

## RESEARCH PAPER

### An analytical study on impact of National Horticulture Mission(NHM) among the beneficiaries in Chhatarpur district (M.P.)

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#### ABSTRACT

Study was conducted in Chhatarpur district of (M.P.) in 2011. After independence, several programmes and project have been launched in the country to increase agricultural productivity for solving the food problem. Horticultural crops play a unique role in India's economy by improving the income of the rural people. Cultivation of these crops is labour intensive and as such they generate lot of employment opportunities for the rural population. Fruits and vegetables are also rich source of vitamins, minerals, proteins, carbohydrates etc. which are essential in human nutrition. Hence, these are referred to as protective foods and assumed great importance as nutritional security of the people. Thus, cultivation of horticultural crops plays a vital role in the prosperity of a nation and is directly linked with the health and happiness of the people. But in our country area under horticultural crops is not to a considerable level because of several factors. NHM playing a important role in increase in area as well as productivity of horticultural crops through motivation of farmers, providing subsidy, providing guidance and other facilities. The present study will explore the change in attitude and economic gain of the beneficiaries and would highlight the factors which are promoting the process of horticultural development through NHM. Majority of the beneficiaries had favorable attitude while non-beneficiaries had unfavorable attitude.

**Key Words :** Horticulture development through NHM, Constraints.

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Horticulture is very closely associated with human civilization from prehistoric era. Agricultural and environmental scientists of the world have unanimously admitted significance of horticulture in the livelihood security, nutritional security, environment and now in international trade. Horticulture is an important component of today's farming homestead and corporate agriculture. In the changing scenario, the potential for horticulture is enormous in the context of globalized economy and open competitive market. India with diverse soil and climate comprising several agro-ecological regions provides ample opportunity to grow a variety of horticulture crops. These crops form a significant part of total agricultural produce in the country comprising of fruits, vegetables, root and tuber crops, flowers, ornamental plants, medicinal and aromatic plants, spices, condiments, plantation crops and mushrooms. India is a large, low-cost producer of fruit and vegetables, and horticulture is a sector with huge export potential. India with more than 28.2 million tones of fruits and 66 million tones of vegetables is the second largest producer of fruits and

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vegetables in the world. However, per capita consumption of fruits and vegetables in India is only around 46g. and 130g. against a minimum of about 92g. and 300g., respectively recommended by Indian Council of Medical Research and National Institute of Nutrition, Hyderabad. It is estimated that all the horticulture crops put together cover nearly 11.6 million hectares area with an annual production of 91 million tonnes. Though these crops occupy hardly 7 per cent of the cropped area they contribute over 18 per cent to the gross agricultural output in the country. The recent emphasis on horticulture in our country consequent to the recognition of the need for attaining nutrition security and for more profitable land use, has brought about a significant change in the outlook of the growers. The need for great utilization of available wastelands against the background of dwindling water and energy resources has focused attention to dry land, to arid and semi-arid tracts and to horticultural crops which have lesser demands on water and other inputs besides being 3 to 4 times more remunerative than field crops. It is estimated that India has 240 million acres of cultivable wasteland, which is lying idle, which can be brought under orchard crops without curtailing the area under food crops. The country has abundant sunshine throughout year, surplus labour and widely varied agro-climatic conditions, which offer high potential for successful and profitable commercial horticulture. NHM has been launched in 2005-2006. NHM is a centrally sponsored scheme in which Govt. of India shall provide 100 per cent assistance in the state missions during tenth plan. During the eleventh plans the Govt. of India assistance will be 85 per cent with 15 per cent contribution by the State Government. The objective of NHM is to double horticulture production to 300 million tonnes by 2011-12 with technological interventions through forward and backward linkages from production to marketing and processing of horticulture produce. NHM is cost to focus on horticulture research and horticultural development through generation of good quality seeds and planting materials, coverage of area with improved varieties and productivity improvement programmes. The effort is also to address post harvest management and marketing by fostering infrastructure facilities for cold chains, market yards and market intelligence and value addition. Studies show that the development of improved horticulture production technology has subsequently contributed for increasing horticulture production in India. But the improved horticulture production technology is more capital and skill intensive. NHM will play a unique role in India's economy by improving and extending the horticultural crops as well as income of the rural people. Hence, it is essential to know the impact of NHM programme critically, has been undertaken with the following specific objectives:

– To know the socio-personal and economic characteristics of the beneficiaries.

- To identify the impact (*i.e.* Attitudes and the economic gain) of NHM on the beneficiaries.
- To identify the constraints of NHM as reported by beneficiaries and suggests the ways to overcome.

## RESEARCH METHODOLOGY

The study was conducted in Chhatarpur district of Madhya Pradesh. This district was purposively selected due to convenience of the researcher and this area is included in NHM programme in the year 2006. The Chhatarpur district comprises of 8 blocks namely-Gourihar, Lavkushnagar, Nowgang, Chhatarpur, Rajnagar, Bijawar, Badamalhera and Buxwaha. Out of the 8 blocks only Lavkushnagar block was selected purposively as the researcher is well aware of the area and convenience of the researcher and time and cost factors. There are total 117 villages in the selected blocks. Out of which only 34 villages are under the various activities of NHM *i.e.* guava rejuvenation, shadenet, vermi-compost, expansion of chilli area, farmer's tour, amla rejuvenation, ber rejuvenation, sitaphal rejuvenation. A list of the name of 34 villages covered under NHM was prepared, and 15 villages were selected using simple random sampling method. Thus, the total number of respondents was 70 beneficiaries and 70 non-beneficiaries farmers for this study.

## RESEARCH AND REMONSTRATION FINDINGS

Present investigation has been described in this chapter, which has been organized according to the objectives of the study. The information which were collected from a sample of 70 beneficiaries and 70 non-beneficiaries farmers.

The data presented in Table 1 reveal that most of the beneficiaries (40.00%) were of middle age group followed by young age group (32.86%) and old age group (27.14%). In case of non-beneficiaries, a higher percentage *i.e.* 41.43 per cent were in middle age group, followed by 34.29 per cent were in young age group and 24.28 per cent were in old age group. Thus, it can be concluded that in study area, higher percentage of the beneficiaries and non-beneficiaries were in middle age group. The finding is similar to the findings reported by Kushwaha *et al.* (2004).

The data in Table 2 show that maximum numbers of

**Table 1: Distribution of the respondents according to their age**

Characteristics	Categories	Beneficiaries		Non-beneficiaries	
		F	%	F	%
Age	Young	23	32.86	24	34.29
	Middle	28	40.00	29	41.43
	Old	19	27.14	17	24.28
	Total	70	100.00	70	100.00

Characteristics	Categories	Beneficiaries		Non-beneficiaries	
		F	%	F	%
Education	Illiterate	10	14.29	11	15.71
	Functionally literate	6	8.57	21	30.00
	Primary	7	10.00	14	20.00
	Middle	17	24.29	8	11.43
	High school	18	25.71	9	12.86
	College	12	17.14	7	10.00
	Total	70	100.00	70	100.00

beneficiaries *i.e.* 25.71 per cent had high school level education, followed by 24.29 per cent had middle level, 17.14 per cent had up to college level, 14.29 per cent were illiterates, 10.00 per cent had primary level and 8.57 per cent were functionally literates. In case of non-beneficiaries maximum numbers 30.00 and 20.00 per cent were found in functionally literate and primary school level category, respectively. Percentage of illiterates was 15.71 per cent while 12.86, 11.43 and 10.00 per cent non-beneficiaries had high school, middle level and college level education, respectively. Thus, it can be concluded that the most of the beneficiaries were high school passed while non-beneficiaries were functionally literates.

The data in Table 3 show that highest numbers of beneficiaries *i.e.* 37.14 per cent had medium size of land holding, followed by 24.29 per cent had small holdings, 21.43 per cent had large, and 17.14 per cent were marginal land holders. In case of non-beneficiaries maximum numbers 32.86 and 28.57 per cent respondents were small and marginal land holders, respectively while 21.43 and 17.14 per cent non-beneficiaries had medium and large land holdings, respectively. Thus, it can be concluded that the most of the beneficiaries had medium land holdings while non-beneficiaries had small land holdings.

Characteristics	Categories	Beneficiaries		Non-beneficiaries	
		F	%	F	%
Size of land holding	Marginal	12	17.14	20	28.57
	Small	17	24.29	23	32.86
	Medium	26	37.14	15	21.43
	Large	15	21.43	12	17.14
	Total	70	100.00	70	100.00

Sixteen statements were considered to examine the attitude of NHM beneficiaries and non-beneficiaries under this study. In almost all the statements regarding attitude, the mean score values of attitude of beneficiaries were higher

Sr. No.	Particulars	Beneficiaries		Non-beneficiaries	
		Row score	Mean score	Row score	Mean score
1.	Planting of crops under NHM is difficult because correct knowledge not provided in the programme	173	2.47	113	1.61*
2.	Socio-economic status of the farmers can be improved by planting of crops under NHM	166	2.37	160	2.29*
3.	Plantation of horticulture crops under NHM is a risky business	178	2.54*	107	1.53
4.	Higher benefit can be achieved in small land holdings through plantation of horticultural crops under NHM	179	2.56*	103	1.47
5.	Subsidy procedure under NHM is typical	169	2.41	112	1.6
6.	Horticultural crops under NHM can be easily planted on less fertile or barren land	173	2.47	111	1.59
7.	Plant saplings do not received in time so plantation is not possible	159	2.27	110	1.57
8.	Food crops can be planted between horticultural crops under NHM until they do not provide benefit	184	2.63*	102	1.46
9.	Being perishable in nature horticultural crops under NHM cannot be stored for a long period	160	2.29	115	1.64*
10.	Fixed income in a long term can be achieved through crops under NHM	174	2.49*	104	1.49
11.	Proper marketing facility for horticultural crops under NHM is not available	180	2.57*	105	1.5
12.	Maximum profit can be achieved through export the produce of crops under NHM	165	2.36	113	1.61*
13.	Economic gain not received through plantation of horticultural crops under NHM	182	2.60*	103	1.47
14.	Nutritional problem can be solved through plantation of horticultural crops under NHM	177	2.53*	110	1.57
15.	Horticultural crops under NHM need more care and look after	169	2.41	112	1.6
16.	Officers always gives beneficial advise under NHM programme	177	2.53*	108	1.54
Overall mean average			2.47		1.60
‘t’ value					15.85*

\* indicate significance of value at P=0.05

<b>Table 5: Difference in the economic gain of beneficiaries and non-beneficiary farmers</b>					
Sr. No.	Particulars	Beneficiaries		Non-beneficiaries	
		Row score	Mean score	Row score	Mean score
1.	NHM helping in increase in productivity	158	2.26*	102	1.46*
2.	NHM helping in decreasing cost of cultivation	155	2.21	88	1.26
3.	After adoption of NHM an increase in household material observed	150	2.14	92	1.31
4.	After adoption of NHM an increase in agricultural assets observed	161	2.30*	110	1.57*
5.	After adoption of NHM an increase in annual income observed	159	2.27*	98	1.40
6.	After adoption of NHM an increase in net return observed	157	2.24	98	1.40
7.	After adoption of NHM an increase in saving observed	164	2.34*	98	1.40
Overall mean score			2.25		1.40
‘t’ value					19.28**

\*\* indicates significance of value at P=0.01

than non-beneficiary, the average mean score values of attitude showed by the beneficiaries and non-beneficiaries were 2.47 and 1.60, respectively. The calculated ‘t’ value was 15.85 at 5 per cent level. This was declared to be significant. Therefore, it may be concluded that the data provided enough evidence to reject the null hypothesis No. 1. This clearly shows that as regards the attitude, there was a significant difference between beneficiaries and non-beneficiaries for NHM.

Seven statements were considered to measure the economic gain of NHM beneficiaries and non-beneficiaries under this study. In almost all the statements regarding economic gain, the mean score values of economic gain of beneficiaries were higher. The average mean score values of

economic gain perceived by the beneficiaries and non-beneficiaries were 2.25 and 1.40, respectively. This clearly shows that as regards the economic gain, there was a significant difference between beneficiaries and non-beneficiaries.

The constraints in adoption of NHM programme were asked from beneficiaries as well as non-beneficiaries. Their opinions were recorded and were ranked according to preferences. According to the beneficiaries the most important problem was that farmer does not select crops with his interest due to different crops recommend for different areas obtaining highest mean score 2.20 followed by transportation facilities are poor obtaining mean score 2.13, proper market is not

<b>Table 6: Constraints of NHM as reported by beneficiaries and non-beneficiaries</b>							
Sr. No.	Problems reported	Beneficiaries			Non-beneficiaries		
		Row score	Mean score	Rank	Row score	Mean score	Rank
1.	Less crops are included under NHM programme	121	1.73	XII	150	2.14	IX
2.	Sometimes seeds or saplings of new varieties not received	126	1.80	VIII	145	2.07	XIII
3.	Farmer does not select crops with his interest due to different crops recommend for different areas	154	2.20*	I	159	2.27*	III
4.	Information regarding modern techniques of farming for cultivation of crops under NHM not received in time	125	1.79	IX	147	2.10	XII
5.	Less use of audio-visual aids at the time of training and information providing	120	1.70	XIV	149	2.13	X
6.	Seeds and saplings does not received in time	132	1.89*	VII	154	2.20*	V
7.	All programme of NHM does not perform in time	134	1.91*	V	144	2.06	XIV
8.	Proper market is not available for produce	142	2.03*	III	153	2.19*	VI
9.	Transportation facilities are poor	149	2.13*	II	157	2.24*	IV
10.	Officers do not co-operate in programme	117	1.67	XV	152	2.17	VII
11.	Packing material is not available for distant markets and no facility from NHM	136	1.94*	IV	148	2.11	XI
12.	Farmer's tour not conducted on right time	120	1.71	XIII	132	1.89	XV
13.	Complete inputs do not received on appropriate subsidy	133	1.90*	VI	151	2.16	VIII
14.	Partiality in selection of farmers for NHM programme	123	1.76	XI	173	2.47*	I
15.	Partiality in selection of villages	124	1.77	X	166	2.37*	II
Overall mean score			1.86			2.17	

available for produce obtaining mean score 2.03, packing material is not available for distant markets and no facility from NHM obtaining mean score 1.94, all programme of NHM does not perform in time obtaining mean score 1.91, complete inputs do not received on appropriate subsidy obtaining mean score 1.90, seeds and saplings not received in time obtaining mean score 1.89 while the least important problem was that officers do not co-operate in programme obtaining mean score 1.67. Seven problems obtaining their mean score higher than average mean score 1.86. In case of non-beneficiaries, there were six problems secured higher mean scores than the average mean score 2.17, which clearly indicates that, these problems were important from their point of view. As regards the perception by the non-beneficiaries partiality in selection of farmers for NHM programme secured higher mean scores 2.47 than the average mean score 2.17 which clearly indicates their importance. The second highest mean score 2.37 was for partiality in selection of villages. Farmer does not select crops with his interest due to different crops recommend for different areas (2.27), transportation facilities are poor (2.24), seeds and saplings not received in time (2.20) and proper market is not available for produce (2.19) were the other major problems of which the mean scores were higher than the average mean score. It may be concluded that in both the case, the importance of the problems under this category was not similar. The finding was similar to the findings reported by Prajapati *et al.* (2002).

### Conclusion:

NHM will play an unique role in India's economy by improving and extending the horticultural crops as well as income of the rural people. Higher percentage of the beneficiaries and non-beneficiaries were in middle age group. Most of the beneficiaries were high school passed while non-beneficiaries were functionally literates. Most of the beneficiaries had medium land holdings while non-beneficiaries had small land holdings. The average mean score values of attitude showed by the beneficiaries and non-beneficiaries

were 2.47 and 1.60, respectively and it shows there was a significant difference between attitude beneficiaries and non-beneficiaries for NHM. Majority of the beneficiaries had favourable attitude while non-beneficiaries had unfavourable attitude. The average mean score values of economic gain perceived by the beneficiaries and non-beneficiaries were 2.25 and 1.40, respectively and it shows that there was a significant difference between economic gain of beneficiaries and non-beneficiaries for NHM. It can be concluded that in study area, higher percentage of the beneficiaries had medium while majority of non-beneficiaries had low economic gain. The majority of the respondents suggested that credit should be available easily at low interest rate followed by improved seed should be available in time, irrigation facilities should be available in time, training campus regarding technical knowledge should be organized time to time, knowledge regarding plant protection should available in time and field visit should be made regularly.

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