DEVELOPMENT PROGRAMMES ON PULSES: GOVERNMENT EFFORTS

India is a major Pulses growing country in the world. Pulses account for about one-fifth of the total acreage under food grains and about one-fifteenth of their production in the country. Being rich in protein, they not only form a vital part of the human diet, but also play a crucial role in balancing the dietary proteins. The pulses play an important role in maintaining soil fertility and offer a hidden advantage to the soil by providing free elemental nitrogen through its fixation by activity of Rhizobial bacterial present in their root nodules. Every pulses plant is a mini fertilizer factory. In fact, Indian soils maintain good health because a sizeable area grows leguminous crops including pulses. The cultivation of pulses is advantageous for the succeeding crops. It is estimated that pulses fix around 20 – 40 Kgs. of valuable nitrogen per hec. in the soil free of cost.

India grows the largest varieties of pulses in the world sharing about 38% of the area and 33 % of the production. The important pulses grown in the major pulses producing states i.e. Madhya Pradesh, Maharashtra, Uttar Pradesh, Rajasthan, Andhra Pradesh, Karnataka, Gujarat, Chhattisgarh and Bihar, are Gram, Arhar, Mungbean, Urdbean, Lentil, Peas, Horse gram and Moth. Though pulses are cultivated in India over a very large area and have been a traditional crop, there has been a fluctuating tendency in area, production and productivity of pulses from time to time. The present level of production is, however, insufficient to meet the entire domestic demand and dependence on bulk import, therefore, continues.

1. SCHEMES/PROJECTS ON PULSES DEVELOPMENT:

Plan interventions in the pulses sector were brought by the Govt. Of India, Department of Agriculture & Cooperation since Fourth Five year Plan with more focused approach since VI Plan onwards as under:

2.1. "Pulses Development Scheme" a Centrally Sponsored Scheme, was initiated from the IVth Plan (1969-70 to 1973-74). The focused area was the introduction of production technologies and improved varieties amongst the farmers.

2.2. **Seventh plan (1985-90)**: conceived the National Pulses Development Project (NPDP), merging all the earlier centrally sponsored schemes on pulses.

To further supplement the efforts under NPDP, a "Special Food Grain Production Programme (SFPP) on Pulses" was also implemented during 1988-89 on a 100% Central assistant basis.

2.3. **Technology Mission on Oilseeds (TMO 1985-86)**: To ensure the accelerated development of certain priority areas of economic and social concern, the Government of India adopted a compressive approach and launched *Six Technology Missions* viz. i) Rajiv Gandhi National Drinking Water Mission ii) Immunization Mission iii) National Literacy Mission iv) Tele-communication Mission v) Dairy Development (Operation Flood-II): and vi) Maximization of indigenous production of vegetable oilseeds/oils etc.

For accelerated development and successful implementation of the mini-missions approach, three strategic Committees were also set up for Structural innovation viz. (i) Empowered Committee (EC) (ii) Technical and Advisory Committee (TAC) (iii) Standing Committee (SC). The TMO remained operational under the supervision of ICAR till 1987-88. From 1988-89 onwards, the implementation and responsibilities were transferred to Department of Agriculture and Co-operation to harness the best of production, processing management technologies harmonizing the interest of farmers, consumers and accelerate self-reliance in oilseeds and edible oils. The TMO pursued a Mission-Mode-Approach by forming a consortium of concerned department and stake holders.

2.4. **TMOP (1990-91)**: Pulse development programmes were brought to the ambit of the Mission in August 1990. Thereafter Oilpalm (1992-93) and Maize (May,1995) also became the part of it, renaming the TMO as Technology Mission on Oilseeds, Pulses and Maize (TMOP&M). The Seventh Plan ongoing interventions under National Pulses Development Project (NPDP) became the part of TMOP&M.

TMOP&M had four-pronged strategy approach under its four Mini Missions involving the concerned department and agencies to facilitate the task of handling specialized focused areas of development viz. MM-I - ***Crop Protection Technology****:* DARE with ICAR as nodal deptt., Department of Bio-Technology and SAUs as implementing agencies; MM-II - ***Post Harvest Technology****:* Department of Scientific & Industrial Research with CSIR as nodal deptt. and Department of civil supplies as participating agencies; MM-III- **Input and service support to farmers**: DAC as nodal agency with SDAs, NDDB, NABARD and NOVOD Board, as implementing agencies and MM-IV- **Price support, storage, processing and marketing**: DAC as nodal deptt. with participating agencies as NCDC, NDDB, NAFED, Department of civil supplies KVIC and NOVOD Board.

2.5. **ISOPOM (2004-05 to 2009-10)**: From April 2004 to March 2010, on the advice of the Planning Commission, "Integrated Schemes of Oilseeds, Pulses, Oilpalm and Maize (ISOPOM)" has been under implementation by merging 4 ongoing schemes of NPDP, OPP, OPDP and AMDP. The ISOPOM had a more focussed and integrated approach. To strengthen the market invention and effective pricing policies were some of the added features of this programme.

2.6. **NFSM-Pulses (2007-08)**: From 2007-08 (Rabi), in pursuance of the resolution adopted in 53rd meeting of National Development Council, a Centrally Sponsored Scheme on" National Food Security Mission was launched. It was resolved to enhance the production of rice, wheat and pulses by 10, 8 and 2 million tonnes, respectively by the end of XI Plan. The implementation of the NFSM scheme is continued during XII Plan.

The NFSM aimed at increasing production of rice, wheat and pulses through area expansion and productivity enhancement; restoring soil fertility and productivity; creating employment opportunities; and enhancing farm level economy to restore confidence of farmers of targeted districts. The basic strategies were implementation of interventions in a mission mode through

active engagement of all the stake holders at various levels. These interventions includes promotion and extension of improved technologies i.e., Seed, Integrated Nutrient Management (micro-nutrient, soil amendments), IPM and resource conservation technologies along with capacity building of farmers. Flow of fund closely monitored to ensure that intervention reach the target beneficiaries on time, Interventions proposed were integrated with the district plan and target for each identified district was fixed. Constant monitoring and concurrent evaluation were done for assessing the impact of the interventions for a result oriented approach by the implementing agencies.

2.7. **NFSM + Special initiatives (2010-11 to 2013-14)**: To accelerate the pulses production, a centrally sponsored Accelerated Pulses Production Programme (A3P) (2010-11 to 2013-14)-cluster demonstration approach from; Special initiatives for "pulses and oilseeds in dry land area" under RKVY during 2010-11; Integrated development of 60000 Pulses villages in Rainfed Areas under RKVY during 2011-12 and "Special plan to achieve 19+ million tonnes of Pulses production during Kharif 2012-13" were also been implemented.

Strong Research and Development efforts during XI Plan had spectacular achievement realising more than 20% increase in the production of Pulses at the terminal year of XI Plan (2011-12).

Table:

(Prod: Million Tonnes)

Crop	2006-07	2011-12	% increase
Pulses	14.20	17.09	20.3
Rice	93.36	105.30	12.8
Wheat	75.81	94.88	25.1

Source: E and S, Ministry of Agriculture (DAC), New Delhi.

2.8. **NFSM-Pulses XII Plan**: From 2014-15, the Pulses development scheme under NFSM is under implementation in 24 states viz. Andhra Pradesh, Arunachal Pradesh, Assam, Bihar, Chhattisgarh, Gujarat, Haryana, Jharkhand, Karnataka, Madhya Pradesh, Maharashtra, Manipur, Meghalaya, Mizoram, Nagaland, Odisha, Punjab, Rajasthan, Sikkim, Tamil Nadu,

Telangana, Tripura, Uttar Pradesh and West Bengal with additional production target of 4 Million tonnes by the end of XII Plan (2016-17).

2.9. INTERVENTIONS OF NFSM-PULSES:

Sr. No.	Head	Interventions
1.	Technology Demonstrations	Cluster demonstrations . Cropping system based demonstrations i. Front Line Demonstrations by ICAR/SAUs
2.	Seed	i. Distribution of HYVs seed
3.	Integrated Nutrient Management (INM)	Micro-nutrients Lime/Gypsum/80% WG Sulphur me io-fertilizers
4.	Integrated Pest Management (IPM)	i. Distribution of Plant Protection chemicals ii. Weedicides
5.	Resource Conservation Technologies/Tools	Power Knap Sack Sprayers Manual Sprayer Zero Till Seed Drills Multi Crop Planter Seed Drills Zero Till Multi Crop Planters Ridge Furrow Planters i. Rotavators Chiseller Laser Land Levelers Tractor mounted sprayer Multicrop Thresher
6.	Efficient Water Application Tools	Sprinkler Sets Pump Sets Pipe for carrying water from source to the field. Mobile Rain guns
7.	Cropping System based trainings	4 Sessions in a crop season (One before Kharif and Rabi Season & one each during Kharif and Rabi Crops).
8.	Miscellaneous Expenses (Project Management Support & Monitoring)	Project Management Team & other miscellaneous expenses at District and state level ii. Miscellaneous expenses to State for other districts (Districts of ISOPOM)
9.	Local Initiatives	On project basis, up to 5% of the total allocation to the state
10.	Other	Specialized projects for high productivity areas

		Support to institute/organizations including NGOs in remote areas. Value chain integration of small producers Assistance to Custom Hiring Centres Marketing support for pulses

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