



Effectiveness of National Mission on Oilseed and Oil Palm on Adoption of Mustard Crop Interventions

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ABSTRACT

National Mission on Oilseed and Oil palm (NMOOP) for oilseeds & oil palm development program in India was started in July 2014. The present study was conducted in the Bikaner district of Rajasthan. Bikaner district has been selected purposely because of Bikaner district has highest production of oilseeds (472026 tones) among all districts of the state. Further, two panchayat samities namely Lunkaransar and Khajuwala were selected based on highest area and production of these crops and NMOOP scheme was also operated in these panchayat samities. Two villages from each selected panchayat samiti were selected randomly where NMOOP activities have been in operations in the year 2014-15. From each village 20 beneficiaries and the equal number of non-beneficiary farmers were selected randomly. The findings revealed that majority of beneficiary and non-beneficiary farmers belonged to medium adoption category. It was found that there was a significant difference in level of adoption between beneficiary and non-beneficiary farmers about recommended interventions of mustard crop.

INTRODUCTION

The main occupation of rural Indians is agriculture. About 30 per cent of the national income originates from the agriculture sector. About 75 per cent of its population and 66.67 per cent of the labor force directly or indirectly is dependent on agriculture for livelihood. A large number of important industries like jute, textiles, edible oils, tobacco, sugar, etc. receive the raw materials produced by agriculture sectors. Country needs 25 million tons of edible oils to meet its requirement at current consumption level of 19 kg per person per year. Out of the total requirement, 10.50 million tones is produced domestically from primary (Soybean, Rapeseed & Mustard, Groundnut, Sunflower, Safflower and Niger) and secondary sources (Oil palm, Coconut, Rice Bran, Cotton seeds & Tree Borne Oilseeds) and remaining 60 per cent, is met through import. The oilseed production of the country has been growing impressively. Despite

this, there exists a gap between the demand and supply of oilseeds, which has necessitated sizeable quantities of imports.

The major challenges in oilseed production is largely rain-fed conditions (70% area), high seed cost (Groundnut and Soybean), small holding with limited resources, low seed replacement rate and low productivity (Ministry of Commerce & Industry, PIB Delhi).

National Mission on Oilseed and Oil palm for oilseeds & oil palm development program in India was started in July 2014, for increasing production and productivity of oilseed crops and oil palm through bringing in fallow areas under oilseed crops and diversification of area from low yielding cereals. Increase in production and productivity of vegetable oils sourced from oilseeds and oil palm. It aims to augment the availability of vegetable oils and to reduce the import of edible oils by increasing the production and productivity of oilseeds from average production of 29.79 million tones and productivity of 1122 kg/ha during 12th plan period

to 36.10 million tons and 1290 kg/ha, respectively by end of 2019-20 (Directorate of Economics and Statistics Govt. of India, New Delhi).

METHODOLOGY

The study was conducted in Bikaner district of Rajasthan. Bikaner district has been selected purposely because Bikaner district has highest production of oilseeds (472026 tones) among all districts of state. Bikaner district comprises of six panchayat samities namely Bikaner, Sri Dungargarh, Lunkaransar, Nokha, Khajuwala and Kolayat. Out of these, two panchayat samities were selected for present study on the basis of higher area and production of oilseed crops i.e. mustard and groundnut. Further, two panchayat samities namely Lunkaransar and Khajuwala were selected and NMOOP scheme was also operated in these panchayat samities. Two villages from each selected panchayat samiti were selected randomly for the study purpose. Thus; there were four villages from two panchayat samities. For selection of beneficiary respondents, a comprehensive list of mustard growers who were benefitted under National Mission on Oilseeds and Oil Palm was prepared with the help of personnel of Deputy Director Agriculture (Extension) office from the selected villages. From each village 20 beneficiary and equal number of non-beneficiary farmers were selected randomly. Thus, total 80 beneficiary and 80 non-beneficiary farmers were selected for the study. To measure the extent of adoption, an attempt has been made to develop a scale to measure the extent of adoption of mustard crop interventions. For development of adoption scale large number of items gathered and enlisted from books, bulletins, discussion with subject experts in the field of extension and available review of literature related to the oilseed intervention. The task analysis and item construction steps were followed for scale constructions. The adoption scale of mustard crop had 41 items. Weightage was given to each item. The possible maximum score one could obtain was 100. The mean and

standard deviation of the entire respondent's adoption score was computed for classifying the adoption in low, medium and high categories. To determine the extent of adoption of respondents about each major aspect mean percent score was worked out and ranked accordingly. Besides, to find out the significance of the difference in adoption between different categories of respondents, the present data gathered from selected respondents towards recommended interventions of mustard crop introduced under National Mission on Oilseed and Oil Palm in Bikaner district.

RESULTS AND DISCUSSION

The data given in Table 1 depict that among the categories of mustard growers, it was observed that 58.75 and 61.25 per cent beneficiary and non-beneficiary respondents were found in medium level of adoption. The finding of present study is in line with the findings of Ashiwal et al., (2013) who reported that 63.00 per cent respondents belongs to medium level of adoption.

In case of beneficiary respondents, data presented in Table 2 shows that they possessed high adoption level in the interventions like high yielding varieties, harvesting, threshing & storage, irrigation management, field preparation and time of sowing, seed rate & spacing were adopted with 100, 89.38, 84.79, 84.17 and 74.06 MPS. They possessed medium adoption level in the interventions like manure & fertilizer application' (62.08 MPS), weed management (57.08 MPS) and seed treatment (50.00 MPS) respectively. The interventions which were least adopted by them were plant protection measure and soil treatment with 25.42 and 11.25 MPS, respectively. In case of non-beneficiary respondents, the interventions like high yielding varieties, harvesting, threshing & storage, field preparation and irrigation management were adopted with 100, 85.62, 80.83 and 72.91 MPS respectively. It was witnessed that less number of the beneficiary as well as non-beneficiary respondents had adopted the recommended soil treatment in mustard production. These findings are in line with

Table 1. Distribution of respondents according to their extent of adoption about mustard interventions

Adoption Level	Beneficiary (n=80)		Non-beneficiary (n=80)		Total (n=160)	
	Frequency	Percentage	Frequency	Percentage	Frequency	Percentage
Low (< 48 score)	13	16.25	22	27.50	35	21.87
Medium (Between 48 to 69 score)	47	58.75	49	61.25	96	60.00
High (> 69 score)	20	25.00	9	11.25	29	18.13

Table 2. Extent of adoption of beneficiary and non-beneficiary respondents regarding mustard interventions

S.No.	Package of practices	Beneficiary (n=80)		Non-beneficiary (n=80)	
		MPS	Rank	MPS	Rank
1.	Field preparation	84.17	IV	80.83	III
2.	Soil treatment	11.25	X	8.75	X
3.	High yielding varieties	100.00	I	100.00	I
4.	Seed treatment	50.00	VIII	48.43	VI
5.	Time of sowing, seed rate & spacing	74.06	V	65.00	V
6.	Manure & fertilizer application	62.08	VI	47.50	VII
7.	Irrigation management	84.79	III	72.91	IV
8.	Weed management	57.08	VII	39.16	VIII
9.	Plant protection measures	25.42	IX	18.12	IX
10.	Harvesting, threshing & storage	89.38	II	85.62	II
	Overall	63.82		56.63	

** Significant at 1% level, *Significant at 5% level, $r_s=0.95$, $t=8.75^{**}$, MPS=Mean percent score

the findings of Kumar et al., (2016) and Bagenia and Lakhera (2017) who observed that majority of respondents were found under medium adoption category.

The relationship between the ranks assigned by beneficiary and non-beneficiary mustard growers were tested by applying rank correlation test. The value of rank correlation (r_s) of mustard was 0.95 which shows positive correlation, the significance of r_s was tested by 't' test and it was observed that calculated 't' value (8.75) was higher than its tabulated value. It could be concluded that the beneficiary respondents under NMOOP in the study area possessed more adoption about mustard production technology.

CONCLUSION

It may be concluded that beneficiary respondents had medium to high level of adoption while non-beneficiary respondents had medium to low level of adoption regarding recommended mustard interventions. It was found that there was a significant difference between the beneficiary and non-beneficiary respondents about the adoption of recommended mustard interventions. This difference in the level of adoption of mustard respondents might be because beneficiary respondents being in continuous touch with the field functionaries of National Mission on Oilseed and Oil Palm. Thus, they are more likely to practice the latest technology.

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