



## **Relationship Between Profile Characteristics And Impact of Groundnut Production Technologies of Groundnut Farmers**

**T V Nrusimha Kalyan, P V Satya Gopal and S V Prasad**

Department of Extension Education, S V Agricultural College, Tirupati 517 502

### **ABSTRACT**

The research study was conducted to know the relationship between selected profile characteristics of groundnut farmers and the impact of groundnut production technologies as perceived by groundnut farmers in Chittoor district of Andhra Pradesh. The study revealed the selected profile characteristics like education, farming experience, extension contact, mass media exposure, achievement motivation, management orientation, scientific orientation and innovativeness were found to be positively significant while age and land holding were found to be negatively significant with impact of groundnut production technologies of groundnut farmers.

**Key words :** Groundnut farmers, Profile characteristics, Relationship

Groundnut is the single largest source of edible oil in India and constitutes about 50 per cent of oilseed production. The Groundnut cultivation in India had shown largest amount of variation over six decades. The area of groundnut in India has increased from 4.49 million hectares in 1950-51 to 6.22 million hectares in 2008-09 and production from 3.48 million tonnes in 1950-51 to 7.34 million tonnes in 2008-09 (<http://www.agricoop.nic.in>). Andhra Pradesh state shares about 1/3<sup>rd</sup> of Groundnut area of the country and occupies 3<sup>rd</sup> place in production contributing 18.81 per cent of the production in the country.

The significant contribution of researchers, extension functionaries and farming community plays pivotal role in achieving the above success. On one side, the researchers developed sustainable technologies to meet the production requirements of the farmers followed by effective dissemination of technologies by the extension functionaries so as to bring the technologies to the farmers for adoption. On the other side, the farming community successfully adopting those technologies so as to increase the productivity levels of groundnut. As the farmers are the key contributors of farm production, the present study was taken up to study the relationship between the profile characteristics and perceived impact of groundnut production technologies by the groundnut farmers.

### **MATERIAL AND METHODS**

Ex-post-facto research design was followed for the study. The investigation was carried out in Chittoor district of Andhra Pradesh in the year 2010. Four mandals were selected in Chittoor district purposively having highest area under irrigated groundnut. From each mandal 3 villages were selected purposively. From each village 10 groundnut farmers were selected randomly thus making a total sample of 120 respondents for the study. The data were collected with the help of personal interview method through structured interview schedule.

Impact of groundnut production technologies was operationalized as the extent of influence of different groundnut production technologies as perceived by the groundnut farmers in terms of increased productivity, reduced cost of cultivation and improvement in net income. A list of thirty technologies were screened by consulting the scientists of groundnut crop and the perception of the farmers towards the impact of 30 technologies was measured on a three point continuum viz. Highly effective, Moderately effective and Less effective with the scores of 3, 2, 1 respectively for each technology in terms of increased productivity, reduced cost of cultivation and improvement in net income. The total score of each farmer was taken as the Impact of groundnut production technologies for that farmer. The impact was correlated with the profile characteristics of groundnut farmers. The data was tabulated and analyzed by correlation coefficient and step wise regression analysis.

## RESULTS AND DISCUSSION

### Relationship between profile characteristics and the impact of groundnut production technologies as perceived by groundnut farmers

In order to study the nature of relationship between the selected independent variables and the impact of groundnut production technologies as perceived by groundnut farmers, correlation coefficients ( $r$ ) were computed and presented in Table 1.

### Age Vs Impact of groundnut production technologies

Age was found negatively and significantly related with the impact of groundnut production technologies of the respondents ( $r = -.5875$ ). The probable reason might be that old farmers were more traditionalistic not showing interest towards latest groundnut production technologies and they were afraid of taking risks in farm production. On the other side, the young and medium aged farmers might be updating their knowledge by interacting with extension personnel and mass media and they were ready to accept new technology in their farm by taking rational risk.

### Education Vs Impact of groundnut production technologies

Education was found positively and significantly related with impact of groundnut production technologies of the respondents ( $r = 0.7658$ ). It is known fact that the knowledge is the symbol of farm production and acquired through proper educational system. The education will explore the opportunities to the farmers and provide the skill of rationality. This facilitates the farmers to update his knowledge and choose the right technology at the right time. Hence the farmers with high education might have perceived high impact on groundnut production technologies.

### Land holding Vs Impact of groundnut production technologies

Land holding was found negatively and significantly related with the impact of groundnut production technologies of the respondents ( $r = -0.4568$ ). The probable reason might be that the small and marginal farmers might be adopting technologies and perceiving their influence on groundnut production because of their feasibility for adoption in their small holdings. The impact of the technologies also might be visible with small holdings. On the other side, the big farmers might

not have the practicability to adopt these technologies on a large scale.

### Farming experience Vs Impact of groundnut production technologies

Farming experience was positively and significantly related with impact of groundnut production technologies of the respondents ( $r = 0.3019$ ). The probable reason for this trend might be that the perceived impact on groundnut production technologies is increasing with farming experience as the farmers might be adopting latest production technologies from time to time and perceiving the impact of technologies regularly.

### Extension contact Vs Impact of groundnut production technologies

Extension contact was positively and significantly related with Impact of groundnut production technologies of the respondents ( $r = 0.7867$ ). In agriculture, the role of extension functionaries is vital as they are always tiring in transforming the technologies to the farming community. They had the skill of influencing the farmers to adopt latest groundnut production technologies in groundnut. Once the technology is in the farmer's field, the farmer will be able to assess its impact in terms of its contribution to its impact indicators.

### Mass media exposure Vs Impact of groundnut production technologies

Mass media exposure was positively and significantly related with Impact of groundnut production technologies of the respondents ( $r = 0.6229$ ). It was a known fact that one of the major reason for non adoption of technology is lack of awareness. Once the technology was known to the farmer then he develops an urge to acquire the knowledge of the technology which led to adoption and ultimately had given chance to perceive the impact on groundnut production technologies.

### Achievement motivation Vs Impact of groundnut production technologies

Achievement motivation was positively and significantly related with Impact of groundnut production technologies of the respondents ( $r = 0.7846$ ). The above trend clearly indicates that, nearly three fourths of the respondents had medium achievement motivation. This is because of the fact that most of the un-reached farmers were living in poor socio economic conditions coupled with their illiteracy, they were always striving for good results

Table 1 Relationship between selected independent variables and the impact of groundnut production technologies as perceived by groundnut farmers  
(n=120)

S.No.	Variable	Independent variables	Correlation coefficients ('r' value)
1.	X <sub>1</sub>	Age	-0.5875**
2.	X <sub>2</sub>	Education	0.7658**
3.	X <sub>3</sub>	Land holding	-0.4568**
4.	X <sub>4</sub>	Farming experience	0.3019**
5.	X <sub>5</sub>	Extension contact	0.7867**
6.	X <sub>6</sub>	Mass media exposure	0.6229**
7.	X <sub>7</sub>	Achievement motivation	0.7846**
8.	X <sub>8</sub>	Scientific orientation	0.6347**
9.	X <sub>9</sub>	Management orientation	0.7338**
10.	X <sub>10</sub>	Innovativeness	0.7241**

\* : Significant at 0.05 level of probability

\*\* : Significant at 0.01 level of probability

Table 2. Step wise regression analysis of the selected independent variables with the perceived impact of groundnut farmers  
(n=120)

S.No.	Variable Number	Independent variables	Partial regression coefficients (b)	Beta weight (b')	't' value on the partial (b')
1.	X5	Extension contact	3.433	0.323	2.403*
2.	X4	Farming experience	2.096	0.147	2.633**
3.	X7	Achievement motivation	2.176	0.290	2.750**
4.	X2	Education	3.246	0.231	2.181*
R <sup>2</sup> =.703		F=68.015**			
R=.838		d.f=4,115			

\* : Significant at 0.05 level of probability

\*\* : Significant at 0.01 level of probability

from their farm and also aiming at getting more income through agricultural labourer occupation; they could not survive themselves with out that occupation and also their family members are basically depended for their food and shelter, but they were been regularly failed in meeting their requirements. This condition might have resulted in such trend.

#### Scientific orientation Vs Impact of groundnut production technologies

Scientific orientation was positively and significantly related with Impact of groundnut production technologies of the respondents ('r'=0.6347). The probable reason might be that farmers with high scientific orientation will prefer to

cultivate the crops as per the production recommendations given by the scientists and extension personnel and perceiving the impact of production technologies. This will give the ample scope for the farmers to think logically and scientifically so as to view the technologies in terms of impact indicators.

#### Management orientation Vs Impact of groundnut production technologies

Management orientation was positively and significantly related with Impact of groundnut production technologies of the respondents ('r'=0.7338). Scientists will be developing the technologies keeping in view the impact indicators in crop production. Each technology will have its

own impact on farm production. It is the decision on the part of the farmer to utilize the technologies as per their crop requirement. In this juncture the management orientation will play managerial skills on the part of the farmer to select and adopt appropriate technologies at appropriate time so as to obtain maximum out turn from each technology.

### **Innovativeness Vs Impact of groundnut production technologies**

Innovativeness was positively and significantly related with Impact of groundnut production technologies of the respondents ( $r=0.7241$ ). Farmers with high innovativeness will seek change in their farm production. In course of time, he tried to interact with extension personnel and scientist and also go through the mass media so as to identify day to day updates in groundnut production technologies. Meanwhile he will also develop interest to test it on trail basis for its assessment. Because of this, an innovative farmer might be exploring all the latest production technologies and assessing its influence on groundnut production. Similar results such as education, extension contact, achievement motivation and innovativeness were positively significant with the level of adoption of groundnut production technologies as reported by Nagraj *et al.*, (2000), Gowda *et al.*, (2005) and land holding was negatively significant with the composite technological gap of summer groundnut technology was reported by Kapse (2007).

### **Effect of all selected independent variables on perceived impact of groundnut farmers**

In explaining the variation in the perceived impact of groundnut farmers, Multiple Linear Regression (MLR) analysis was carried out to find the relationship of perception score with all other variables and to identify the important explanatory factors of perception. Regression was run on SPSS 15.0 and the following model was arrived with the stepwise regression equation.

$$Y=41.614+3.433X_5+2.096X_4+2.176X_7+3.246X_2$$

Where Y=perceived impact of groundnut farmers.

$X_5$  =Extension contact

$X_4$  =Farming experience

$X_7$  =Achievement motivation

$X_2$  =Education

It is evident from the Table 2 that the variables age, land holding, mass media exposure, scientific orientation, management orientation,

innovativeness were not selected into the model since their contribution was insignificant. The model has  $R^2=0.703$  which means 70.3 per cent of perception score was explained by the model.

The model is also significant by F-test with  $F=68.015$  (significant at 1.00 probability level) F critical at (4,115) d.f.=3.513.

All the regression coefficients are significant at 5% level of significance. This model can be used to estimate the average perception score for a farmer for whom the four variables are specified.

Extension contact, farming experience, achievement motivation and education were the major variables to explain the impact of groundnut production technologies. The combined effect of these four variables might had moulded the behaviour pattern of the groundnut farmers towards achieving high economic returns and also towards perceiving the impact of technologies as better in terms of impact indicators. This result indicates the emphasis of these four variables in assessment on groundnut production technologies.

### **CONCLUSION**

The selected profile characteristics like education, farming experience, extension contact, mass media exposure, achievement motivation, management orientation, scientific orientation and innovativeness were found to be positively significant at 0.01 level of probability while age and land holding were found to be negatively significant at 0.05 level of probability with impact of groundnut production technologies of groundnut farmers.

### **LITERATURE CITED**

- Gowda B G, Anand T N and Krishna K S 2005** Relationship between selected characteristics of Big and small groundnut growers and their knowledge and adoption towards Dry land farming Technology. *Mysore Journal of Agricultural Science*. 36:276-280.
- Kapse P S, Pimprikar Y K and Dudhate D G 2007** Correlates of technological gap in recommended summer groundnut technology. *International Journal of Agricultural Sciences* 3(2): 112-115.
- Nagraj K H, Lalitha B S and Lalitha K C 2000** Relationship between selected characteristics of groundnut growers and their adoption towards groundnut technology. *Current Research University of Agricultural Sciences, Bangalore*. 29(1/2):29-30.