

Promotion of Organic Farming



Background & Objectives

Demand for organically grown crops is on the rise, both in domestic niche markets and in export markets. Bihar is strong in production of certain high quality crops, vegetables, fruits and spices which are suitable for organic production system. Department of Agriculture, Bihar has taken initiatives to promote organic farming on a large scale.

Government of Bihar has taken up several programmes to encourage organic farming, with the objectives of promoting sustainable production, improving soil organic carbon for sustenance of soil quality, and promoting export of quality organic produce. In the first phase, based on the experience of the first organic village Pothia, Samastipur, one village in each of the 38 districts was selected as organic or bio-village.

Bio-village is a unit to improve physical, chemical and biological status of soil through locally available organic inputs and production of crops through scientific methods by farmers at village level. The concept helps to lower cost of production, increase fertility and check degradation of soil. Area under vegetable cultivation and number of milch animals are the two important criteria for selection of a bio-village.

Intervention

To encourage organic farming on a large scale with the view to declare the state as an Organic State, Department of Agriculture has prepared a five year road map for promotion of organic farming in the State. An amount of Rs. 80.93 crores has been provided under RKVY from 2008-09 onwards for promotion of organic farming.

Priority was given to the declared organic village in each District for providing vermi-compost units to all eligible farmers who applied for assistance. Subsequently, Bio gas plant units were also included in RKVY in 2011-12. Farmers are encouraged to establish 2cft/ 3cft bio gas unit to promote vermi-compost units assuming that the by-product of bio gas plant will be used in vermi-compost units.

Commercial vermi-compost units with production capacity of 3000 MT/year were approved to be set up at a maximum subsidy of Rs. 25 lakh (50% of cost). 20 such units are being set up across the State at a total cost of Rs. 5 crores.

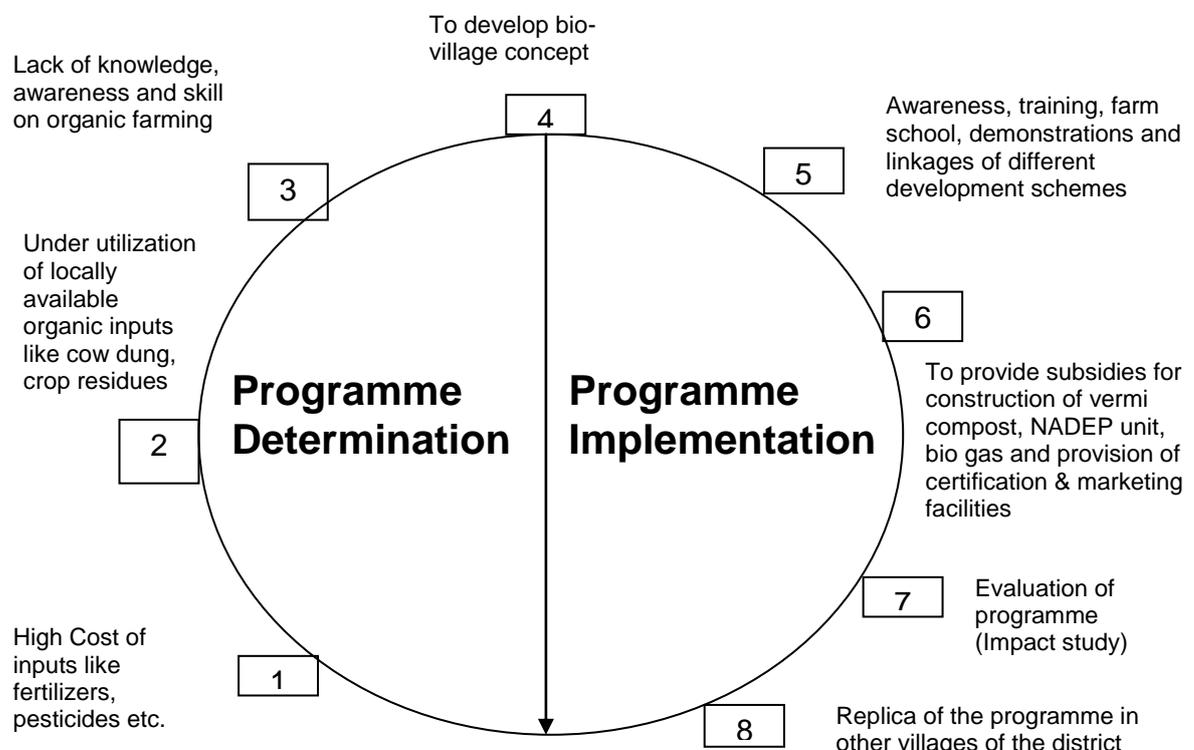
In addition, vermi-compost is distributed at subsidized rate and bio-fertilizers like Blue Green Algae/ Rhizobium/ PSB/ Azactobacter/ Microrhiza are also distributed free of cost to farmers for seed treatment of pulses, maize and paddy seed production under Chief Minister Rapid Seed Extension Programme and Seed Village Scheme. There is 100% percent support for production of bio-fertilizers in public Sector and subsidy is also provided for production of bio-fertilizers in the private sector. Rs. 6.46 crores has been provided from RKVY for distribution of bio-fertilizers.

A massive programme for encouraging the use of green manure particularly *Sesbania (Dhaincha)* has been initiated from *kharif* 2011. *Sesbania* seed was distributed to all interested farmers who have irrigation facility at 100% subsidy for a minimum of ½

acre and maximum of 5 acres; selected farmers of seed village, bio-village, and those using hybrid paddy as well as SRI technique are given priority. Extensive training programmes and mass media publicity were organised along with seed distribution and extensive follow up done to ensure success of the programme. About 1 lakh quintals of dhaincha seed was distributed to more than 5 lakh beneficiary farmers at a total cost of Rs 38 crores, which was met from RKVY funds.

An area of 3.70 lakh ha was covered during *Kharif* 2011 against the target of 4 lakh ha. In the selected villages, farmers are sensitized about the importance of organic farming and the different schemes for promotion of organic farming as well as the methods and materials used for promotion of organic farming.

The programme determinants and phases of programme implementation in the production system of bio-village are shown below:



Steps-in organic production in Bio-village

Support for of organic farming under RKVY

(Rs. in lakhs)

Sl.No	Components	2011—12	
		Physical	Financial
1.	No of vermi compost Units sanctioned and fund provided under RKVY	42315	1269.45
2.	No. of HDPE unites sanctioned and fund provided under RKVY	32974	1692.60
3.	No. of Commercial Production units of vermi-compost sanctioned and fund provided under RKVY	20	500.00
4.	Quantity of vermi-compost distributed and fund provided under RKVY (Qt)	160000	960.00
5.	Quantity of Bio-fertilizer distributed and fund provided under RKVY (Qt)	48400	605.00
6.	Dhaincha Seed	1 lakh qtl.	3800.00

Outcome

The success of bio-village concept in terms of farmers' group formation, trainings and area under different crops is as below:

Particulars	Achievement
Number of organic villages	38
Number of Farmers' Groups formed	270
Total number of member farmers	4217
Number of vermi-compost units constructed	2110
Number of applications for vermi-	2433

compost received	
Number of trainings organized	270
Area under different organic crops (in acres)	7396

Case Study

A study was conducted in village Sohdi in the district of Nalanda to find out the success of organic farming and the perception of farmers towards cultivation through organic methods and profitability of organically produced vegetables. There are about 265 farmers, associated with Farmer Interest Group (FIG) registered under ATMA Nalanda who is involved in growing organic vegetables round the year using standard organic methods. Village Sohdi has successfully crossed the C-1 level of certification and C-2 level of certification is in its last phase. There are about 320 HDPE vermi-compost units established in the village and the average production of compost is about 2500 tons per annum. The farmers are selling the compost as well as earthworms not only in the state but outside the state also. The experience of farmers shows that the quality of different vegetables including the keeping quality is longer when grown organically. The organic onion (C-1) is exported to Bangladesh while the organic vegetables (C-1) grown in the village are sold in the metropolitan cities of Bihar, Jharkhand and West Bengal. The cost of production is less when grown organically because expenditure on irrigation, chemical fertilizers etc. is less while there is no expenditure on pesticides. The farmers of the village Sohdi are mostly small and marginal but they have become a role model for the farmers of the State in growing organic vegetables. The details of acreage, productivity and comparative profits with respect to non-organic growers are depicted in the table below:

Average productivity and Comparative profitability of organic produce

Sl. No.	Type of organic vegetable	No. of Farmers associated	Acreage (Ha.)	Av. Productivity	Comparative profit (Rs./Ha)
1.	Potato	265	200	480 Qtls/Ha	32000
2.	Cauliflower	265	105	64000/ Ha	160000
3.	Onion	265	120	576 Qtls/Ha	180000
4.	Bitter gourd	265	40	640 Qtls/Ha	192000
5.	Pumpkin	265	40	950 Qtls/Ha	189000

Farmers of many villages of different districts like Nalanda, Muzaffarpur, Samastipur, Nawada, Purnia, Vaishali and many more in Bihar are now producing vermi compost through their units and using it in their fields in addition to selling it to other farmers.

53 farmers have applied for setting up commercial vermi compost production units. 23 units have been sanctioned and 7 units have already commenced production. The production of vermi-compost from all sanctioned 23 commercial units, once established would be about 70000 MT. Apart from this, about 65000 units were established by farmers. This will also generate at least 70000-80000 MT vermi-compost /year. In this way Bihar is expected to produce about 1.5 lakh MT vermi-compost/year. Bihar has adopted an integrated model of Agriculture with Livestock to increase the incomes of farmers and to promote soil health and organic farming.

By using green manure, the requirement of chemical fertilisers has reduced and the farmers on an average applied only 80 kg nitrogen, 30 kg phosphorus and 10 kg potassium as against the general practice of 110 kg nitrogen, 40 kg phosphorus and 20 kg

potassium. Consumption of chemical fertilisers decreased from 180kg/ha in *kharif* 2010 to 138Kg/ha in *Kharif* 2011. This has reduced the cost of production per hectare. The average yield of paddy increased and the highest ever yield of 224qtls/ha was recorded by a farmer of Nalanda District surpassing the previous Chinese record of 190qtl/ha. There has been an added advantage of 25,690MT of nitrogen fixation in the soil @70kg/ha in an area of 3.7 lakh ha where dhaincha was cultivated. Consequently, net return per hectare has increased. The above mentioned interventions have also resulted in improved soil health which is the key to sustainable agriculture.



Vermi in soil



Vermi compost bed in Nalanda dist being inspected by sri.S.c.Garg,Joint Secretary,GOI

