

NATIONAL FOOD SECURITY MISSION

Accelerated Pulses Production Programme Operational Guidelines



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DEPARTMENT OF AGRICULTURE & COOPERATION
MINISTRY OF AGRICULTURE
GOVERNMENT OF INDIA



National Food Security Mission

Operational Guidelines for Accelerated Plses Production Programme

**Government of India
Ministry of Agriculture
Department of Agriculture & Cooperation**

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Ministry of Agriculture
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FOREWARD

Pulses are grown in 23.26 million ha area in India leading to an annual production of about 15 million tons which amounts to about 25% of world's production of pulses. However, productivity of pulses continues to be low and unstable. Ministry of Agriculture has endeavoured to address the issue through a region-centric and multipronged approach adopted under National Food Security Mission. While the Mission is likely to achieve its goal, ever increasing domestic demand for pulses calls for intensification of extension efforts coupled with policy and technological interventions that can bring about much needed acceleration in production and productivity of pulses besides making cultivation of pulses a profitable proposition for Indian Farmers. It is in this context that the Department of Agriculture & Cooperation has launched a project entitled "Accelerated Pulses Production Programme" in one million hectares of Pulses area under National Food Security Mission with an objective to increase the production and productivity of pulses through demonstration of plant nutrient and plant protection technologies and management practices and to stimulate other farmers in the adjoining area to adopt these technologies.

Operational Guidelines of Accelerated Pulses Production Programme are being brought out in a bound booklet for the benefit of the field functionaries to ensure clarity in implementation of the programme.

I am sure state governments will effectively utilise these guidelines for disseminating the information among stakeholders of the programme so as to enable them to realize their roles and responsibilities under the National Food Security Mission in general and Accelerated Pulses Production Program in particular.

My best wishes for the successful implementation of the program.

5th May, 2010



(P. K. Basu)

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ABBREVIATIONS

A3P	Accelerated Pulses Production Programme
CDD	Commodity Development Directorate
DFSMEC	District Food Security Mission Executive Committee
DPD	Directorate of Pulses Development
ICAR	Indian Council of Agricultural Research
INM	Integrated Nutrient Management
IPM	Integrated Pest Management
ISOPOM	Integrated Scheme for Oilseeds, Pulses, Oil palm and Maize
KVK	Krishi Vigyan Kendra
MGREGS	Mahatma Gandhi Rural Employment Guarantee Scheme
NCIPM	National Centre for Integrated Pest Management
NFSM	National Food Security Mission
NPC	National Productivity Council
NPV	Nuclear Polyhedrosis Virus
NREGS	National Rural Employment Guarantee Scheme
NWDPPRA	National Watershed Development Project for rainfed Areas.
PMT	Project Management Team
PSB	phosphate solubilizing bacteria
RKVY	Rashtriya Krishi Vikas Yojana
SAU	State Agricultural University
TA	Technical Assistant

Accelerated Pulses Production Programme Operational Guidelines

1. Introduction

NFSM-Pulses is one of the components of the centrally sponsored scheme of National Food Security Mission and is under implementation since *Rabi* 2007-08. This component has undergone a number of changes since its inception and finally has taken the shape of sole centrally sponsored scheme on pulses covering all the districts in 14 states by merging all the pulses components of another centrally sponsored scheme namely Integrated Scheme on Oilseeds, Pulses, Oil palm and Maize (ISOPOM). Ten districts of Assam and 15 districts of Jharkhand have also been included under NFSM-Pulses. **Accelerated Pulses Production Programme (A3P)** is another step forward for vigorous implementation of the pulse development under the NFSM-Pulses. A3P has been conceptualized to take up the active propagation of key technologies such as Integrated Nutrient Management (INM) and Integrated Pest Management (IPM) in a manner that creates catalyzing impact by assuring farmers of the higher returns from the identified pulse crops.

2. Objectives of A3P.

The objective of A3P are to demonstrate plant nutrient and plant protection centric improved technologies and management practices in compact blocks covering large area for five major pulse crops namely gram, urad (black gram), arhar (red gram/pigeon pea), moong (green gram) and masoor (lentils) for increasing production and productivity of these crops. Apart from increasing the production and productivity of pulse crops by the participating farmers another objective of A3P is to stimulate other farmers in the adjoining areas to adopt these technologies.

3. Number of A3P Units:

It is proposed to take up 1000 A3P units in the next two years i.e.2010-11 and 2011-12 for active promotion of improved production technologies. Each A3P unit would be in the form of a village level block demonstration covering an area

of 1000 hectares. It is proposed to initiate 600 units in the 1st year and 400 units in the 2nd year. *Panchayati Raj* institutions would be involved in the selection of village level A3P units including the participating farmers. Number of units proposed in the selected NFSM pulses districts is given at **Annexure 1**. However, states would be given freedom to select the A3P unit based on availability of contiguous area in various villages of different blocks of the selected districts. This should be done well before the start of each season based on the information provided in Annexure-I. States would furnish a final list of districts as well as blocks in each district where A3P will be implemented.

4. Provision of Inputs:

Kit containing critical inputs including gypsum, micronutrients, rhizobium culture, phosphate Solubilising bacteria (PSB), plant protection chemicals, urea for foliar spray and weedicides are proposed to be given to all the farmers in each A3P unit, free of cost for a maximum area of 2 hectares. The tentative contents of the kit for one ha are given in **Table 1**.

The contents of the kit have been kept very broad to accommodate all the pulse crops under A3P. Since all the components of the kit may not be required for all the crops, therefore, states in consultation with SAU/ICAR institutes should modify the contents of the kit as per the recommendations for that area. State Department of Agriculture will finalise the contents for each pulse crop and get the same approved from the National Mission Director. The overall cost of kits should not exceed the specified limit in any case.

Savings on account of reduced cost of kits, if any, can be used for additional area under A3P, providing support for innovative interventions such as crop insurance or any other component state feels fit and adjusts within the savings. However, this utilization of the savings needs to be approved by the National Mission Director.

Table 1. Provision under A3P for One Ha as 100% Assistance

Item	Quantity	Cost (Rs)
Gypsum	250 kg	1200
Micro Nutrient (Zinc Sulphate, Borax, Ferrous Sulphate, Micronutrient Mixture)	25 Kg	1000
Rhizobium culture	Three packets of 200 gm each	75
PSB culture	Three packets of 200 gm each= 600gm	75
Urea (for foliar spary)	10kg	60
Total	2410	
Fungicide for seed treatment	Thirum 40 gm + 20gm. Carbandzim for 16- 20 Kg seed of Arhar	200
Insecticide	Need based chemicals Quinolphose 25EC, Endosulphan 35 EC , Carbandezim and, Monocrotophose 25EC etc	1250
Trichoderma / Carboxin	500 gm	64
Pheromone traps	10	150
Lures	10	100
S. Total	S. Total	1764
NPV/bio pesticides	2 liters	500
Weedicides	2.5 liters	726
Total for Plant protection		2990
Total		5400

To ensure the timely supply of kits, it is strongly recommended that procurement of inputs may be delegated to district level offices of the Department of Agriculture who in turn would follow the set procurement procedure for the timely supply of inputs. Some of the inputs like gypsum, micronutrients, rhizobium culture and PSB, trichoderma and fungicides for seed treatment, weedicides, Pheromone traps and lure etc are to be supplied to all the farmers well in advance. However in case of nuclear polyhedrosis virus (NPV) /bio-pesticides and plant protection chemicals, procurement arrangements must be finalised well in advance. About 25% of the required quantity of pesticides should be stored so that in any eventuality of pest outbreak these bio-pesticides/chemicals can be made available to the farmers immediately.

To popularise the improved varieties of various pulse crops in the A3P area, the farmer would also be given seed minikit of improved crop variety for 0.2 ha area for every 1.0 ha of pulse area. The seed minikit together with the extension and institutional support will enable the farmer to apply all the critical inputs and conduct field operations at the right time as per the recommended package of practices. The distribution of seed minikits has dual objective of covering the entire area of the participating farmers under these varieties in the next year and also share/distribute the excess seed with other farmers in the area.

5. Eligibility for NFSM Assistance :

Whereas the critical inputs are being ensured in the form of free kits to all the A3P farmers, financial assistance for other inputs like additional seed, farm machines and implements, pumps, etc. would be available to the A3P unit farmers under NFSM-Pulses as per their needs.

6. Hand Holding Approach :

One of the key constraints contributing to low productivity of pulse crops is inadequate extension services at the farm level. In order to address this issue, existing Project Management Teams (PMT) of NFSM would be further strengthened through provision of need based additional technical manpower at sub district level (one technical assistant for each unit) purely on contractual basis to provide on the spot technical backstopping to the farmers in a hand holding approach. Additional technical manpower proposed to be engaged at unit level will extend technical services to farmers in each unit in close coordination with the input supply agencies. Educational qualification of these Technical Assistants (TA) would be the same as prescribed for TA under NFSM at district level. Special provision for their mobility will also be made under A3P.

7. Constitution of Farmers' Groups :

In order to empower the farmers to help themselves, the farmers of a particular A3P unit should be organised to form small groups/commodity

interest groups/joint liability groups so that they may organise various activities of common interest in a systematic manner. These activities may be:

- Procurement of various inputs like fertilizers and pesticides.
- Undertaking mass campaigns like integrated pest management (IPM)
- Arranging individual and collective loans including insurance of their crops.
- Establishment of a farm agro centre from where various machines/implements can be taken on custom hire basis, availing of subsidy on various implements which otherwise are out of the reach of individual farmers or his/her requirements like laser land leveller and ridge furrow planter as well as arranging institutional credit etc. State department of agriculture should extend required help in this endeavour.

8. Capacity Building :

All Technical Assistants appointed under the A3P project will be imparted induction training to carry out various activities proposed under the A3P including distribution of input kits, technical support to farmers and constitution of farmer groups and provide further support to these groups in implementing different activities. All farmers of pigeon pea and chick pea units will be imparted special training on IPM by the National Centre for Integrated Pest Management (NCIPM) and its partner institutes while arrangements need to be made for providing technical training to farmers of A3P units for other three crops viz. moong, urd and lentil through trained technical assistants by the states. These trainings will be provided to farmers in groups as well as to individual farmers on one to one basis. Implementation of Farmers Field School will be modified accordingly where instead of 30 farmers a larger group will be taken up with less number of sessions with focussed attention on a few topics. Similarly, strategy to implement A3P should form an integral part of training programme in the state level training for extension workers provided under NFSM-Pulses for which a sum of Rs. One lakh per training is provided.

9. Convergence of Schemes :

There are number of centrally sponsored schemes like Rashtriya Krishi Vikas Yojana (RKVY), Mahatma Gandhi Rural Employment Guarantee Scheme (MGREGA) {erstwhile National Rural Employment Guarantee Scheme (NREGA)}, National

Watershed Development Project for Rainfed Areas (NWDPR) and other watershed development schemes etc which can be dovetailed with A3P. State governments through State departments of agriculture/*Panchyati Raj* institutions may coordinate this dovetailing so that maximum benefits can be provided to these farmers. Most important component which can be dovetailed for promoting the production and productivity of pulses is the rainwater harvesting through the construction of farm ponds for providing life saving irrigation to pulse crops. The new initiative announced in the Union Budget 2010-11 to organise 60,000 "Pulses and Oilseed villages" is another step in promoting pulses production. This initiative should also be dovetailed with the A3P. Details of the "Pulses and Oilseed villages" are given below:

10. Sixty thousand "Pulses and Oilseeds Villages:

Recently an approach to implement the new initiatives announced in the Union Budget 2010-11 to organise 60,000 "Pulses and oilseeds villages" has been finalised. Under this approach a set of implements such as tractor, rotavator and ridge furrow planter along with some working capital at 6,000 designated watershed centric locations will be provided to a nominated agency who would provide the custom hiring services for pulses and oilseed growers. An amount of Rs.5.00 lakh per agency is proposed for the aforesaid assets with a total amount of Rs.300.00 crores under RKVY. The identified agency would provide services to adjoining 10 villages in a hub and spoke model which would serve 60,000 villages. Farmers would be charged an amount of Rs.500 per hectare for land preparation and sowing which is about 50% of prevailing rate. This amount will be sufficient to meet the operational cost of the service centres such as salary to the driver, cost of POL and other repair & maintenance of the implements. However, states will be free to choose a different set of implements. States should facilitate the convergence of this initiative with the implementation of A3P so that farmers may make use of these machineries in the best possible way for increasing the production and productivity of pulses.

11. Institutional Support :

National Centre for Integrated Pest Management (NCIPM) of Indian Council of Agricultural Research (ICAR) would be associated with the implementation of

A3P programme in pigeon pea and chick pea areas. NCIPM will have following four sub-components:

- NCIPM in collaboration with various working partners of various SAUs/ICAR Institutes/ Krishi Vigyan Kendras (KVKs) would establish 36 “Nuclear Model units” in selected A3P units for pigeon pea and chick pea. Twenty units of pigeon pea in 10 districts of five states and seventeen units of chick pea in eight districts of five states have been identified to be implemented by NCIPM. Details are given in **table 2**. Funds for the provision of kits and hiring of Technical Assistants provided under A3P shall be diverted to NCIPM from respective state allocations.
- NCIPM in collaboration with its partner institutes will impart training to all the Technical Assistants recruited under pigeon pea and chick pea blocks in all the districts/states. In addition, training will also be imparted to different blocks/ district/state level officers and farmers to enhance their capabilities towards healthy crop production through IPM strategies. NCIPM will be required to develop a training calendar in this regard.
- NCIPM would also develop and carryout awareness campaigns through conventional (print) and electronic media, to reach the entire areas covered under A3P for pigeon pea and chick pea.
- To establish centralized “National Pest Reporting and Alert System” through networking of pulse growers, in addition to strengthening of pest diagnostic laboratory.

Table 2. Crop wise and district wise number of A3P units to be implemented by NCIPM and its cooperating centres in different states

S.No	State	District	No. of units for		Cooperating Centres
			Pigeonpea	Chickpea	
1	Andhra Pradesh	Anantpur	1	2	Agricultural Research Station, Anantapur
2	Karnataka	Gulbarga	7	5	Krishi Vigyan Kendra, Ala Road, Gulberga
3	Madhya Pradesh	Chindwara	1	—	JNKVV, Jabalpur
		Narsingpur	2	2	
4	Maharashtra	Osmanabad	2	2	College of Agriculture, Kir Rd., Osmanabad
		Parbhani	2	2	MAU Parbhani
		Aurangabad or Buldhana	1	—	ARS, Badnapur
		Nanded	1	1	Agri College Naigaon
5	Uttar Pradesh	Banda	1	1	IIPR, Kalyanpur, Kanpur
		Hamirpur	2	1	
	Total		20	16	

12. Submission of Action Plans :

Tentative annual allocation will be intimated to the states in advance, based on the districts/ blocks selected. Each District Agriculture Officer will prepare the action plan of the accelerated pulses projects for the concerned district and forward it to State Mission Director who would compile and prepare the state action plan and send the same to centre for approval and release of funds.

13. Release of Funds :

Fund release mechanism would be on the same lines as being followed under regular NFSM.

14. Record Maintenance :

In each A3p unit, a register will be maintained on the lines of formats developed by the National productivity Council (NPC) for demonstrations. Documents on soil test reports, dates of supply of seed, INM/IPM kits, date of sowing should be made part of the documents. A board depicting the A3P unit details needs to be displayed at each patch of the unit. Photographs of each stage of crop development should be maintained in the block demonstration register. Production and yield data should also be made part of the register.

15. Monitoring :

A3P will have a strong mechanism of monitoring of the programme. Closing monitoring of the physical achievements in terms of provision of input minikits, seed minikits and overseeing the activities of the technical assistants will be done by the District Food Security Mission Executive Committee (DFSMEC). District level PMT will monitor the programme implementation on regular intervals. State level and National level PMTs would also be involved in monitoring of the programmes. Respective Commodity Development Directorates (CDD) of Government of India would monitor the programme implementation in the states assigned to them. Head of the agriculture department at the district level should ensure the regular monitoring of the programme on daily basis so that tangible results/suggestions for further improvement in the programme can be made.

16. Monitoring the Supply of Seed Minikits :

Directorate of Pulses Development (DPD) will be the nodal agency for allocation and monitoring of supply of pulses minikits to states. However, Commodity Development Directorate in-charge of concerned pulses states will provide the information on seed supply position to DPD.

17. Reporting System :

State department of agriculture should ensure submission of monthly progress report of A3P along with regular reporting of NFSM-Pulses. Special reporting in

terms of crop condition at regular interval as affected by environment will also be ensured. As a part of the regular online reporting of NFSM, efforts shall be made to develop a dedicated web page and data sets with forms to get the information for online reporting the progress of A3P. Required forms and formats for this purpose would be developed. The Project Management Team at the district level will be responsible for online entry of data.

NFSM Project-A3P Distribution of operational units among 5 pulses crops in NFSM- pulses districts (Summary)

Annexure 1

State	Season	2010-11					2011-12					G. Total							
		Pigeon pea	Mung bean	Urd bean	Gram	Lentil	Total	Pigeon pea	Mung bean	Urd bean	Gram	Lentil	Total	Pigeon pea	Mung bean	Urd bean	Gram	Lentil	Total
Andhra Pradesh	Kharif	13	5	10	0		28	13	5	5	0		23	26	10	15	0	0	51
	Rabi	0	5	15	15		35	0	5	10	10		25	0	10	25	25	0	60
	Total	13	10	25	15	0	63	13	10	15	10	0	48	26	20	40	25	0	111
	Kharif	2					2	2					2	4	0	0	0	0	4
Assam	Rabi	0					0						0	0	0	0	0	0	0
	Total	2	0	0	0	0	2	2	0	0	0	0	2	4	0	0	0	0	4
	Kharif	0					0						0	0	0	0	0	0	0
	Rabi	0			3	3	6				2	2	4	0	0	0	5	5	10
	Summer	0	5				5		5				5	0	10	0	0	0	10
	Total	0	5	0	3	3	11	0	5	0	2	2	9	0	10	0	5	5	20
	Kharif	3		3			6	2		2			4	5	0	5	0	0	10
	Rabi				10		10				5		5	0	0	0	15	0	15
	Total	3	0	3	10	0	16	2	0	2	5	0	9	5	0	5	15	0	25
	Kharif	13	5	3			21	7	5	2			14	20	10	5	0	0	35
	Rabi				3		3				2		2	0	0	0	5	0	5
	Total	13	5	3	3	0	24	7	5	2	2	0	16	20	10	5	5	0	40
Haryana	Kharif	3					3	2					2	5	0	0	0	0	5
	Rabi				5		5				5		5	0	0	0	10	0	10
	Total	3	0	0	5	0	8	2	0	0	5	0	7	5	0	0	10	0	15
	Kharif	5					5	5					5	10	0	0	0	0	10
Jharkhand	Rabi						0						0	0	0	0	0	0	0
	Total	5	0	0	0	0	5	5	0	0	0	0	5	10	0	0	0	0	10
	Kharif	25	15	5	0		45	15	10	5	0		30	40	25	10	0	0	75
	Rabi				20		20				15		15	0	0	0	35	0	35
	Total	25	15	5	20	0	65	15	10	5	15	0	45	40	25	10	35	0	110

NFSM Project-A3P Distribution of operational units among 5 pulses crops in NFSM- pulses districts (Summary)

State	Season	2010-11					2011-12					G. Total							
		Pigeon pea	Mung bean	Urd bean	Gram	Lentil	Total	Pigeon pea	Mung bean	Urd bean	Gram	Lentil	Total	Pigeon pea	Mung bean	Urd bean	Gram	Lentil	Total
Madhya Pradesh	Kharif	6		20			26	4		10			14	10	0	30	0	0	40
	Rabi				85	20	105				55	10	65	0	0	0	140	30	170
	Total	6	0	20	85	20	131	4	0	10	55	10	79	10	0	30	140	30	210
Maharashtra	Kharif	40	25	20			85	20	20	15			55	60	45	35	0	0	140
	Rabi				30		30				20		20	0	0	0	50	0	50
	Total	40	25	20	30	0	115	20	20	15	20	0	75	60	45	35	50	0	190
Orissa	Kharif	3	5	3			11	2	5	2			9	5	10	5	0	0	20
	Rabi						0						0	0	0	0	0	0	0
	Total	3	5	3	0	0	11	2	5	2	0	0	9	5	10	5	0	0	20
Rajasthan	Kharif	0	22	3			25		18	2			20	0	40	5	0	0	45
	Rabi	0			35		35				20		20	0	0	0	55	0	55
	Total	0	22	3	35	0	60	0	18	2	20	0	40	0	40	5	55	0	100
Tamil Nadu	Kharif	0	3	10			13		2	5			7	0	5	15	0	0	20
	Rabi	0					0						0	0	0	0	0	0	0
	Total	0	3	10	0	0	13	0	2	5	0	0	7	0	5	15	0	0	20
Uttar Pradesh	Kharif	10		15			25	5		10			15	15	0	25	0	0	40
	Rabi	0			25	20	45				20	10	30	0	0	0	45	30	75
	Total	10	0	15	25	20	70	5	0	10	20	10	45	15	0	25	45	30	115
West Bengal	Kharif	0		3			3			2			2	0	0	5	0	0	5
	Rabi	0				3	3				0	2	2	0	0	0	0	5	5
	Total	0	0	3	0	3	6	0	0	2	0	2	4	0	0	5	0	5	10
Total	Kharif	123	80	95	0	0	298	77	65	60	0	0	202	200	145	155	0	0	500
	Rabi	0	5	15	231	46	297	0	5	10	154	24	193	0	10	25	385	70	490
	Summer		5						5				5	0	10	0	0	0	10
	Total	123	90	110	231	46	595	77	75	70	154	24	400	200	165	180	385	70	1000



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