

Guidelines for Establishment of Nutri –Farms Scheme

The Finance Minister in his budget speech for 2013-14, has provided an amount of Rs 200 crores for establishing nutri farms in districts of the country that are most affected by malnutrition. It is envisaged that bio-fortified food crops enriched with critical micro-nutrients would improve their nutrition status of for the most vulnerable sections of the population. It is proposed to organize a number of demonstrations of these food crops under the program in the identified districts to promote and popularize bio-fortified food crops.

Background

Millions of people around the world suffer from ‘hidden hunger’ or micronutrient malnutrition. They do not get enough micronutrients required to lead healthy productive lives from the foods that they eat. The diets of the poor in developing countries usually consist of very high amounts of staple foods (such as maize, wheat, and rice) but few micronutrient-rich foods such as fruits, vegetables, and animal and fish products. The consequences, in terms of malnutrition and health, are devastating and can result in blindness, stunting, disease, and even death.

Malnutrition in India, especially among children and women, is widespread, acute and even alarming. As per a Global Survey Report (July 2012) India is ranked at 112 among the 141 nations as regards Child Development Index (CDI) and 42% of children in India are underweight and 58% of children are stunted by two years of age. More than 70% of Indian women and kids have serious nutritional deficiencies. Most commonly observed deficiencies in unbalanced diet are iron (Fe), zinc (Zn), calcium (Ca), iodine (I), magnesium (Mg), selenium (Se) and vitamin A.

Developmental Programs on Nutritional Security

Nutrition Security involves ensuring access to balanced diet (the needed macro and micro-nutrients), supported by clean drinking water, sanitation, primary healthcare and nutritional literacy. Despite an apparent surplus of food grains at the national level, malnutrition persists. Micronutrient malnutrition can be addressed successfully through dietary diversification and through micronutrient supplements, depending on the situation.

For reducing malnutrition in the country, Government of India framed National Nutrition Policy (NNP) in 1993. Under this policy, key areas identified for action were food production, food supply, education, information and health care, rural development, women and child development, people with special need and monitoring and surveillance. The core strategy

envisaged under NNP was to tackle the problem of malnutrition/under-nutrition through direct nutrition intervention for vulnerable groups as well as through various development policy instruments to improve access and create conditions for improved consumption of nutritious food. During 11th Plan period, for addressing challenge of malnutrition in the country, one of several core interventions was to control micronutrient deficiency (iron) and anemia.

Leveraging Agriculture for nutritional security

Several programmes are under implementation to reduce malnutrition through distribution of food & vegetable supplements rich in Iron, Zinc and vitamin A to targeted groups in the country. But due to higher cost of processed food supplements and low income level of the target groups, it is challenging to ensure continuous supply of needed nutrients to target groups.

Agriculture contributes to reduction in malnutrition by increased consumption from increased food production (production for own consumption); increased income from the sale of agriculture commodities (production for income); empowerment of women agriculturalists and related gains in children's nutrition and welfare; lower real food prices resulting from increased food production; and macroeconomic growth arising from agricultural growth.

Presently, availability of food grains especially in case of rice and wheat exceeds requirement of food grains in the country. But, the level of malnutrition is not declining to desired extent and still there is deficiency of Iron, Zinc, Vitamin A. There are several food crops varieties available in the country that are rich in nutrients such as iron & zinc-rich millets (bajra, Ragi & small millets), protein-rich maize and B-carotene, Iron, manganese & zinc-rich wheat, Iron & zinc -rich rice.

Rice, wheat, maize and pearl millet are important staple foods in India. The promotion of cultivation of micro-nutrients rich cultivars of these crops and development of their effective supply chain could help in reduction of malnutrition. In this context, Nutri-farms are proposed to be established for cultivation and setting up of assured supply chains of nutrient rich varieties of food crops in 100 high burden malnutrition districts of nine states .

The following objectives are expected to be achieved through establishment of nutri-farms:

- i. Demonstrations of improved production technology to promote cultivation of nutri-rich crop varieties.
- ii. Encouragement of commercial cultivation of specified nutri-rich crop varieties through cluster approach of farmers.
- iii. Development of supply chain of nutri-rich produce to vulnerable sections of population.

Coverage

The programme is to be implemented in 100 high malnutrition burden districts of 9 states namely Assam, Bihar, Chhattisgarh, Jharkhand, Madhya Pradesh, Orissa, Rajasthan, Uttar Pradesh & Uttarakhand. These 100 identified districts for implementation of the **Nutri-Farms** programme in 2013-14 are as under:

Details of high burden malnutrition districts in selected states

Sl. No	State	No. of districts	Name of district
1	Assam	3	Golaghat, Karimganj, Nagaon,
2	Bihar	12	Buxar, Darbhanga, Jamui, Madhepura, Madhubani, Muzaffarpur, East Champaran, Purnia, Saharsa, Samastipur, Supaul, Sitamarhi
3	Chhattisgarh	03	Jashpur, Kawardha, Mahasamund
4	Jharkhand	01	West Singhbhum
5	M.P	25	Barwani, Chhindwara, Damoh, Datia, Dewas, Dindori, Guna, Hoshangabad, Jhabua, Katni, Mandasaur, Neemuch, Panna, Raisen, Rajgarh, Ratlam, Shajapur, Sheopur, Shivpuri, Sidhi, Tikamgarh, Ujjain, Umaria, Vidisha, West Nimar
6	Orissa	06	Baudh, Dhenkanal, Gajapati, Kalahandi, Koraput, Malkangiri
7	Rajasthan	16	Ajmer, Alwar, Baran, Barmer, Bikaner, Dausa, Dhaulpur, Dungarpur, Jaipur, Jhunjhunu, Karauli, Rajsamand, Sawai Madhopur, Sirohi, Tonk, Udaipur
8	Uttar Pradesh	32	Kanpur Dehat, Aligagriculturearh, Allahabad, JP Nagar, Auraiya, Azamgarh, Baghpat, Banda, Barabanki, Sant Ravidas Nagar, Bulandshahr, Chandauli, Chitrakoot, Etawah, Faizabad, Farrukhabad, Fatehpur, Ghazipur, Hardoi, Hathras, Kaushambi, Sant Kabir Nagar, Mainpuri, Moradabad, Muzaffarnagar, Siddharth Nagar, Kushinagar, Pilibhit, Rae Bareli, Rampur, Shahjahanpur, Unnao
9	Uttarakhand	02	Haridwar, Tehri Garhwal
Total		100	

Crops included under Nutri-Farms

The cereal crops namely Rice, Maize, Pearl millet, Finger Millet, Wheat and horticulture crops viz: Sweet Potato and Moringa (drumstick) are identified for production of nutri-rich foods under Pilot scheme. The list of identified nutri-rich varieties of proposed crops is given in Annexure-1

Implementation of Programme

National Level

In order to implement & monitor the programme of "Pilot Scheme on Nutri-Farms", an Inter-Ministerial Group (IMG) is constituted by the Government of India as under:

1.	Secretary, Agriculture & Cooperation	Chairman
2.	Representative, D/o Agricultural Research & Education.(DARE)	Member
3.	Representative D/o Expenditure, MOF	Member
4.	Representative, M/o Women and Child Development	Member
5.	Representative, D/o Health and Family Welfare	Member
6.	Representative, D/o School Equation and Literacy	Member
7.	Representative, D/o Food and Public Distribution,	Member
8.	Representative, Food Corporation of India and	Member
9.	Representative, M/o Food Processing Industries	Member
10.	Joint Secretary (Crops), D/o Agriculture & Cooperation	Convener

IMG will meet the quarterly basis and review & monitor the implementation of the scheme. IMG will also be responsible for addition, deletion & modification of the ongoing activity of the programme.

A national level team will also be constituted in Crops Division under the chairmanship of Joint Secretary (Crops) to deploy officers/staff within the department and on contractual basis comprising of One Joint Director/Assistant Director, One Consultant, One Technical Assistant and One data Entry Operator and One MTS will be placed in the team to look after day to day work for monitoring and implementation of the programme.

State Level

A state level committee (SLC) would be constituted under the chairmanship of Secretary, Agriculture of the state with the following constituents

1.	Secretary, Agriculture	Chairman
2.	Director, Agriculture	Member secretary
3.	Representative of State Department of School Education	Member
4.	Representative of State Department of Women and Child Development	Member
5.	Representative of Food and Public Distribution Department	Member

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| 6. | Representative of FCI/State Food Procuring Agency | Member |
| 7. | Director/ Director in charge, Crop Development Directorate, DAC | Member |
| 8. | Director Research of State Agricultural University | Member |

The SLC of "Pilot Scheme on Nutri-Farms" will be fully responsible for approval of district specific programme, implementation and monitoring of programme in the state. Each state will create a cell at state level to look after day to day work for implementation and monitoring of the programme at state and district level from available manpower under ATMA/ Extension functionaries.

District Level

The scheme is proposed to be implemented through State Department of Agriculture in the identified districts with the help of SHGs in a cluster approach. A Programme Management Group (PMG) would be constituted under the chairmanship of Additional Collector/ Chief Development officer (CDO) of the district with the following constituents:

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| 1. | Additional Collector/Chief Development Officer (CDO) | Chairman |
| 2. | District Agriculture Officer (DAO) | Member secretary. |
| 3. | District Education Officer | Member |
| 4. | Representative of Department of Women and Child Development | Member |
| 5. | Representative of Food and Public Distribution Department | Member |
| 6. | Representative of FCI/State Food Procuring Agency | Member |
| 7. | Representative of State Agricultural University/KVK | Member |
| 8. | Representative of Food and Nutrition department of State Agricultural University/ICAR | Member |

PMG will be fully responsible for identification of beneficiaries for cluster demonstrations for production of nutri-rich crops and collaborate with SFAC for procurement and supply of bio-fortified food to Aganwadi Centres and Schools.

Activities of program

(i) Cluster Demonstrations

280 Cluster demonstration units (one unit=10 hectares) of identified nutri-rich crops in each district will be organized through identified beneficiaries groups by State Department of Agriculture. Assistance @ of Rs.5000 per ha for Rice, Maize , Pearl millet, Finger millet, Wheat Sweet Potato and Moringa (drum stick) will be provided to the farmers in the terms of critical inputs for organization of demonstrations of nutri-rich varieties of the identified crops. District Programme Management Group (PMG) will be responsible for arrangement of critical inputs for

organizing cluster demonstrations. All critical inputs will be ensured by the State Department of Agriculture (SDA) well in advance before the sowing/transplanting of the crops. **Crop & component-specific pattern of assistance is given at Annexure-II.**

However, state will decide crop specific cluster demonstrations as per the availability of quality seeds of identified nutri-rich varieties.

(ii) Publicity of the program

State Department of Agriculture would make wider publicity of program through mass media to create awareness for cultivation and consumption of nutri-rich crop varieties .The State would develop publicity material with help of Department of Food and Nutrition of SAUs/ICAR and Women and Child Department. Assistance @ of Rs.1.00 lakh per district is being provided for wider publicity of the program.

(iii) Cluster Demonstrations on food processing & value addition by (SAUs/ICAR)

140 Cluster units (each unit= 20-30 participants) on food processing & value addition of identified crops in each district will be organized for identified beneficiaries by Food and Nutrition Department of SAUs/ICAR. Assistance @ of Rs.15000 per cluster demonstration unit for all nutri-rich crops (rice, pearl millet, finger millet, wheat sweet potato, moringa) will be provided to SAUs/ICAR for demonstrate the processing and value addition technologies. The organization of the food processing and value addition demonstrations will be monitored by Programme Management Group (PMG). All critical inputs for demonstrations on processing and value addition of nutri-rich crop produce will be arranged by SAUs/ICAR. Cost norms of inputs for value added demonstrations will be decided by the SAUs/ICAR and same is to be approved by PMG.

(iv)Market support for establishment of production and supply chain

SFAC is responsible for establishment of Farmers Producers Organization (FPO) of beneficiary-farmers selected by SDA under cluster demonstrations, establishment of procurement centres and processing units. SFAC will also be responsible for tie-up arrangements of supply of the procured production to targeted population under Mid-Day Meal of School Education and SNP of Women and Child Department through FCI or State-procuring agencies and also for commercialization of marketable surplus of nutri-rich products. An amount of Rs.25.00 lakh per district is to be provided to the SFAC for this purpose. SFAC will formulate the state-wise

detailed plan separately for development of mechanism for procuring, processing and supply of nutri-rich produce. **State-wise allocation of funds is given at annexure-III**

(v) Establishment of Centre of Excellence (CoE)

The Centre of Excellence for maize and millets would be established by State Agriculture University/ ICAR in the states of Uttar Pradesh, Madhya Pradesh, Rajasthan and Bihar having high number of malnutrition burden districts. The CoE will help to develop the recipe & value addition of nutri-rich produce as well as training of entrepreneurs for commercialization and creation of consumption of nutri-rich products in respective state. A separate meeting will be organised with SAUs/ICAR and State Department of Agriculture of respective state for establishment of CoE for particular crop.

(vi) Implementation and Monitoring

In order to effective implementation and monitoring of the programme at state level and district level, an amount of Rs.2.00 lakh per district is to be provided for organization of review meetings, implementation & monitoring visits, contingencies etc. 20 percent of amount earmarked for implementation and monitoring component would be kept by the state for state head quarter.

(vii) Submission of Action Plan

Tentative allocation of funds for the year 2013-14 has been decided based on the number of identified districts in each state. The state would prepare the action plan for establishment of nutri-farms and submit to Ministry of Agriculture before implementation of the programme at field level. **State-wise allocation of funds is given at annexure-III.**

(viii) Release of funds

Funds released mechanism would be on the same lines as being followed as under regular RKVY scheme.

Annexure-I

Details of nutri-rich varieties of crops

Sl. No	Name of crop	Name of variety	Name of Micronutrients
1	Wheat	HI-8663	B-carotene , Iron & manganese
2		VL-892	Zinc, Copper & manganese
3	Rice	MSE-9	Fe
		Kalanamak	Fe
		Karjat-4	Fe
		Chittmutyalu	Fe & Zinc
		Udayagiri	Fe & Zinc
		Metta Triveni	Fe
		Varsha	Fe
		Poornima	Zinc
		ADT-43	Zinc
		Ranbir Basmati	Zinc
		Pant sugandha-17	Zinc
		Jyoti	Zinc
		Ratna	Zinc
		Type-3	Zinc
		Kesari	Zinc
3.	Maize	HQPM-1	Lysine and tryptophan
		HQPM-4	Lysine and tryptophan
		HQPM-5	Lysine and tryptophan
		HQPM-7	Lysine and tryptophan
		Vivek	Lysine and tryptophan
		QPM-9	Lysine and tryptophan
		Saktiman-1	Lysine and tryptophan
		Saktiman-2	Lysine and tryptophan
		Saktiman-3	Lysine and tryptophan
		Saktiman-4	Lysine and tryptophan
4	Pearl millet	ICTP-8203 Fe 10- 2(DHANSHAKTI)	Fe
		86M86	Fe
		Ajit	Fe
		Hybrid Pusa-415	Fe & Zinc
		Pusa Composite	Fe& zinc
5	Finger millet	PRM-1	Fe& zinc
		VL-315	Fe& zinc
		VL-324	Fe& zinc

Annexure-II

**Crop & component-Specific pattern of assistance of cluster Demonstration
under Nutri-Farms**

Cost per ha

Sl.No	Components	Rice, Maize ,Pearl millets, Finger millet, Wheat, Sweet Potato and Moringa
1	Cost of Critical inputs(seeds, micronutrients, seed treating chemical & P.P chemical)	4550
2	Awareness training and publicity materials	200
3	Honorarium & mobility to group leader of SHGs	150
4	Visit of GOI/State officials for highering vehicle or POL	100
	Total	5000

Annexure- III

State-wise allocation of funds for preparation of Action Plan under pilot scheme on nutri – farms during 2013- 14

(Rs. in crores)

Sl. No	State	No. of identified district	Cluster Demonstrations (280 units@10 ha / unit/district)	Market link support for establishment of production & supply chain by SFAC (Rs. 25 lakh/district)	Publicity of the Programme (Rs. 1 lakh/district)	Cluster Demonstrations on food processing & value addition by Food and Nutrition Department of ICAR/SAUs (140 unit/district and Rs. 15,000/unit)	Establishment of Centre of Excellence (CoE) by ICAR/SAUs	Funds reserve for additional marketing support	Implementation & Monitoring (Rs. 2 lakh /district)	Total
1	Assam	3	4.20	0.75	0.03	0.63	0	0	0.06	5.67
2	Bihar	12	16.80	3.00	0.12	2.52	0.75	0	0.24	24.68
3	Chhattisgarh	03	4.20	0.75	0.03	0.63	0	0	0.06	5.67
4	Jharkhand	01	1.40	0.25	0.01	0.21	0	0	0.02	1.89
5	M.P	25	35.00	6.25	0.25	5.25	0.75	0	0.50	49.25
6	Orissa	06	8.40	1.50	0.06	1.26	0	0	0.12	11.34
7	Rajasthan	16	22.40	4.00	0.16	3.36	0.75	0	0.32	32.24
8	U.P	32	44.80	8.00	0.32	6.72	0.75	0	0.64	62.48
9	Uttarakhand	02	2.80	0.50	0.02	0.42	0	0	0.04	3.78
	National	-	-	-	0.00	0.00	0.00	5.00	3.00	3.00
	Total	100	140.00	25.00	1.00	21.00	3.00	5.00	5.00	200.00