Problems Faced by the Beneficiary Farmers in Availing the Benefits under National Horticulture Mission

Seema Yadav¹, K.C. Sharma² and Palak Mishra³

1&3. Ph.D Scholar, 2. Prof. (Ext. Edu.), SKN College of Agriculture, SKNAU, Jobner, Jaipur (Rajasthan)

Corresponding author e-mail: seemayadavsy91@gmail.com

Paper Received on February 09, 2021, Accepted on March 20, 2021 and Published Online on July 01, 2021

ABSTRACT

India is mainly an agriculture based country where majority of the people are engaged in agriculture. Recognizing the vast potential of horticulture in stimulating the growth of Indian agriculture, Government of India had launched a scheme of National Horticulture Mission for the holistic development in the year of 2005-06. The present study was undertaken to measure the problems faced by the beneficiary farmers in availing the benefits under NHM in Semi-arid Eastern Plain Zone (IIIA) of Rajasthan. From this IIIA Zone two districts were selected for the research study. A total of 240 beneficiary farmers were included in the sample of study. Study shows that majority (67.08%) of beneficiary farmers had medium level of problems. It was found that "lack of adequate information at right time" was the most severe problem faced by majority of the beneficiary farmers with overall MPS 86.80 and was ranked first. Besides, "lack of awareness of NHM guidelines among the beneficiaries" was also a severe problem perceived by the beneficiary farmers with overall MPS 84.86 and was ranked second. It was also observed that there was significant difference between the beneficiary farmers of Jaipur and Tonk districts with respect to problems faced by them in availing the benefits under NHM.

Key words: National Horticulture Mission; Horticulture; Semi-arid Eastern Plain Zone (IIIA); Beneficiary farmers;

India is mainly an agriculture based country where majority of the people are engaged in agriculture. Indian agriculture is an important factor for sustainable development and poverty alleviation. Even today agriculture sector is the main source of livelihood and food security for a greater part of population in India. Horticulture has emerged as an important sector of diversification agriculture. It emerged as a growth engine of agriculture and making a significant contribution to agricultural GDP. Diversified and boosted growth in agricultural is dependent upon the development of horticulture sector. It plays a pivotal role in improving the productivity of land, generating employment, enhancing exports and improving the economic conditions of the farmers.

Recognizing the vast potential of horticulture in stimulating the growth of Indian agriculture, Government of India had launched a scheme of National Horticulture Mission for the holistic development of this sector. It is a centrally sponsored scheme, launched by the

Department of Agriculture & Cooperation, Ministry of Agriculture, GoI during 2005-06 (10th five-year plan). NHM plays a crucial role in promoting growth in horticulture and helps in augmenting growth in Indian agriculture. 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. Under NHM scheme include production and productivity improvement of horticulture crops by supplying quality planting materials, nurseries, rejuvenation of senile orchards, protected cultivation, cold storage facilities, integrated nutrient management, integrated pest management, production of organic farming and deploying honeybees for enhancing productivity through cross pollination from integral components of schemes.

METHODOLOGY

Semi-arid Eastern Plain (IIIA) Agro Climatic Zone was selected for the study purpose. This Agro Climatic

Zone comprises of four districts viz., Jaipur, Ajmer, Tonk and Dausa. Out of these Jaipur and Tonk districts were selected for the research study on the basis of maximum number of beneficiary farmers under selected activities of NHM. From Jaipur district 6 tehsils were selected viz., Amber, Chomu, Shahpura, Jhotwara, Sambhar and Bassi. From Tonk district also 6 tehsils were selected namely; Newai, Malpura, Tonk, Uniara, Todaraisingh and Deoli, those having maximum number of beneficiaries of under selected activities of NHM. A list of beneficiary farmers under selected activities of NHM (farmers benefited from the year 2014 to 2016) from selected districts were prepared. From that list 30 per cent of beneficiary farmers were selected by using simple random sampling in proportionate from each tehsil and selected activities under NHM. These activities were selected on the basis of highest farmers taking benefits under NHM. Thus, a total of 240 beneficiary farmers were included in the sample of study. The data were collected by using personal interview schedule. The collected data were analyzed by using following statistical method

Mean percent scores were obtained by multiplying total obtained score of the respondents by hundred and divided by the maximum obtainable score under each practice. Formula is given as under:

$$MPS = \frac{Total\ score\ obtained}{Max.\ obtainable\ score} \times 100$$

The Standard Deviation measures the absolute dispersion of variability of distribution. The Standard Deviation was used for categorization of respondents in different groups.

$$SD = \sqrt{\frac{\sum X_i^2}{n} - \left(\frac{\sum X}{n}\right)^2}$$

Where.

 $\sum X_i^2 =$ Sum of squares of the observation

 $\sum X_i =$ Sum of values of the observation

n= Number of respondents

It was obtained by dividing total score of each statement by total number of respondents.

$$MS = \frac{Total\ score\ of\ each\ statement}{Total\ number\ of\ respondents}$$

This test was used to observe significance of difference between two sample mean for large sample (i.e. n>30). Formula for 'Z' test is as under:

$$Z = \frac{|\overline{X}_1 - \overline{X}_2|}{\sqrt{\frac{s_1^2}{n_1} + \frac{s_2^2}{n_2}}}$$
first sample

Where,

 $X_1 = Mean of first sample$

 X_2 = Mean of second sample

 S_1 = Standard deviation of first sample

 S_2 = Standard deviation of second sample

 $n_1 = Size of first sample$

 n_2 = Size of second sample

Arbitrary method: The arbitrary method was used to classify the respondents in three categories viz., low, medium and high. For this purpose the range of the achievable score by a respondent was sorted out and the minimum score was subtracted from maximum score and the value obtained was divided by number of categories. The obtained score was added into the lower score until you get the highest score.

Spearman's rank correlation test (rs): This test was applied to determine the relationship between the two ranks which assigned by the two categories of respondents. Rank correlation also devoted by Rho (\tilde{n}) .

$$\rho = 1 - \frac{6\sum d_i^2}{n(n^2 - 1)}$$

Where,

di = Difference of the ranks o the same item n = number of items

$$Z= \ \frac{|\overline{X}_{1} - \overline{X}_{2}|}{\sqrt{\frac{|S_{1}^{2}|}{|\mathbf{n}_{1}|} + \frac{|S_{2}^{2}|}{|\mathbf{n}_{2}|}}}$$

Where,

 $X_1 =$ Mean of first sample

 X_2 = Mean of second sample

 S_1 = Standard deviation of first sample

 S_2 = Standard deviation of second sample

 $n_1 =$ Size of first sample

 n_2 = Size of second sample

RESULTS AND DISCUSSION

Problems faced by the beneficiary farmers in availing the benefits under NHM: To get an overview of the problems faced by the beneficiary farmers in availing the benefits under NHM, the beneficiary farmers were categorized into low, medium and high level of problem.

Table 1 reveals that majority (67.08%) of beneficiary farmers of selected districts had medium

level of problems, whereas 19.17 per cent had high level of problems and remaining 13.75 per cent beneficiary farmers possessed low level of problems in availing the benefits under NHM.

Table 1. Distribution of beneficiary farmers according to level of problems faced by them in availing the benefits under NHM

Level of problems	Jaipur	Tonk	Overall
	$(n_1 = 140)$	$(n_2 = 100)$	(n=240)
Low (up to 40 score)	24(17.14)	9 (9.00)	33 (13.75)
Medium (41 to 56 score)	101 (72.15)	60 (60.00)	161 (67.08)
High (above 56 score)	15 (10.71)	31 (31.00)	46(19.17)

(Figures in the parentheses indicates percentage)

The Table further indicates that In Jaipur district majority (72.15%) of beneficiary farmers had medium level of problems, whereas 17.14 per cent with low level of problems and remaining 10.71 per cent had high level of problems. In Tonk district majority (60.00%) of beneficiary farmers had medium level of problems, whereas 31.00 per cent with high level of problems and remaining 9.00 per cent had low level of problems. These findings are supported by *Dhayal et al.* (2014) and *Singh et al.* (2014).

Distribution of beneficiary farmers according to problems faced by them in availing the benefits under NHM: It is evident from the data presented in Table 2 that 'Lack of adequate information at right time' was the most severe problem faced by majority of the beneficiary farmers of selected district with overall MPS 86.80 and was ranked first. Besides, 'Lack of awareness of NHM guidelines among the beneficiaries' was also a severe problem perceived by the beneficiary farmers with MPS 84.86 and was ranked second. The next important problem faced by the beneficiary farmers was 'Fear about adverse effects of technologies among farmers' with 84.30 MPS and was ranked third, followed by 'There are poor marketing facilities for fruits and vegetables under NHM' was another most serious problem with 82.64 MPS and was ranked fourth and 'Non-availability of skilled labour' with 82.22 MPS and was ranked fifth.

Table 2 further shows that 'Visits of the extension personnel is not in time' was the least severe problem faced by majority of the beneficiary farmers with overall MPS 65.28 and was ranked twentieth. Besides, 'Non-availability of quality seed materials under NHM' was also a least severe problem perceived by the beneficiary farmers with MPS 65.00 and was ranked twenty one. The next least severe problem faced by beneficiary

farmers was 'Payment of subsidy amount in installments rather than one time' with 62.78 MPS and was ranked twenty two, followed by 'Insufficient information given by the government officials' was another least serious problem with 58.33 MPS and was ranked twenty three and 'Non-availability of hi-tech farm implements to beneficiary farmers' with 57.78 MPS and was ranked twenty four.

An effort was also made to determine the relationship between the ranks of problem statements assigned by beneficiary farmers of NHM of Jaipur and Tonk districts by applying rank order correlation test. The rank correlation value (0.73) was greater than tabulated value, so null hypothesis 'There is no significant correlation between ranks of problem statements about NHM assigned by beneficiary farmers of Jaipur and Tonk districts' was rejected and alternate hypothesis 'There is significant association between ranks of problem statements about NHM assigned by beneficiary farmers of Jaipur and Tonk districts' was accepted. It means there is significant relationship between ranks of problem statements about NHM assigned by beneficiary farmers of Jaipur and Tonk districts. It might be because of the fact that beneficiary farmers of both districts were have benefits from same scheme, they belong same agro climatic zones and they have almost same type of benefits so there is significant relation between the ranks of problem statements. These findings are supported by Garg and Kaur (2014), Smitha (2016), Chaudhary and Khodifad (2017), Ghaswa et al. (2018), Manhas (2018) and Rajula et al. (2019).

Frequency of perception of severity of problem: Table 3 indicates that 97.50 per cent of beneficiary farmers of selected districts had perceive problem either most severe or severe that 'Lack of adequate information at right time'. It can be seen that 95.00 per cent of beneficiary farmers had perceive problem either most severe or severe that 'Fear about adverse effects of technologies among farmers'. The result indicates that 92.09 per cent of beneficiary farmers had perceived problem either most severe or severe that 'Subsidy on fertilizers and insecticides is not given commensurate with the existing market prices'. It was observed that 85.83 per cent of beneficiary farmers had perceived problem either most severe or severe that 'Selling rates of fruits and vegetables are very low at peak periods'. Only 64.59 per cent of beneficiary farmers had perceive problem either most severe or severe that 'Lack of skill

Table 2. Distribution of beneficiary farmers according to problems faced by them in availing the benefits under NHM

Problems		Jaipur n ₁ =140		Tonk n ₂ =100		Overall n=240	
Troucins	MPS	Rank	MPS	Rank	MPS	Rank	
Lack of adequate information at right time	86.67	I	85.67	II	86.80	I	
Fear about adverse effects of technologies among farmers	83.57	Ш	85.33	III	84.30	Ш	
Subsidy on fertilizers and insecticides is not given commensurate	76.43	XIII	80.00	VIII	77.92	VIII	
Selling rates of fruits and vegetables are very low at peak periods	78.09	X	74.33	XVI	76.53	XI	
Lack of skill oriented trainings under NHM	62.86	XX	71.00	XIX	66.25	XIX	
Insufficient information given by the government officials	48.57	XXIV	72.00	XVIII	58.33	XXIII	
Time consuming process for getting benefit under NHM	78.57	VIII	76.33	XIII	77.50	IX	
Non-availability of skilled labour	83.33	IV	80.67	VI	82.22	V	
Delay in subsidy amount payment	75.95	XIV	76.67	XII	76.25	XII	
Insufficient funds to cover all activities	77.14	XII	76.00	XIV	76.67	X	
Feedback is not collected from all the beneficiaries in the evaluation process	74.04	XV	75.67	XV	74.72	XVII	
Lack of awareness of NHM guidelines among the beneficiaries	84.28	II	87.00	I	84.86	II	
Non availability of quality seed materials under NHM	61.67	XXI	69.67	XX	65.00	XXI	
Less no. of field experienced officers	73.81	XVI	78.67	X	75.83	XIV	
Lack of transport facilities under NHM	79.28	VII	80.33	VII	79.72	VI	
Less quantity of inputs and subsidy under different schemes of NHM	72.38	XVIII	81.33	V	76.11	XIII	
High initial establishment cost of infrastructure	73.09	XVII	77.67	XI	75.00	XVI	
Payment of subsidy amount in installments rather than one time	61.19	XXII	65.00	XXIII	62.78	XXII	
Visits of the extension personnel is not in time	63.57	XIX	67.67	XXI	65.28	XX	
Non-availability of hi-tech farm implements to beneficiary farmers	56.19	XXIII	60.00	XXIV	57.78	XXIV	
There are poor marketing facilities for fruits and vegetables under NHM	83.09	V	82.00	IV	82.64	IV	
Lack of post harvest management, processing activities and value addition	79.76	VI	79.00	IX	79.44	VII	
Unavailability of sufficient irrigation water	77.38	XI	72.33	XVII	75.28	XV	
Lack of knowledge about pests and diseases in horticulture crops	78.33	IX	65.33	XXII	72.92	XVIII	
Total	73.71		75.82		74.59		
	. ~						

MPS = Mean Per cent Score; $rs = 0.731^{**}$ (rs = Rank order correlation **Significant at the 1 per cent level of significance)

oriented trainings under NHM'. It was also observed that 56.66 per cent of beneficiary farmers were perceived problem either most severe or severe that 'Insufficient information given by the government officials', whereas 80.42 per cent of beneficiary farmers perceived problem either most severe or severe that 'Time consuming process for getting benefits under NHM', 99.58 per cent of beneficiary farmers perceived problem either most severe or severe that 'Nonavailability of skilled labour', 87.50 per cent of beneficiary farmers perceived problem either most severe or severe that 'Delay in subsidy amount payment', 83.75 per cent perceive problem either most severe or severe that 'Insufficient funds to cover all activities', 87.08 per cent perceived problem either most severe or severe that 'Feed back is not collected from all the beneficiaries in the evaluation process', 96.67 per cent perceived problem either most severe or severe that 'Lack of awareness of NHM guidelines and various scheme under this', 70.00 per cent perceived problem either most severe or severe that 'Non-availability of quality seed materials under NHM'.

It was experienced that 78.34 per cent perceived problem either most severe or severe that 'Less number of field experienced officers', whereas 93.99 per cent perceived problem either most severe or severe that 'Lack of transport facilities under NHM', 90.83 per cent perceived problem either most severe or severe that 'Less quantity of inputs and subsidy under different schemes of NHM', 94.58 per cent perceived problem either most severe or severe that 'High initial establishment cost of infrastructure under NHM', 65.42 per cent perceived problem either most severe or severe that 'Payment of subsidy amount in installments rather than one time', 75.00 per cent perceived problem either most severe or severe that 'Visits of the extension personnel is not in time', 52.08 per cent perceived problem either most severe or severe that 'Nonavailability of hi tech farm implements to beneficiary farmers', 97.50 per cent perceived problem either most

Table 3. Frequency of perception of severity of problem by the beneficiary farmers in availing the benefits under NHM (N=240)

Jaipur ($n_1=140$) Tonk ($n_2=100$) Overall ($n=240$)									0)
Problems	Most	Severe	Least		Severe			Severe	
	severe			severe			severe		severe
Lack of adequate information at right time	90	44	6	61	39	00	151	83	6
	(64.29)	(31.43)	(4.28)	(61.00)	(39.00)	(00.00)		(34.58)	(2.50)
Fear about adverse effects of technologies	83	45	12	55	45	00	138	90	12
among farmers	(59.29)	(32.14)	(8.57)	(55.00)	(45.00)	(00.00)	(57.50)	(37.50)	(5.00)
Subsidy on fertilizers and insecticides is not given	54	73	13	46	48	6	100	121	19
commensurate with the existing market prices	(38.57)	(52.14)	(9.29)	(46.00)	(48.00)	(6.00)	(41.67)	(50.42)	(7.91)
Selling rates of fruits and vegetables are very	59	70	11	46	31	23	105	101	34
low at peak periods	(42.14)	(50.00)	(7.86)	(46.00)	(31.00)	(23.00)	(43.75)	(42.08)	(14.17)
Lack of skill oriented trainings under NHM	42	40	58	40	33	27	82	73	85
	(30.00)	(28.57)	(41.43)	(40.00)	(33.00)	(27.00)	(34.17)	(30.42)	(35.41)
Insufficient information given by the government	01	62	77	43	30	27	44	92	104
officials	(00.71)	(44.29)	(55.00)	(43.00)	(30.00)	(27.00)	(18.33)	(38.33)	(43.34)
Time consuming process for getting benefits	77	35	28	49	32	19	126	67	47
under NHM	(55.00)	(25.00)		(49.00)	(32.00)	(19.00)		(27.92)	(19.58)
Non-availability of skilled labour	70	70	00	42	57	1	112	127	01
	(50.00)	(50.00)		(42.00)	(57.00)	(1.00)		(52.92)	
Delay in subsidy amount payment	52	75	13	47	36	17	99	111	30
	(37.14)	(53.57)	(9.29)	(47.00)	(36.00)	(17.00)		(46.25)	
Insufficient funds to cover all activities	67	50	23	44	40	16	111	90	39
	(47.86)	(35.71)		(44.00)	(40.00)	(16.00)		(37.50)	
Feed back is not collected from all the	57	57	26	32	63	05	89	120	31
beneficiaries in the evaluation process	(40.71)	(40.71)		(32.00)	(63.00)	(5.00)		(50.00)	
Lack of awareness of NHM guidelines and	78	58	04	61	35	04	139	93	08
various scheme under this	(55.71)	(41.43)	(2.86)	(61.00)	(35.00)	(4.00)		(38.75)	
Non availability of quality seed materials	36	47	57	24	61	15	60	108	72
under NHM	(25.71)	(33.58)		(24.00)	(61.00)	(15.00)		(45.00)	
Less numbers of field experienced officers	67	36	37	51	34	15 (15.00)	118	70	52
I calc of transment facilities under NIIM	(47.86)	(25.71)		(51.00)	(34.00)	(15.00) 13		(29.17)	
Lack of transport facilities under NHM	56 (40.00)	81 (57.86)	03	54 (54.00)	33 (33.00)	(13.00)	110	114 (47.50)	16 (6.67)
Less quantity of inputs and subsidy under	42	80	(2.14) 18	48	48	04	90	128	22
different schemes of NHM	(30.00)	(57.14)		(48.00)	(48.00)	(4.00)		(53.33)	
High initial establishment cost of infrastructure	30	107	03	43	47	10	73	154	13
under NHM	(21.43)	(76.43)			(47.00)			(64.16)	
Payment of subsidy amount in installments	14	89	37	41	13	46	55	102	83
rather than one time	(10.00)	(63.57)		(41.00)	(13.00)	(46.00)		(42.50)	
Visits of the extension personnel is not in time	17	93	30	33	37	30	50	130	60
visits of the extension personner is not in time	(12.14)	(66.43)		(33.00)	(37.00)	(30.00)		(54.17)	
Non-availability of hi-tech farm implements to	28	40	72	23	34	43	51	74	115
beneficiary farmers	(20.00)	(28.57)		(23.00)	(34.00)	(43.00)		(30.83)	
There are poor marketing facilities for fruits	74	61	05	47	52	01	121	113	06
and vegetables	(52.86)	(43.57)	(3.57)	(47.00)	(52.00)	(1.00)		(47.08)	
Lack of post harvest management activities	76	43	21	44	49	07	120	92	28
and value addition techniques	(54.29)	(30.71)		(44.00)	(49.00)	(7.00)		(38.33)	
Unavailability of sufficient irrigation water	68	49	23	48	21	31	116	70	54
• 6	(48.57)	(35.00)		(48.00)	(21.00)	(31.00)		(29.17)	
Lack of knowledge about pests and	64	61	15	19	58	23	83	119	38
diseases in horticulture crops	(45.71)	(43.58)		(19.00)	(58.00)			(49.58)	

(Figures in the parentheses indicates percentage)

severe or severe that 'There are poor marketing facilities for fruits and vegetables', 88.33 per cent perceived problem either most severe or severe that 'Lack of post harvest management, processing activities and value addition techniques for horticultural crops', 77.50 per cent perceived problem either most severe or severe that 'Unavailability of sufficient irrigation water', 84.16 per cent perceived problem either most severe or severe that 'Lack of knowledge about pests and diseases in horticulture crops'.

Table 4. Comparison of beneficiary farmers of Jaipur and Tonk districts according to problems faced by them in availing the benefits under NHM (N=240)

Districts	No.	Mean score	S.D	'Z' Value
Jaipur	140	53.07	2.72	7.040**
Tonk	100	54.58	3.01	7.949**

^{**}significant at the 0.01 level

Comparison of beneficiary farmers according to problems faced by them: To find out the difference in problems faced by the beneficiary farmers in availing benefits under NHM between two districts, following hypotheses were formed and tested by employing 'Z' test for significance difference in problems faced by the beneficiary in availing benefits under NHM between two districts and results are presented in the Table 4.

Table 4 shows that the calculated 'Z' value was found more than the tabulated value which is statistically significant at the 0.01 level. 'There is significant difference between the beneficiary farmers of Jaipur

and Tonk districts with respect to problems faced by them in availing the benefits under NHM' was accepted and null hypothesis was rejected. It means that there was significant difference between beneficiary farmers of both districts with regard to problems faced by them in availing the benefits under NHM. The mean score value of Tonk district is more than Jaipur district which clearly indicates that beneficiary farmers of Tonk district had more problem than the beneficiary farmers of Jaipur district regarding availing the benefits under NHM. It might be because of that beneficiary farmers of Tonk district were having less education, social participation and extension contacts than beneficiary farmers of Jaipur district, so they have more problem in availing the benefits under NHM. These findings are supported by *Manhas* (2018).

CONCLUSION

Study shows that Majority (67.08 per cent) of beneficiary farmers had medium level of problems. It was found that "lack of adequate information at right time" was the most severe problem faced by majority of the beneficiary farmers with overall MPS 86.80 and was ranked first. Besides, "lack of awareness of NHM guidelines among the beneficiaries" was also a severe problem perceived by the beneficiary farmers with overall MPS 84.86 and was ranked second. It was also observed that there was significant difference between the beneficiary farmers with respect to problems faced by them in availing the benefits under NHM.

REFRENCES

Chaudhary, M.V. and Khodifad, P.B. (2017). Constraints faced by the mango growers in adoption of good agricultural practices of mango crop. *Gujarat J. of Ext. Edu.*, **28** (1): 55-57.

Dhayal, B.L.; Khan, I.M. and Jangid, M.K. (2014). Constraints perceived by ber growers in seeking information on ber cultivation in Jaipur district of Rajasthan. *Indian J. of Social Res.*, **55** (6): 795-805.

Ghaswa, R.; Sharma, S.K.; Jat J.R. and Bana, S.S. (2018). Constraints faced by the farmers in adoption of gram production technology in Bikaner district of Rajasthan. *Indian J. of Ext. Edu. & R.D.*, **26**: 217-220.

Manhas, J.S. (2018). Constraints analysis of maize growers of intermediate zone of Jammu region. *Indian .J. Ext. Edu.*, & *RD*, **26**: 16-20.

Rajula, S.T.; Gunasridharan, L. and Saravanan, L. (2019). Socio-economical profile and constraints in adoption of sugarcane technologies by farmers in Villupuram district, Tamil Nadu. *Indian Res. J. Ext. Edu.*, **19** (2&3): 77-82.

Singh, P.; Choudhary, M. and Lakhera, J.P. (2014). Knowledge and attitude farmers towards improved wheat production technology. *Indian Res. J. Ext. Edu.*, **14** (2): 54-59.

Garg, S. and Kaur, P. (2014). Problems faced by the fruit growers in availing the services under National Horticulture Mission. *Indian J of Social Res.*, **55** (3): 469-476.

Smitha S.; Parvathy A.; Misha, M.M. and Patel, D. (2016). Constraints faced by farmers in adopting greenhouse technology (GT) in Anand district of Gujarat. *Intl. J. of Agri. Sci.*, **8** (62): 3510-3511.

• • • • •