ADOPTION OF IMPROVED CHICKPEA PRODUCTION TECHNOLOGY BY FLD AND NON-FLD BENEFICIARIES

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ABSTRACT

A study was conducted in three districts of Saurashtra zone viz., Jamnagar, Amreli and Surendranagar. Two talukas from selected districts and two villages from selected talukas were selected purposively. Total twelve villages were selected from selected talukas. From each selected village, ten chickpea FLD beneficiaries and ten Non-FLD beneficiaries were randomly selected as respondents. Thus, a sample of total 120 FLD beneficiaries and 120 Non-FLD beneficiary chickpea growers from 12 villages were considered for the study. The result revealed that three-fifth (60.00%) of the FLD beneficiaries had medium extent of adoption regarding improved chickpea production technologies. Whereas, 21.67 per cent had high and 18.33 per cent had low extent of adoption. In case of Non-FLD beneficiaries, slightly less than two-third (65.00%) were found in medium extent of adoption regarding improved chickpea production technologies, whereas, 24.17 per cent had low and 10.83 per cent had high extent of adoption.

Keywords : chickpea production technology, adoption, FLD beneficiaries, non-FLD beneficiaries

INTRODUCTION

Chickpea is one of the most important pulse crop of India as well as Gujarat state. In Gujarat, Saurashtra is one of the most remarkable region for chickpea cultivation and production. The area under the cultivation of chickpea is increasing every year, as it is one of the most important pulse crop of India. However, its average yield on farmers' fields is low than its potential yield on research stations. The Krishi Vigyan Kendras organize demonstrations in the specific area through the National Food Security Mission (NFSM) scheme with the aim of increasing the production and productivity of the pulses crop. There is still a gap in farmers' knowledge and adoption of chickpea production technologies. The main reason for low production is lack of knowledge and adoption about improved or recommended chickpea production technology. Keeping this facts in view, the Government of India launched Cluster Front Line Demonstration under NFSM scheme. It has played significant role in increasing the knowledge, adoption and yield of improved chickpea production technologies by the chickpea growers.

OBJECTIVE

To know the adoption of improved chickpea production technology by FLD and Non FLD Beneficiaries

METHODOLOGY

A study was conducted in three districts of Saurashtra zone viz., Jamnagar, Amreli and Surendranagar purposively where, Cluster Front Line Demonstrations of chickpea crops had been organized under NFSM scheme by Krishi Vigyan Kendras. Two talukas from selected districts and two villages from selected talukas were selected purposively. Total twelve villages selected from selected talukas. A comprehensive list of FLD farmers was collected from the Krishi Vigyan Kendras. Using proportionate random sampling method from each selected village, ten chickpea FLD beneficiaries were selected randomly and equal numbers of Non-FLD beneficiary chickpea growers were also selected randomly form same villages. Thus, total 120 FLD beneficiaries and 120 Non-FLD beneficiary chickpea growers had considered for the study. *Ex-post facto* research design was used for the study.

RESULTS AND DISCUSSION

The data in Table 1 indicated that three-fifth (60.00%) of FLD beneficiaries were found in medium extent of adoption category, followed by 21.67 per cent had high and 18.33 per cent had low extent of adoption of improved chickpea production technologies. In case of Non-FLD beneficiaries, slightly less than two-third (65.00%) were found in medium extent of adoption category, followed by 24.17 per cent had low and 10.83 per cent had high extent of adoption of improved chickpea production technologies. The analysis of data showed that great majority of FLD beneficiaries (81.67%) had medium to high and Non-FLD

beneficiaries (89.17%) had medium to low extent of adoption of improved chickpea production technologies.

It is also evident that 'Z' value (7.503) was found highly significant, which indicate that FLD beneficiaries had significantly higher adoption of improved chickpea production technologies as compared to Non-FLD beneficiary chickpea growers.

Table 1: Extent of adoption about improved chickpea production technology (n=120)

Sr. No.	Category	FLD beneficiaries		Non-FLD beneficiaries	
		Frequency	Per cent	Frequency	Per cent
1	**Low extent of adoption** < Mean – S.D.	22 (Below 39.38)	18.33	29 (Below 33.60)	24.17
2	**Medium extent of adoption** Mean ± S.D.	72 (39.39 to 74.88)	60.00	78 (33.61 to 52.96)	65.00
3	**High extent of adoption** > Mean + S.D.	26 (Above 74.88)	21.67	13 (Above 52.96)	10.83
	Mean	57.13		43.28	
	S.D.	17.75		9.68	
	Mean difference = 13.85			Z value = 7.503**	

To ascertain the practices-wise adoption of respondents about recommended chickpea production practices, the practice wise scores were obtained. The obtained scores for 15 different recommended practices were converted into percentage. The ranks were assigned to all practices based on percentage. The information regarding practices-wise adoption about improved chickpea production technology is presented in Table 2 and revealed that in case of FLD beneficiaries, practices-wise adoption in descending order were; sowing time and method (84.17%), land preparation (83.33%), spacing (81.66%), harvesting and threshing (79.17%), irrigation (77.50%), improved variety (75.00%), interculturing (72.50%), weeding (66.67%), seed rate (65.00%), seed treatment (62.50%), storage (59.16%), chemical fertilizers application (53.33%), pest control (49.16%), disease control (46.67%) and micronutrients and plant growth regulators (36.67%). In case of Non- FLD beneficiaries, practices-wise adoption in descending order were; land preparation (70.83%), spacing (65.83%), sowing time and method (62.50%), interculturing (61.67%), weeding (60.00%), harvesting and threshing (58.33%), seed rate (50.00%), irrigation (49.16%), improved variety (48.33%), storage (41.67%), seed treatment (37.50%), chemical fertilizers application (34.86%), pest control (30.00%), disease control (25.00%) and micronutrients and plant growth regulators (20.00%).

Table 2: Practices-wise adoption of recommended chickpea production technology (n = 120)

Sr. No.	Name of practice	Total score	FLD beneficiaries			Non-FLD beneficiaries		
			OS	P	R	OS	P	R
1	**Land preparation**	960	800	83.33	II	680	70.83	I
2	**Improved variety**	720	540	75.00	VI	348	48.33	IX
3	**Seed rate**	480	312	65.00	IX	240	50.00	VII
4	**Seed treatment**	1680	1050	62.50	X	630	37.50	XI
5	**Sowing time and method**	720	606	84.17	I	450	62.50	III
6	**Spacing**	480	392	81.66	III	316	65.83	II
7	**Chemical fertilizers application**	720	384	53.33	XII	251	34.86	XII
8	**Micronutrients and plant growth regulators**	960	352	36.67	XV	192	20.00	XV
9	**Irrigation**	720	558	77.50	V	354	49.16	VIII
10	**Weeding**	720	480	66.67	VIII	432	60.00	V
11	**Interculturing**	240	174	72.50	VII	148	61.67	IV
12	**Pest control**	2640	1298	49.16	XIII	792	30.00	XIII
13	**Disease control**	1920	896	46.67	XIV	480	25.00	XIV
14	**Harvesting and threshing**	480	380	79.17	IV	280	58.33	VI
15	**Storage**	720	426	59.16	XI	300	41.67	X

OS = Obtained Score, **P** = Percentage, **R** = Rank

The data in Table 3 revealed that in case of FLD beneficiaries, out of the sixteen independent variables, extension participation had positive and highly significant association with extent of adoption of improved chickpea production technology. Education, farming experience, size of land holding, social participation, market orientation, yield index, sources of information, risk orientation, innovativeness, scientific orientation, attitude, irrigation potentiality and cropping intensity had positive and significant association with extent of adoption. Age and size of family had positive but not significant correlation with extent of adoption of improved chickpea production technology.

Table 3: Association between characteristics of respondents and their extent of adoption

Sr. No.	Characteristics of respondents	'r' value	
		Beneficiaries (n = 120)	Non-beneficiaries (n = 120)
X_1	Age	0.051^{NS}	0.110^{NS}
X_2	Education	0.232^*	0.208^*
X_3	Farming experience	0.223^*	0.181^*
X_4	Size of family	0.056^{NS}	0.133^{NS}
X_5	Size of land holding	0.203^*	0.094^{NS}
X_6	Social participation	0.191^*	0.072^{NS}
X_7	Market orientation	0.187^*	0.018^{NS}
X_8	Yield index	0.194^*	0.050^{NS}
X_9	Extension participation	0.286^{**}	0.207^*
X_{10}	Sources of information	0.204^*	0.057^{NS}
X_{11}	Risk orientation	0.203^*	0.186^*
X_{12}	Innovativeness	0.192^*	0.090^{NS}
X_{13}	Scientific orientation	0.215^*	0.211^*
X_{14}	Attitude	0.229^*	0.162^{NS}
X_{15}	Irrigation potentiality	0.191^*	0.187^*
X_{16}	Cropping intensity	0.185^*	0.198^*

* = Significant at 0.05 level, ** = Significant at 0.01 level, **NS** = Non significant

While, in case of Non-FLD beneficiaries, education, farming experience, extension participation, risk orientation, scientific orientation, irrigation potentiality and cropping intensity had positive and significant correlation with extent of adoption of improved chickpea production technology. Age, size of family, size of land holding, social participation, market orientation, yield index, sources of information, innovativeness and attitude had positive and not significant correlation with extent of adoption. Earlier researchers like, Sarade (2015); Gurjar (2017); Lohare (2017); Mutturaj (2017); Chaudhary (2019) and Kakkad *et al.* (2019) reported similar results.

CONCLUSION

It is concluded that majority of the FLD beneficiaries possessed medium to high extent of adoption while in case of Non-FLD beneficiaries, majority of them possessed medium to low level of adoption regarding improved chickpea production technology. It indicate that FLD beneficiaries had significantly higher adoption of improved chickpea production technologies as compared to Non-FLD beneficiary chickpea growers. This wide adoption level gap between the FLD beneficiaries and Non-FLD beneficiaries may be due to FLD beneficiaries remained in continuous contact with the extension personnel throughout the year so, they might have acquired sufficient knowledge and pertaining to chickpea cultivation practices. Another reason might be due to sincere efforts put forth by scientists of Krishi Vigyan Kendras to communicate the chickpea production technologies to FLD beneficiaries.

CONFLICT OF INTEREST

All authors declare that they have no conflict of interest

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