

Impact of frontline demonstrations on groundnut in Jamnagar district of Gujarat

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Abstract

The study was conducted to estimate the impact of frontline demonstration of groundnut. Fifty-two groundnut growers from 10 KVK adopted villages in Jamnagar district were selected. The results of the study indicated that there is highly significance difference were observed in demonstrator and non-demonstrator farmers in case of social participation, extension participation, risk preference, irrigation potentiality, knowledge level, extent of adoption and yield level. Mean value emphasized that demonstrator farmers were found superior than non-demonstrator farmers in knowledge level, adoption level and yield level of demonstrator groundnut growers.

Key words: Front line demonstration, groundnut

Introduction

Groundnut is one of the important commercial oilseed crops in the semi-arid tropical regions like India. India ranks first in both area as well as production of groundnut in the world and contribute about 40 per cent share in area and 30 per cent share in the global production. Groundnut occupies over 31.17 per cent area and 34.62 per cent production among 9 oilseed crops in India. Further, Gujarat stands first in respect of area (1.9262 million hectares) and production (2.6159 million tonnes) in India with productivity of 1358 kg/ha. Bulk of the crop is grown during the *kharif* season as a rainfed crop, but it is taken during summer season wherever the irrigation facilities are available.

The crop is growing as monoculture in Saurashtra region of the State during monsoon season. In Gujarat, Junagadh, Rajkot, Amreli, Jamnagar, Bhavnagar and Sabarkantha districts contribute about 88 per cent production of groundnut. Groundnut is important crop of Jamnagar district. The total area of groundnut 316210 ha, production 431985 M.T. and productivity was 1366 kg/ha in Jamnagar district.

There are various ways to teach the farmers about innovations. Result demonstrations were found to be the most effective to teach the farmers in local conditions. Here the method of new practice is shown to the farmers in a simple and understandable manner. Result demonstration conducted at his own field will

be a convincing tool for the farmers for adoption of new practices.

A frontline demonstration is modified form of result demonstration. In this demonstration, the scientists or innovators of the new technology him self organizing the demonstration on farmers field. The scientists are getting an opportunity to come in direct contact with the farmers, therefore, it is most effective tool for transferring the agricultural technology to the farmers. Hence, it is worthwhile to study the impact of frontline demonstration of Groundnut (GG-5) with specific objectives:

The main aim of frontline demonstration is "To demonstrate under real farmers' field situations, the superior production potentials and benefits of the latest improved technologies in agriculture". Therefore, it is worthwhile to study the impact of frontline demonstration of Groundnut (GG-5) with specific objectives:

Distribution of selected characteristics of groundnut growers

Comparison of demonstrator and non – demonstrator with respect to their characteristics.

Methodology

The present study was conducted where Frontline demonstration Programme of groundnut (GG-5) organized by KVK, Jamnagar in adopt village during

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last three year (Kharif 2004-05 to 2006-07). Demonstrations were organized on those farmers field, they were considered as demonstrator farmers and other farmers of neighbouring area were considered as non-demonstrator farmers.

To cover all the pertinent aspects in light of the objectives of study, an interview schedule with questions on all variables were prepared for collection of data. It was translated into local language. It was personally introduced to the respondents individually, following the principles of interviewing to elicit better response. In order to test the significance of difference in average for different variables of demonstrator and non-demonstrator respondents

under the study.

The information related to this study was collected from the respondents by means of personal interview with the help of interview schedule. The data, thus collected were classified, tabulated, analysed and presented in light of the objectives of the study.

Results and discussion

The facts and findings derived after analyzing the information are presented under the following major heads.

Table 1. Distribution of respondents according to their characteristics

Characteristics	Category of respondents			
	Demonstrator $n_1 = 52$		Non-demonstrator $n_2 = 52$	
	Frequency	%	Frequency	%
AGE				
Young age (up to 35 year)	06	11.54	07	13.46
Middle age (36 to 50 year)	36	69.23	33	63.46
Old age (above 50 year)	10	19.23	12	23.08
EDUCATION				
Illiterate	02	03.84	05	09.62
Low education (1 st to 7 th std.)	25	48.08	34	65.38
Medium education (8 th to 10 th std)	15	28.85	11	21.15
High education (above 10 th std)	10	19.23	02	03.85
ANNUAL INCOME				
Low annual income (below Rs. 20000)	09	17.31	15	28.85
Medium annual income (Rs.20000 to 30000)	23	44.23	15	28.85
High annual income (above Rs. 30000)	20	38.46	22	42.30
SOCIAL PARTICIPATION				
Low social participation	04	07.69	10	19.23
Medium social participation	38	73.08	35	37.31
High social participation	10	19.23	07	13.46
EXTENSION PARTICIPATION				
Low extension participation	03	05.77	13	25.00
Medium extension participation	44	84.62	37	71.15
High extension participation	05	09.61	02	03.85

Size of land holding				
Small holding (up to 2 ha)	25	48.08	27	51.92
Medium holding (>2 to 5 ha)	18	34.62	15	28.85
Large holding (above 5 ha)	09	17.30	10	19.23
RISK PREFERENCE				
Low risk preference	04	07.69	08	15.38
Medium risk preference	34	65.39	36	69.24
High risk preference	14	26.92	08	15.38
IRRIGATION POTENTIALITY				
Low IP	06	11.54	10	19.23
Medium IP	35	67.31	32	61.54
High IP	11	21.15	10	19.23
KNOWLEDGE LEVEL				
Low knowledge level	07	13.46	07	13.46
Medium knowledge level	19	36.54	34	65.39
High knowledge level	26	50.00	11	21.15
EXTENT OF ADOPTION				
Low adoption	06	11.54	11	21.15
Medium adoption	08	15.38	31	59.62
High adoption	38	73.08	10	19.23
YIELD LEVEL				
Low yield level	10	19.23	13	25.00
Medium yield level	12	23.08	30	57.69
High yield level	30	57.69	09	13.31

1. Distribution of selected characteristics of groundnut growers.

2. Comparison of demonstrator and non – demonstrator with respect to their characteristics.

Distribution of selected characteristics of respondents:

Considering the objectives of the study, Characteristics of the respondents viz, age, education, annual income, social participation, extension participation, size of land holding, risk preference, irrigation potentiality, knowledge, adoption and yield of groundnut were taken for the study.

From above Table 1 revealed that majority of the demonstrator (69.23 %) and non – demonstrator (63.46 %) respondents were middle age group and had low education to medium education of demonstrator (76.93 %) and non – demonstrator (86.53 %). About (44.23 %) and (38.46 %) demonstrator respondents belong to medium and high annual income respectively. While slightly higher than half (57.70 %), non-demonstrator respondents belong to low and medium income. Majority demonstrator (73.08 %) and non – demonstrator (67.31 %) respondents found medium social participation and demonstrator (84.62 %) and non – demonstrator (71.15 %) respondents had medium extension participation. About half of the demonstrator (48.08 %) and non-demonstrator (51.92%) respondents having small size of land holding. Majority of the demonstrator (65.39 %) and non – demonstrator (69.34%) respondents belonged to medium risk preference. Same trend was observed in case of irrigation potentiality.

Exact half of the demonstrator respondents had high knowledge level. While majority of the non – demonstrator (65.39 %) respondents fall in medium

Table 2. Comparison between the selected characteristics of demonstrator and non – demonstrator respondents. N=104

Sr. No.	Variables	Unit	Mean values		Mean difference	'Z' value
			Demon. N= 52	Non-demo. N=52		
1	Age	Year	43.40	43.75	-0.35	0.29 ^{NS}
2	Education	Std.	7.40	6.90	0.50	0.94 ^{NS}
3	Annual income	Rank	2.21	2.13	0.80	0.72 ^{NS}
4	Social participation	Score	3.13	2.46	0.67	2.68 ^{**}
5	Extension participation	Score	41.42	21.44	19.98	44.4 ^{**}
6	Size of land holding	Ha	3.52	3.20	0.32	1.06 ^{NS}
7	Risk preference	Score	11.71	8.58	3.13	7.83 ^{**}
8	Irrigation potentiality	Percent	58.94	49.29	9.65	4.80 ^{**}
9	Knowledge level	Percent	64.33	50.36	13.97	7.89 ^{**}
10	Extent of adoption	Percent	65.62	53.00	12.62	8.14 ^{**}
11	Yield level	Kg/ha	2374.8	1483.4	891.4	9.63 ^{**}

knowledge level about the groundnut production technology.

Majority of demonstrator (73.08%) respondents were high adopters. while in case of non-demonstrator majority respondents (59.62%) fall in medium adoption category.

Majority of demonstrator (57.69 %) fall in high yield level category. while in case of non – demonstrator (57.69 %) respondents belong to medium yield level about groundnut production technology.

2) Comparison of demonstrator and non – demonstrator with respect to their characteristics.

The impact of frontline demonstration is influenced by different characteristics of the respondents. It was not possible to consider all the characteristics of the respondents for this study. However, some of the important characteristics were selected.

The responses obtained from the respondents were subjected to statistical tests to find out the difference between two groups of respondents with respect to 11 selected characteristics. For this purpose 'Z' – test was applied.

The data in Table 2 indicated that 'Z' value were not significant in case of age, education, annual income and size of land holding. Hence, it can be concluded that there was no significant difference in case of age, education, annual income and size of land holding of demonstrator and non-demonstrator respondents. While in case of social participation, extension

participation, risk preference, irrigation potentiality, knowledge level, extent of adoption and yield level, highly significant differences were observed at 0.01 level of significance. Looking to the mean value to these characteristics of demonstrator and non – demonstrator respondents, it can be concluded that demonstrator respondents found superior than non demonstrator respondents in case of social participation, extension participation, risk preference, irrigation potentiality, knowledge level, extent of adoption and yield level.

Conclusion

Frontline demonstration is most effective tool for transferring the agricultural technology to the farmers. It can be concluded from above discussion that their no significant difference in case of age, education, annual income and size of land holding of demonstrator and non-demonstrator groundnut growers while, the highly significance difference were observed in social participation, extension participation, risk preference, irrigation potentiality, knowledge level, extent of adoption and yield level. According to mean value to these characteristics of demonstrator and non – demonstrator groundnut growers, Demonstrator groundnut growers were found superior than non demonstrator groundnut grower in case of social participation, extension participation, risk preference, irrigation potentiality, knowledge level, extent of adoption and yield level.