Research Article

Association between level of yield obtained by beneficiary and non-beneficiary farmers with respect to groundnut production technology

■ **B.S. BADHALA** AND **HANUMAN LAL**

SUMMARY : The present investigation was conducted in Bikaner and Jaipur district of Rajasthan. Three Panchayat Samities of Bikaner district namely, Bikaner, Nokha and Kolayat and three Panchayet Samities of Jaipur district namely, Chomu, Amber and Samber lake were selected randomly for the study purpose because Front Line Demonstrations were conducted by KVKs. Bikaner, 50 FLDs were conducted at farmers field in 9 villages of Bikaner district. Similarly in Jaipur 100 FLDs were conducted at farmer field in 22 All the 31 villages where FLDs were conducted by KVKs were included in the study. The total sample size was 300 consisting of 150 beneficiary and 150 non-beneficiary farmer's .Groundnut (*Arachis hypogaea*) is one of the most important oilseed crops in India. India is the first largest producer of groundnut whereas china stands at second rank. The groundnut is particularly valued for its protein content (26%). On equal weight basis (Kg for Kg), groundnuts contain more protein than meat and about two and a half times more than eggs. Being an oil seed crop, it contains 40 to 49% oil. There was significant association between different variables viz. education level, social participation, extension participation, Source of information utilized, Extension contact and Irrigation potentiality with level of yield obtained by beneficiary and non- beneficiary farmers. There was no significant association between different variables *viz.,* Age, size of land holding and Risk orientation with level of yield obtained by beneficiary and non-beneficiary farmers.

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BACKGROUND AND OBJECTIVES

Groundnut (*Arachis hypogaea*) is one of the most important oilseed crops in India. India is the first largest producer of groundnut whereas china stands at second rank. The groundnut is particularly valued for its protein content (26%). On equal weight basis (Kg for Kg), groundnuts contain more protein than meat and about two and a half times more than eggs. Being an oil seed crop, it contains 40 to 49% oil. In addition to protein, groundnuts are a good source of calcium, phosphorus, iron, zinc and boron. The groundnut also contains vitamin E and small amounts of vitamin B complex.The result of demonstrations had remained the effective medium of extension in India since 1952 when the Community Development Programme was started. The latest concept in this series is "Front Line Demonstration" the new concept of field demonstration evolved by the ICAR with the inception of the "Technology Mission on Oilseed" in 1986.

The main objective of the Front Line Demonstration is to demonstrate newly released crop production and protection technologies and management practices at the farmers' field by the scientists themselves before taking it into main extension systems of state department of agriculture under different agro-climatic regions and real farming situations.

RESOURCES AND METHODS

The present investigation was conducted in Bikaner and Jaipur district of Rajasthan. Three Panchayat Samities of Bikaner district namely, Bikaner, Nokha and Kolayat and three Panchayet

Author for correspondence :

B.S. BADHALA
Department of Extension Education, S.K.N. College of Agriculture, Jobner, JAIPUR (RAJASTHAN) INDIA
Email: badhalaskn@gmail.com

See end of the article for authors' affiliations

Samities of Jaipur district namely, Chomu, Amber and Samber lake were selected randomly for the study purpose because Front Line Demonstrations were conducted by KVKs. Bikaner, 50 FLDs were conducted at farmers field in 9 villages of Bikaner district, namely Pemaser, Ambaser, Kolaser, Raiser, Lalamdeser bara, Jhadoli, Kilchu,, Akaser and Chani. Similarly in Jaipur 100 FLDs were conducted at farmer field in 22 villages namely, Bhutera, Nagal bharda, Kishanmanpura, Baga-ka-bas Madho ka bas, Khejroli, Badawali (Dhodhsar),Tigriya, Bilandarpur, Itwa Bhopji, Mood ghasoi(Gudlia), Lalpura, Sirsali, Jaitpura, Rampuara dabri, Sundarshanpura, Hanipura, Rughanatpura, Lalaser, Bagawas, Kabru-ka-bas and Badhal in Jaipur district of Rajasthan. All the 31 villages where FLDs were conducted by KVKs were included in the study. The total sample size was 300 consisting of 150 beneficiary and 150 non-beneficiary farmer's.

OBSERVATIONS AND ANALYSIS

Association between independent variables of beneficiary farmers and their level of yield with respect to groundnut production technology:

Table 1 shows that education level, social participation, extension participation, source of information utilized and irrigation potentiality were found positively and significantly associated with level of yield of groundnut production technology at 1 per cent level of significance. Whereas extension contact were positively and significantly associated with level of yield of beneficiary farmers'with respect to groundnut production technology at 5 per cent level of probability. It means that these variables were contributing towards the level of yield of beneficiary farmers in positive terms. This does not supported the hypotheses $H_{03.2}$, $H_{03.4}$, $H_{03.6}$, $H_{03.7}$, $H_{03.8}$ and $H_{03.9}$ that "there was association between education level, social participation, extension participation, source of information utilized, extension contact and irrigation potentiality level of yield of beneficiary farmer with respect to groundnut production" hence these null hypothesis were rejected.

Table 1 : Association between independent variables and level of yield obtained by beneficiary farmers with respect to groundnut production technology (n=150)

Sr. No.	Independent variable	Coefficient of correlation 'r' values
1.	Age	0.023 NS
2.	Education level	0.570**
3.	Size of land holding	0.023 NS
4.	Social participation	0.475**
5.	Risk orientation	-0.002 NS
6.	Extension participation	0.410**
7.	Source of information utilized	0.412**
8.	Extension contact	0.208*
9.	Irrigation potentiality	0.375**

Further the findings revealed that independent variables namely age, size of land holding and risk orientation was non-significantly associated with the level of yield obtained by beneficiary farmers' with respect to groundnut production technology. Hence it supported the hypotheses $H_{03.1}$, $H_{03.3}$ and $H_{03.5}$ that "there was no correlation between age, size of land holding and risk orientation with level of yield obtained by beneficiary farmers with respect to groundnut production". Hence the null hypothesis was accepted.

Multiple regression of independent variables on level of yield obtained by beneficiary farmers of groundnut production technology:

A close study of the data in Table 2 elucidated that all the nine independent variables taken together explained to the extent of 50.80 per cent of the variation in the level of yield of groundnut production technology by the beneficiary farmers.

Table 2 : Coefficient of multiple regression of independent variables on level of yield with respect to groundnut production technology by beneficiary farmers (n=150)

Sr. No.	Independent variable	b-value (Reg.cof.)	s-error of b	t-value
1.	Age	1.498	0.029	0.514NS
2.	Education level	0.778	0.160	4.847**
3.	size of land holding	-0.335	0.429	-.780 NS
4.	Social participation	0.914	0.336	2.722*
5.	Risk orientation	-5.202	0.128	-0.408NS
6.	Extension participation	0.927	0.330	2.810*
7.	Source of information utilized	0.204	0.059	3.462**
8.	Extension contact	-9.374	0.160	-0.587NS
9.	Irrigation potentiality	0.142	0.069	2.061*

Determination coefficient R square= 0.508
Multiple correlation R =0.713   F- Calculated =16.047 d.f.9, 140

The respective 'F' value was 16.047 at 9, 140 degree of freedom which was significant at 0.01 level of probability. Thus the results implied that all the nine variables had accounted for a significant amount of variation for the level of yield of groundnut production technology.

Association between independent variables of and level of yield obtained by non-beneficiary farmers with respect to groundnut production technology:

The Table 3 shows that education level, extension participation, extension contact and irrigation potentiality were found positively and significantly associated with level of yield of groundnut production technology at 1 per cent level of significance. Whereas social participation, source of information utilized were positively and significantly associated with level of yield by non-beneficiary farmers' of groundnut production technology at 5 per cent level of

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Table 3 : Association between independent variables and level of yield obtained by non-beneficiary farmers with respect to groundnut production technology (n=150)

Sr. No.	Independent variable	Coefficient of correlation 'r' values
1.	Age	0.074 NS
2.	Education level	0.554**
3.	Size of land holding	0.008 NS
4.	Social participation	0.203*
5.	Risk orientation	-0.141 NS
6.	Extension participation	.328**
7.	Source of information utilized	0.185*
8.	Extension contact	0.471**
9.	Irrigation potentiality	0.362**

probability. It means that these variables were contributing towards the level of yield obtained by non-beneficiary farmers in positive terms. This does not supported the hypotheses $H_{03.2}$, $H_{03.4}$, $H_{03.6}$, $H_{03.7}$, $H_{03.8}$ and $H_{03.9}$ that "there was association between education level, social participation, extension participation, source of information utilized, extension contact and irrigation potentiality yield level obtained by non-beneficiary farmer of groundnut production technology " hence these were rejected.

Further the findings revealed that independent variables namely age, size of land holding and risk orientation was non-significantly associated with the yield level obtained non-beneficiary farmers' groundnut production technology. Hence it supported the hypotheses $H_{03.1}$, $H_{03.3}$ and $H_{03.5}$ that "there was no correlation between age, size of land holding and risk orientation with level of yield obtained by non-beneficiary farmers with respect to groundnut production technology". Hence the null hypotheses were accepted.

Multiple regression of independent variable on level of yield obtained by non- beneficiary farmers of groundnut production technology:

A close study of the data in Table 4 elucidated that all the nine independent variables taken together explained to the extent of 50.80 per cent of the variation for the level of yield in the recommended practices in groundnut production technology by the beneficiary farmers.

The respective 'F' value was 16.0315 at 9, 140 degree of freedom which was significant at 0.01 level of probability. Thus the results implied that all the nine variables had accounted for a significant amount of variation for the level of yield of groundnut production technology.

Conclusion:

– There was significant association between different variables viz. education level, social participation, extension participation, Source of information utilized, Extension contact and Irrigation potentiality with level of yield obtained by beneficiary and non- beneficiary farmers.

Table 4 : Coefficient of multiple regression of independent variables on level of yield obtained by non-beneficiary farmers' with respect to groundnut production technology (n=150)

Sr. No.	Independent variable	b-value (Reg.cof.)	s-error of b	t-value
1.	Age	1.107	0.024	0.467[NS]
2.	Education level	0.639	0.123	5.193**
3.	size of land holding	0.214	0.306	0.699[NS]
4.	Social participation	-0.3.411	0.280	-0.122[NS]
5.	Risk orientation	-0.349	0.098	-3.545*
6.	Extension participation	0.375	0.258	1.453[NS]
7.	Source of information utilized	0.212	0.069	3.048*
8.	Extension contact	.402	.111	3.607**
9.	Irrigation potentiality	.155	.055	2.801*

Determination coefficient R square= 0.508
Multiple correlation R =0.712   F- Calculated =16.0315 d.f.9, 140

– There was no significant association between different variables viz. Age, Size of land holding and Risk orientation with level of yield obtained by beneficiary and non- beneficiary farmers.

Recommendations:

– It is recommended that availability of seed and fertilizers at a required time be assured in the area. The responsibility of assuring the critical production inputs may be entrusted to cooperative societies, NGOs, input dealers of the area concern and over and above the research institution eg. ARS, Jaipur and Bikaner.

– The farmers should be motivated to participate more in the extension activates like training, demonstrations, exhibition, agriculture quiz programme and farmers fair etc., so that they may have opportunity to learn new technology related to groundnut production technology.

– The farmers should be motivated to adopt HYVs that are stable, hardy to adverse climate conditions and resistant to insect-pest and diseases.

Authors' affiliations :

HANUMAN LAL, Department of Extension Education, College of Agriculture, BIKANER (RAJASTHAN) INDIA

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