

ASSOCIATION BETWEEN TECHNOLOGICAL GAP AND SELECTED CHARACTERISTICS OF SUMMER GROUNDNUT GROWERS

S. M. Hirapara¹, D. B. Patel² and Arnab Biswas³

¹ M. Sc. Student, ² Professor & Head, ³ Assistant Professor, Department of Agricultural Extension & Communication, CPCA, SDAU, Sardarkrushinagar - 385506
Email : dbpatel821963@gmail.com

ABSTRACT

Summer groundnut (*Arachis hypogea* L.) is the most popular oilseed crop grown in tropical and subtropical region of the world. It is also known as the “poor man’s almond”. This study was designed as *Ex-post Facto* research and a multistage random sampling method was adopted to select the sample. Total 180 summer groundnut growers were randomly selected from twenty villages belongs to Deesa, Dantiwada, Palanpur and Vadgam talukas of Banaskantha district of Gujarat state. The data were collected by personal contact method with help of structured interview schedule. Thirteen independent variables were selected for study. These are the individual characteristics of the groundnut growers. The independent variables *viz.*, education, annual income, irrigation method, sources of information, extension participation and economic motivation had negative and significant correlation with technological gap, whereas age and farming experience of the summer groundnut growers had positive and significant correlation with technological gap. On the other hand social participation, mass media exposure, risk orientation and knowledge had negative and highly significant correlation with gap.

Keywords : association, technological gap, summer groundnut

INTRODUCTION

Summer groundnut (*Arachis hypogea* L.) is one of the most popular oilseed crop grown in tropical and subtropical region of the world and belongs to the family leguminosae. Groundnut kernals were consumed either roasted or fried and salted. The biological value of the ground nut protein is among the highest of the vegetable protein and equals that of casein. Vegetative parts of groundnut like leaves and stems are good source of high quality fodder for farm animals.

India ranks first in groundnut area with 4.94 million hectares accounting for 17.32 per cent of the world’s area and second in production with 6.70 million tonnes accounting for 14.55 per cent of the world’s production. However, during the summer season, it is grown in an area of 8.393 lakh ha with a production of 16.018 lakh tonnes. In Gujarat, the total area under summer groundnut cultivation was 0.51 lakh ha with a production 949.29 million tonnes and yield was 1843 kg/ha. With increased sowing area and favourable weather conditions, Gujarat is all set to witness bumper summer groundnut crop. Quality of summer groundnut harvest remains good because there are fewer chances of diseases and pests in hot weather condition.

OBJECTIVES

The objective of the study was to assess the association between personal, socio-economic, situational, communicational and psychological characteristics of the summer groundnut growers with technological gap in recommended summer groundnut production technology

METHODOLOGY

The present study was confined to the *ex-post facto* research design as the independent variables were already operated in the study area. The multistage random sampling technique was used to select a representative sample of respondents for present investigation. The present investigation was carried out in Banaskantha district of Gujarat state among the 14 talukas of Banaskantha district Deesa, Dantiwada, Palanpur and Vadgam were selected purposively due to highest area and production of summer groundnut in the district. Five villages were randomly selected from each selected taluka. Thus, total 20 villages were selected. Nine respondents from each village were selected by using random sampling techniques thus making a sample of 180 respondents. The data were collected by personal contact method with the help of structured interview schedule.

The independent and dependent variables were measured with the help of the scales and indices developed by the past researchers as well as structured schedules which were framed for purpose. The collected data were analyzed by using percentage, mean, standard deviation and correlation coefficient.

RESULTS AND DISCUSSION

Keeping in the view the objectives of the study,

the relevant variables were selected on the basis of an extensive review of literature related to the study, in consultation with experts and members of the advisory committee. Only those variables which are found most relevant to the present investigation were finally selected. The results of the same are presented in

Table 1.

Table 1: Personal characteristics of the respondents

(n = 180)

Sr. no.	Variable	Category	Frequency (Percentage)
1	Age	Young age (18 to 35 years)	30 (16.66)
		Middle age (36 to 50 years)	95 (52.78)
		Old age (above 50 years)	55 (30.56)
2	Education	Illiterate	09 (05.00)
		Functionally	15 (08.33)
		Primary school	31 (17.23)
		Middle school	60 (33.33)
		High school	39 (21.67)
		College/Post-Graduation	26 (14.44)
3	Farming experience	Low (up to 5 years)	38 (21.11)
		Medium (6 to 15 years)	49 (27.22)
		High (above 15 years)	93 (51.67)
4	Size of land holding	Marginal	06 (03.33)
		Small	33 (18.33)
		Semi-medium	92 (51.11)
		Medium	46 (25.56)
		Large	03 (01.67)
5	Annual income	Up to ₹50,000	04 (02.22)
		₹50,001 to ₹1,00,000	12 (06.67)
		₹1,00,001 to ₹1,50,000	27 (15.00)
		₹1,50,001 to ₹2,00,000	29 (16.11)
		Above ₹2,00,000	108 (60.00)
6	Social participation	No participation	03 (01.66)
		Membership in one organization	127 (70.56)
		Membership in more than one organization	36 (20.00)
		Membership with office bearer	14 (07.78)
7	Irrigation method	Flood irrigation	05 (02.78)
		Sprinkler irrigation	169 (93.89)
		Drip irrigation	06 (03.33)
8	Utilization of sources of information	Low (\leq 33.48 score)	29 (16.11)
		Medium (33.49 to 51.03 score)	117 (65.00)
		High (\geq 51.04 score)	34 (18.89)
		Mean = 42.26	S.D. = 8.78
9	Extension participation	Low (\leq 22.55 score)	26 (14.45)
		Medium (22.56 to 38.22 score)	114 (63.33)
		High (\geq 38.23 score)	40 (22.22)
		Mean = 30.39	S. D. = 7.84

Sr. no.	Variable	Category	Frequency (Percentage)
10	Mass media exposure	Low (≤ 2.49 score)	32 (17.78)
		Medium (2.50 to 5.86 score)	101 (56.11)
		High (≥ 5.87 score)	47 (26.11)
		Mean = 4.18	S. D. = 1.69
11	Risk orientation	Low (≤ 11.54 score)	38 (21.11)
		Medium (11.55 to 22.11 score)	123 (68.33)
		High (≥ 22.12 score)	19 (10.56)
		Mean=16.83	S.D. = 5.29
12	Economic motivation	Low (≤ 11.39 score)	38 (21.11)
		Medium (11.40 to 23.60 score)	114 (63.33)
		High (≥ 23.61 score)	28 (15.56)
		Mean= 17.5	S.D. = 6.11
13	Knowledge level	Low (≤ 16.38 score)	35 (19.44)
		Medium (16.39 to 26.06 score)	117 (65.00)
		High (≥ 26.07 score)	28 (15.56)
		Mean= 21.54	S.D. = 5.16

The data presented in Table 1 indicates that slightly more than half (52.78%) of the summer groundnut growers were belong to middle age group, one third (33.33%) of the summer groundnut growers were educated up to middle high school level, slightly more than half (51.67%) of the summer groundnut growers had high level of farming experience, 51.11 percent had medium size of land holding, 60.00 per cent of the respondents had annual income above ₹ 2 lakh. Almost all of the summer groundnut growers (98.34%) were members in one or more than one organization and using sprinkler irrigation method (93.89%). Almost two third (65.00%) of the respondents had medium level utilisation of information sources, 63.33 per cent of the respondent had medium level of extension participation, 56.11 per cent had medium level of mass media exposure. Slightly more than two third (68.33%) of the respondent had medium level of risk orientation and almost same amount of the respondents (63.33%) possessed medium level economic motivation and medium level of knowledge (65.00%).

Extent of technological gap in recommended summer groundnut production technology

The technological gap refers to the difference between technology recommended by the scientists and actual technology adopted by the farmers. It was felt that agricultural technology is not generally adopted by the farmers completely in all respects. As a result, technological gap appears and poor yield is obtained. Keeping this in view, technological gap has been studied. Data regarding this aspect are presented in Table 2.

Table 2: Extent of technological gap in recommended summer groundnut production technology

(n = 180)

Sr. No.	Technological gap	Frequency (Percentage)
1	Low (≤ 35.48 score)	28 (15.56)
2	Medium (35.49 to 66.81score)	116 (64.44)
3	High (≥ 66.82 score)	36 (20.00)
	Mean= 51.15	S.D. = 15.67

The data presented in Table 2 indicate that 64.44 per cent of the summer groundnut growers were having medium technological gap followed by 20.00 per cent and 15.56 per cent having high and low technological gap, respectively. The possible reason for this might be that the farmers could not get the knowledge of improved package of practices in time and in acceptable form.

Further study of the practice wise technological gap revealed that plant protection, weed control, seed treatment, chemical fertiliser application and spacing are the technologies that had the maximum amount of technological gap.

Association between personal characteristics of the summer groundnut growers and technological gap in recommended production technology

The association between the personal profile of the summer groundnut growers and the technological gap in recommended summer groundnut production technology

were worked out by using coefficient of correlation. The findings are presented in Table 3.

Table 3: Association between personal characteristics of summer groundnut growers and technological gap

(n= 180)

Sr. No.	Independent variables	Correlation coefficient (r value)
1	Age	0.1472*
2	Education	-0.1673*
3	Farming experience	0.1558*
4	Size of land holding	0.0771 ^{NS}
5	Annual income	-0.1709*
6	Social participation	-0.1942**
7	Irrigation method	-0.1510*
8	Sources of information	-0.1489*
9	Extension participation	-0.1535*
10	Mass media exposure	-0.2346**
11	Risk orientation	-0.2219**
12	Economic motivation	-0.1567*
13	Knowledge	-0.7311**

*, ** Significant at 5 and 1 per cent levels of significance, respectively.

^{NS} = Non-significant

The data in the Table 3 reveals that, age of the summer groundnut growers had positive and significant correlation (r=0.1472) with overall technological gap. The probable reason for having higher technological gap among older summer groundnut growers might be due to their traditional outlook.

We also found that education of the summer groundnut growers had negative and significant correlation (r= -0.1673) with their overall technological gap. Education helps the individual to make progress in right direction. Educated summer groundnut growers had greater skill, progressive outlook and ability to adopt new innovations than less educated and illiterate summer groundnut growers. There was positive and significant correlation (r=0.1558) between overall technological gap and farming experience. Land holding of summer groundnut growers had positive but non-significant correlation (r=0.0771) with technological gap. The annual income of the summer groundnut growers had negative and significant correlation

(r=-0.1709) with technological gap. The other variables like social participation (r=-0.1942), irrigation method (r=-0.1510), sources of information (r=-0.1489), extension participation (r=-0.1535), mass media exposure (r = -0.2346), risk orientation (r=-0.2219) and economic motivation (r=-0.1567) had negative and significant relationship with the technological gap. The knowledge of the summer groundnut growers was also negatively and significantly correlated with technological gap.

CONCLUSION

The findings revealed that most of the summer groundnut growers belonged to middle age group, educated up to middle school level, had high farming experience, had medium size of land holding, had annual income above ₹ 2 lakhs, were members in one organization, using sprinkler irrigation method and had medium level utilization of information sources, extension participation, mass media exposure, risk orientation and economic motivation. The respondent also had medium level of knowledge regarding the groundnut production technologies.

It can be concluded that the independent variables viz., education, annual income, irrigation method, sources of information, extension participation and economic motivation had negative and significant correlation with overall technological gap of summer groundnut growers, whereas age and farming experience of the summer groundnut growers had positive and significant correlation with overall technological gap. Land holding had positive and non-significant correlation with overall technological gap, whereas social participation, mass media exposure, risk orientation and knowledge had negative and highly significant correlation with overall technological gap.

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