Research Article

KNOWLEDGE LEVEL OF THE FARMERS ABOUT IMPROVED CULTIVATION PRACTICES OF *KHARIF* GROUNDNUT TECHNOLOGY

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Abstract- The study was under taken on *kharif* groundnut cultivation in Gujarat predominantly concentrated in Saurashtra region. To assess the farmers' knowledge of kharif groundnut production technology, the present study was undertaken in two districts of Gujarat state during 2014. From each districts, two talukas were selected randomly. From each talukas two villages were selected randomly. From each village 15 groundnut growers were selected randomly. Thus, a total sample size of 120 respondents at random, constituted from eight selected villages.. It was found that in the sampled population, majority of groundnut growers (60.83 per cent) had medium level of knowledge, followed by low (20.83 per cent) and high (18.34 per cent) level of knowledge about improved groundnut cultivation practices. The finding also revealed that the selected independent variables *viz.* size of land holding, annual income, social participation, extension participation, mass media exposure, innovativeness and risk orientation had positive and highly significant, education was positive and significant and age was negatively and highly significantly association with the knowledge of groundnut growers about recommended practices of Kharif groundnut. All the 11 independent variables contributed towards 96.10 per cent of variation in knowledge of groundnut growers about *kharif* groundnut production technology. The calculate 't' value for partial regression co-efficient was positive and significant with education, size of land holding, annual income, social participation, extension participation, mass media exposure, innovativeness and risk orientation on knowledge level of *kharif* groundnut growers.

Keywords- *Kharif* groundnut cultivation, Multiple regression analysis

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Introduction

The groundnut (*Arachis hypogaea L.*) has been recognized around the world by an assortment of colourful name. In India it is known as mungfali (Hindi), magfali (Gujarati), Cheenabadam (Bengali, oriya and Assamese), Phuimug (Marathi), Nilakadalia (Tamil) and Nilashanaga/verushanaga (Telugu). While Americans call it peanut (**Johnson 1964**)[2]. While in Saurashtra it is popularly known as *Kathiyawadi Kaju.* Groundnuts are the edible seeds of a legume, *Arachis hypogaea,* and they are high in protein, oil and fiber. Groundnut is expected to harvest recorded groundnut crop of 25.95 lakh tonnes and reported acreage of 16.6 lakh hectares during 2013-2014 (**Anonymous 2013**)[1]. Groundnut was introduced in to Saurashtra region in 1910 by Shri Padambhai Patel in the village Pipaliya of Rajkot district and subsequently spread corner to corner of the region (**Kanani 1998**)[3]. Saurashtra is the famous bowl were groundnut crop intensively cultivated many recommendations are evolved by Main Oilseed Research Station, Junagadh Agricultural university, Junagadh and DGR Working at Junagadh. But still these recommended technologies are not known by groundnut growers and there is a gap between potential yield and farmers yield. Considering these fact, present study entitled "Knowledge level of Groundnut Growers about Improved Groundnut Production Technology in Rajkot and Junagadh district of Gujarat state" was planned with following objectives.

Objectives

1) To find out the knowledge level of groundnut growers regarding improved groundnut production technologies.
2) To ascertain the relationship between selected characteristics of groundnut growers and their knowledge level of improved groundnut production technologies.
3) To predict the extent of variation in dependent variables caused by independent variables.

Materials and Methods

The present study was undertaken in two districts of south Saurashtra agro climatic zone of Gujarat state. From each district, two talukas were selected randomly. From each taluka, two villages were selected randomly. From each village fifteen farmers were selected randomly. Thus, a total sample size of 120 respondents at random. The data of this study were collected with the help of structural interview schedule. The collected data were classified, tabulated, analyzed and interpreted in order to make the findings meaningful. The statistical measures such as percentage, mean, standard deviation and co-efficient of correlation were used in the study. The ex-post-facto research design was used for the study.

For measuring the knowledge of groundnut growers about recommended practices of *kharif* groundnut, the teacher made knowledge test was used. The knowledge was measure by asking the questions regarding recommended

practices of *kharif* groundnut. A unit score was given to correct and zero to incorrect response. The total score obtained by individual respondent for all the statements was calculated. The knowledge was calculated by using following formula:

$$Ki = \frac{X_1 + X_2 \ldots\ldots\ldots + X_n}{N} \times 100$$

Whereas,

Ki = Knowledge index

$X_1 + X_2 \ldots + X_n$ = Total number of correct answers i.e. Total score

N = Total number of items in the test

Result and Discussion

Table-1 *Distribution of respondents based on their knowledge about recommended practices of kharif groundnut*

(n= 120)

Sr. No	Categories	Knowledge score	Frequency	Percentage
1	Low	Below 60.91	25	20.83
2	Medium	60.91 to 84.03	73	60.83
3	High	Above 84.03	22	18.34
	Total		120	100
Mean = 72.47				S.D. = 11.56

From the [Table-1], it is clear that 60.83 per cent of the respondents were from medium level knowledge group with respect to recommended practices of *kharif* groundnut. The considerable amount (20.83 and 18.34 per cent) of respondents was in low and high knowledge group, respectively. This might be due to fact that the respondents had medium social participation, medium risk orientation and medium extension participation. These factors had favorably helped the respondents in getting more knowledge about recommended practices of *kharif* groundnut.

From the [Table-2], it is clearly indicated that the characteristics of the respondents like size of land holding, annual income, social participation, extension participation, mass media exposure, innovativeness and risk orientation had positive and highly significant association with the knowledge of groundnut growers about recommended practices of *Kharif* groundnut [Table-2]. Education was positive and significant association with the knowledge of groundnut growers about recommended practices of *Kharif* groundnut. Age was negatively and highly significantly related with the knowledge of groundnut growers about recommended practices of *Kharif* groundnut. While, Irrigation potentiality and cropping intensity was positively and non significant association with the knowledge of groundnut growers about recommended practices of *Kharif* groundnut.

Table-2 *Correlation between knowledge of the respondents about recommended practices of kharif groundnut and independent variables*

(n = 120)

Sr. No	Name of the independent variables	'r' value
1	Age	-0.899**
2	Education	0.659*
3	Size of land holding	0.844**
4	Annual income	0.914**
5	Social participation	0.758**
6	Extension participation	0.913**
7	Mass media exposure	0.899**
8	Innovativeness	0.906**
9	Risk orientation	0.860**
10	Irrigation potentiality	0.158NS
11	Cropping intensity	0.070NS

*= Significant at 0.05 level r = 0.576   NS = Non significant
** = Significant at 0.01 level r = 0.708

The R^2 was found to be 0.961 from [Table-3], which indicated that eleventh

independent variables contributed towards 96.10 per cent of variation in knowledge of groundnut growers about *kharif* groundnut production technology.

Table-3 *Multiple regression analysis between extent of adoption and selected independents variable*

(n = 120)

Sr. No	Name of the independent variables	Regression coefficient ('b' value)	Standard error	't' value
1	Age	-1.581	0.987	-1.601NS
2	Education	0.920	0.259	3.545**
3	Size of land holding	2.553	0.769	3.317**
4	Annual income	2.090	0.819	2.549**
5	Social participation	0.731	0.338	2.164*
6	Extension participation	0.126	0.045	2.758**
7	Mass media exposure	0.292	0.105	2.779**
8	Innovativeness	1.756	0.358	4.906**
9	Risk orientation	0.477	0.133	3.575**
10	Irrigation potentiality	0.105	0.183	0.574NS
11	Cropping intensity	0.006	0.013	0.433NS

R^2 = 0.961

NS = Non – significant

* = Significant at 0.05 level (1.87)

** = Significant at 0.01 level (2.41)

[Table-3] clearly indicated that the calculated 't' value for partial regression co-efficient was positive and significant at 1 per cent level of probability in case of education, size of land holding, annual income, extension participation, mass media exposure, innovativeness and risk orientation. The social participation (2.164) was positively and significant at 5 per cent level of probability, while age, irrigation potentiality and cropping intensity did not show significant effect on knowledge level of groundnut growers about groundnut production technology.

Conclusion

It can be concluded that the more than three fifth (60.83 per cent) of the groundnut growers had medium level of knowledge of improved groundnut cultivation practices. The characteristics of the respondents like size of land holding, annual income, social participation, extension participation, mass media exposure, innovativeness and risk orientation had positive and highly significant, education was positive and significant association with the knowledge level of groundnut growers about recommended practices of *Kharif* groundnut. Age was negatively and highly significantly related with the knowledge level of groundnut growers about recommended practices of *Kharif* groundnut. The calculated 't' value for partial regression co-efficient was positive and significant at 1 per cent and 5 per cent level of probability with education, size of land holding, annual income, extension participation, mass media exposure, innovativeness, risk orientation and social participation on *kharif* groundnut production technology by groundnut growers, respectively.

Conflict of Interest: None declared

References

[1] Anonymous (2013) District wise area, production and yield per hectare of *kharif* groundnut crop in Gujarat state for the years (2010 to 2013). SEA (Solvent Extractors' Association of India) groundnut crop survey.

[2] Johnson (1964) www.peanutsusa.com

[3] Kanani P.R. (1998) Indigenous practices of groundnut cultivation followed by the farmers of South Saurashtra zone in Gujarat state. Ph.D. Thesis (unpublished), GAU, Sardar Krushinagar.

[4] Kerlinger F.N. (1969) Foundation of Behavioral Research. Surjit Pub., New Delhi, pp. 198-224.

[5] Koli M.A. (2012) Knowledge and adoption of coconut production technology in Junagadh district of Gujarat State, M.Sc. Thesis (Unpublished). Junagadh Agricultural Univeristy, Junagadh.

[6] Mavani D.B. (2012) Training needs of groundnut growers of Junagadh district in South Saurashtra Agro Climatic Zone. M.Sc. (Agri.) Thesis

(Unpublished). Junagadh Agricultural University, Junagadh.

[7] Patoliya J.U. (2013) Impact of frontline demonstration of groundnut growers. M.Sc. (Agri.) Thesis (Unpublished). Junagadh Agricultural University, Junagadh

[8] Tavethiya B.H. (2006) Cumin growers' knowledge and adoption about cumin production technology. M.Sc. (Agri.) Thesis (Unpublished). Junagadh Agricultural University, Junagadh.

[9] Deshmukh Girish, Patel H.B. and Patel Mahesh R. (2014) *Gujarat* Journal of Extension Education, 25(1), 27-30

[10] Bhoi G.N., Patel J.K. and Patel B.S. (2014) *Gujarat Journal of Extension Education,* 25(1), 78-79.

[11] Patel R.N., Patel V.T. and Prajapati M.R. (2014) *Gujarat Journal of Extension Education,* 25(2), 138-139.

[12] Yadav Sandeep, Prajapati R. R. and Prajapati M.R. (2014) *Gujarat Journal of Extension Education,* 25(2),172-174.