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NATIONAL FOOD SECURITY MISSION

REPORT OF THE

NATIONAL LEVEL MONITORING TEAM (NLMT)

(RABI, 2015-16)

CHHATTISGARH

सत्यमेव जयते

GOVERNMENT OF INDIA
MINISTRY OF AGRICULTURE
(DEPARTMENT OF AGRICULTURE AND COOPERATION)
DIRECTORATE OF PULSES DEVELOPMENT
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Contents

ABBREVIATIONS

1. AICRP-All India Coordinated Research Project
2. AES – Agro-Eco Situations
3. APC – Agriculture Production Commissioner
4. ATMA-Agriculture Technology Management Agency
5. BGREI- Bringing Green Revolution in Eastern India
6. CSBD-Cropping System Based Demonstration
7. CDDs- Crops Development Directorates
8. CIAE-Central Institute of Agricultural Engineering
9. CHCs-Custom Hiring Centre
10. CLR- Commissioner of Land Records
11. DAP- Diammonium Phosphate
12. DFSMEC-District Food Security Mission Executive Committee
13. DES- Directorate of Economics and Statistics
14. ETL –Economic Threshold Level
15. FPOs-Farmer Producer Organization
16. HYV-High Yielding Varieties
17. ICAR-Indian Council of Agricultural Research
18. ICARDA- International Centre for Agricultural Research in Dry Areas
19. IGKVV- Indira Gandhi KrishiVishvaVidyalaya
20. IPM-Integrated Pest Management
21. KVK- KrishiVigyan Kendra
22. MIDH-Mission for Integrated Development of Horticulture
23. MIS- Micro Irrigation System
24. MULLaRP- Mungbean,Urdbean,Lentil,Lathrus,RajmashandPea
25. NRM- Natural Resource Management
26. NMAET - National Mission on Agricultural Extension & Technology
27. NFSM-National Food Security Mission
28. NFSMEC-National Food Security Mission Executive Committee
29. NLMT-National Level Monitoring Team
30. NMOOP –National Mission on Oilseeds&Oilpalm
31. NMSA- National Mission for Sustainable Agriculture
32. ODAP-β-N Oxalyl-L, β-diaminopropionic acid
33. PSB- Phosphorous Solubilizing Bacteria
34. RCT-Resource Conservation Technology
35. RKVY- RashtriyaKrishiVikasYojna
36. SAUs-State Agricultural University
37. SHGs- Self Help Group
38. SDA- State Department of Agriculture

39. SFSMEC-State Food Security Mission Executive Committee
40. SSC- State Seed Corporation
41. TA – Technical Assistant
42. TOT-Transfer of Technology
43. YMV- Yellow Mosaic Virus

PREFACE

Government of India, The Department of Agriculture, Co-operation& FW, Ministry of Agriculture& FW, vide letterNo. ***CPS 2-29/2014-NFSM dated the 31st 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 is comprises of Principal/Sr. Scientists from ICAR/SAU, State NFSM Nodal officer. The Terms of Reference (TOR) of the apex monitoring Teaminclude i) The Director, Crop Development Directorate (CDD) to act as NLMT Team leader/ Coordinator; ii)to undertakefieldvisit 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 Chhatisgarh 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 *KisanGoshties*. The Wrap-up Meeting with district Collectors, the Chairman of the District Food Security Mission Executive Committee (DFSMEC) only materialized in district Surajpur. The report has tried to capture the impact of NFSM during 12th Plan period in comparison to pre-NFSM five year Plan (11th 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, 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.) A.K.Tiwari
06/05/2016 Director/Team Leader (NLMT)

REPORT OF NATIONAL LEVEL MONITORING TEAM TO REVIEW THE IMPLEMENTATION OF NATIONAL FOOD SECURITY MISSION (RICE,PULSES AND COARSE CEREALS) IN THE STATE OF CHHATTISGARHDURING 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 11th 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 12th 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 (Sugarcane, 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 tones&Coarse Cereals-3 million tonnes.

1.3 The basic strategy of the Mission is to promote and extend improved technology package. The interventions include organization 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. Now from 2016-17 the local initiatives allocation would be 9% of total budget.

1.4 The NFSM strategy further emphasis 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 Centers (CHCs)

2. AREA OF OPERATION

S.No.	Commodities	All India		Chhattisgarh
		No. of States	No. of District	(No. of districts)
1	Pulse	29	644	27
2	Rice	25	194	13
3	Coarse Cereals (Maize,Small Millet, Pearl Millet)	28	623	09

3. MONITORING MECHANISM

S.No.	Level	Formation	Mission structure/ (Composition)	Frequency of Meeting/visit
i.	National (Govt. of India)	i) General Council (GC)	Union Minister of Agriculture - Chairman 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- Team Leader / Convener Deptt. ofAgri& Coop. Principal / Sr. Scientist (ICAR/SAU) , State Mission Director (NFSM) – Member	Once in a crop season
ii.	State (State Govt.)	State Food Security Mission Executive Committee (SFSMEC)	Chief Secretary – Chairman State Mission Director - Member Secretary	6 Monthly
iii.	District (District-Admn)	District Food Security Mission Executive Committee (DFSMEC)	District Collector/CEO- Chairman JilaParishad DDA/DAO- Member Secretary	Quarterly

4. NLMT: COMPOSITION

S.No.	Organization	Names and Designation
i.	Government of India Ministry of Agriculture (Department of Agri.& Cooperation) **Directorate of Pulses Development** VindhyachalBhavan, Bhopal, (M.P.).	Dr. A.K. Shivhare Assistant Director (Team leader/ Coordinator)
ii.	Indira Gandhi KrishiViswaVidyalaya (IGKVV, Raipur)College of Agriculture, Raipur, (Chhatisgarh).	Dr. R.N. Sharma Principal Scientist (G&PB) - (Member)
iii.	RajmataVijayaRajeSindhiaKrishiVishwa Vidyalaya(RVSKVV, Gwalior) RAK College of Agriculture, Sehore (Madhya Pradesh).	Dr.Mohd. Yasin Principal Scientist (G&PB) - (Member)
iv.	Indira Gandhi KrishiViswaVidyalaya (IGKVV, Raipur)Department of Entomology, College of Agriculture, Raipur, (Chhatisgarh).	Dr.Navneet Rana Scientist (Entomology) - (Member)
v.	Government of Chhattisgarh Directorate of Agriculture (SAMETI), Labhandi, Raipur.	Shri R.L. Pandey Consultant (NFSM) - (Member)

5. STATE PRO FILE

Agro-climatic zones (Nos.)	03
Geographical area (lakh ha)	138
Forest cover (lakh ha)	63.53 (46%)
Net Cultivable area (lakh ha)	47.75 (35%)
Fallow land(lakh ha) (2012-13)	5.27
Gross Cropped Area (lakh ha)	64.26
Area sown more than once (lakh ha)	9.87
Cropping Intensity (%)	135
Gross Area under Irrigation (lakh ha)	16.48
Net Area under Irrigation (lakh ha)	14.15 (30%)
Average rainfall (mm)	1334
Farm families (lakh)	37.36
Small & marginal farmers (%)	80

6. MAJOR CROPS

6.1 Crop Growth Analysis: Pre and Post NFSM Plan (XI th –XII th Plan)

(A=lakh ha, P= lakh tonnes, Y= kg/ha)

S. No.	Crops	Districts / State	2007-08 to 2011-12			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
A.	**Cereals**													
1	Paddy	CG	37.27	52.23	1402	37.98	64.49	1698	8.72	6.11	70	1.93	23.46	21
		All India	436.48	972.42	2228	435.82	1055.59	2422				-0.15	8.55	9
2	Jowar	CG	0.05	0.06	1180	0.05	0.04	728	0.09	0.07	79	0.89	-37.77	-38
		All India	73.42	69.70	949	57.69	52.91	917				-21.42	-24.09	-3
4	Maize	CG	1.03	1.61	1567	1.13	2.22	1959	1.26	0.95	75	10.16	37.73	25
		All India	83.78	197.78	2361	89.99	233.97	2600				7.42	18.30	10
5	Coarse Cereals	CG	1.65	0.35	212	1.21	0.27	221	10.33	1.45	14	-26.45	-23.50	4
		All India	13.00	20.41	1570	11.75	18.51	1575				-9.58	-9.29	0
6	Small millet	CG	2.82	2.05	727	2.47	2.55	1031	36.69	61.67	168	-12.29	24.38	42
		All India	8.75	4.54	519	6.74	4.13	614				-22.98	-8.99	18
	Total Cereals	CG	42.82	56.31	1315	42.86	69.57	1623	7.12	5.10	72	0.09	23.55	23
		All India	615.42	1264.85	2055	601.98	1365.11	2268				-2.18	7.93	10
B.	**Pulses**													
1	Arhar	CG	0.55	0.27	497	0.52	0.32	623	1.36	1.08	80	-5.70	18.20	25
		All India	37.89	26.64	703	38.35	29.92	780				1.21	12.31	11
2	Urd	CG	1.09	0.31	284	1.00	0.32	320	3.17	1.75	55	-8.26	3.23	13
		All India	30.56	14.78	484	31.56	18.30	580				3.27	23.82	20
3	Moong	CG	0.16	0.04	250	0.20	0.04	200	0.66	0.28	43	25.00	0.00	-20
		All India	33.07	13.37	404	30.52	14.34	470				-7.71	7.26	16
4	Kulthi	CG	0.56	0.17	304	0.47	0.16	340	10.38	7.51	72	-16.07	-5.88	12
		All India	5.21	2.40	461	4.53	2.13	470				-13.05	-11.25	2
	Total Pulses	CG	2.36	0.79	336	2.19	0.84	385	2.09	1.31	63	-7.26	6.29	15
		All India	106.73	57.19	536	104.96	64.69	616				-1.66	13.11	15
C.	**Oilseeds**													
1	Soybean	CG	0.93	0.92	995	1.06	1.02	960	0.94	0.77	82	14.68	10.57	-4
		All India	95.68	111.58	1166	112.79	132.64	1176				17.89	18.88	1
2	G.nut	CG	0.29	0.38	1349	0.26	0.36	1416	0.45	0.50	112	-10.41	-5.96	5
		All India	49.02	57.20	1167	57.14	72.05	1261				16.58	25.95	8
3	Sesamum/Til	CG	0.21	0.07	354	0.18	0.05	286	1.08	0.74	69	-11.56	-28.57	-19
		All India	19.07	7.38	387	16.92	7.00	414				-11.27	-5.12	7
4	Niger/ Ramtil	CG	0.70	0.12	173	0.65	0.12	179	21.15	11.65	55	-8.07	-4.84	4
		All India	3.82	1.06	278	3.05	0.99	325				-20.24	-6.95	17
	Total Oilseeds	CG	2.12	1.50	708	2.15	1.55	722	1.13	0.73	64	1.23	3.19	2
		All India	167.58	177.22	1058	189.90	212.68	1120				13.32	20.01	6

RABI CROPS

(A= lakh ha, P= lakh tonnes, Y= kg/ha)

S. No.	Crops	Districts / State	2007-08 to 2011-12			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
A.	**Cereals**													
1	Wheat	CG	1.03	1.15	1116	1.01	1.37	1363	0.33	0.15	45	-2.18	19.47	22
		All India	286.36	843.62	2946	304.82	927.65	3043				6.44	9.96	3
2	Barley	CG	0.03	0.03	833	0.03	0.03	1013	0.37	0.15	40	-18.80	-1.28	22
		All India	6.56	15.04	2292	6.86	17.28	2520				4.53	14.90	10
	Total Cereals	CG	1.06	1.17	1107	1.03	1.40	1354	0.33	0.15	45	-2.67	19.01	22
		All India	292.93	858.66	2931	311.68	944.93	3032				6.40	10.05	3
B	**Pulses**													
1	Gram	CG	2.44	2.22	908	2.75	2.63	957	3.09	3.09	100	12.47	18.57	5
		All India	82.18	72.42	881	88.80	85.10	958				8.06	17.51	9
2	Lentil	CG	0.16	0.05	322	0.09	0.03	327	0.67	0.28	42	-40.37	-39.33	2
		All India	14.64	9.60	656	13.82	10.76	779				-5.60	12.08	19
3	Lathyrus	CG	3.39	1.99	589	3.55	2.12	598	72.08	59.20	82	4.67	6.25	2
		All India	5.16	3.42	663	4.92	3.58	728				-4.65	4.68	10
4	Peas	CG	0.16	0.06	352	0.26	0.14	539	2.99	1.57	53	62.55	148.92	53
		All India	7.20	6.24	867	8.63	8.82	1022				19.86	41.35	18
	Total Pulses	CG	6.14	4.32	703	6.64	4.92	740	5.72	4.54	79	8.13	13.89	5
		All India	109.18	91.68	840	116.17	108.26	932				6.40	18.08	11
C	**Oilseeds**													
1	Rapeseed /Mustard	CG	0.53	0.22	409	0.48	0.25	520	0.73	0.31	42	-9.95	14.44	27
		All India	61.01	68.85	1128	65.04	79.53	1223				6.60	15.51	8
2	Linseed	CG	0.45	0.14	301	0.30	0.10	340	10.01	6.92	69	-34.54	-26.23	13
		All India	3.80	1.57	413	2.95	1.45	492				-22.36	-7.68	19
	Total Oilseeds	CG	0.98	0.35	359	0.77	0.35	451	1.14	0.43	38	-21.25	-1.23	25
		All India	64.81	70.42	1087	67.99	80.98	1191				4.91	15.00	10
D	Sugarcane	CG	0.10	0.26	2491	0.12	0.31	2704	0.23	0.01	4	11.65	21.20	9
		All India	47.14	3257.87	69118	50.45	3508.91	69548				7.04	7.71	1

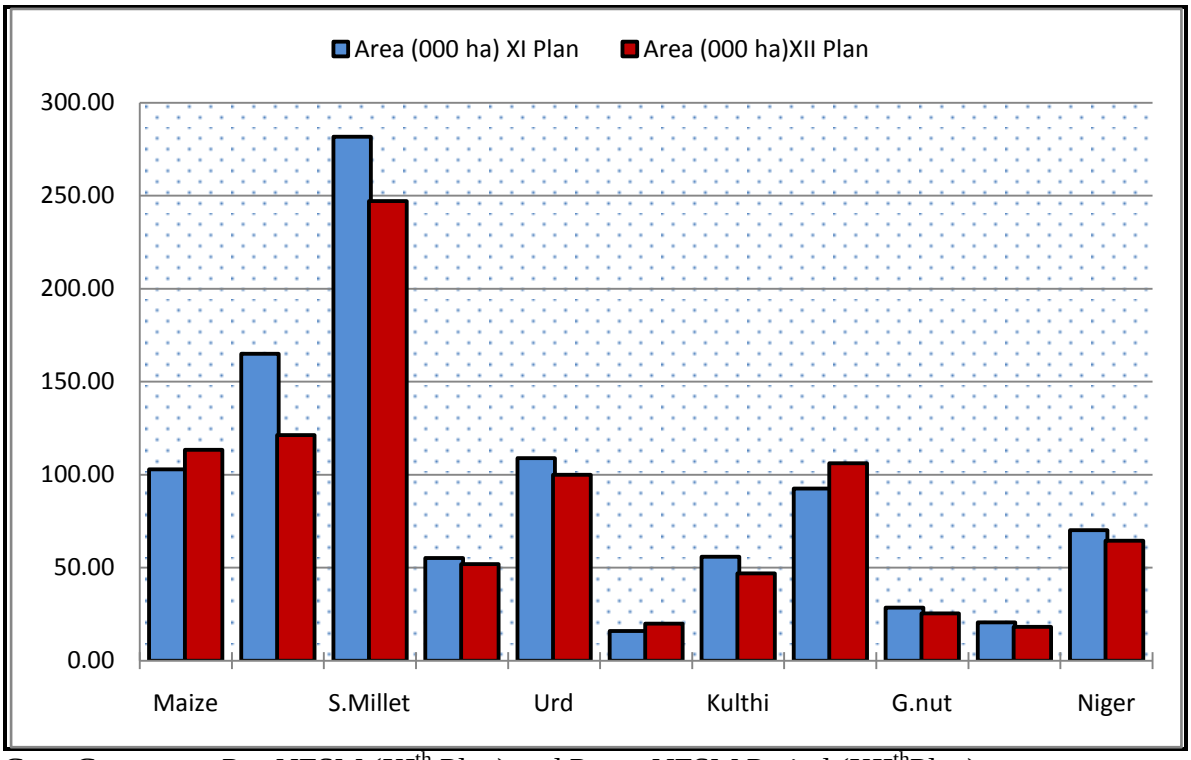
Source: DEC, Ministry of Agri. , DAC&FW, New Delhi

Impact Analysis:

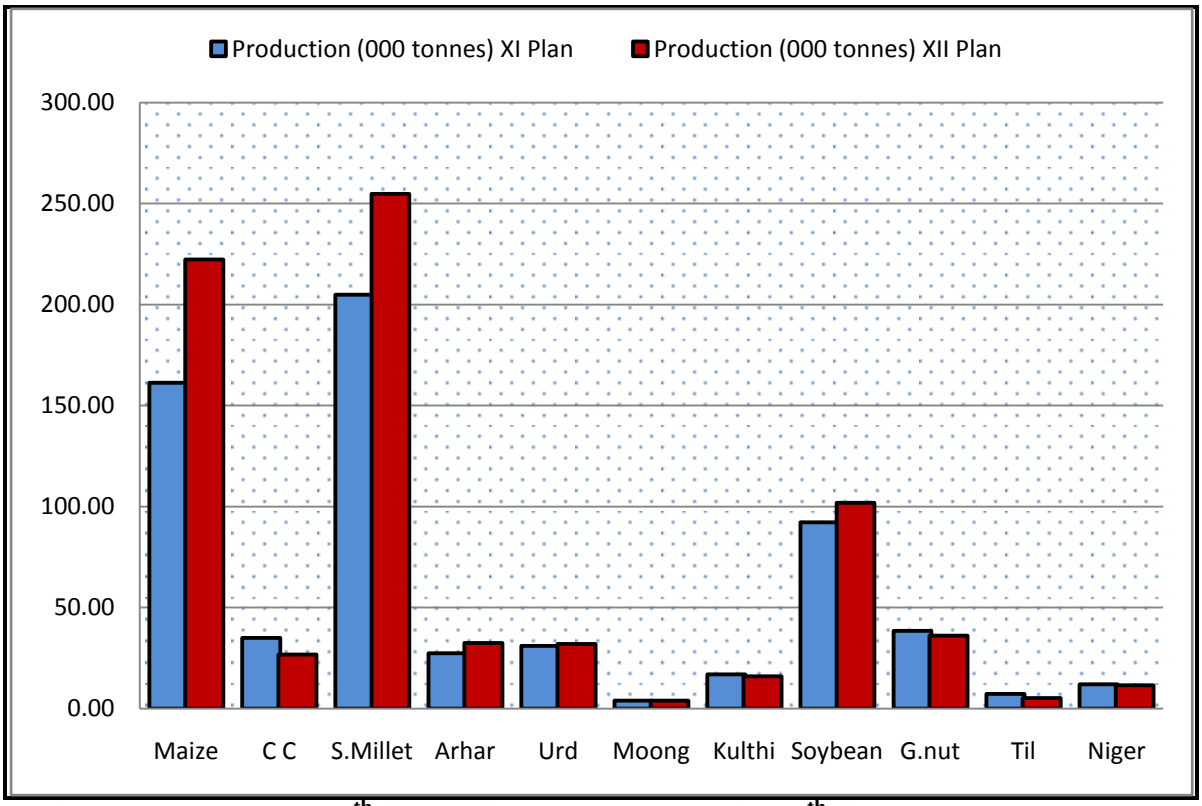
The comparative analysis of the two Plan period reveal that the NFSM launched during 11th Plan has paid dividends in the productivity of Paddy ***which was 21% higher during the 12th Plan*** (2012-13 to 2014-15) over its previous five year Plan in C.G. Similarly, the productivity of arhar, urd, wheat, barley, gram, peas, musturd& linseed were also increased 22%, 25%, 13%, 22%, 5%, 53%, 27% & 13% respectively during 12th Plan from the 11th Plan.

A quantum jump has been recorded in 12th Plan under field pea where productivity level of 539 kg/ha could be realized over the 11th Plan productivity of 352 kg/ha which is more than 53%.

Kharif Crop Scenario: XIth&XIIth Plan

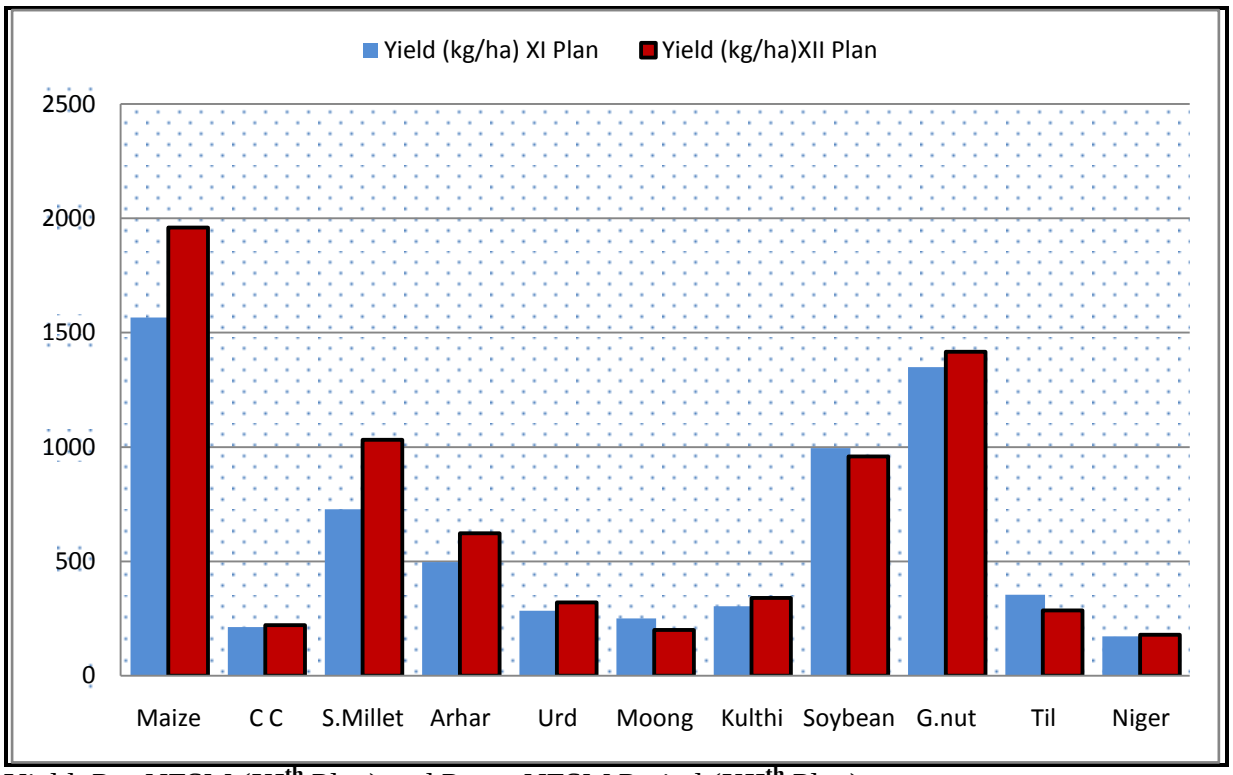


Crop Coverage : Pre-NFSM (XIth Plan) and Post - NFSM Period (XIIthPlan)



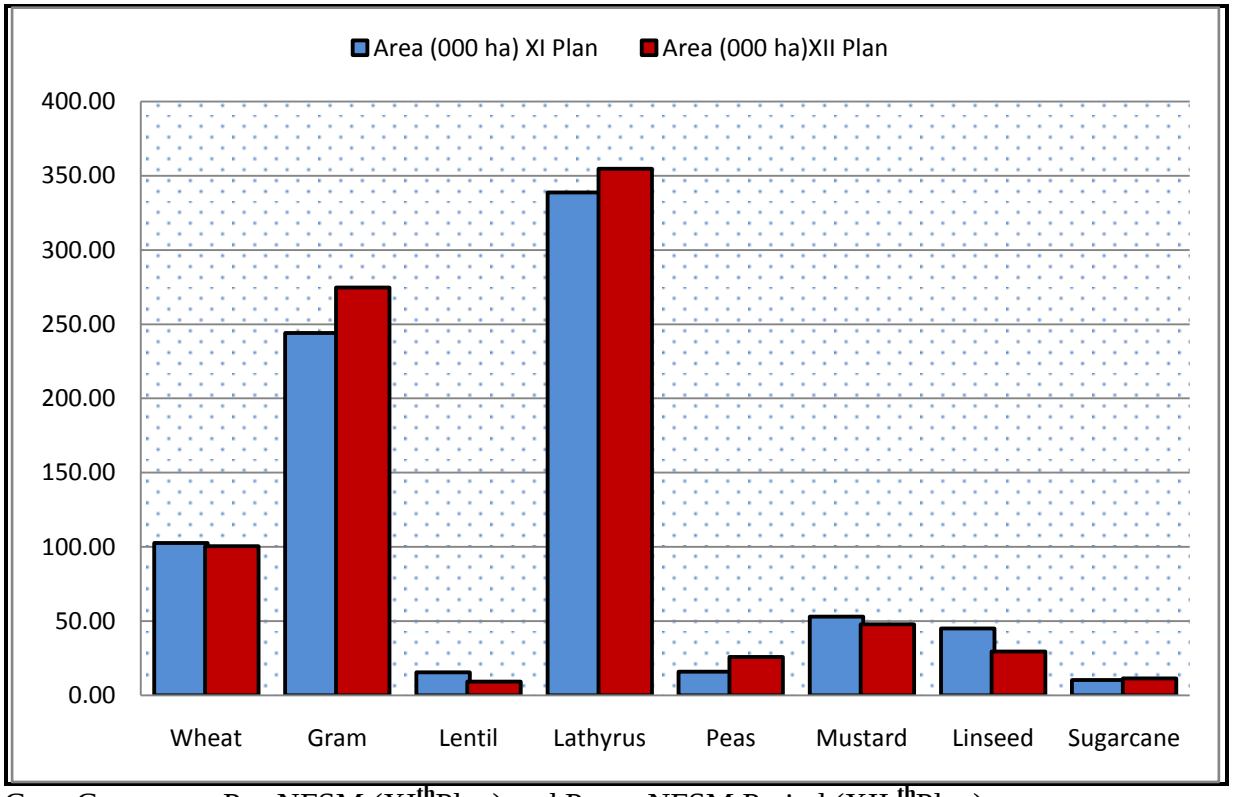
Production: Pre-NFSM (XIthPlan) and Post NFSM Period (XIIthPlan)

Kharif Crop Scenario: XIth&XIIth Plan

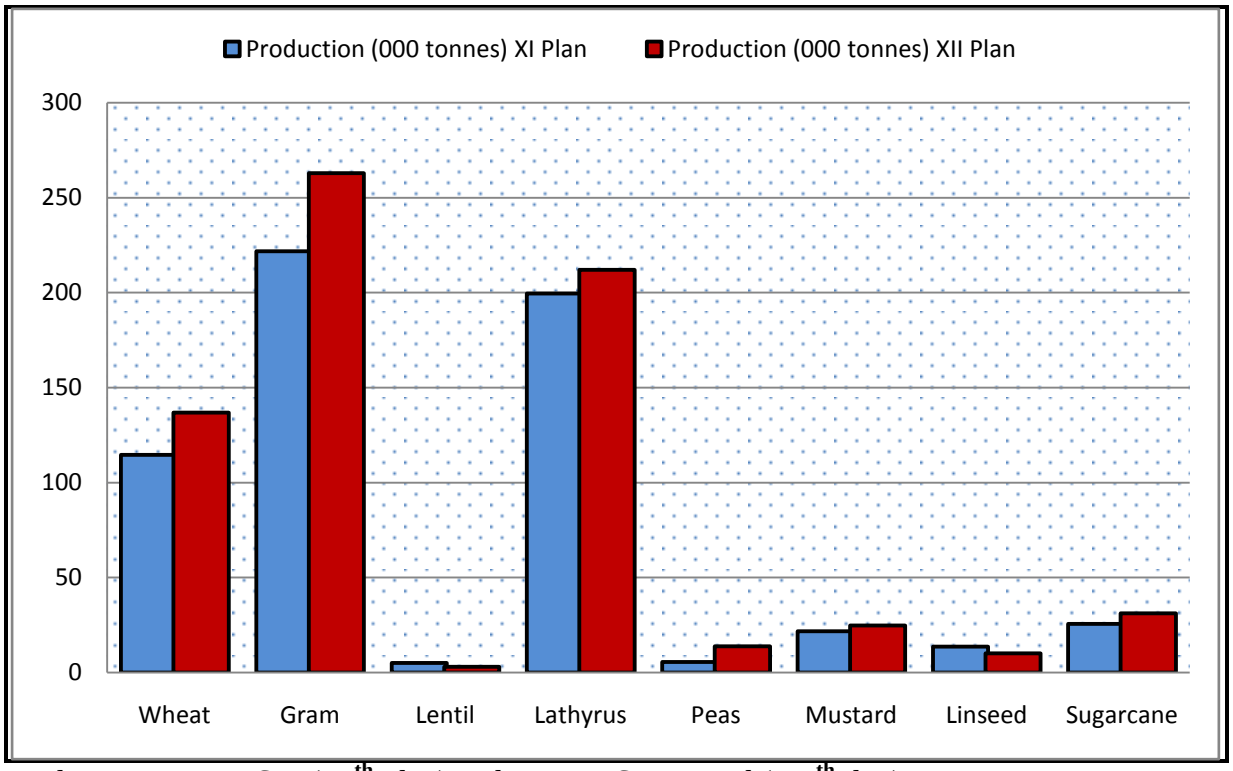


Yield: Pre-NFSM (XIth Plan) and Post - NFSM Period (XIIth Plan)

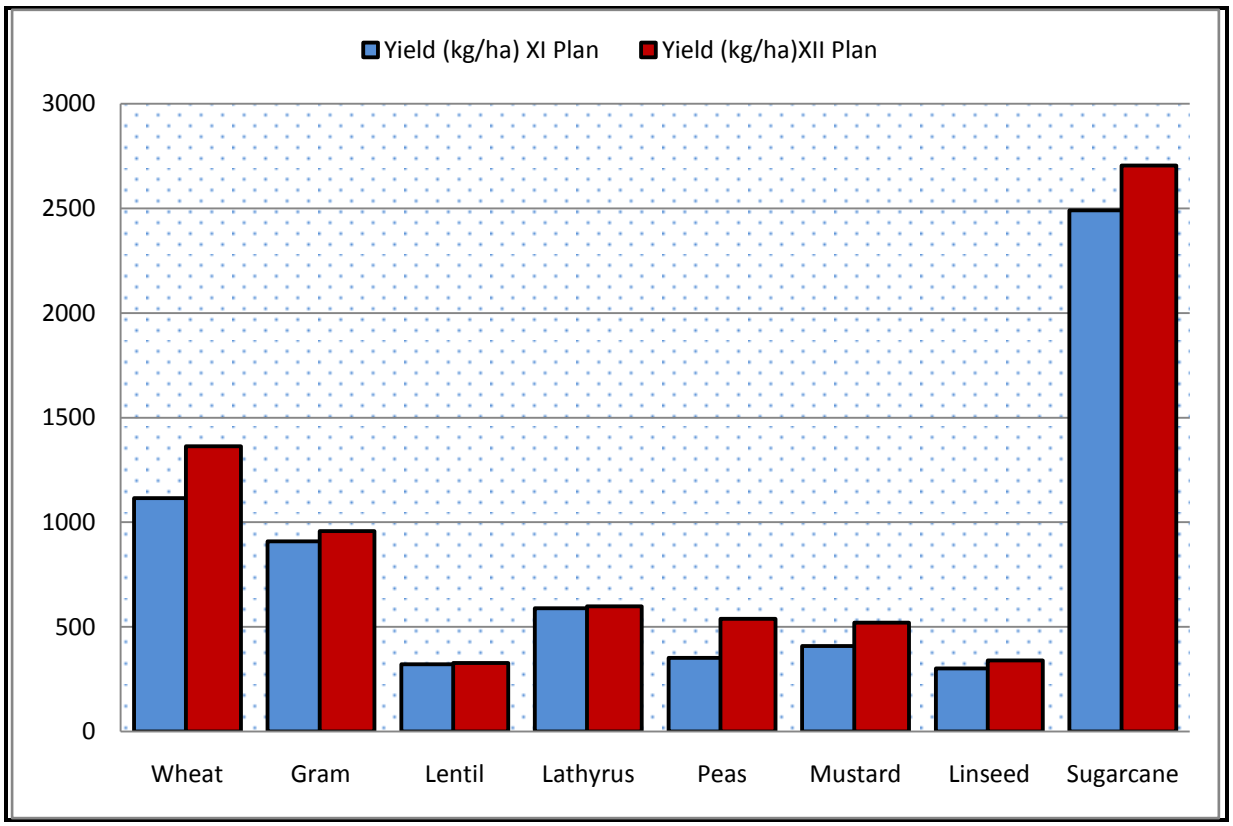
Rabi Crop Scenario: XI th&XIIth Plan



Crop Coverage : Pre-NFSM (XIthPlan) and Post - NFSM Period (XII thPlan)



Production: Pre-NFSM (XIth Plan) and Post NFSM Period (XIIthPlan)



Yield: Pre-NFSM (XIthPlan) and Post - NFSM Period (XIIthPlan)

6.2 Crop Scenario: 2014-15

Crop	Area (lakh ha)		Production (Lakh tons)		Yield (kg/ha)	
	DES	SDA	DES	SDA	DES	SDA
Paddy	38.08	36.92	60.21	76.81	1581	2080
Maize	1.22	2.20	2.30	4.10	1885	1861
Arhar	0.53	1.31	0.35	0.89	660	679
Urd	1.01	1.65	0.31	0.75	307	453
Moong	0.23		0.04		174	
Soybean	1.06	1.47	0.84	1.86	792	1265
Wheat	1.04	1.77	1.36	2.61	1308	1475
Gram	2.81	3.56	2.90	4.06	1032	1140
Lathyrus	3.38	3.58	1.89	2.36	559	659
Peas	0.48	0.46	0.31	0.27	646	587
Rapeseed/Mustard	0.46	1.45	0.23	0.86	500	593
Sugarcane	0.13	0.28	0.34	0.78	2615	2786

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

7. NFSM: FINANCIAL PROGRESS

7.1. Allocation & Expenditure: Till February (2015-16)

Rs. In Lakh

S. No.	Name of Crop/ Scheme	Allocation/ Target	Release	Expenditure (upto February)
1	Paddy	7224.00	1806.01	3351.20
2	Pulses	4274.22	1068.55	1538.10
3	Additional Pulses	1654.44	827.21	205.74
3.	Coarse Cereals	194.00	48.50	90.03
	Total			

Details of physical and financial progress is at Annexure –I

8. DETAILS OF FIELD VISIT/ ACTIVITIES

Korea, Surajapur and Balarampurdistricts of Sarguja Division of Chhattisgarh state were visited from 16.03.2016 to 18.03.2016.Dr.Mohd. Yasin, Senior Scientist (PB & Genetics), member could not participate. The team also visited FLD conducted by KVK under NFSM & NMOOP in visited districts. On completion of visit, a Wrap-up meeting on 18th March, 2016 in the office of Joint Director of Agriculture, Sarguja, Government of Chhattisgarh. The meeting was attended by all personal of NLMT, besides all 05 district officer/officials of Sarguja division. However, NLMT visited only 03 districts.

S.N.	District	Block	Village /Institute	Activities
1	Korea	Baikunthpur	Bhunde	Cluster demonstration of field pea & gram (var.-JAKI 9218) KisanGosthi
			Khada	Front Line Demo. of pea (var.- Paras) under NFSM – Pulses Interaction with group of farmers
			Dakapara	Front Line Demo. of Mustard (var. Bharat/CG Sarson2 (RH 749) under NMOOP conducted by KVK.
			Juunapara	Godown constructed under local initiatives NFSM-Pulses, 2015-16 KisanGoshti
			Nagar	Front Line Demo. of gram (var.- JG-11) under NFSM –Pulses
		Manendragarh	Agariabehra	Cluster demonstration of field pea (var.-Paras) under NFSM-Pulses & Linseed (Var. JLS-9) under NMOOP
			Salhi	Godown constructed under local initiatives NFSM-Pulses, 2015-16
2	Surajpur	Surajpur	Manpur	Multicrop Thresher under NFSM
			Kurva	Rotavator under NFSM
			Kailashpuri	Godown constructed through NFSM-Pulses, 2015-16
			Kharakona	Front Line Demo. of Mustard (var. Bharat/CG Sarson2 (RH 749) under NMOOP *(Intercropping -Wheat:Mustard)*
				Wrap-up Meeting with district Collector Shri. Govind Ram Churendra
3	Balrampur	Rajpur	Baghima	A Mini Rice Mill with the 80% financial support from State Government under IAP Scheme, is established by Roshni Self Help Group,***Group President Smt. DhaneswariMarawi.*** KrishakGoshthi
			Parasgudhi	Front Line Demo. of gram (var.- JAKI-9218) under NFSM –Pulses & Linseed (var.-Kartika) under NMOOP Cluster Demo.on intercropping pigeonpea with groundnut in 1:4 ratio.

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

10. OBSERVATIONS

10.1 Coverage and production during Kharif and Rabi 2014-15 are given at Para No.6.2.

10.2 State has received actual rainfall at 1008.9 mm against the normal of 1317.0 mm. The visited Sarguja division has received 838.92 mm rainfall against 1510.0 mm i.e. deficit rainfall.

10.3 Visited division comes under Northern Hills Agro-climatic zones, the topography is undulated, normal rainfall is high (1510 mm) against the state's average (1317 mm), but, irrigation is only 11 %. It means agriculture is totally depends on monsoon. Major soils are Alfisol (29%), Vertisol (28%), Inceptisols (28%), Entisol (13%) &Alluvial soil (2%).

10.4 Net sown area of visited division is about 8.35 lakh hectare, which is, 29 % of geographical area & 17.5% of state net sown area. Cropping Intensity is 135%.

10.5 In general poor/stunted plant growth was observed of almost all Rabi crops Gram, Wheat, Lentil, Pea, Mustard, Linseed in almost all visited district due to uneven rains. Nov. to Mid Dec. sown crops were at harvesting and threshing stage i.e. Field pea, Linseed, Mustard and Lentil have been observed in the field. Late sown crop of Lentil, Gram, Wheat and Linseed were at maturity/harvesting stage.

10.6 The team interacted with the farmers and also all KVKs In-charge to see the FLDs. At KVK-Korea/Surajpur/ Balrampur. They informed that the following major technology/interventions have been adapted in conduction of FLDs on Chickpea, Field Pea, Mustard & Rapeseed and Linseed.

Field Pea	**Chickpea**
• Line sowing/Zero till drill • Bio Fertilizer Application: *Rhizobium & PSB @ 5 gm per kg seed* • Bio-agent application: Trichoderma @ 10 gm per kg seed • Pre-emergent herbicide application: Pendimethalin 30 EC @ 750 ml per acre • Variety - Paras • Date of sowing - 20 oct - 15 Nov.2015	• Line sowing • Bio Fertilizer Application: *Rhizobium & PSB @ 5 gm per kg seed* • Bio-agent Application : Trichoderma @ 10 gm/kg seed • Pre-emergent herbicide application: Pendimethalin 30 EC @ 750 ml per acre • Variety - JG-11 • Date of sowing - 15 Oct –15 Nov. 2015

Linseed	Mustard
• Line sowing with seed cum fertilizer drill/Zero till drill • Bio Fertilizer Application: *Azotobacter& PSB @ 5 gm per kg seed* • Bio-agent Application: Pseudomonas @ 10 gm/kg seed • Pre-emergent herbicide Application: Pendimethalin 30 EC @ 750 ml per acre • Variety - Kartika, JLS-9 • Date of sowing - 25 Oct. - 25 Nov.2015	• Line sowing with seed cum fertilizer drill • Bio Fertilizer Application: *Azospirillum& PSB* @ 5 gm per kg seed • Bio-agent Application: Pseudomonas @ 10 gm per kg seed • Pre-emergent herbicide application: Pendimethalin 30 EC @ 750 ml per acre • Varieties - C.G. Sarson, RH-749, Bharat Sarson-2 • Date of sowing - 30 Oct - 20 Nov.2015

10.7 The Team also visited, NFSM & NMOOP funded FLDs conducted by KVKs (Korea, Ambikapur/Surajpur&Balarampur) during NLMT visit. The demonstrations conducted by KVKs are satisfactory, as providing all inputs to beneficiaries and proper guidance in time. However, publicity and more awareness is required.

10.8 In field pea demonstrations, admixture noticed in the variety of Vikas for plant type. Whereas, other variety Paras, found genetically pure in all the visited demonstrations.

10.9 Farmers of visited area have used Azadaractin (Neem based insecticide) against stem borer, gall midge and BPH on rice in Kharif season and sucking pests like aphid, thrips and pod borers on pulses in rabi season. As this insecticide is not much more effective in managing these pests, use of IPM module with need based chemical insecticides i.e. Carbofuron 3G @ 33 kg/ha against stem borer and gall midge and Imidacloprid 200 SL @ 600 ml/ha for BPH in rice whereas, in pulses Profenophos 50 EC @1.5 lit/ha against pod borers have been suggested to the farmers.

10.10 In most of the cases at the time of visit, district/block officials/staff could not show documentation related to beneficiaries and details of demonstration/implement etc. NLMT felt the poor awareness level of farmers' beneficiaries and non-beneficiary and also grass root level officials/staff.

10.11 Cropping System based Cluster demonstration of Chickpea var. JAKI- 9218 (DOS- 6th Dec., 2015) with IPM package in District-Korea, Block-Baikunthpur, Village-Bhunde was visited by Team. Farmer Shri Ashok Kumar informed that the previous crop was paddy. The crop was sown through the seed drill after treating with culture. Crop was at flowering stage and in good condition. However, crop may not exploit full potential due to delayed sowing..

10.12 Cluster demonstrations of Field Pea var. Vikas grown after paddy variety DRH-2 District- Korea,Block- Baikunthpur, Village- Bhunde, was observed by the Team. Crop sown by line sowing through seed drill after seed inoculation with culture, using micro-nutrient. Sowing date was 10th Dec., 2015 and crop at maturity stage. ***Weeds observed in demo-field are Chenopodium album and Jangali jai (Avenafatua).***

Farmer Shri Raj Kumar informed to team that he used first time seed drill for sowing, and green pod sold in market. He told that he has applied lime for soil pH correction and PSB for seed treatment. For weed control he also has practiced pre-emergence weedicide, however, he was not able to tell the name of weedicide.

10.13 Another demonstration also visited in Block-Manendragarh of field pea var.–Paras. Farmer Shri Rai Singh told that he applied all inputs given under demonstration. Crop was at maturity & ready to harvest.

10.14 Cluster Demonstration of Linseed variety-JLS-9 under NMOOP was visited in same village in 5 hectare. Farmer informed that the inputs other than the seed werenot provided at sowing time hence demonstration could not be executed properly. Crop was in poor condition, many weeds observed in demo plot. Crop was at maturity stage.

10.15 Cluster demonstration on intercropping Pigeonpea with Groundnut with 1:4 ratio. Crop already harvested. Farmers are happy as they got good yield from both the crops. ***In the Village-Parsagudhi, District-Balrampur 140 farmers in cluster mode planted pigeonpea intercropped with groundnut in 1:4 ratio and found it profitable.***

10.16 Front Line Demo. of Field pea variety-Paras conducted by KVK, District-Korea Block- Baikunthpur, Village- Khada visited by the Team. Crop sown during the2nd week of November month. One irrigation applied by sprinkler method in the last week of December. At the time of visiting crop has been harvested. Display board not installed in demo. plot. Farmer Shri Balram Prasad informed that he has applied the fertilizer based on soil test. He used zero till seed drill for sowing of field pea.

10.17 Front Line Demonstration of Chickpea var. JG 11 conducted by KVK, Korea visited by the Team. In village Nagar Block- Baikunthpur 10 acres chickpea demonstrations were found conducted integrating important technological interventions like soil test based fertilizer application, seed treatment with fungicides, PSB, culture and application of pre-emergence weedicide etc. A farmer Deepak Sharma told that a field day was also organized on increasing pulses and oilseed production. Sowing time was 1st week of November. Crop was sown by line sowing method. Display board was not installed in demo. plot. At the time of monitoring, crop was at maturity stage, expected yield 12 qtls/ha.

10.18 Front Line Demonstration of Mustard var.-Bharat Sarson/CG Sarson 2 (RH 749), conducted by KVK-Korea, Block-Baikunthpur, Village-Dakapara. DOS was mid. November. Treated seed was sown by line sowing method. Crop at maturity stage, expected yield 15 qtls/ha.

10.19 Front Line Demo. of Mustard variety Bharat/CG Sarso 2 (RH 749), conducted by KVK, Ambikapur /Surajpur visited by the Team. DOS-28th Oct., 2015.Display board

not installed in demo. plot. Treated seed was sown by line sowing method. All inputs provided under programme like Pendymethylin, DAP, Insecticide etc. Crop at maturity stage, expected yield 17 qtls/ha.

10.20 Front Line Demo. of Chickpea variety JAKI 9218 conducted by KVK, Balrampur, Village–Parasgudhi, visited by the Team. Sowing in the month of 1st week of December.Treated seed was sown by line sowing method. Overall crop expression was good. Display board installed in demo. plot. 10 Pheromone traps were installed for monitoring purpose in 03 acre, which are not sufficient, as per recommendation (20-25/ha). No Pheromone traps were installed in remaining demo.area. Beneficiary informed that they applied seed 40 kg/acre due to germination problem in acidic soil. Also visit Linseed FLD var. Kartika (JLS-9) *Crop at flowering stage to capsule stage.*

10.21 FARM MECHANIZATION

10.21.1Farm mechanization is picking-up in the state. Rotavator, Plough, Leveller etc. provided financial assistance of NFSM/RKVY, are also going for custom hiring at the level of beneficiaries. However, in Sarguja division, no seed drill available with the farmers even they have 10-12 tractors in a village.

10.21.2 In District Surajpur (Block-Surajpur, Village-Manpur), the NLMT visited one of the Multi-crop thresher machinery beneficiary Shri Abdul Gaffar. He got Rs. 40,000 subsidy (Total cost 1.75 lakh) under NFSM-Pulses during 2015-16. Farmer was very happy and expected he will recover total cost within 01 year as using on rent basis. Team also saw other implement Rotavator in Kurva village in same block & district. Farmer Shri BalNaryan Dubey told that total cost of Rotavator was 85,000 & subsidy was 35,000 got through ***DBT.*** On implements not mentioned scheme & other details.

10.21.3A Mini Rice Mill with the 80% financial support from State Government is established by Roshni Self Help Group in village Vidhma (Rajpur) was visited and found remunerative as explained by the **Group *President Smt. DhaneswariMarawi.***

10.22 LOCAL INITIATIVES

*10.22.1*Under Local Initiative component of NFSM (Rice and Pulses) - Construction of 50 Metric tonnes of godown on 50% subsidy or maximum up to Rs. 1.50 lakh financial assistance (storage structure) provision made by state department.

PREREQUISITE FOR AN IDEAL SEED GODOWN STRUCTURE:

- **Plinth:** The plinth shall be generally kept about 80 cm above the finished ground level. The platform should be provided with an outward slope of 1 in 40 in order to prevent the rain water from getting inside the godowns through the doors. The platforms shall be preferably covered.
- **Drainage:** Suitable drainage arrangements such as surface or underground drains to drain the rain water from the storage premises shall be made. Steel rat guards

fitted to drain pipes and other attachments to the building should be at least one metre above ground level.

- **Doors:**A door shall be provided preferably opposite each alleyway. The doors shall normally be steel rolling shutters. The doors shall be not less than 2.45 m X 1.83 m.
- **Ventilation:** The ventilators shall be fixed 15 cm below the top edge of the wall measured from inside the godown.In longitudinal walls two steel ventilators should be necessary.
- **Strips:** Hard metal strips should be fitted to the bottom edges of all wooden doors and their frames, and vulnerable windows should be protected with tight wire netting screens in hard metal frames.
- **Rat burrow fumigation:** Put tablets of Aluminum Phosphide in each hole and burrow and block that hole by mud mixture to make it airtight.

*10.22.2*Visited Seed Godown constructed under local initiative of NFSM–Pulses. Shri. Rajju Ram, Block-Surajpur, Village-Kailashpuri informed that subsidy received 1.50 lakh in his account through DBT (Direct Benefit Transfer).

10.22.3 Visited Seed Godown constructed under local initiative of NFSM–Pulses. Shri. Lakhan Lal Rajwade, Village-Junapara, Block-Baikunthpur informed that total cost involved 2.0 lakh and subsidy received 1.5 lakh in his account through DBT (Direct Benefit Transfer). Also visited another Seed Godown of Shri. Baijnath Singh, Village-Salhi, Block-Manendragar was under construction. Cost incurred till visit 3.5 lakh. Project not completed. Norms of Godown was not followed by the beneficiary as he has constructed four rooms instead of hall and also not followed the rat protection,ventilation&doors.

Therefore, such type of farmers is not eligible for getting subsidy/govt. support, who are not follow the instruction for Godown construction.

10.23 KisanGosthi

In all the visited districts KisanGosthis were also organised to have a feed back offarmers both under NFSM and Non NFSM beneficiary categories.

10.23.1 In Village–Bhunde and JunaparaBlock–Baikunthpur, District-Korea, interactions in the KisanGosthi have revealed that the farmers not having seed drill for sowing even 9-10 tractors have in visited village. Farmers informed that they got subsidy in account through DBT. Most of the farmers/beneficiaries having account in in RRB & Cooperated Banks, Net connectivity not available in these banks however, subsidy transfer to the bank through demand draft by DDAs along with list of beneficiaries given to concerned bank. About 70 % farmers having KCC. Some policy to control stray cattle was major demand of farmers. Generally farmers grown safe seeds of old varieties.

10.23.2 In Village-Baghima, Block-Rajpur, District-Balrampur, about 30 farmers participated in the discussion, progressive farmers explained their views and

problems in the sector. The Gosthi was followed by visit of Mini Rice Mill. The beneficiaries farmers belonging to nearby villages had brought views about the intercropping pigeonpea with groundnut is in 1:4 found profitable. All beneficiaries of cluster demonstration were happy. They also informed that the Tube wells are not success this year due to deficient rains. Inter-cropping is popular viz. Pigeonpea + Tomato and Pigeonpea + Soybean intercropping is in practice.

10.24 Wrapup meeting

10.24.1 The Joint Director Agriculture has fixed up a meeting of NLMT with the Collector and District Magistrate of Surajpur district, where in Collector being the Chairman of District Executive Committee of NFSM expressed his deep concern in executing NFSM programme in the district. Further, he informed that the district administration is promoting organic farming and small vegetable garden around schools which are being maintained by students themselves. He also has emphasized to introduce integrated farming system approach in Surajpur district.

10.24.2 Team briefed about the visit feedback like lack of awareness, poor record maintenance, less adoption of improved technology even farmers not using seed drill, scope of intercropping of pigeonpea with paddy and other crop and organic farming need integrated approach for sustainable agriculture development in the district. Field pea, Mustard, Lentil should be popularized in place of gram. Infrastructure about soil testing lab.

10.24.3 On completion of visit a Wrap-up meeting was held in the office of Joint Director of Agriculture, Sarguja, Government of Chhattisgarh. The meeting was attended by all personal of NLMT, besides all 05 district officer/officials of Sarguja division. However, NLMT visited only 03 districts.

10.24.4 In concluding meeting at the end of NLMT visit with the Joint Director Agriculture in the presence of DDAs and ADAs Dr.Shivhareshown concerned on the following points:

- Lack of awareness of improved agricultural technologies.
- Introduction of seed drills in the districts.
- Integrated approach of KVK and State Agriculture Department.
- Proper display/publicity of government schemes and programme.
- Distribution of extension literature at massive level.
- Strengthening of water conservation programme to increase cropping intensity.
- Intercropping for environmental risk management.
- Intrusion of farm machineries in a larger mode.
- Economics of all the technologies need to be developed and highlighted.
- Replace of old varieties with newer.

11 RECOMMENDATIONS / SUGGESTIONS

11.1 The real need of the state like CG, with maximum rice fallow potential, is perfect standardization of utera/relay crop technology for different district including their blocks on Agro-Eco-Situation (AES) basis. **The crops like Linseed, Mustard and Urd have been a relay practice traditionally and are being taken by farmers.** The Team has noticed that there is an urgent need of Research/extension efforts on this count. Availability of Certified seeds of these crops of recommended varieties and identification of niche area is strongly recommended. The programme may be taken under Local Initiative component also.

11.2 It is true that Surguja Division has undulating rolling topography with light textured acidic soil. Region receives high rains but has limited irrigation facilities particularly for *rabi* crops resulting low cropping intensity. Hence, for increasing productivity and cropping intensity call for continuous attempts for water conservation and its utilization. Provisions are made under NFSM Rice and Pulses for resource conservation and efficient water application tools that to be utilized by the farmers.

11.3 There is a lot of scope for pulses and oilseeds (being less input consuming and high return/high value crops) crops in *Kharif* as well as in *Rabi* season. Since soils are acidic therefore, application of lime should be encouraged and crops like fieldpea, lentil, linseed and mustard in *rabi* season, urid and pigeonpea in *kharif* season should be promoted. Intercropping of pigeonpea with rice under rainfedupland ecosystem needs promotion.

11.4 It is observed that weeds are a major problem in most of the fields. There is need to train the farmers for proper management of weeds as about 30% yield is observed loss due to weed only. Weeds are major constraints in pulses cultivation also, there is urgent need to have an effective post emergence herbicide.

11.5 Newly developed production technology of Chickpea with promising varieties needs to be demonstrated among the farmers. Other varieties like RVG 202 and RVG 203 which are high yielder, resistance to multiple diseases should be demonstrated in these areas. There is a lot of scope of increasing chickpea cultivation.

11.6 Farmers should be motivated for adoption of the seed drill, zero tillage, Broad Bed Furrow Planter (BBFP), Precision farming and MIS for water use efficiency.

11.7 There is a lot of scope of increasing area under double cropping with pulses in Rice based cropping system of Chhattisgarh. Rice fallow can be converted into Rice followed by chickpea, lentil, wheat, linseed and pea, if suitable production technology/variety is given to the farmers.

11.8 Rice, followed by mungbean/urdbean in utera followed by wheat/chickpea can be promoted under irrigated conditions.

11.9 Small and marginal farmers should be targeted more under NFSM activities along with rich and large farmers. Seed drill, Zero till seed drill & happy seedershould essentially be made available to the farmers. This will be highly helpful in establishment of rabi crops in the visited division and state successfully.

11.10 Popularization of new variety of **Chickpea** (JG 16, RVG 202, RVG 203); **Lentil** (JL3, DPL 62 (Sheri), IPL 316, 814, RVL 31); **Pea** (Indira Matar-4); **Mungbean** (Pairi, TARM 2, Pusa Vishal, Pragya Mung); **Urd** (Pant U 31); **Linseed** (Indira Alsi-32 (RLC-81), Kartika (RLC 16), Deepika (RLC 78) not only need to be popularised but seeds production programme of these varieties should also be organised.

11.11 Poor farmers are still growing their own old traditional varieties of Lentil, Mungbean / Urdbean needs to be replaced with new varieties. Dissemination of pulse production technology in state is very poor and requires more attention for maximization of yield of pulses in rice based cropping system.

11.12 Chickpea cultivation with traditional practices is an old practice, interventions of good technologies coupled with trainings will only boost-up the productivity of this crop. It is therefore, advised that serious efforts are needed to provide full recommended package in conduction of the demonstration.

The DFSMEC is therefore necessarily need to be sensitized in districts. Apathy of district Administration towards Centrally Sponsored Schemes on agriculture sector may defeat the sole purpose of DFSMEC, and thus the whole scheme.

11.13 A mis-conception on spreading Bathua weeds while using certified seed of gram, need clarification by extension staff. The fact of the matter is that sufficient moisture and frequent irrigation under Rice based cropping system give rise to the germination/survival of bathua (*Chenopodium album*).

11.14 The extension functionaries need effective orientation/training on weed occurrence phenomenon and its control methodology. Similarly to control thrips infection, **Curacron (Propenophos) @ 1.5-2 litre/ha** was being used by the faremers but it was not giving effective result. IGKVV recommended insecticide i.e. **2% DAP solution + Emidachlor (Confidor)** a highly systemic insecticide to control all sucking pest need to be demonstrated.

11.15 Small farmers are fully convinced with the advantages of farm mechanization, however, due to poor resource base and financial constraints they are not in position to match farmers share in such type of programmes. The state may provide top-up subsidy from state plan to support these farmers.

11.16 Safe and scientific storage structure/godowns at domestic levels needs to be implemented as per guidelines as major rodent problem should be taken care. The state local initiatives may also target distribution of Metal bins of different capacities ranging between 2-10 quintals. ***In response of monitoring feedback DDA, Koriya***

issued explanation letter to SADO, Baikunthpur, copy of issued letter is enclosed (Annex- E).

11.17 Interactions with University scientists have revealed that lot of state specific deliverable technologies are available eg. Zero tillage wheat cultivation, Rabi Pigeonpea, Indira Field Pea, Moong varieties etc.These technologies are needed to be propagated and transferred to farmers field under the ongoing development programmes.

11.18 The details on the allocation of FLDs for all crops such as number of demonstrations, crops, budgetary allocation and organizing agency etc. should be known to the State Nodal Officer for better coordination with Research organizations in getting the benefits of the demonstrated technologies. Presently, the State Department of Agriculture, including DDAs are not aware of such programmes.

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Cluster Demonstration of Gram (var.- JAKI-9218) under NFSM-Pulses
District-Korea, Block-Baikunthpur, Village-Bhunde

KVK, Front Line Demonstration of Linseed (var.- Kartika JLS-9) under NMOOP
District-Korea, Block-Manendragarh,Village-Agariabehra

KVK, FLD of Mustard (var.-CG Sarson (RH 749) under NMOOP
District-Korea, Block-Baikunthpur, Village-Dakapara

KVK, FLD of Pea, var.-Paras – (Paddy after Pea) under NFSM-Pulses
District-Korea, Block-Baikunthpur, Village-Khada

KisanGosthi/Interaction with farmers & officials
District-Korea, Block-Baikunthpur,Village-Bhunde

SURAJAPUR

Local Initiatives: Godown constructed under NFSM- Pulses, 2015-16
District-Surajpur, Block-Surajpur,Village- Kailashpuri,

Mechanization: Multi Crop Thresher under NFSM 2015-16
Farmer Name-Abdul Gaffer Siddiqui, District-Surajpur Village –Manpur,

Front Line Demo. of Mustard (var. Bharat/CG Sarson2 (RH 749) under NMOOP
District-Surajpur, Block-Surajpur,Village-Kharakona

BALRAMPUR

Mini Rice Mill under IAP Scheme, Roshni Self Help Group
District-Balrampur, Block-Rajpur, Village-Baghima

KisanGosthi
District-Balrampur, Block-Rajpur, Village-Baghima

Front Line Demo. of gram (var.- JAKI-9218) under NFSM –Pulses
District-Balrampur, Block-Rajpur, Village-Parasgudhi

ANNEX-A

LIST OF IMPROVED VARIETIES (<10 YEAR AGE) RECOMMENDED FOR CHHATTISGARH

A. Pigeonpea (Arhar)

S.No.	Variety	Years of Release	Developed by	Special Features	Notification No. & Date
1	BDN 708	2004	A.R.S. Badnapur (Maharashtra)	Moderate resistant to Wilt and Sterility Mosaic Disease	S.O.122 (E) 6.2 2007
2	GTH-1 (Hybrid)	2004	SDAU, Gujrat	Resistant to Wilt, Sterility Mosaic Disease and Pod Borer	S.O.1703 (E)05.10 2007
3	JKM 189	2006	RARS, Khargone (M.P.)	Drought tolerant, Resistant and Moderate resistant to Wilt, S.M.D. and Phytophthora Blight	No. 17-10/S.D.IV 06.08.2007
4	Vipul	2006	MPKV, Rahuri (Maharashtra)	Resistant to Wilt, Tolerant to S.M.D. and less damage by Pod Borer	-
5	TJT 501	2008	RARS, Khargon (M.P.)	Tolerant to Pod Borer and Pod Fly	S.O.2187 (E) 2.7 2009
6	Rajeev Lochan	2011	IGKV, Raipur	Resistant to Wilt and SMD	S.O. 632 (E) 25.03.2011
7	Phule T 0012	2012	MPKV, Rahuri (Maharashtra)	Moderate resistant to Fusarium Wilt, SMD and tolerant to Pod Borer and Pod Fly	-
8	VLA-1 (ICPL 88039)	2007	ICISAT	135-140 days duration	S.O. 1703 (E) 2007
9	Pusa 991	2005	IARI	Tolerant to Wilt, Phytophthora Blight and SMD	-

B. Urd

S. No.	Variety	Years of Release	Developed by	Special Features	Average grain yield (qtls/ha)
1	PU -31	2005	GBPUA&T, Pantnagar	Resistant to MYMV	10
2	PU-40	2005	GBPUA&T, Pantnagar	Resistant to MYMV	10
3	NUL 7	2009	Nirmal Seeds	Resistant to MYMV & Powdery Mildew	11

C. Field Pea

S. No.	Variety	Years of Release	Developed by	Special Features	Average grain yield (qtls/ha)	Notification No. & Date
1	IFPD 99-13 (Vikas)	2005	IIPR, Kanpur	Resistant to Powdery Mildew, Mid. Duration 102 days	23	-
2	IFPD 1-10 (Prakash)	2006	IIPR, Kanpur	Resistant to Powdery Mildew and Rust, Mid. Duration 110 days	22	
3	Paras	2006	IGKV, Raipur	Resistant to Powdery Mildew and Rust, Mid. Duration 103 days	15-20 (Irrigated) 10-15 (rainfed)	S.O. 599 (E) 25.04.2006

D. Lentil

S. No.	Variety	Years of Release	Developed by	Special Features	Average grain yield (qtls/ha)	Notification No. & Date
1	IPL -316	2013	-	-	-	S.O. 312 (E) 01.02.2013

E. Chickpea (Gram)

S.No.	Variety	Years of Release	Developed by	Special Features	Average grain yield (qtls/ha)	Notification No. & Date
1	JG- 63	2004	JNKVV, Jabalpur	-	-	-
2	JG-1	2006	JNKVV, Jabalpur	-	15	-
3	JGK-2	2006	JNKVV, Jabalpur	Kabuli, Bold Seed	-	-
4	PusaSubhra	2006	IARI, New Delhi	-	18	S.O. 1572 (E)
5	JG -14	2009	JNKVV, Jabalpur	Mid. Bold, Wilt Resistant, Tolerant to heat	18	S.O. 449 (E)
6	JG-6	2009	JNKVV, Jabalpur	-	20	S.O. 449 (E)
7	ICPK 2002-29	2009	IIPR, Kanpur	-	21	S.O. 2187 (E)
8	ICPK 2004-29	2010	IIPR, Kanpur	-	20	S.O. 2137(E)
9	Phule G 0517	2010	MPKV, Rahuri (Maharashtra)	-	18	S.O. 2137(E)
10	JSC 55	2012	RAK, COA, Sehore (M.P.)	-	20	-
11	JSC 56	2012	RAK, COA, Sehore (M.P.)	-	19	-

F. Rice

S. No.	Variety	Duration days	Yield (t/hac)	Suitability	Average grain yield (qtls/ha)	Notification No. & Date
1	Samleshwari	105-112	3 - 3.5	Direct seeded in rainfed upland and rainfedbundedmatasi,dorsa&kanhar planting with 20-25 days seedling	Tolerant to Brown spot & Neck blast, Resistant to Gall Midge biotype 1 & 4	S.O. 1178 (E) 20.07.2007
2	Jaldubi	135-140	4 - 4.5	Direct seeded in rainfed shallow & semi-deep water ecosystem of Surguja division	Resistant to blast and Gall midge biotype 1	S.O. 1178 (E) 20.07.2007
3	Chandrahasini	120 - 125	4 – 4.5	Irrigated condition, rainfedbunded, dorsa and kanhar soils	Tolerant to Blast, Brown Spot & Sheath rot. Resistant to Gall Midge biotype 1	S.O. 1178 (E) 20.07.2007
4	Sampada	135	4.5–5.0	Rainfed low land, Irrigated	Tolerant to Gall Midge	S.O. 2458 (E) 16.10.2008
5	Karma Masuri	125-130	4.5-5.0	Irrigated and Rainfedbunded, medium to heavy textured soils of Chhattisgarh	Tolerant to BPH, WBPH, Resistant to Gall midge biotype 1,4 & 5	S.O. 2458 (E) 16.10.2008
6	IGKV R-1244 (Maheshwari)	130-135	5.0-5.5	Irrigated and Rainfed-heavy dorsa and kanhar soils	Resistant to Brown Spot, Blast, Sheath rot, BPH and stem borer	S.O. 456 (E)16.3 2012
7	IGKV R-1 (Improved Mahamaya)	120-125	5.0-5.7	Irrigated and Rainfed-heavy soils	Moderately resistant to blast, brown spot and Gall midge, Tolerant to Neck Blast	S.O. 283 (E) 7.2 2011
8	IGKV R-2	130-135	5.0-5.5	Irrigated condition	Tolerant to sheath rot, sheath blight and BLB. Resistant to Gall midge	S.O. 283 (E) 7.2 2011
9	Indira Barani Dhan-1	111-115	4.0-4.5	Rainfed shallow lowlands, rainfed in dorsa and kanhar soils	Tolerant to Neck Blast, BLB, Gall midge and stem borer	S.O. 456 (E) 16.3 2012
10	PKV-HMT	130-135	4.0	Irrigated condition	Follow IPM	S.O. 2458 (E) 16.10.2008

ANNEX-B

Progress Report of National Food Security Mission –2015-16

Crop-Rice

State :- Chhattisgarh

Month-February 2015Rs. In Lakh

S. No.	Interventions	Approved rate/Unit	Target		Achievement		% Aciv.
			Phy.	Fin.	Phy.	Fin.	(Fin.)
1	**Cluster demonstration 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)	Rs. 7500 ha	18544	1012.95	18194	852.54	84.16
	(b) Cluster demonstrations on hybrid rice (one cluster of 100 ha) target 0.5% of area of district.	Rs. 7500/ ha	8200	450.98	8200	491.73	109.04
	(c) Cluster demonstrations on Swarna sub-1/ Sahbhagidhan of 100 ha each.	Rs. 7500/ ha	700	52.50	700	25.67	48.90
	(d) Cropping System based demonstration	Rs. 12500/ ha	28019	1985.95	20985	1120.38	56.42
	Sub Total 1 (a) to 1 (d)		**55463**	**3502.38**	**48079**	**2490.32**	**71.10**
	NEED BASED INPUTS						
2	**Seed distribution:**						
	(a) Hybrid rice seed	Rs. 5000 Qtl	10300	515.00	757.91	22.29	4.33
	(b) HYVs seeds	Rs. 1000/ Qtl	93200	932.00	21714.55	114.85	12.32
	Sub Total 2 (a) to 2 (b)		**103500**	**1447.00**	**22472.46**	**137.14**	**9.48**
3	**Plant and soil protection management:**						
	(a) Micronutrients and Biofertilizers	Rs.500/ ha	50000	250.00	21776	97.87	39.15
	(b) Liming in acidic soils	Rs.1000/ ha	10000	100.00	3965	25.13	25.13
	(c) Plant protection chemicals and bio-agents	Rs.500/ ha	19917	99.59	25934.34	109.58	110.04
	(d) Weedicides	Rs.500/ ha	56600	283.00	27008	102.79	36.32
	Sub Total 3 (a) to 3 (c)		**136517**	**732.59**	**78683.34**	**335.37**	**45.78**
4	**Resource conservation techniques/ tools**						
	(a) Conoweeders	Rs. 600/Unit	5000	30.00	1873	8.03	26.77
	(b) Manual Sprayer	Rs. 600/Unit	25000	150.00	18725	103.21	68.81
	(c) Power Knap sack sprayers	Rs. 3000/Unit	600	18.00	443	8.32	46.22
	(d) Multi crop planters	Rs.15000/Unit	18	2.70	7	0.00	0.00
4	(e) Seed drills	Rs.15000/Unit	700	105.00	72	7.80	7.43
	(f) Power weeders	Rs.15000/Unit	34	5.10	2	0.30	5.88
	(g) Zero till multi crop planters	Rs.15000/Unit	43	6.45	6	0.00	0.00
	(h) Drum seeder	Rs.1500/Unit	800	12.00	3	1.00	8.33
	(i) Rotavators	Rs.35000/Unit	500	175.00	220	59.00	33.71
	(j) Laser land levelers	Rs.150000/Unit	8	12.00	1	0.00	0.00
	Sub Total 4 (a) to 4 (j)		**32703**	**516.25**	**21352**	**187.66**	**36.35**

S.	Interventions	Approved	Target	Achievement	% Aciv.

No.		rate/Unit	Phy.	Fin.	Phy.	Fin.	(Fin.)
5	(a) Incentive for pump sets	Rs.10000/Unit	1000	100.00	222	22.36	22.36
	(b) Pipe for carrying water from source to the field	Rs.15000 or Rs. 25/m upto 600 m	233000	58.25	87990	7.92	13.60
	Sub Total 5 (a) and (b)		**234000**	**158.25**	**88212**	**30.28**	**19.13**
6	Paddy thresher/multi-crop thresher	Rs.40000/Unit	127	50.80	107	42.00	82.68
7	Self propelled Paddy transplanter	Rs.75000/Unit	40	30.00	11	8.25	27.50
8	**Cropping system based trainings**	Rs. 3500/sess., Rs.14000/- trai.	516	72.24	463	47.48	65.73
	Total of Need Based Inputs (2 to 8)		**507403**	**3007.13**	**211300**	**788.18**	**26.21**
9	**Miscellaneous expenses:**						
	(a) Project management team and other misce. expenses at district level		0	0.00	0	0.10	0.00
	(b) Project management team and other misce. expenses at state level	Rs. 17.00 lakh per state	0	0.00	0	0.00	0.00
	Sub Total (9a to 9b)		**0**	**0.00**	**0**	**0.10**	**0.00**
10	**Local initiatives**						
	(a) Construction of Godowns	Rs. 6000/mt (up to 50 mt)	363	544.50	91	31.50	5.79
	(b) Distribution of Reaper	Rs. 60000/unit	190	95.00	96	25.15	26.47
	(c) Distribution of Power Tiller	Rs. 88500/unit	125	75.00	47	15.95	21.27
	Sub-Total 10 (a) to (c)		**678**	**714.50**	**234**	**72.60**	**10.16**
11	**Other Initiatives**						
	(a) Demonstration by NGOs	Rs. 7500/ha	0	0.00	0	0.00	0.00
	(b) Assistance for custom hiring (For Land preparation and Line sowing)	Rs. 1500/ha	0	0.00	0	0.00	0.00
	(c) Specialized projects		0	0.00	0	0.00	0.00
	Sub Total 11 (a) to 11(c)		**0**	**0.00**	**0**	**0.00**	**0.00**
	Total Financial (1 to 11)			**7224.00**		**3351.20**	**46.39**

Progress Report of National Food Security Mission –2015-16

Crop-Pulses

State :- Chhattisgarh

Month-February 2015Rs. In Lakh

S. No.	Interventions	Approved rate/Unit	Target		Achievement		% Achiv.
			Phy	Fin	Phy	Fin	Fin.
1	**Demonstration on improved technologies:**						
	(a) Cluster Demo. (100 ha each)	Rs. 7500/ha	12967	972.53	11810.0	500.89	51.50
	(b) Cropping system based demonstrations	Rs.12500/ha	5370	671.25	5020.0	392.56	58.48
	Sub-Total 1 (a) and 1 (b)		**18337**	**1643.78**	**16830.0**	**893.45**	**54.35**
2	**NEED BASED INPUTS**						
	Distribution of certified seeds:						
	HYVs Seeds	**Rs.2500/qtl**	**33216**	**830.40**	**25627.84**	**225.25**	**27.13**
3	**Integrated Nutrient Management (INM)**						
	(a) Micro-nutrients	Rs.500/ ha	16000	80.00	8575	25.21	31.51
	(b) Gypsum/ 80% WG Sulphur	Rs.750/ha	10000	75.00	3308	22.72	30.29
	(c) Lime	Rs.1000/ha	5000	50.00	916	3.81	7.62
	(d) Bio-fertilizers	Rs.100/ha	117800	117.80	51716.00	39.43	33.47
	Sub Total INM 3 (a)to 3 (d)		**148800**	**322.80**	**64515.00**	**91.17**	**28.24**
4	**Integrated Pest Management (IPM)**						
	(a) Distribution of PP chemicals	Rs.500/ha	50000	250.00	14296.26	35.13	14.05
	(b) Weedicides	Rs.500/ha	10000	50.00	2715	6.42	12.84
	Sub Total 4 (a) and 4 (b)		**60000**	**300.00**	**17011**	**41.55**	**13.85**
5	**Resource conservation technologies /tools**						
	(a) Manual Sprayer	Rs.600/Unit	12992	77.95	10111	55.40	71.07
	(b) Power Knap sack sprayers	Rs.3000/Unit	150	4.50	238	5.29	117.56
	(c) Zero till seed drills	Rs.15000/Unit	0	0.00	0	0.00	
	(d) Multi crop planters	Rs.15000/Unit	0	0.00	0	0.00	
	(e) Seed drills	Rs.15000/Unit	200	30.00	117	15.75	52.50
5	(f) Zero till multi crop planters	Rs.15000/Unit	0	0.00	0	0.00	
	(g) Ridge furrow planters	Rs.15000/Unit	0	0.00	0	0.00	
	(h) Chiseller	Rs.8000/Unit	0	0.00	0	0.00	
	(i) Rotavators	Rs.35000/Unit	180	63.00	150	45.30	71.90
	(j) Laser land leveller	Rs.1.50/Unit	0	0.00	0	0.00	
	(k) Tractor mounted sprayer	Rs.10000/Unit	0	0.00	0	0.00	
	(l) Multi crop thresher	Rs.40000/Unit	200	80.00	138	48.80	61.00
	Sub Total of Machinery 5 (a) to 5 (l)		**13722**	**255.45**	**10754**	**170.54**	**66.76**

S. No.	Interventions	Approved rate/Unit	Target		Achievement		% Achiv.
			Phy	Fin	Phy	Fin	Fin.
6	**Efficient water application tools:**						
	(a) sprinkler sets	Rs.10000/ha	2510	251.00	310.70	14.03	5.59
	(b) pump sets	Rs.10000/Unit	250	25.00	90.0	7.48	29.92
	(c) Pipe for carrying water from source to the field	Rs. 15000 or Rs. 25/m upto 600 m	365400	91.35	72292	1.77	1.94
	(d) Mobile Rainguns	Rs.15000/Unit	0	0.00	0	0.00	
	Sub Total 6 (a) to 6 (d)			**367.35**		**23.28**	**6.34**
7	**Cropping system based trainings**	Rs. 3500/-sess., Rs. 14000/- trai.	**296**	**41.44**	**241**	**23.35**	56.35
	Sub Total of Need Based Inputs (2 to 7)			**2117.44**		**575.14**	**27.16**
8	**Miscellaneous expenses:**						
	(a) Project management team and other misce. expenses at district level	Rs.12.058 Lakh per district	17	205.00	2	34.11	16.64
	(b) Project management team and other misce. expenses at state level	-	1	17.00	0	0.00	0.00
	Sub-Total 8 (a) to (b)			**222.00**		**34.11**	**15.36**
9	**Local initiatives**						
	(a) Construction of Godowns	Rs. 6000/mt (up to 50 mt)	170	255.00	66	24.00	9.41
	(b) Distribution of Reaper	Rs.50000/unit	0	0.00	0	0.00	
	(c) Distribution of Power Tiller	Rs.60000/unit	60	36.00	49	11.40	31.67
	Sub-Total 9(a) to (c)		**230**	**291.00**	**115**	**35.40**	**12.16**
10	**Other Initiatives**						
	(a) Demonstration by NGOs	Rs. 7500/ha	0	0.00	0	0.00	
	(b) Assistance for custom hiring (For Land preparation and Line sowing)	Rs. 1500/ha	0	0.00	0	0.00	
	(c) Marketing support		0	0.00	0	0.00	
	(d) Specialized projects		0	0.00	0	0.00	
	(e) Value chain integration		0	0.00	0	0.00	
	Sub-Total 10 (a) to 10 (e)		**0**	**0.00**	**0**	**0.00**	
Total Financial				**4274.217**		**1538.10**	**35.99**

Progress Report of National Food Security Mission –2015-16

Crop-Additional Pulses

State :- Chhattisgarh

Month-February 2015Rs. In Lakh

S. No.	Interventions	Approved rate/Unit	Target		Achievements		% Achiv.
			Phy	Fin	Phy	Fin	Fin.
1	Demonstration on improved technologies:						
	(a) Cluster Demonstrations (of 100 ha each)	Rs. 7500/ha	15920	1194.00	14450.0	189.48	15.87
	Sub-Total 1		**15920**	**1194.00**	**14450.0**	**189.48**	**15.87**
2	NEED BASED INPUTS						
	Integrated Nutrient Management (INM)						
	(a) Micro-nutrients	Rs. 500/ ha	5029	25.15	1200	0.00	0.00
	(b) Gypsum/ 80%WG Sulphur	Rs. 750/ha	3700	27.75	900	0.00	0.00
	(c) Lime	Rs. 1000/ ha	2100	21.00	660	1.98	9.45
	(d) Bio-fertilizers	Rs. 100/ha	13600	13.60	0.00	0.00	0.00
	Sub Total INM 2 (a) to 2 (d)		**24429**	**87.50**	**2760.00**	**1.98**	**2.27**
3	Integrated Pest Management (IPM)						
	(a) Distribution of PP chemicals	Rs. 500/ha	7800	39.00	2600.00	4.32	11.08
	(b) Weedicides	Rs. 500/ha	2450	12.25	200	0.00	0.00
	Sub Total 3 (a) and 3 (b)		**10250**	**51.25**	**2800**	**4.32**	**8.44**
4	Resource conservation technologies /tools						
	(a) Manual Sprayer	Rs. 600/Unit	10999	65.99	3908	4.20	6.36
	(b) Power Knap sack sprayers	Rs. 3000/Unit	375	11.25	150	0.00	0.00
	(c) Multi crop planters	Rs. 15000/Unit	83	12.45	0	0.00	0.00
	(d) Seed drills	Rs. 15000/Unit	300	45.00	113	0.00	0.00
	(e) Rotavators	Rs. 35000/Unit	120	42.00	72	4.55	10.83
	(f) Multi crop thresher	Rs. 40000/Unit	100	40.00	50	0.00	0.00
	Sub Total of Machinery 4(a) to 4 (f)		**11977**	**216.69**	**4293**	**8.75**	**4.04**
5	Efficient water application tools:						
	(a) sprinkler sets	Rs. 10000/ha	100	10.00	2.00	0.00	0.00
	Sub Total 5 (a)			**10.00**		**0.00**	**0.00**
6	Local initiatives						
	(a) Distribution of Reaper	Rs. 50000/unit	70	35.00	15	0.00	0.00
	(b) Distribution of Power Tiller	Rs. 60000/unit	100	60.00	26	1.20	2.00
	Sub-Total 6(a) to (b)		**170**	**95.00**	**41**	**1.20**	**1.26**
Total Financial				**1654.439**		**205.740**	**12.44**

Progress Report of National Food Security Mission –2015-16

Crop-Coarse Cereals

State :- Chhattisgarh

Month-February 2015Rs. In Lakh

S. No.	Interventions	Approved rate /Unit	Target		Achievements		% Achiv.
			Phy	Fin	Phy	Fin	Fin.
1	**Demonstration on improved package:**	Rs. 5000/ha	2716.00	135.80	3316.00	84.03	61.88
2	**Distribution of certified seeds:**						
	(a) HYVs Seeds	Rs.1500/Qtl	270.00	4.05	0.00	0.00	0.00
	(b) Hybrid Seeds	Rs.5000/Qtl	1083.00	54.15	125.00	6.00	11.08
	Sub Total 2(a) and 2(b)		**4069.00**	**194.00**	**3441.00**	**90.03**	**46.41**
3	(a) Project management team at district level	No.ofdistrict	0.00	0.00	0.00	0.00	
	(b) Project management team at state level		0.00	0.00	0.00	0.00	
	Sub Total 3(a) and 3(b)		**0.00**	**0.00**	**0.00**	**0.00**	
4	**Local initiatives** (Activity to be specified by the district)		0.00	0.00	0.00	0.00	
5	**Other Initiatives**						
	(a) Demonstration by NGOs		0.00	0.00	0.00	0.00	
	(b) Assistance for custom hiring		0.00	0.00	0.00	0.00	
	(c) Marketing support		0.00	0.00	0.00	0.00	
	(d) Specialized projects		0.00	0.00	0.00	0.00	
	(e) Value chain integration		0.00	0.00	0.00	0.00	
	Sub-Total 5 (a) to 5 (e)		**0.00**	**0.00**	**0.00**	**0.00**	
	Total Financial (1 to 5)			**194.00**		**90.03**	**46.41**