 million tonnes.
- 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 emphasise has to targeting reclamation of problematic soils, water logging areas and mitigation of adverse effect of climate change for high productivity areas, value chain integration (FPOs), and assistance for Custom Hiring Centre (CHCs).

## 2. Area of operation

S.No.	Commodities	All India		(No. of districts)
		No. of States	No. of District	
i.	Wheat	11	119	16
ii.	Pulses	27	607	51
iii.	Rice	24	199	8
iv.	Coarse cereals (Maize, Small Millet, Pearl Millet etc.)	26	182	16
v.	<b>Commercial Crops</b> (Cotton ,Sugarcane, Jute)	13		10
		12		8
		08		-

## 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 óMember	Once in a crop season
ii.	State	State Food Security Mission Executive Committee (SFSMEC)	Chief Secretary ó Chairman  State Mission Director - Member Secretary	6 Monthly
iii.	District	District Food Security Mission Executive Committee (DFSMEC)	District Collector/CEO- Chairman Jila Parishad  DDA/DAO- Member Secretary	Quarterly

#### 4. NLMT of MP : Composition

S.No.	Organization	Names and Designation
i.	Government of India (Department of Agriculture & Cooperation) Ministry of Agriculture <b>Directorate of Pulses Development</b> Vindhyachal Bhavan, Bhopal, (M.P.).	Dr. A.K. Tiwari Director - (Convenor/Team leader)
ii.	Zonal Agriculture Research Station, Powerkheda (Hoshangabad), JNKVV (Jabalpur)	Dr. P.C.Mishra Principal Scientist (Wheat Breeder) - (Member)
iii.	Department of Entomology College of Agriculture, IGKVV, Raipur, (Chhatisgarh).	Dr. Sanjay Sharma Principal Scientist (Entomology) (Principal Investigator AICRIP Rice) - (Member)
iv.	SG College of Agriculture & Research Station, Jagdalpur IGKVV, Raipur, (Chhatisgarh).	Dr. Adikant Pradhan Scientist (Millets) - (Member)
v.	RAK College of Agriculture, Sehore RVSKVV, Gwalior, (Madhya Pradesh).	Dr. R.P. Singh Senior Scientist (Agronomy) (Project in-charge AIRCP on MULLaRP RAK College of Agriculture, Sehore) - (Member)
vi.	Government of Madhya Pradesh Deptt. of Farmers Welfare and Agriculture Development, Bhopal.	Dr. Ajit Singh Rathor Deputy Director (NFSM) (Member) -

#### 5. State Profile: MP

Agro-climatic zones	(Nos.)	11
Net Cultivable area	(lakh) (2011-12)	153.39
Fallow land	(lakh ha) (2011-12)	9.58
Area sown	(lakh ha) (Kharif, 2013)	124.65
	(Rabi, 2013-14)	112.15
Double Cropped Area	(lakh ha)	83.41
Cropping Intensity	(%)	154.37
Gross Area under Irrigation	(%) (2011-12)	36.38
Rainfed Area	(%)	63.62
No. of Holdings	(lakh) (2005-06)	79.08
No. Holdings with SMF	(lakh ) (2005-06)	53.47 (68%)
Area with SMF	(lakh ha) (2005-06)	46.63 (29.16%)
Power Consumption	(KW/ha)	1.36

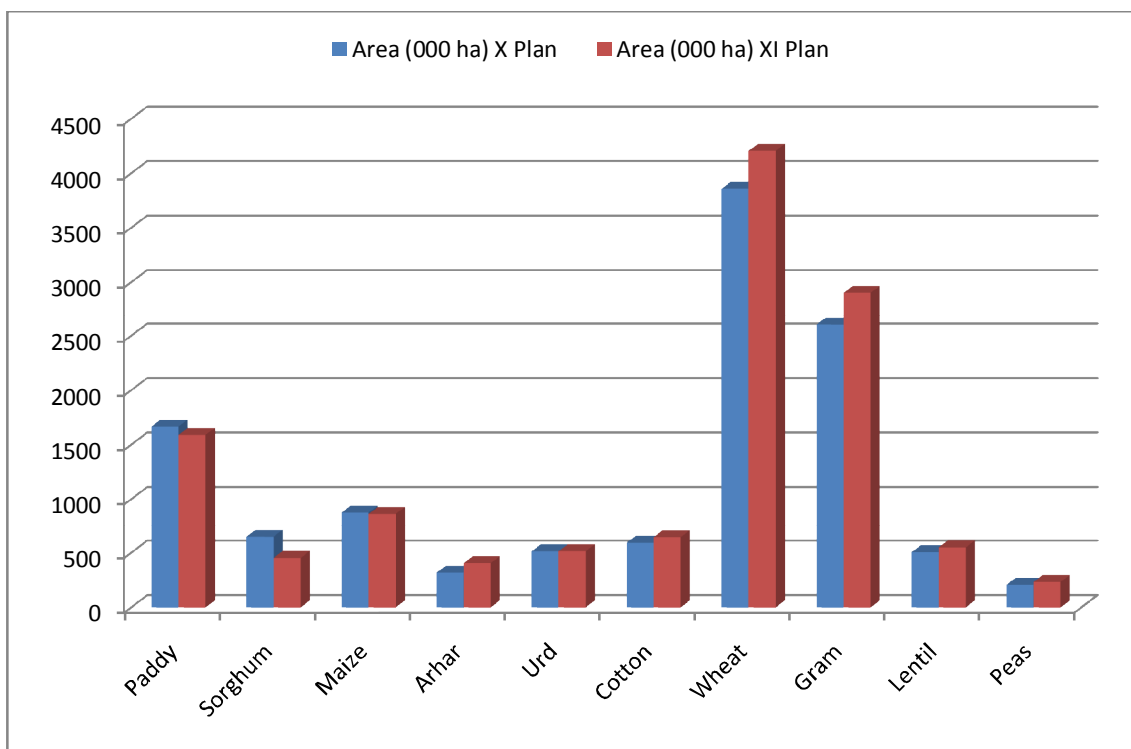
## 6. MAJOR CROPS

### 6.1. Production Scenario: Plan analysis (X-XI Plan)

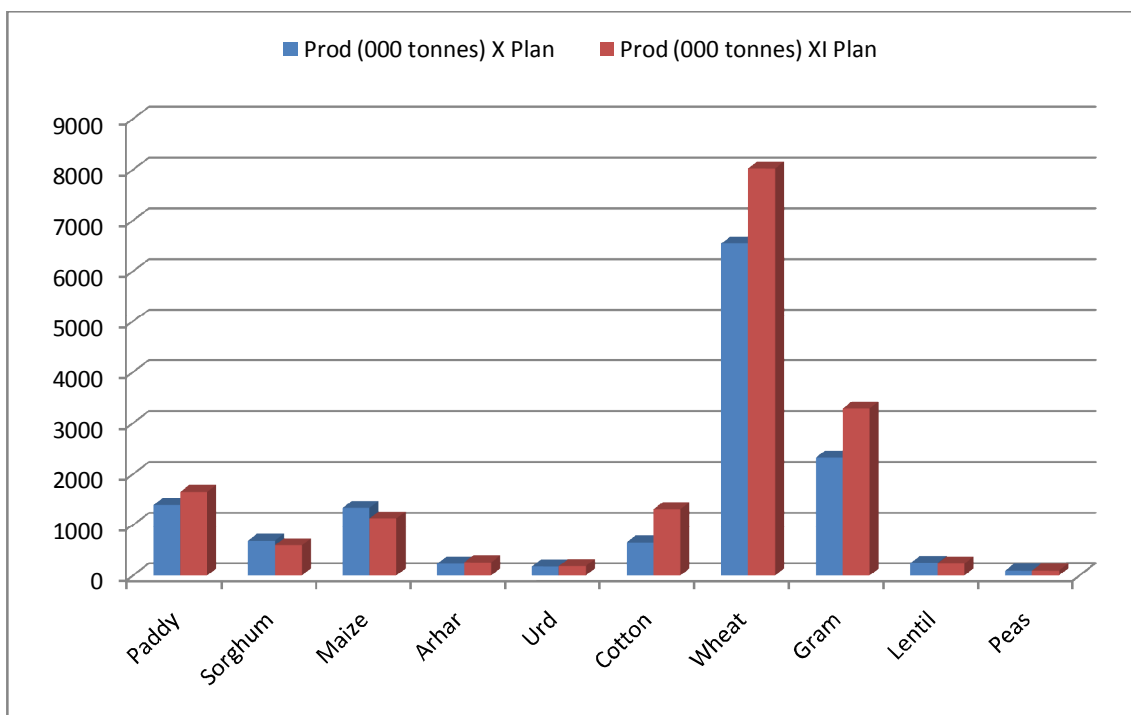
(Area Lakh ha, Prod. Lakh tonnes, Yield kg/ha)

Crop	State	X Plan			XI Plan					Increase/decrease over X plan (%)		
		A	P	Y	A	% cont.	P	% cont.	Y	A	P	Y
Kharif Crops												
Paddy	M.P	16.68	13.95	836	15.906	6.5	16.56	3.1	1041	-4.7	18.7	24.5
	India	218.00	442.50	2030	243.84		527.15		2162	11.8	19.1	6.5
Sorghum	M.P	6.48	6.79	1049	4.54	14.8	5.89	17.6	1297	-29.8	-13.3	23.5
	India	40.61	41.78	1029	30.65		33.38		1089	-24.5	-20.1	5.9
Maize	M.P	8.78	13.40	1527	8.65	12.6	11.32	7.6	1309	-1.47	-15.5	-14.3
	India	65.76	114.39	1740	68.36		149.29		2184	3.9	30.5	25.5
Arhar	M.P	3.18	2.32	729	4.06	10.7	2.56	9.6	632	27.6	10.6	-13.3
	India	35.07	23.88	681	37.89		26.64		703	8.0	11.6	3.3
Urd	M.P	5.14	1.76	342	5.15	22.5	1.83	16.9	354	0.3	3.8	3.5
	India	25.06	9.98	398	22.94		10.81		471	-8.4	8.3	18.3
Moong	M.P	0.82	0.26	323	0.83	3.1	0.27	2.6	328	0.9	2.6	1.6
	India	26.19	8.79	336	26.41		10.49		397	0.8	19.3	18.3
Cotton	M.P	5.92	6.46	1091	6.44	6.1	13.15	4.7	2041	8.9	103.7	87.0
	India	83.75	159.82	1908	104.73		280.76		2681	25.0	75.7	40.5
Rabi Crops												
Wheat	M.P	38.59	65.49	1697	42.07	14.7	80.26	9.5	1908	9.0	22.5	12.4
	India	265.30	703.43	2651	283.36		843.62		2946	7.9	19.9	11.1
Gram	M.P	26.04	23.26	893	29.04	35.3	32.90	42.7	1133	11.4	41.4	26.9
	India	68.18	54.71	803	82.18		77.02		937	20.5	40.8	16.8
Lentil	M.P	5.06	2.43	481	5.50	37.6	2.33	24.3	424	8.8	-4.0	-11.8
	India	14.44	9.53	660	14.64		9.60		656	1.4	0.7	-0.6
Peas	M.P	2.08	0.96	463	2.34	32.7	0.96	15.5	412	12.3	-0.1	-11.1
	India	7.40	6.89	931	7.15		6.21		868	-3.3	-9.9	-6.8
Sugarcane	M.P	0.51	21.63	42448	0.68	1.4	28.07	0.7	41023	34.3	29.8	-3.4
	India	42.94	2790.05	64967	47.14		3257.87		69118	9.78	16.8	6.4

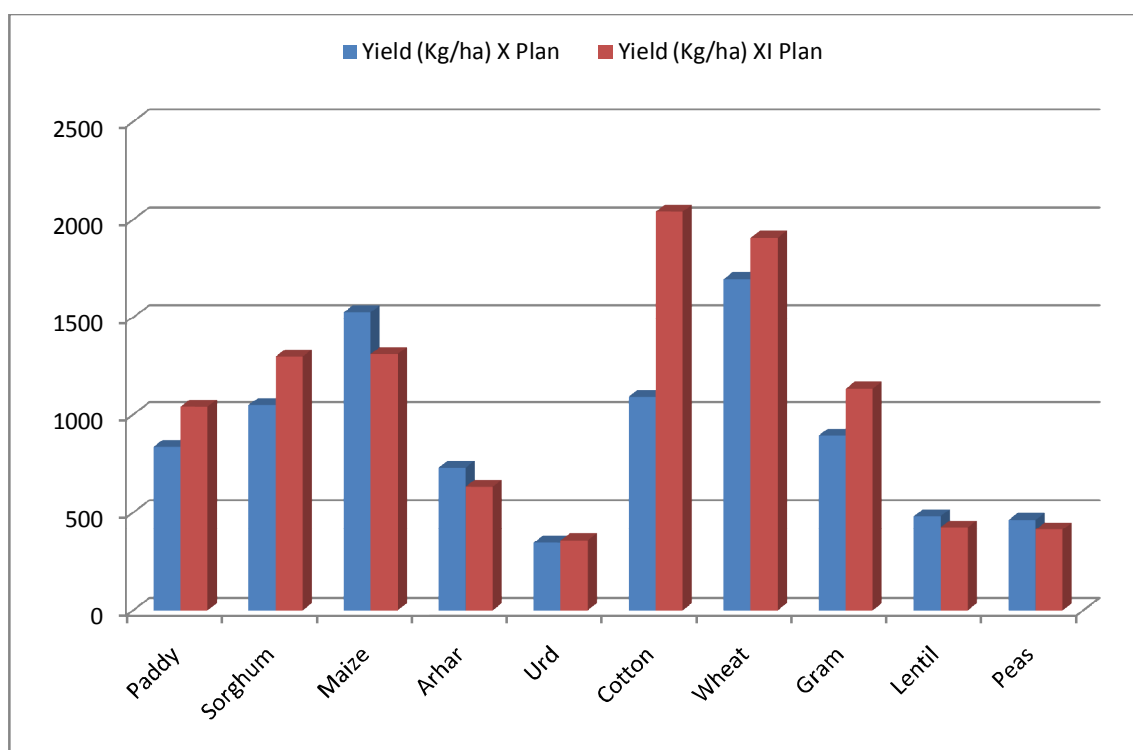
The comparative analysis of the two Plan period reveal that the NFSM launched during 11<sup>th</sup> Plan has paid dividends in the productivity of Paddy which was 24% higher during the 11<sup>th</sup> Plan (2007-08 to 2011-12) over its previous five year Plan. Similarly, the productivity of wheat was also increased to 1908 Kg/ha during 11<sup>th</sup> Plan from the 10<sup>th</sup> Plan productivity levels of 1697 Kg/ha i.e. more than 12% increase. A quantum jump has been recorded under gram where a productivity level of 1133 Kg/ha could be realized over the 10<sup>th</sup> Plan productivity of 893 Kg/ha which is approx. 27% increase. It is relevant to mention that the gram productivity during 11<sup>th</sup> Plan in the state of Madhya Pradesh was higher than the all India levels of 937 Kg/ha. The other cereals and commercial crops were not the part of NFSM during 11<sup>th</sup> Plan.



Crop coverage: Pre-NFSM (X Plan) and during NFSM (XI Plan) in M.P.



Production: Pre-NFSM (X Plan) and during NFSM (XI Plan) in M.P.



Yield: Pre-NFSM (X Plan) and during NFSM (XI Plan) in M.P.

## 6.2. Crop Scenario: (2013-14)

Sr.No.	Crop	Area (lakh ha)		Production (Lakh tonnes)		Yield (Kg/ha)	
		DES	CLR	DES	CLR	DES	CLR
1.	Paddy	19.34	19.30	27.81	53.61	1438	2789
2.	Sorghum	2.31	2.55	2.88	3.73	1247	1500
3.	Maize	10.03	8.46	15.10	14.87	1506	1772
4.	Arhar	4.85	4.64	4.63	3.32	955	713
5.	Urd	5.58	5.92	2.07	2.22	372	576
6.	Moong	1.07	0.99	0.36	0.43	339	385
7.	Cotton	6.21	5.14	18.50	10.89	506	360
8.	Wheat	57.92	59.76	139.28	155.23	2405	2602
9.	Gram	34.82	31.60	38.17	25.55	1096	809
10.	Sugarcane	0.71	0.73	33.10	36.10	46621	49452

Source-DES, M/A (Final Estimates) / CLR-State

### 6.3. Crop Scenario: 2014-15

Sr.No.	Crop	Area (lakh ha)		Production (Lakh tonnes)		Yield (Kg/ha)	
		DES	SDA	DES	SDA	DES	SDA
1.	Paddy	18.75	21.53	33.09	52.50	1765	2438
2.	Sorghum	2.20	2.20	3.29	3.29	1495	1495
3.	Maize	11.32	11.32	20.26	2.645	1790	2337
4.	Arhar	5.21	5.21	4.43	5.11	851	981
5.	Urd	8.82	8.62	3.71	3.63	421	421
6.	Moong	2.61	1.55	1.05	0.54	402	346
7.	Soybean	55.78	55.78	56.23	53.55	1008	960
8.	Groundnut	2.31	2.31	3.41	3.00	1477	1300
9.	Cotton	5.74	6.39	17.50	3.78	518	592
10.	Wheat	55.60	59.76	133.72	184.18	2405	3082
11.	Gram	29.39	27.95	31.53	29.99	1073	1073
12.	Lentil		5.20		3.64		635
13.	Peas		2.93		2.67		911
14.	Rapeseed/Mustard	7.16	6.71	7.17	6.91	1001	1030
15.	Sugarcane	1.11	1.11	50.82	9.90	45788	5134

Source-DES, M/A (3<sup>rd</sup> Advance) / SDA-3<sup>rd</sup> Advance

## 7. Financial Progress

### 7.1. Allocation & Expenditure: 2014-15

(Rs. in Lakh)					
S. No.	Name of Crop/ Scheme	Unspent Balance (01.04.14)	Allocation	Release	Expenditure (upto Dec., 14)
1	Paddy	263.64	1926.18	1181.00	447.21
2	Wheat	1162.46	6924.45	4030.73	2126.64
3	Pulses	4119.71	17477.36	9248.56	6265.90
4.	Coarse Cereals	-	1536.00	1152.00	399.16
5.	Commercial- Cotton	-	70.03	41.86	4.93
	Sugarcane	-	20.80	12.43	6.94
6.	Addln.Pulses Prog.			5790.00	0.00
	<b>Total</b>	<b>5545.81</b>	<b>28301.82</b>	<b>21456.58</b>	<b>9250.78</b>

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

The state has reported an expenditure of total of Rs. 19724.81 lakh upto March 2015.

## 8. Details of field visit/ Activities

Shajapur, Vidisha, Sagar and Raisen districts of Madhya Pradesh were visited during 11-14<sup>th</sup> March, 2015. Dr. Adhikant Pradhan, Scientist (Millets) and Dr. P.C.Mishra, Principal Scientist (Wheat Breeder) members could not participate in monitoring. Shri Sarju Pallewar, Statistical Investigator, Directorate of Pulses Development, Bhopal was associated with the visit.

S.N.	District	Block	Village/Institute	Activities
1.	Rajgarh	Narsingarh	Tendooniya	Kisan-Gosthi, Mechanization and Cluster demonstration
			Premnagar	Cluster demonstration of Wheat variety GW 366 and Chickpea
		Rajgarh	Semli	Cluster demonstration of Chickpea under TSP programme conducted by KVK and Krishak club (NGO)
2.	Vidisha	Vidisha	Bhatkhedi	Farm Mechanization
			Goriyakala	Farm Mechanization
			Sayar	Cluster demonstration of Wheat variety HI-1215 and Custom hiring centre
			Jiwajipur	Cluster demonstration of Wheat variety GW 1544
			Goberela	Seed growers society
3.	Sagar	Rahatgarh	Noorja	Cluster demonstration of variety GW 366
			Mardanpur	Cluster demonstration of Wheat variety GW 366, Lentil L 4394 and Chickpea JG 16
			Singarmundi	Farm mechanization
			Sattardhana	OFT of KVK to demonstrate INM in Wheat and Fertigation, staking in Tomato.
		JaishiNagar	Naroorea	Farm mechanization
			Khajuriya	Private custom hiring center
4.	Raisen	Begamganj	Begamganj	Cluster demonstration of wheat variety HI 1544 and Farm mechanization
			Gopalpur	Poly house and organic farming
			Paloha	Farm mechanization under ATMA programme and Cluster demonstration of Wheat. Under NFSM
		Beenapur	Beenapur	Wheat demonstration under ATMA programme
			Samrekala	Cluster demonstration of Wheat under NFSM
				Wheat and Chickpea demonstration by KVK under ATMA programme
				Wheat demonstration of KVK under ATMA programme
		Garyatganj	Gairatpur	Seed growers society and Custom hiring center

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

## 10. OBSERVATIONS

10.1. Crop scenario (Area, Production and Yield) during 2014-15 (Kharif+Rabi) are given at Para No.6.3.

Apathy of State Project Management Unit (State PMT) and State Nodal Officer of NFSM both in co-ordination and conduct of field visit of NLMT, is a major observation. Resultantly the NLMT was devoid of the input benefits of the State Level NFSM Nodal Officer (Mission Director / Additional Director / Joint Director and also the wrap-up-discussion both at the State Level {SFSMEC (Principal Secretary / APC) and District Level (DFSMEC)}.

10.2. 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.

10.3. The Documentation details on technological recommendations / interventions on laying out a demonstration, such as size of the cluster, Bifurcation details of cluster demonstrations (total no. of sole crop demo and CSBD in a district), 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.

Lacking availability facilitation of Plan / scheme wise details of beneficiaries of whole district, the team was devoid of random selection of the Demonstration site for assessment of performance during Rabi. Similar observations were noticed during the NLMT Kharif season visit in the districts of Jabalpur and Katni of MP State.

10.4. On asking the record for inspection by Team Members, the RAEo, in some of the districts like Rajgarh and Raisen shown the only available document i.e. "Input distribution register" (A sample copy annexed). This register also did not have any mention / remark of the supervisory officer to physically monitor / visit the demonstration plot.

- 10.5. In general, the Control Plots both for the varieties or technology, were not either maintained or identified for comparison or field days organized.
- 10.6. 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.
- 10.7. 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.
- 10.8. 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 state HQ not DDAs provided such documents.
- 10.9. Generally poor performance of production and protection technologies, lack of quality demonstrations, both under CSBD and sole crops at many a sites, may be attributed to ad-hoc and weak monitoring mechanism and lack of documentation at all levels.
- 10.10. Skill development component such as organisation **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., were generally reported as not organized. The very basic objective of technology transfer is defeated when the demonstrations do not integrate these components.
- 10.11. Involvement of District Consultants / TA NFSM in monitoring and conduct of demonstration was least noticed in any of the visited districts / sites.
- 10.12. The prescribed guidelines to erect display boards for wide publicity and extension of message were generally missing and it had a mixed performance.
- 10.13. Appropriate Lay-out of cluster demonstration was also lacking at more than 70% of the sites visited by Team. Although these demonstration sites were not randomly selected by Team but decided by DDAs. (The team was not provided with the commodity wise / district beneficiary list to randomly select the site of their choice).
- 10.14. The strategic adaptive research, funded under NFSM to SAUs / ICARDA etc and also the FLDs organized by the SAU / KVKs / NGOs etc were not in the notice of the DDAs. However, the team visited the FLD on Chickpea in Rajgarh.

- 10.15. 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.
- 10.16. None of the district could show local initiatives or components or its intervention in the state as implemented.
- 10.17. Most of the farmers are not aware of the names of pulse varieties of Mung, Urd, Pigeonpea and Lentil. Non-descript varieties of lentil in Rajgarh, Vidisha, Sagar and Raisen and other adjoining parts are being grown.
- 10.18. It is observed that micronutrient Boron (B) is being supplied as blanket recommendation without any soil test report.
- 10.19. Recurring incidence of flower drops due to frost and *Helicoverpa* problems in chickpea, pigeonpea have been reported by almost all the districts.
- 10.20. Man-animal conflict/wild animals attack on crops have been reported from districts/block adjoining forest area at many a places, summer pulse programme is also affected.
- 10.21. Cluster demonstration of Wheat (var. GW 366) and Chickpea (JAKI 9218) were seen in Khedi block of Rajgarh district. The concept of cropping system based demonstration is generally unclear among the grass level worker i.e. RAEO. Lok-1, GW-322 and WH-147 are prevailing wheat varieties.
- 10.22. Front Line Demonstration of Chickpea under TSP programme conducted by KVK Rajgarh and Krishak club (NGO) was visited by the Team. Chickpea variety JG-16 was taken at this site and RBG-202 & 203 were taken at the another site, the crop condition was good.
- 10.23. Under Farm Mechanisation, rotavator provided under NFSM is also being used for Custom hiring service. Single box seed drill is commonly popular and used by farmers. The farmers over double box. Seed-cum-Ferti drill owing to fertilizer choking problem at the end delivery point of tyne. Wheat variety HI-1544 and Malwa Shakti are the popular existing varieties.
- 10.24. Custom-hiring of Multi crop Thresher @ Rs.700-800/ hr, popularity of Straw reaper etc. as a post harvest implement and the combine harvesters etc. are gaining popularity.

10.25. The area under Kharif Soybean in Vidisha, Raisen, Bhopal and other districts is slowly diverting towards Basmati rice due to failure of soybean crop since last three years (2012-13 to 2014-15). Attractive bonus and assured procurement policy for paddy, is another important factor for this diversion.

10.26. Farmer are using metal Bins for grain storage and need scientific storage at domestic level due to less popularity of mud bins and lack of skill in younger generation in making mud bins.

10.27. Cluster demonstration of Wheat variety HI-1215 and Custom Hiring Center in Sayar village of district Vidisha was visited. Wheat varieties GW-322 and 1544 were considered as check variety, the programme was registered under seed production programme. Seed treatment, DAP fertilizer, Zinc Sulphate, Boron and Sulphur were provided.

In custom hiring centre Tractor, Trolley, Leveller, Bund former, Seed-drill and Rotavator were purchased with an amount of Rs. 18 Lakh. Rs. 9 Lakh subsidy was provided. Seed production programme and Farm mechanization are appreciable effort of this unit.

10.28. Cluster demonstration of Wheat variety GW 1544 in village Jewajepur was visited. Wheat variety GW 322 and Lok-1 were replaced with GW 1544 along with the input package of Zinc, Boron, 2, 4-D weedicide. Crop condition was good. In Kharif season Pusa Basmati-1 variety was grown on this plot to fetch good prices and to overcome the problem of high rain fall during sowing and maturity time of soybean.

10.29. In Village Sankal Kheda, a Seed Growers Society was visited which is taking seed production programme for Wheat, Chickpea and several vegetables. This Seed Grower Society is also trying for establishment of NGO/KVK in their village for propagation of new technologies. The society also explained the constraints in getting the sufficient quantity of Breeder seed as per their requirement.

10.30. Cluster demonstration of variety GW 366 in district Sagar was visited. It was revealed that the area under Chickpea has decreased to 20% of the earlier season normal and diverting towards Wheat due to wilt problem. Under irrigated condition GW 366, 322 and Semi-irrigated GW 3211 are taken; In Chickpea cultivation traditional variety JG 322 is replaced by JG 63, 16, 130; JL 3 variety of Lentil is more susceptible to wilt disease.

The Phosphorus deficiency may be the main cause of wilt in district Sagar as informed by KVK Scientist.

10.31. Cluster demonstration of Wheat variety GW 366, Lentil L4394 and Chickpea JG 16 was seen. Wheat crop was sown through ferti-cum-seed-drill was purchased under NFSM programme. In general the crop condition was good, however, the population of Rai sarson was high. In other plots, Lentil crop was poor, the crop condition of Chickpea was good.

The soil sample was taken and sent for testing but report is still awaited.

10.32. Team also visited KVK in Sattadhana (district Sagar). The On farm Trials (OFT) of KVK to demonstrate INM in Wheat and Fertigation, staking in Tomato were in good condition. It is expected that the INM plot of wheat will mature earlier and grain yield will be higher as per the crop expression. Application of Sulfur application @20-30kg was recommended to be advantageous to Wheat crop of subsequent rabi season according to KVK scientist, the tomato crop grown with drip irrigation and staking was found satisfactory.

10.33. öKrshi Shakti Yojnaö, village Naurja under Farm Mechanization of Department of Agricultural Engineering was visited by the Team. Chickpea crop was grown in the raised bed planting technique to exhibit a reduced intensity of wilt problem.

10.34. CSBD in district Raisen with Wheat variety HI 1544 was inspected. The earlier crop was Soybean (variety JS 9560). Thiram treated seed of Wheat crop was sown through single box seed drill @ 100 kg seed/ha. Nutrient and weed management was properly done, crop condition was good. The traditional variety GW 273& Lok 1 with higher seed rate @ 250kg/ha in criss-cross method is a prevalent practice in the area. The farmers of this area are also trying for protected horticultural crop cultivation such as Poly house construction under NHM. Farmers are taking Pusa Basmati -1 cultivation programme of private companies with assured procurement for getting good prices (Rs. 3800-4000/q ). Thus, a shift is being seen from soybean to paddy.

10.35. In village Gopalpur (Raisen), precession farming, organic farming and integrated farming with dairy and horticulture was observed under NHM with 50% subsidy @ 935/m<sup>2</sup> construction cost was under process by M/S Govind Green House, Talegaon, Maharashtra. The production activities are targeted to the demand of local market, the farmers, therefore, opting integration of several components. Biogas unit is also used for cooking and light and slurry in vegetable production.

10.36. Farm mechanization under ATMA programme and Cluster demonstration of Wheat under NFSM in Village Palooha (Raisen) were visited. The farmers got spiral seed grader, seed treatment drum and chaff cutter under 50% subsidy under ATMA programme. A cluster demonstration of wheat variety HI 1544 was taken under NFSM, this demonstration, however, was not found satisfactory to impress the farmer for replacement of their traditional variety. Delay in input delivery has been reported to affect the crop condition of this demonstration and the variety, therefore, could not surpass the check variety.

10.37. Wheat demonstration under ATMA programme with variety HI 1544 under zero tillage and INM technology was sown to replace high seed rate and high fertilizer use tendency of farmers in village Binapur dist. Raisen. GW 322 and Lok 1 with traditional practice was considered as check. Another ATMA Cluster demonstration of Wheat variety HI 1544 was visited with control variety C 306 was also good.

The objective and site selection was very good, however, programme implementation and maintenance of records need much attention.

10.38. Shri Govind Beej Utpadak Seed Growers Society and Custom Hiring Centre (CHC) in village Gairatpur (Raisen) was also visited. The society formed in 2013 is involved in Breeder to Foundation seed production programme of Wheat and Chickpea. DDA acts as manager for grower's society and the production programme is linked with the requirement of seeds generated under ongoing development programmes of the district.

10.39. Wheat and Chickpea demonstration organised by NGO/KVK under ATMA programme was visited in village Aamakheda. Wheat variety MP 1203 was taken under Technology Assessment, Refinement and Revalidation concept of ATMA. The IPM technology for Chickpea was demonstrated with the IPM components as Pheromone traps, NSKE, NPV and Bird parcher for *Helicoverpa* management.

The NGO demonstration was quite impressive and appreciable to carry forward ToT.

10.40. Wheat demonstration of KVK under ATMA programme was seen in another village Hinotia Pathari of Dist. Raisen. Wheat variety HI 1544 was demonstrated under timely sown Irrigated situation to show the full potential of variety and agronomy under the component of Technology assessment, refinement and revalidation component of ATMA programme. Fine tuning of technology is important for local conditions. The crop condition was good and their efforts are appreciable.

## 11. RECOMMENDATIONS / SUGGESTIONS

- 11.1. The Farmers Welfare and Development Department of Govt. of M.P. and State Mission Director need to issue suitable directives to State Nodal Officer (NFSM) and District functionaries including the Chairman of DFSMEC (The DC/CEO) to coordinate the Apex level monitoring visits religiously as per Mission mandate. The SDA has to appreciate the importance of Wrap-up meetings / discussion of the NLMT members with that of Principal Secretary /APC and the DC/CEO of the concerned district (being the Chairman of DFSMEC).
- 11.2. The team, based on the observations of programme implementation of preceding Kharif 2014, is of the opinion that there is an urgent need to allocate/designate business rule at both the levels i.e. State Mission HQ and District / Division level so that the designated officer is accountable to programme implementation, coordination of monitoring and quality technology transfer. This may reduce adhocism at state HQ (NFSM Unit) and would provide a sense of responsibility.
- 11.3. 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.
- 11.4. 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)).
- 11.5. Online e-application facility may be introduced by SDA for Agricultural implement subsidy programme to propagate ferti-cum-seed-drill among farmers. Problem of fertilizer chocking in pynes may be resolved at the level of CIAE/Directorate of Engineering.

Farm implement beneficiaries should be encouraged to formation of User Groups involving 7-11 farmers to increase the mechanization level.
- 11.6. The increasing awareness in mechanized farming 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.

- 11.7. 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.
- 11.8. 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.
- 11.9. The machineries beneficiaries to whom R.C.T. Tools is provided, should be motivated for making Machinery Users Group of 10-15 farmers who could be extended the use of their machines 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.
- 11.10. Agricultural implements beneficiaries should be motivated for custom hiring of their implements by this way the beneficiaries may generate extra income and resource poor farmers may avail the facility of mechanization.
- 11.11. Active involvement of Staff (Consultant and TA) appointed under this programme (TA and Consultant) is necessary for effective implementations of NFSM programme.
- 11.12. 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.
- 11.13. The information of Programme activity must be displayed in the Panchayat Bhavan/ other common place.
- 11.14. 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.
- 11.15. Suitable orientation training is required for district/block level extension worker on conduction, supervision and Monitoring of cluster demonstration programme.
- 11.16. 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.

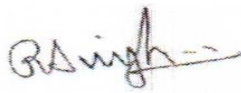
- 11.17. Looking to the bright future of Farm Mechanization implement repairing and maintenance training programme should be organized at the village level so that minor maintenances can be done locally and someone may get expertise in this field and opt this as a profession.
- 11.18. Site selection and Timely availability of Inputs reflects on success or failure programme, proper planning and their execution need a serious attention at district level.
- 11.19. The cluster demonstration beneficiaries should also be motivated and facilitated for taking seed production programme of their demonstration plot.
- 11.20. Permanent display board should be erected at the cluster demonstration site with all relevant information.
- 11.21. Necessary improvement in seed cum fertilizer seed drill is required for solving the chocking problem of fertilizer.
- 11.22. The training programmes under NFSM were not organized and the reason told about it was the Local Assembly Elections and Model Code of Conduct which may not be justified reason. 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.
- 11.23. Seed rolling plan should be formed at the state level. Indent of breeder seed should be submitted to the appropriate forum so that it is made available well in time.



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Member



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Member



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Member



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Director/Team Leader



Wheat: Cluster Demonstration in district Rajgarh



Interactions with farmers



Chickpea: Harvested FLD Plot in district Rajgarh



Kisan Gosthi in Rajgarh district



Wheat: Cluster Demonstration in district Vidisha



Wheat Demonstration & Tomato Fertigation organized by KVK, Sagar under KVK programme 200



Mechanization: Rotavator beneficiary (Vidisha district)



Interactions with farmers



Custom Hiring Centre (CHC) in Vidisha district



Wheat: Cluster demonstration in Vidisha district



Chickpea: Cluster demonstration in district Sagar



Mechanization: Harvester beneficiary (district Raisen)



Traditional coriander storage in the wake of hailstorm/rainfall (district Raisen)



Intercropping: Chickpea + Linseed

## 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.
PKV Kabuli-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, Rain 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

Variety	Year of Release / Notification	Source	Maturity (Days)	Yield (q/ha)	Special feature
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
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	JNKVV	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	JNKVV	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	JNKVV	173-180	18-20	Tolerant to wilt Phytophthora blight.
Malviya Vikalp (MA-3)	1999	BHU	178-162	20-22	Constricted Pod, resistant to pod fly.
Jawahar (JKM-189)	2007	JNKVV	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	JNKVV	120-125	8	Early, Tolerant to wilt, Resistant to drought.
Lens-4076	1993	IARI	130-135	14	Tolerant to wilt & Rust.
JL-3	1999	JNKVV	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

### 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
Madhra Minumu 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
Tromday Jawahar 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, Raipur	100-105	30	Resistance to major diseases & Pest
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.
Karnataka 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

Annexure-I

Physical and Financial Progress during 2014-15

1. NFSM-Rice

Rs. In Lakh

S.No.	Intervation	Approved rate of Assistance	Unit	Targets		Achievement	
				Phy	Fin.	Phy	Fin.
1	2	3	4	10	11	12	13
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/ Line Transplanting/SRI (Target 1.5% of area of District)						
	a) Direct seeded rice	Rs.7500/ha.	ha	1500	112.50	1154	39.31
	b) Line transplanting		ha	1128	84.60	1103	37.78
	c) SRI			1500	112.50	1500	49.31
	<b>Sub total</b>		ha	<b>4128</b>	<b>309.60</b>	<b>3757</b>	
	(a) Demonstrations on Hybrid Rice (One cluster of 100 ha) Target 0.5% of Area of District	Rs.7500/ha	ha	4000	300.00	4000	111.948
	<b>Sub Total</b>				<b>609.60</b>		
2	<b>Seed Distribution:</b>						
	(a) Hybrid Rice Seed	Rs.5000/qtl	Qtl	5900	295.00	102	0.026
	(b) HYVs Seeds	Rs.1000/qtl	Qtl	31000	310.00	2214	21.789
	<b>2 (a+b) sub total</b>			<b>36900</b>	<b>605.00</b>		
3	Plant and Soil Protection Management:						
	(a) Micronutrients	Rs.500/ha	ha	15000	75.00	3100	12.81
	(b) Plant Protection Chemicals and bio-agents	Rs.500/ha	ha	15000	75.00	7613	32.748
	(d)Weedicides	Rs.500/ha	ha	15000	75.00	3706	18.53
	<b>Sub-Total 3 (a) to 3 (e)</b>				<b>225.00</b>		
4	Resource Conservation Techniques/Tools:						
	(a) Cono-weeder	Rs.600/Unit	Nos.	2500	15.00		

	(b) Manual Sprayer	Rs. 600/Unit	Nos.	2500	15.00	1307	5.58
	(c) Power knack Sack sprayer	Rs. 3000/Unit	Nos.	50	1.50	10	0.02
	(d) Multi Crop Planter	Rs.15000/Unit	Nos.	3	0.45	0	0.00
	(e) Seed drill	Rs.15000/Unit	Nos.	250	37.50	123	11.84
	(f) Power Weeder	Rs.15000/Unit	Nos.	10	1.50	0	0.00
	(g) Zero Till Multi Crop Planter	Rs.15000/Unit	Nos.	2	0.30	0	0.00
	(h) Drum seeder	Rs.1500/Unit	Nos.	5	0.08	0	0.00
	(i) Rotavator	Rs.35000/Unit	Nos.	200	70.00	84	26.45
	<b>Sub-Total 4(a) to 4 (l)</b>			<b>5520</b>	<b>141.33</b>		
5	Incentive for Pump Sets	Rs.10000/Unit	Nos.	2500	250.00	815	56.15
6	Paddy thresher/multi-crop thresher	Rs.40000/Unit	Nos.	5	2.00	4	1.2
7	Self Propelled Paddy transplanter	Rs.75000/Unit	Nos.	5	3.75	0	0.00
8	Cropping System based trainings (Four Sessions i.e. one before Kharif and rabi seasons, One each during Kharif and Rabi crops )	Rs.3500/ Session Rs.14000/ Training	Nos.	75	10.50	75	10.12
9	<b>Local Initiatives</b>			0	0.00	0	0.00
	Winover (hand opereted machine)	2500/-		3160	79.00	942	11.59
	<b>Grand Total(1 to 11)</b>				<b>1926.18</b>		<b>447.21</b>

## 2. NFSM-Pulses

S. No.	Interventions	Approved Rate of Assistance	Unit	Target		Achievement	
				Phy.	Fin.	Phy.	Fin.
1	<b>*Demonstrations on Improved Technologies:</b>						
	(a) Cluster Demonstrations (of 100 ha each) Moong, Urd, Pigeonpea	Rs.7500/ha	ha	82786	6208.95	75519	4034.92
2	<b>Distribution of Certified Seeds:</b>			0	0		
	HYVs seeds	Rs.2500/qtl	Qtl	215000	5375	26153.36	218.25
3	<b>Integrate Nutrient Management:</b>			0	0		
	(a) Micro-nutrients	Rs.500/ha	ha	200000	1000	102107	233.45
	(b) Gypsum/80% WG Sulphur	Rs.750/ha	ha	60000	450	26784	101.08
	(d) Bio-fertilizers	Rs.100/ha	ha	130000	130	54586	24.56
4	<b>Integrated Pest Management (IPM)</b>			0	0		
	(a) Distribution of PP Chemicals	Rs.500/ha	ha	70000	350	41388	108.65
	(b) Weedicides	Rs.500/ha	ha	22000	110	8200	18.64
5	<b>Resource Conservation Technologies/Tools:</b>			0	0		
	(a) Manual Sprayer	Rs. 600/Unit	Nos.	15000	90	6643	21.67
	(b) Power Knap Sack Sprayer	Rs.3000/Unit	Nos.	400	12	97	0.82
	(c) Zero Till Seed Drill	Rs.15000/Unit	Nos.	25	3.75	3	0.00
	(d) Multi Crop Planter	Rs.15000/Unit	Nos.	25	3.75	0	0
	(e) Seed Drill	Rs.15000/Unit	Nos.	1000	150	474	29.39
	(f) Zero Till Multi Crop Planter	Rs.15000/Unit	Nos.	10	1.5	0	0
	(g) Ridge Furrow Planter	Rs.15000/Unit	Nos.	25	3.75	0	0
	(h) Chiseller	Rs.8000/Unit	Nos.	10	0.8	0	0
	(i) Rotavator	Rs.35000/Unit	Nos.	1500	525	802	175.50
	(j) Laser Land Leveler	Rs.150000/Unit	Nos.	10	15	0	0
	(k) Tractor mounted sprayer	Rs. 10000/Unit	Nos.	25	2.5	0	0
	(l) Multi crop thresher	Rs. 40000/Unit	Nos.	800	320	299	59.84

6	<b>Efficient Water Application Tools:</b>			0	0		
	(a) Sprinkler Sets	Rs.10000/ha	ha	6000	600	3671	399.91
	(b) Pump Sets	Rs.10000/Unit	Nos.	4161	416.1	2137	197.80
	(c) Pipe for carrying water from source to the field	Rs. 15000 or Rs.25/m upto 600m	No.	8924	1338.6	3317	350.29
	(d) Mobile Rain gun	Rs. 15000/Unit	Nos.	66	9.9	3	0.00
7	<b>Cropping System based trainings</b> (Four Sessions i.e. One before Kharif and rabi seasons, one each during Kharif and Rabi Crops )	Rs.3500/ Session Rs.14000/ training	Nos.	434	60.76	325	36.89
8	<b>Miscellaneous Expenses</b> Project Management Team & Other Miscellaneous Expenses at District level	Rs. 14.00 lakh unit of state PMT		50	300	135	254.16
	<b>Total</b>				<b>17477.36</b>		<b>6265.90</b>

### 3. NFSM- Coarse Cereals

Sl.No	Interventions	Approved Rate of Assistance	Unit	Target		Achievement	
				Phy.	Fin.	Phy.	Fin.
1	<b>Demonstration of Improved package</b>						
	(a) Maize	Rs. 5000/ha	Ha.	22320	1116	18160	347.00
	(b) Pear Millet	Rs. 5000/ha	Ha.	1000	50	964	9.38
	(c) Small Millet (Kodo Kutki)	Rs. 5000/ha	Ha.	1000	50	1060	12.94
	<b>Sub-total 1(a)'1(b) and 1©</b>			24320	1216	20184	369.32
2	<b>Distribution of Certified Seed</b>						
	(a) HVY seeds	Rs. 1500	Qtl	6500	97.5	169.2	3.91
	(b) Hybrid Seeds	Rs. 5000	Qtl	4450	222.5	785	25.93
	<b>Sub-total 2(a)and 2 (b)</b>			10950	320	954.2	29.84
3	(a) Project Management Team at District level		No. of District				
	(b) Project Management Team at State level						
	<b>Sub-total 3(a)and 3 (b)</b>						
	<b>Sub-total 1 to 3</b>				<b>1536</b>	<b>20808.2</b>	<b>399.16</b>

#### 4. NFSM-Commercial Crop-Cotton

S.No.	Intervation	Unit cost (Rs.)	Targets Proposed by state		Total			
					Target		Achievement	
			Physical (Ha.)	Financial (Rs. In Lakh)	Phy.	Fin.	Phy.	Fin.
1	FLD on ICM	7000/	229	16.03	229	16.03	147.20	1.72
2	FLD on Desi and ELS Cotton	8000/	100	8.00	100	8.00	10.00	0.31
3	FLD on Intercropping	7000/	400	28.00	400	28.00	74.40	0.43
4	Trials on HDPS	9000/	200	18.00	200	18.00	57.20	2.48
<b>Total</b>			<b>929</b>	<b>70.03</b>		<b>70.03</b>		<b>4.93</b>

#### NFSM- Commercial Crop-Sugarcane (Demonstration on Intercropping and Single bud chip Technology with Sugarcane)

Physical- ha; Financial- Rs. in Lakh

S.no	DISTRICT	Target		Achievement	
		Physical	Financial	Physical	Financial
1	Narsinghpur	60	4.80		
2	Harda	40	3.20		
3	Hoshangabad	30	2.40		
4	Betul	20	1.60		
5	Khargone	20	1.60		
6	Barwani	30	2.40		
7	Burhanpur	20	1.60		
8	Gwalior	20	1.60		
	<b>SubTotal</b>	<b>240</b>	<b>19.20</b>	<b>150</b>	<b>6.94</b>
1	Training at state level	4	1.6	-	-
	<b>Grand Total</b>	-	<b>20.80</b>		<b>6.94</b>

