Tour Report of Dr. J.P. Singh, Consultant, NMOOP on his tour to Vijayawada

This tour was undertaken to review the progress of implementation of NFSM – Rice/Pulses/Coarse Cereals(CC) and NMOOP in Andhra Pradesh from 19th – 22nd December, 2016. The visit was well organized in the district with the team of Officers of State Department of Agriculture, Scientist of District Agriculture Advisory and Technology (DAAT) Centre and KVKs with readily available information pertaining to various schemes. The strategic interventions of the above mentioned schemes were reviewed at field level in district Prakasham and Guntur prior to state level review on 21st December, 2016 (afternoon). As per the prescribed templates, the salient observations are summarized as under:

1. State level Review

The intervention wise physical and financial progress of NFSM-Rice (Annexure-I), NFSM-Pulses (Annexure-II), NFSM- Coarse Cereals (CC) (Annexure-III) and NMOOP (Annexure-IV) is satisfactory except slow progress under few interventions like supply of farm machinery including water carrying pipes under NFSM-Rice, demonstration under NFSM- CC and NMOOP. The progress of farm machinery remained slow due to late issue of list of empanelled agencies by State Agro Industries Corporation. There is a more demand for farm machinery including pipe lines and targets would be achieved. The sowings of Rabi-Maize sunflower/safflower are under progress in rice fallows and the short fall under demonstration of NFSM-CC and NMOOP would be met. The State has already utilized the funds available under NFSM-Rice (78%), NFSM-Pulses (90%) and NMOOP (74%) . Therefore, the balance funds approved under AAPs may be released to the State. In addition, a committed liability of Rs. 1068.55 lakhs (Rs. 980.86 lakhs of 2014-15 + Rs. 87.69 lakhs of 2013-14 of ISOPOM) is also pending under MM-II (Oil Palm) of NMOOP. The scheme wise expected release is given below:

(Amount= Rs. in lakhs)

Scheme	Approved CS	UB as on 1.4.2016	Releases	Total CS available	Expenditure	Expected release
NFSM-Rice	1752.59	446.85	938.77	1385.62	1081.77 (78%)	813.82
NFSM-Pulses	5029.77	824.67	2514.88	3339.55	3009.65 (90%)	2514.87
NFSM- CC	330.01	322.68	165.00	487.68	165.60 (40%)	-
NMOOP-MM-I	1751.00	586.09	1032.53	1618.62	1190.72 (74%)	718.47
NMOOP-MM-II	3492.19	361.03	2049.98	2411.01	1000.98 (41%)	1068.55*

*The propose release pertains to the pending liabilities of the state for the year 2014-15.

The scheme wise MPRs for month ending 2016, statement containing details of scheme wise allocation, releases, unspent balances and expenditure, Utilization Certificates and request for release of funds from the States have been forwarded to AD(Coord.), NMOOP and SO-CA-V, NFSM for processing of release of funds to State.

1.1 Fund Flow Mechanism:

After receipt of release of Central Share State share is being released by State Government . In case of NFSM and NMOOP, State share has already been released against the 1st installment of Central share and release of State share against 2nd installment is under process. As regard, the DBT is concerned, available subsidy on farm implements including PP equipments, pump sets and pipe lines is being transferred to empanelled agencies of AP, Agros by district authorities and non-subsidy part is being

paid by farmers to the Agencies through DDs. The farmers are authorized to purchase these items from their choice of agency after getting of necessary order/sanction from Assistant Director of the concerned Mandal. Aadhar linked biometric e-pass system has been adopted from Kharif-2016 in Ananthapur a major groundnut district for supply of seeds to farmers. Same system has been used for supply of Bengal gram (chickpea) seed in 05 major districts during Rabi 2016-17. All the inputs under both CSS and State Plan schemes will be distributed through DBT from next year.

1.2 Major constraints

A visible impact of supply of large number of pump sets, pipelines & zero seed drill was observed during the field visit in Prakasham and Guntur districts. These items are in more demands among the farmers. The major constrains emerged from discussions held with field functionaries and farmers are summarized as under:

- Timely release of Central and State shares to the Districts.
- Addition of 1.5" radius aluminum pipe lines along with HDPE/PVC water carrying pipes.
- Age relaxation of proven and widely adopted varieties of pulses like JG-11 released during 1999 and TAG-24 of groundnut released during 1992 or re-notification of these varieties in view of their performance and higher seed rate.
- More flexibility to the State / Districts for inter-component diversion of funds.
- Parity in rate of assistance for all the interventions of Centrally Sponsored Schemes (CSS) / State Plans Schemes (SPC).

1.3 Rainfall situation

South west monsoon of 533.8 mm against normal rainfall of 556 mm remained normal from June to September, 2016 attributed record production of Kharif crops except groundnut. However, deficit rainfall in October/November, 2016 slowed down the sowing of Rabi crops. But rainfall occurred due to recent Varda cyclone in mid of December in part of Prakasham, Nellore and Kadappa has benefitted both the standing crops of pulses and more area coverage under Rabi crops like maize and bengal gram under rice fallows.

1.4 Area, Production and Productivity of major crops

A. **Kharif - 2016**

(A=area in lakh ha and P =Production in lakh tonnes)

Crop	Normal		Current year (2016-17)			
	A	P	Target		Achievement	
			A	P	A	P
Paddy	15.96	68.42	17.50	85.89	15.21	79.03
Maize	0.92	3.32	1.00	4.46	0.86	3.84
Other CC	1.35	1.78	3.01	4.30	1.16	1.61
Red gram	1.86	0.92	3.00	1.80	3.58	2.75
Other pulses	1.67	1.18	1.90	1.58	1.06	0.93
Total food grains	20.76	75.62	26.41	98.04	21.86	88.15
Groundnut	9.30	5.01	8.00	7.24	9.36	4.74
Other oilseeds	1.20	0.47	1.45	1.13	0.78	0.31
Cotton	6.42	9.44	5.00	10.49	4.50	7.76
Sugarcane	1.46	112.40	1.20	108.03	1.03	82.54

Chillies	1.18	5.03	1.25	7.03	1.68	8.35

B. **Rabi 2016-17**

(A=area in lakh ha)

Crop	**Normal**		**2014-15**	**2015-16**	**Current year**	**Target**
	Season	**as on date**	**21.12.2014**	**21.12.2015**	**21.12.2016**	
Paddy	7.43	2.37	2.22	1.72	1.25	8.00
Maize	2.03	0.93	0.91	0.74	0.71	2.03
Bengal gram	4.67	4.32	3.07	3.76	2.93	4.75
Black gram	3.58	2.47	1.83	2.96	2.07	4.75
Green gram	1.34	0.52	0.71	0.93	0.35	2.50
Groundnut	0.94	0.65	0.43	0.47	0.32	0.92
Sunflower	0.67	0.65	0.23	0.07	0.04	0.69
Tobacco	1.23	1.05	1.23	0.67	0.39	0.95
Others	**2.74**	**1.74**	**2.09**	**1.82**	**1.15**	**2.67**
Total	**24.63**	**14.70**	**12.72**	**13.14**	**9.21**	**27.26**

1.5 Crop condition and prospects

A record production of about 9 million tonnes of food grains including pulses has been estimated during Kharif 2016 as against the normal average production of 7.50 million tonnes of last 05 years. Joint Director, Guntur informed that yield of 6500 kg / ha has been recorded during Kharif-2016 as against the average yield of 5500 kg/ha recorded during Kharif-2015 under crop cutting experiment of paddy in Guntur district. State has also recorded an increase of >30% under area coverage and >75% in production of pulses during Kharif – 2016. However, area under cotton has declined. Long dry spell of >50 days in major groundnut growing districts of Ananthapur and Chittoor has resulted into low productivity of groundnut.

The scanty or deficit rainfall in October to December has slowed down the sowing of Rabi crops in the State, which is still in progress. Condition of standing pulses (red gram, black gram and green gram), oilseeds (groundnut) and chilly, which are being supplied protective irrigation was, however, satisfactory.

1.6 Seed production programme

Large scale seed production programme has been organized with an expected production of >20 lakh qtl. of certified seeds of paddy, pulses and groundnut through APSSDC, AP Oilfed, AP Markfed, HIL, NSC in the state during Kharif / Rabi 2016-17. The crop and agency wise details are at ***Annexure – V***. However, crop and agency wise summary is given below:

Agency	Crop	Target (qtl.)	Expected quantity (qtl.)	Major variety
APSSDC	Paddy	295515	287095	BPT-5204, MTU-1001, NLR-34449
	Bengal gram	141360	147152	JG-11, KAK-2,
	Black gram	43400	41900	PU-31, LBG-52
	Red gram	16840	18040	LRG-41
	Groundnut	813195	819107	K-6, Dharani
AP Oilfed	Groundnut	230625	230625	K-6, Narayani
	Bengal gram	168750	168750	JG-11
AP Markfed	Groundnut	105000	105000	K-6,
	Bengal gram	75000	75000	JG-11
NSC	Groundnut	102200	102200	K-6, K-9, Dharani, ICGV-91114, TG-37A
	Red gram	8150	8150	LRG-41, ICPL-87119, LAXMI
	Black gram	16100	16100	PU-31
	Bengal gram	49800	49800	JAKI-9218
HIL	Groundnut	5275	5275	ICGV-91114, K-6, K-9, Dharani
	Bengal gram	24000	24000	JAKI-9128
Grand Total		**2095210**	**2098194**	

1.7 Availability and Supply of certified seeds

As against the allocation of 16 lakh qtls, 11.78 lakhs qtls of certified seeds of paddy was supplied during Kharif – 2016 with a larger shortfall of >50% under paddy and 20% under groundnut. The crop and agency wise details of allotment and their supply is given below:

Crop	Agency	Quantity in qtls	
		Allocated	**Distributed**
Paddy	**APSSDC / NSC**	322740	155057
Groundnut	**APSSDC**	262450	229802
	AP Oilfed	180000	149460
	AP Markfed	100000	92602
	WASSAN	63000	10558
	NSC	20000	15045
Total groundnut		**625450**	**497467**
Red gram	**APSSDC**	14633	13191
Green gram	**APSSDC**	5800	3355
Black gram	**APSSDC**	5600	10897
Total pulses		**26033**	**27443**
Maize	**APSSDC**	2000	942
Total		**1601673**	**1178376**

2. Review of strategic interventions in Prakasham District

2.1 Cluster demonstration of chick pea

More than 50 beneficiary farmers of cluster demonstration were gathered at village Nidamanuru, NG Padu Mandal. The farmers shared their experience of seed treatment and other inputs like gypsum, PP chemicals provided to them under cluster demonstration. The farmers have appreciated about the timely supply of inputs. The following suggestions were emerged during the farmers and field functionaries:

- Relaxation of ceiling of 2 ha to 5 ha area under cluster demonstration for individual farmers.
- Assured buy back of chick pea at MSP would be beneficial in replacement of tobacco crop.

Farmers interaction on cluster demonstration of chick pea and CDP

2.2 Minikits of chick pea

Total allocated 2340 minikits of chick pea variety JAKI-9218 (1770) and green gram variety IPM-02-14 (570) were supplied by 7th November, 2016 at District Headquarter i.e. well before the sowing time which starts after mid of November. Largely gram sowings was started after 20th November in the district and still continuing. A minikit bag available during field visit was also opened from quality point of view. The quality of seed was found good except few cut seeds. JG-11, a small seeded variety is pre-dominant in the area and preferred by the farmer. Three beneficiary farmers Sh. Ramamurthy, Sh. Choundry and Ch. Chanchaiah of village minikit Nidamanuru confirm the receipt of minikit . These minikits were sown on 26th November, 2016 and the crop was at vegetative stage.

Seed Minikits of JAKI-9218, a variety of chick pea

2.3 Cluster Demonstration of chick pea under Crop Diversification Programme (CDP) of NFSM

A Cluster Demonstration of chick pea raised by Sh. B. Subba Reddy in village Nidamanuru, NG Padu Mandal for replacement of tobacco was covered during the visit. Both tobacco and gram are largely grown under rainfed condition as a mono-crop in kharif fallows. The farmer informed that during last season, he has cultivated the tobacco. He informed that an expenditure of Rs.1.50 lakhs was incurred over an area of 1 ha and earned a total sum of Rs.1.50 lakhs without any benefit mainly because of monopoly of the tobacco company. He is quite optimistic with a better return from chick pea with an estimated cost of cultivation of Rs. 50, 000/- per ha and yield of 20 qtl of chick pea per ha, which could fetch him about a sum of Rs. 1.00 lakh per ha. A number of other farmers have expressed similar views, however, suggested for assured procurement of chick pea with a bonus of Rs.500/- per qtl. to facilitate replacement of tobacco by chick pea.

Demonstration of chick pea under CDP

2.4 Supply of certified seed of Red Gram

As against the subsidy of 50% of cost subject to ceiling Rs. 25/- per kg, the State Government has provided 33% subsidy of the actual cost of certified seeds. A farmer plot of red gram of Sh. A. Subaiah who received seeds of LRG-41 variety of red gram was visited. The crop was at about physiological maturity with few off - type plants at flowering stage. The farmers explained that delayed germination in some patches is the factor attributing to delayed flowering.

Supply of certified seed of red gram

2.5 Supply of farm implements

Farm implements are supplied through AP Markfed, Ongole in the district. Large number of zero till seed drill, pump sets and sprinkler sets have been supplied in the district during 2015-16. However, progress under current year was delayed due to late issue of list of empanelled agencies. One farmer beneficiary each of pump sets and seed drills were available for discussion during the field visit, who were very happy about the assistance received under NFSM.

Supply of pump sets under NFSM

2.6 Cluster demonstration of groundnut

A Cluster demonstration of groundnut was visited in village Kothapatnam. The sandy soils are good for groundnut cultivation. About a dozen of farmers beneficiary of cluster demonstration confirmed the receipt of input like Trichoderma Viridi, PSB, Rhizobium, Gypsum, Zinc Sulphate, Weedicides etc. with an assistance of Rs.7500/- per ha. These farmers have informed that they preferred to grow TAG-24 an old variety of groundnut released during 1992 due to its better adaptability under adverse weather conditions and consumer preference. Therefore, no seed subsidy was allowed under cluster demonstration. As against the recommended seed rate of 150 kg pods per ha, seed rate of 250 kg pods is normally used by the farmers mainly because of stem rot and bud necrosis diseases. The crop was about 40 days old and at full flowering stage. About 5% plants were found infected with stem rot and bud necrosis disease in the plot. The farmers were expecting an yield of >25 qtl. per ha.

Cluster demonstration of groundnut under NMOOP

Supply of sprinkler irrigation in groundnut under NMOOP

3. Visit to KVKs Darsi

An active coordination was observed between District Agriculture Advisory and Technology (DAAT) Centre of ANGRAU, KVK, Darsi and District Agriculture Department. Eighty Front Line Demonstration (FLDs) of pulses for each of red gram, green gram, black gram and chick pea were allocated to KVK, Darsi. All 80 FLDs have been organized by the KVKs. One cluster demonstration with latest variety LRG-52 of red gram released during 2015 organized in village Bodhanampadu, Kurichedu Mandal was visited. The crop was at physiological maturity and in good condition. Five beneficiary farmers namely Sh./S K. Adisesaiya, P.V. Kottya, P. Chyogaiah, P. Koteshvar and B. Guravaiah have appreciated the input and technology supplied by the KVK. The demonstration has been organized in tobacco dominated area and could facilitate diversification mainly because of lesser labour requirement and more demand of pulses in the market

FLD of red gram in tobacco dominating area

Another cluster demonstration of chick pea with a new variety NBEG-49 released by the State during 2015 organized in village Mallavaram, Maddipadu Mandal was covered during the visit. A dozen of farmers beneficiary available on their fields were also supplied. Packets of insecticide larvin for pod borer and neem oil for sucking pest.

FLD of chick pea by KVK, Darsi

4. ***Review of strategic interventions in Guntur District***

The district was not included in the scheduled visit, however, , a field visit along with the team comprising JDA, DDA, ADA – Headquarter, NMOOP, ADA- Guntur, District Consultants and TAs -NFSM, Mandal Agriculture Officers was undertaken in Guntur District. The interventions covered during the field visit are summarized as under:

4.1 Inter – cropping of Red gram with Black gram

Black gram a crop of 60-70 days fits well for cultivation as an inter-crop with a long duration crop of 5-6 months red gram which grow slowly during first 2 to 3 months. With this assumption, wide publicity for cultivation of black gram as inter-crop with red gram was made by the District Agriculture Department and an area of about 25000 ha has been covered under this inter-cropping. A field of Shri Y Veera Rama Raju, Kaatrapadu village was visited. He has adopted the practice first time and expecting an yield of 20qtl. per ha of black gram with variety PU-31 and 6-8 qtl. per ha of red gram with variety LRG-41. PU-31 has been found resistant against Yellow Mosaic Virus. It was informed by JDA that about 2800 qtl certified seed of PU-31 was supplied in the district during current year. The farmer has also adopted an innovative techniques for providing surface irrigation with the help of water carrying pipes. The farmer has also informed that about 100 farmers have visited his field. JDA was requested to organize a field day on the spot under ATMA.

Inter-cropping of red gram with black gram

4.2 Cultivation of Red gram on field bunds

The Department has found an encouraging response of another new initiative for cultivation of Red gram on field bunds. As against the target for supply of 2400 kg seeds of red gram, 13000 kg seed has been supplied and sown on field bunds of paddy, cotton and chillies, which was seen during the field visit. The crop of red gram was at flowering to fruiting stage.

Cultivation of red gram on paddy field bunds

4.3 Cultivation of black gram under rice fallows

Cultivation of black gram and maize is a common practice in Guntur district. The paddy crop is timely harvested and staged into heaps. This helps farmer in timely sowing of Rabi pulses and maize and threshing of paddy about a month later. The late threshing facilitate the farmers in selling their produce during the lean period at a better price than peak arrival seasons.

Utera cultivation of black gram in paddy fallows

4.4 Interactions with farmers and Supply of farm machinery

About 50 farmers were gathered in village Vatticherukuru. These farmers were well aware with various benefits available under NFSM. They have raised issues like different rate of assistance on farm machinery under different schemes, for example 50% subsidy on farm machinery under NFSM and 90% under State Sector Schemes.

Meeting with farmers in village Vatticherukuru

The farmers have suggested for uniform rate of assistance with enhanced assistance on farm machinery, which is a need of the hour. It was informed by the JDA that 4200 pump sets were distributed in the districts last year and 1600 pump sets have already been supplied during current year. Two sets each of pump sets and seed drills were distributed to the farmers during the event. The details of beneficiary and the cost of machines etc. is given below:

Name of machinery	Name of beneficiary farmers	Cost (Rs.)	Subsidy (Rs.)
Pump sets	Sri P Haranadababu Rao	27,000/-	10,000/-
	Ch. Narasimha Rao	27,000/-	10,000/-
Seed drill	Sh. Kothapalli Thirupathi rao	47,995/-	15000/-
	Sh Nadendla Srinivasarao	47,995/-	15000/-

Supply of pump sets under NFSM

Supply of Seed drill under NFSM

4.5 Custom Hiring Centre (CHC)

The Custom Hiring Centre with a set of farm machinery like rotavator for field preparation , nursery raising, paddy transplantor, combine harvestor established through Kolluri Amma Rao, Mulpur village, Amruthalur Mandal was visited. These centre have been set up under RKVY and working well. A sum of Rs. 10000/- per acre is charged from land preparation to planting of paddy by CHC.

Paddy transplantor available at CHC

4.6 Mechanization in paddy harvesting

Combined harvesters are readily available at custom hiring centre. As against the total cost of Rs. 20.33 lakhs, 50% subsidy with a ceiling of Rs. 10 lakhs is available on combined harvestor under RKVY. A sum of Rs.5000/- per ha is charged from the farmes by CHC. Sh. Kolluru Ramarao, informed that combined purchase by CHC has worked for about 300 hours and collected a sum of Rs.6 lakhs @ Rs. 200/- per hour. He also informed that to help the farmers under current **demonetization situation** only cost of diesel is being charged through online payment and balance would be collected later from the farmers.

Harvesting of paddy by combine

4.7 Self propelled paddy reaper

Eight hundred self propelled paddy reapers have been distributed in the district at a cost of Rs. 1.16 lakhs each and subsidy of Rs. 58,000/- under State Plan Scheme. One self propelled paddy reapers can harvest 4 acres of paddy per day and charged Rs. 1200/- per acre.

Self propelled paddy reaper

4.8 Bailing of paddy straw

No case of burning of paddy straw was observed during the visit. A self-propelled baler working in the field was also seen. An amount of Rs.1200/- per acre is charge of bailing of paddy straw. The farmers were of the view that the bailed straw becomes more palatable for cattle and fetches a price of Rs. 80/- per bale of 20 kg each. Roughly 150 bales of dry fodder are collected from 1 ha of paddy after harvesting of combine.

Paddy straw bails

4.9 An excellent farm implements with peg like structures on rotating wheels was seen in the fields for sowing of maize crops in rice fallows. About 4 inches deep holes are made by this implement and maize seeds are placed in this holes manually leading to placement of seeds in moist zone without any bird damage.

5 Observations / Actionable points

The salient Observations and Actionable points emerged during the State and district level review are summarized as under:

5.1 A record production of about 9 million tonnes of food grains including pulses has been estimated during Kharif 2016 as against the normal average production of 7.50 million tonnes of last 05 years.

5.2 An increase of >30% under area coverage and >75% in production of pulses during Kharif – 2016. Long dry spell of >50 days in major groundnut growing districts of Ananthapur and Chittoor has resulted into low productivity of groundnut.

5.3 The scanty or deficit rainfall in October to December has slowed down the sowing of Rabi crops in the State .

5.4 Supply of large number of pump sets, pipe lines and seed drills have shown a visible impacts in improving the crop productivity.

5.5 Release of Rs. 33.29 crores under NFSM- rice (Rs. 8.14 crores) and NFSM-Pulses (Rs. 25.15/- crores). – (Action-CA-V, NFSM)

5.6 Release of Rs. 17.86/- crores under NMOOP - MM-I (Rs. 7.18 crores) and MM-II (Rs. 10.68/- crores). **(Action-AD-Coord., NMOOP)**

5.7 The contact details of the Senior Officers of the State Government and SAUs given at **Annexure-VI** may be uploaded / updated on the website of NMOOP. **(Action- Programmer, NMOOP)**

5.8 The following suggestions may be considered while preparing the document for next five year Plan (Action NFSM/NMOOP):

- Inclusion of 1.5" radius aluminum pipe lines along with HDPE/PVC water carrying pipes may be examined.
- Age relaxation for proven and widely adopted varieties of pulses like JG-11 released during 1999 and TAG-24 of groundnut released during 1992.
- More flexibility to the State / Districts for inter-component diversion of funds.
- Parity in rate of assistance for all the interventions of Centrally Sponsored Schemes (CSS) / State Plans Schemes (SPC).
- Enhancement of ceiling of 2 ha to 5 ha area under cluster demonstration for individual farmers.

5.9 Re-notification of proven and widely adopted varieties of pulses like JG-11 released during 1999 and TAG-24 of groundnut released during 1992 by the State. **– Action SDA, AP.**

5.10 Gujarat has an excellent marketing infrastructure. An exposure visit of field functionaries and farmers may be arranged to Gondal and Rajkot APMC of Gujarat to study the marketing of farmer produce and other facilities being extended to the farmers by APMCs. **– Action SDA, AP.**

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Contact details of Senior Officers of the state including SAUs

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