

An Overview of National Project on Organic Farming in India

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Abstract: National Project on Organic Farming, a Central Sector Scheme was initiated in India in the midst of 10th Five Year Plan with an outlay of Rs. 57.04 crore with effect from 1/01/2004 and still continued in 12th Plan with the aim of promoting Organic Farming in the country through technical capacity building, promotion and production of biological inputs along with awareness creation and publicity through print and electronic media. The project headquarter, National Centre of Organic Farming (NCOF) is located at Ghaziabad with six regional centers. Since its inception though annual expenditure has decreased by 5 percent per annum, total certified organic area has increased by 51.10 and 30.88 percent per annum in India and Karnataka state. Like that publicity activities have recorded an increase of 1.83 percent per annum as against to 30.45 percent per annum increase in farmer's training program. On the other hand, the production of Bio-fertilizer increased by 19.70 percent per annum since 2002-03 where highest growth was recorded in North zone at 43.67 percent per annum followed by East zone with 23.62 percent per annum as against to lowest growth of 13.22 percent per annum in West zone.

INTRODUCTION

Organic farming is widely followed not only in India but also in other parts of the World as it results in protecting soil fertility, increase soil nutrient contents and healthier products when compared to inorganic farming system. In India though organic farming system was followed in ancient period, but from the point of increasing food production and to become self sufficient in food production modern farming system or conventional farming system was adopted. However, conventional agriculture resulted in major ill effects like reduction in soil fertility, food toxicity, increasing cost of cultivation and low returns. With this respect, as the therapy of ill effects of conventional farming organic farming system was again preferred. Hence, in order to provide sustainable, cost effective microbial inoculants, the Department of Agriculture and Cooperation launched National Project on Development & Use of Bio-fertilizer in 1983 where the primary activity of the project was to produce

and distribute bio-fertilizer followed by organizing training and demonstration which continued up to September 2004.

On 1st October, 2004 the Department of Agriculture and Cooperation launched new Central Sector Scheme entitled National Project on Organic Farming which had major objectives of capacity building through service providers, financial support to different production units engaged in production of bio-fertilizer, compost and vermin-compost, providing training on production technology, field demonstration, development of model organic farm, market development for organic produce, formulation of regulatory mechanism of organic farming, creation of awareness and so on.

The headquarter of National Project on Organic Farming, National Center of Organic Farming (NCOF) is located at Ghaziabad along with its six Regional Centers on Organic Farming (RCOF) at Bangalore, Bhubaneshwar, Hisar, Imphal, Jabalpur and Nagpur.

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OBJECTIVES

Some of the major objectives of this study are as under:

- 1) To analyze the financial achievement under National Project on Organic Farming,
- 2) To study the growth in certified organic area in India and Karnataka,
- 3) To look at the publicity activities under taken by NCOF/ RCOF,
- 4) To scrutinize training programs organized under National Project on Organic Farming,
- 5) To analyze the production of bio-fertilizer in India

METHODOLOGY

This study is mainly based on secondary data where the above mentioned objectives were studied with the help of secondary data for the period in between 2004-05 to 2013-14. Simple average along with standard deviation and coefficient of variation were used to analyze the data. Similarly, on the basis of R² predictions were made for the period from 2014-15 up to 2019-20. Further, Compound Annual Growth Rate (CAGR) was adopted to study the changes in growth from 2004-05 to 2013-14.

RESULTS AND DISCUSSION

Under National Project on Organic Farming, the Government of India allocated funds under various

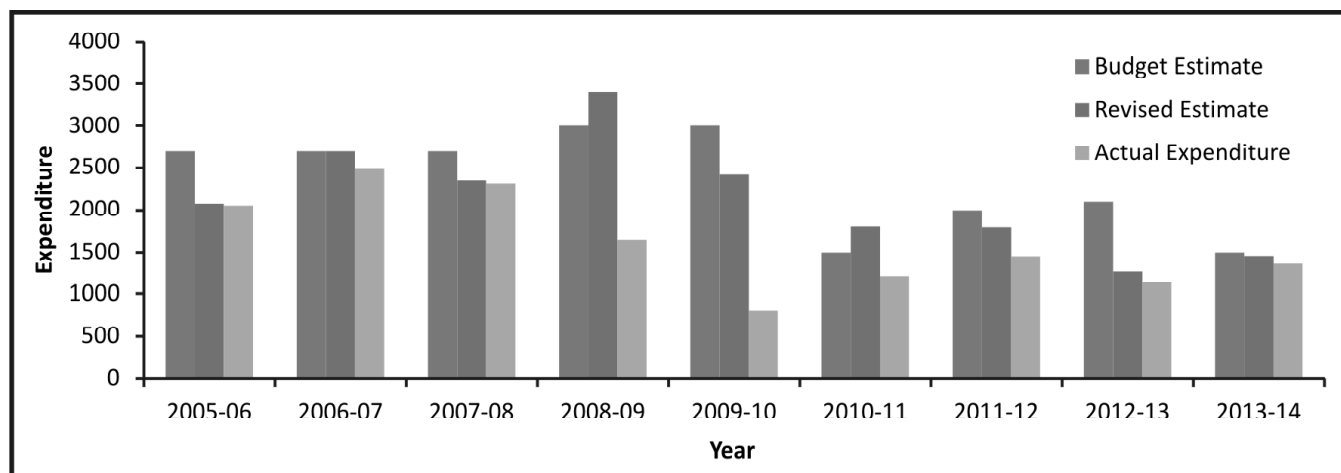
Table 1
Financial achievement under National Project on Organic Farming (Rs. in lakh)

Sl. No.	Year	Budget Estimate	Revised Estimate	Actual Expenditure
1	2005-06	2700	2078.00	2055.17
2	2006-07	2700	2700.00	2494.70
3	2007-08	2700	2353.24	2314.38
4	2008-09	3000	3405.00	1645.26
5	2009-10	3000	2421.30	797.35
6	2010-11	1500	1800.00	1218.15
7	2011-12	2000	1791.00	1454.38
8	2012-13	2100	1272.50	1144.31
9	2013-14	1500	1457.00	1362.40
	Average	2356	2142	1610
	Std. Dev.	596	661	569
	C V	25.30	30.87	35.38
	CAGR	-7.08	-4.34	-5.01

Source: Source: Annual Repots 2004-05 to 2013-14, National Project on Development & Use of Bio-fertilizers/ National Project on Organic Farming.

heads. The allocated funds were timely revised. The allocated funds were mainly related to administrative expenses and Grants in Aid for Non-governmental implementing agencies. Like that allocated funds were also used for land procurement and building constructions.

The data in the above table reveals that for the period 2005-06 up to 2013-14, the average per annum expenditure incurred was around Rs. 1610 lakh with standard deviation of Rs. 569 lakh. In other words, it can be stated that the expenditure under National Project on Organic Farming had decreasing trend where budget and revised estimates decreased by 7.08 and 4.34 percent per annum as against to the



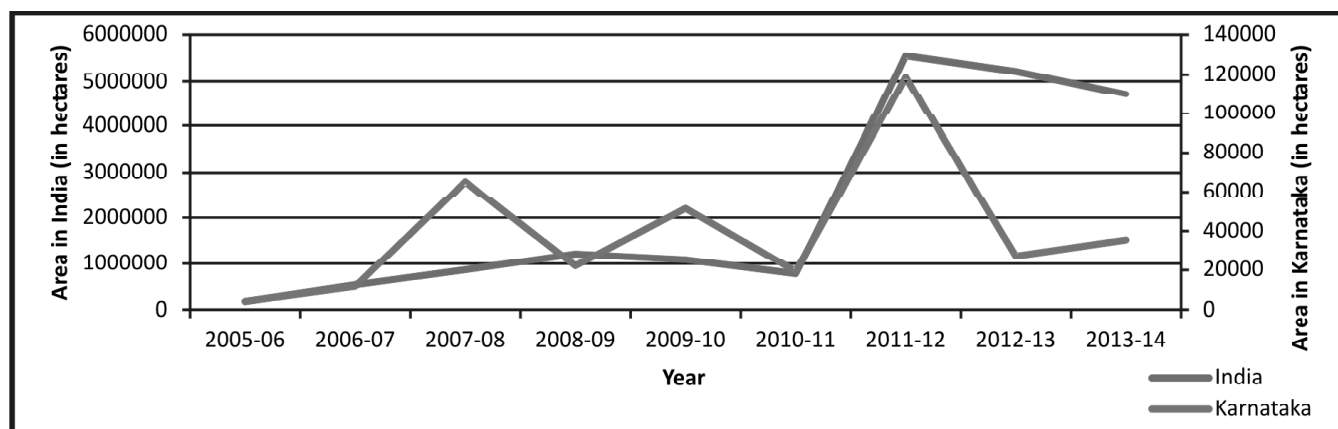
Graph 1: Financial achievement under National Project on Organic Farming

Source: Table 1

Table 2A
Total Certified Organic Area in Karnataka and India (in. hectare)

Sl.No.	Year	Karnataka			India		
		Total Certified	Total in conversion	Grand Total	Total Certified	Total in conversion	Grand Total
1	2005-06	NA	NA	4117.17	NA	NA	173682.54
2	2006-07	8735.06	2976.80	11711.86	311786.95	226383.60	538170.55
3	2007-08	57626.24	7581.41	65207.65	401002.01	464321.08	865323.09
4	2008-09	4169.43	18060.71	22230.14	640161.75	566893.38	1207055.13
5	2009-10	16099.06	35369.40	51468.46	757978.71	327669.75	1085648.46
6	2010-11	9128.01	10400.63	19528.64	600003.00	177513.98	777516.98
7	2011-12	NA	NA	118739.7	NA	NA	5550405.00
8	2012-13	NA	NA	27191.27	NA	NA	5211141.00
9	2013-14	NA	NA	35450.22	NA	NA	4719816.30
	Average			39516			2236529
	Std. Dev.			35306			2222887
	C V			89.35			99.39
	R ²			0.13			0.71
	CAGR			30.88			51.10

Source: Source: Annual Repots 2004-05 to 2013-14, National Project on Development & Use of Biofertilisers/ National Project on Organic Farming



Graph 2: Total Certified Organic Area in Karnataka and India

Source: Table 2

decrease of 5.01 percent in actual expenditure per annum. Like that the graph in the following page also reveals that expenditure increased from 2005-06 to 2008-09 and then it had decreasing trend up to 2010-11 which increased slightly in the following years but ultimately decrease in 2013-14.

The total area under organic farming in India as on 2013-14 was around 4719816.30 hectares out of which about 0.75 percent (35450.22 hectares) was in Karnataka state. In other words, for the period in between 2005-06 and 2013-14 on an average around 2236529 hectares of land was under organic farming in India out of which the average land under organic farming in Karnataka state was about 39516 hectares which was around 1.8 percent of total land under

organic farming in India. Further, the situation in 2013-14 was far better than that existed in 2005-06 as the increase in land under organic farming in India and Karnataka in 2013-14 was around 3.5 and 7.6 folds more when compared to 2005-06. On the other hand organic farming was getting more popularity in recent years as the growth regarding land under organic farming in India and Karnataka was at 51.10 and 30.88 percent per annum. However, Graph 2 represents that fluctuation was at higher level in Karnataka state when compared to India regarding land under organic farming.

With regard to the predictions of land under organic farming for the period 2014-15 to 2019-20, it can be predicted that the average land under

Table 2B
Predicted Total certified Organic Area in Karnataka and India (in. hectare)

Sl. No.	Year	Karnataka	India
1	2014-15	62527	5665201
2	2015-16	67129	6350936
3	2016-17	71732	7036671
4	2017-18	76334	7722405
5	2018-19	80936	8408140
6	2019-20	85538	9093874

Source: Table 2A

organic farming in India and Karnataka might be around 7379538 and 74033 hectares respectively where the share of Karnataka state would be at 1 percent of the total area under organic farming in India.

Among various objectives of National Project on Organic Farming, publicity one of the major

objective where for technology and information dissemination two periodicals namely Organic Farming Newsletter (quarterly) and Bio-fertilizer Newsletter (Half yearly) were published. Besides these, NCOF and RCOFs prepared and published necessary training literatures for mass distribution of technology and information. At the same time publicity through exhibition and electronic media also played vital role. On the other hand, on 9th February, 2014, Honorable President of India inaugurated Krishi Vasant, the biggest ever farm exposition so far at Nagpur, Maharashtra which was organized by the Government of India and Government of Maharashtra along with Confederation of Indian Industry (CII), the strategic partner representing Indian industry.

Table 3
Details of publicity activities undertaken by NCOF and RCOF

Sl.No.	Year	Literature Distributed	Exhibitions	Radio Talks	TV Programmes	Newspaper Coverage	Total
1	2004-05	124655	20	46	21	118	124860
2	2005-06	298025	26	57	38	204	298350
3	2006-07	101945	13	54	28	76	102116
4	2007-08	101945	13	54	28	76	102116
5	2008-09	87710	16	92	60	178	88056
6	2009-10	150810	18	86	66	183	151163
7	2010-11	130471	18	64	52	181	130786
8	2011-12	60464	07	52	37	127	60687
9	2012-13	41835	04	50	22	100	42011
10	2013-14	146797	13	31	11	142	146994
	Average	124466	15	59	36	139	124714
	Std. Dev.	70428	6	18	18	47	70464
	C V	56.58	42.83	31.04	49.54	33.61	56.50
	CAGR	1.83	-4.67	-4.29	-6.93	2.08	1.83

Source: Source: Annual Repots 2004-05 to 2013-14, National Project on Development & Use of Bio-fertilizers/ National Project on Organic Farming

With this respect, the data in the above table reveals the public activities carried out by NCOF and RCOFs for the period 2004-05 to 2013-14 where it can be noted that literature distribution and newspaper coverage played major role in publicity when compared to exhibitions and electronic medias as there was positive growth with regard to literature distribution and newspaper coverage at 1.83 and 2.08 percent per annum when compared to other activities. On the other hand, radio talks and TV programmes played vital role in the initial stages that is up to 2009-10 when compared to later period that is after 2009-10 where the compound

annual growth rate was around 13.33 and 25.74 percent per annum for radio talks and TV programmes respectively. In other words, it can be stated that the overall publicity activities grew at 1.83 percent per annum for the period 2004-05 to 2013-14.

Promotion of organic farming in the country through technical capacity building of all the stakeholders including human resource development, technology development, transfer of technology, promotion and production of quality organic and biological inputs and awareness creation were carried out by NCOF and RCOFs. With

this regard, National Centre of Organic Farming along with Regional Centers of Organic Farming conducted courses with regard to certification, production and quality control of organic inputs, field functionaries and farmer's training programmes. The details of these courses are presented in Table 4.

As per the data in Table 4, it was observed that for the first three years after the instigation of National Project on Organic Farming all courses

were carried out extensively. In other words, among various courses, field functionaries/ extension officers on organic farming and farmer's training programmes recorded at higher rate when compared to others. On an average around 12 certification courses, 6 production and quality control courses and 66 field functionaries' courses were conducted through which around 1587 farmers were benefited each year for the period 2004-05 to 2013-14.

Table 4
Training Programmes organized under National Project of Organic Farming by NCOF/ RCOFs

Sl. No.	Programmes	Number of courses			
		Certification & Inspection Agencies/providers	Production & Quality control of Organic Inputs	Field Functionaries/ Extension Officers on Organic Farming	Farmer Training on Organic Farming
1	2004-05	02	06	05	384
2	2005-06	30	121	112	1149
3	2006-07	15	48	162	1014
4	2007-08	51	61	171	2017
5	2008-09	07	07	14	560
6	2009-10	08	08	22	811
7	2010-11	00	07	29	1229
8	2011-12	01	05	39	1621
9	2012-13	02	07	75	2880
10	2013-14	03	06	35	4200
	Average	12	28	66	1587
	Std. Dev.	16	39	61	1176
	C V	138.39	139.58	92.37	74.10
	CAGR	4.61	0.00	24.14	30.45

Source: Annual Repots 2004-05 to 2013-14, National Project on Development & Use of Biofertilisers/ National Project on Organic Farming.

Note: Figures in parenthesis denotes number of participants

Table 5
Establishment of Organic input production units

Sl. No.	Programmes	FVMWCU	BPU
1	2007-08	11	19
2	2008-09	01	03
3	2009-10	00	00
4	2010-11	02	04
5	2011-12	03	04
6	2012-13	03	04
7	2013-14	03	04
	Average	3	5
	Std. Dev.	4	6
	C V	109.33	113.48
	CAGR	-19.47	-22.87

Source: Annual Repots 2004-05 to 2013-14, National Project on Development & Use of Bio-fertilizers/ National Project on Organic Farming.

Note: FVMWCU - Fruits and vegetable market waste compost units BPU - Bio-fertilizer production units

Further, to encourage production and use of organic and biological sources of nutrients like bio-fertilizers, organic manure, compost for sustained soil health and fertility and improving soil organic carbon and to promote production and use of bio-pesticides and bio-control agents as alternative inputs in organic farming establishment of organic production units like fruits and vegetables market waste compost units and bio-fertilizer production units were undertaken through NCOF and RCOFs. As such, for the period 2007-08 to 2013-14 on an average 4 fruits and vegetables market waste compost units and 5 bio-fertilizer units were established by NCOF and RCOFs in the country. However, in spite of capital investment subsidy for setting up of fruits and vegetables waste/agro-

waste/ industrial waste compost production units and bio-fertilizer and bio pesticide production units, the establishment of organic input production decreased by 19.47 and 22.87 percent with respect to fruits and vegetables market waste compost units and bio-fertilizer units which clearly indicates that proper and timely monitoring of the scheme has failed along with effective follow ups.

Bio-fertilizers are preparation of living beneficial organisms is one of the components of integrated nutrient management. Considering its importance, Department of Agriculture and Cooperation launched National Project on Development and use of Bio-fertilizers during 1983-84 and it continued up to October 2004 until the

project was subsumed as National Project on Organic Farming.

In view of the rising demand of bio-fertilizers in the country a number of Govt. Institute, NGOs, State Agricultural Universities (SAUs) and State Department of Agriculture, Public sector and Private organizations are engaged in mass production of bio-fertilizers. All these organizations are directly or indirectly associated with NCOF/ RCOFs (formerly NBDC/RBDCs) in terms of strain supply and other technical problems relating to production and promotion of bio-fertilisers in their respective areas. Azotobacter, Azospirillum, Acetobacter, Rhizobium, Phosphate solubilising Microorganism are some of the major bio-fertilizers produced.

Table 6A
Zone wise production of Bio-fertilizer in India (in Tones)

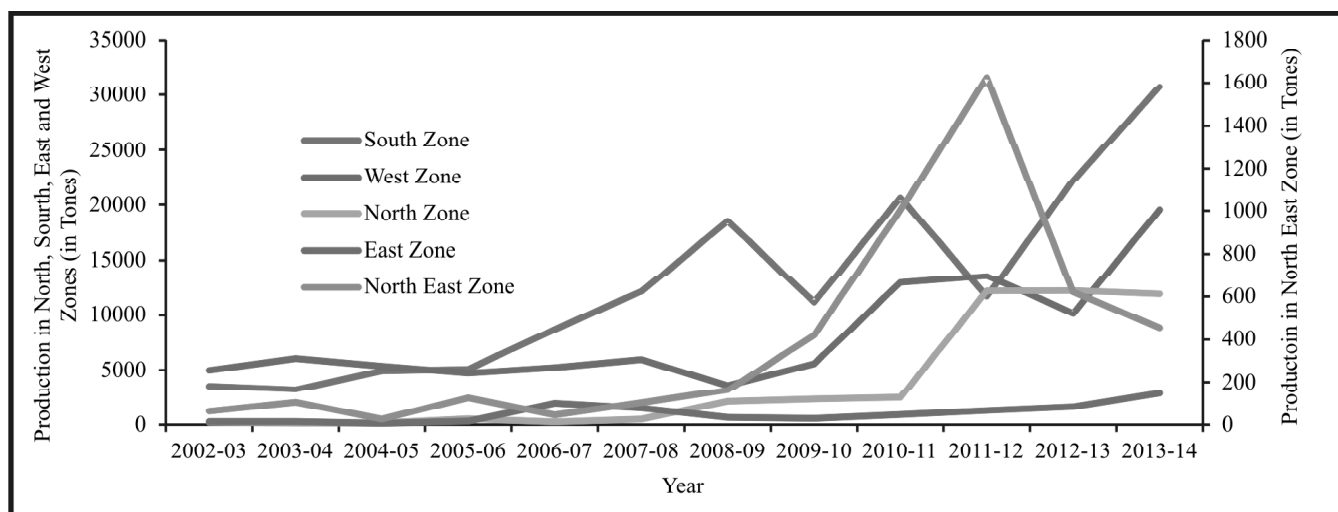
Sl.No.	Year	South Zone	West Zone	North Zone	East Zone	North East Zone	Total
1	2002-03	3518.19	4987.32	221.39	276.23	61.65	9064.79
2	2003-04	3211.37	6047.26	150.95	285.84	103.47	9798.89
3	2004-05	4933.55	5357.56	162.46	121.92	25.20	10600.69
4	2005-06	5082.13	4724.22	522.87	310.57	124.63	10764.42
5	2006-07	8702.18	5224.60	245.00	1929.54	44.05	16145.26
6	2007-08	12109.78	5936.88	485.70	1475.96	102.73	2011.05
7	2008-09	18525.80	3601.68	2114.23	661.27	162.04	25065.03
8	2009-10	11162.61	5563.76	2332.42	561.37	420.19	20040.34
9	2010-11	20660.60	12960.72	2485.48	887.31	1003.50	37997.61
10	2011-12	11674.10	13566.22	12183.01	1276.70	1624.18	40324.21
11	2012-13	22261.80	10138.10	12212.17	1604.80	619.95	46836.82
12	2013-14	30764.03	19547.57	11914.81	2846.92	454.55	65527.87
	Average	12717.18	8137.99	3752.54	1019.87	395.51	26023.08
	Std. Dev.	8673.27	4872.22	5110.61	827.89	486.62	17920.20
	C V	68.20	59.87	136.19	81.18	123.03	68.86
	R ²	0.79	0.58	0.70	0.49	0.44	0.86
	CAGR	21.79	13.22	43.67	23.62	19.92	19.70

Source: Annual Reports 2004-05 to 2013-14, National Project on Development & Use of Biofertilisers/ National Project on Organic Farming.

The present level of bio-fertilizer production in the country is 65527.87 tones. Like that the for the period 2002-03 to 2013-14, the average production of bio-fertilizer was around 24514.75 tones per year out of which the share of South, West, North, East And North East Zones were 48.87, 31.27, 14.42, 3.92 and 1.52 percent respectively which indicated that production of bio-fertilizer in South Zone was at higher percent followed by West Zone when compared with other zones. On the other hand, the growth in the production of bio-fertilizer recorded high in North Zone at 43.67 percent per annum closely followed by East and South Zones

at 23.62 and 21.79 percent per annum respectively. However, the overall growth in production of bio-fertilizer was at 19.70 percent per annum which reveals that the production of bio-fertilizer at different zones in the country during the period 2002-03 to 2013-14 was the indicative of increased awareness of farmers regarding use of bio-fertilizers in the country.

The curves in Graph 3 representing production of bio-fertilizers in different zones clearly indicates that from 2002-03 up to 2006-07 the production of bio-fertilizer was at constant rate which after that recorded with uneven fluctuations where the



Graph 3: Zone wise production of Bio-fertilizer in India

Source: Table 6A

Table 6B
Predicted production of Bio-fertilizer in India (in Tones)

Sl.No.	Year	South Zone	West Zone	North Zone	East Zone	North East Zone	Total
1	2014-15	26581.53	14826.76	11457.68	2069.78	980.63	55916.38
2	2015-16	28714.51	15855.80	12643.09	2231.31	1070.65	60515.35
3	2016-17	30847.49	16884.84	13828.50	2392.83	1160.67	65114.32
4	2017-18	32980.47	17913.88	15013.90	2554.36	1250.68	69713.28
5	2018-19	35113.44	18942.92	16199.31	2715.88	1340.70	74312.25
6	2019-20	37246.42	19971.96	17384.72	2877.41	1430.72	78911.22

Source: Table 6A

fluctuation was seen to be more in North Zone followed by North East Zone as the coefficient of variation in these two zones were at 136.19 and 123.03 percent respectively.

Like that the total average production of bio-fertilizer for the period 2014-15 up to 2019-20 might be at 67414 tones where the production of bio-fertilizer in South, West, North, East and North East might be at 31914, 17399, 14421, 2474 and 1206 tones respectively.

CONCLUSION

Thus, the National Centre of Organic Farming (NCOF) located at Ghaziabad as a subordinate office of Ministry of Agriculture, Government of India is implementing the activities of Central Sector Scheme "National Project on Organic Farming" with effect from October, 2004 through its different Regional Centers (RCOFs) located at Bangalore, Bhubaneshwar, Hisar, Jabalpur, Imphal & Nagpur. The component of the project which includes

capacity building through Service Provider, Setting up of different inputs units on Bio-fertilizer/ Compost/Vermi culture hatcheries, setting up of model organic farm, creating awareness by organizing training, field demonstration etc, are carried out by NCOF and RCOFs which has encouraged farmers to not adopt organic farming but also in production of bio-fertilizers. The scheme which was started in 10th plan with an outlay of Rs. 57.04 crore was continued in the 11th plan with an outlay of Rs. 101.00 crore and again continued in 12th five year plan under NMSA Mission with an outlay of Rs. 57.00 crore is catering the needs of farmers in the way of practicing organic farming which will not only produce healthier food but also protect soil fertility along with its nutrients.

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