



Farmer's Perception Towards Farm Machinery in Groundnut

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ABSTRACT

The study was conducted in Chittoor district of Andhra Pradesh during 2013 with 120 groundnut farmers. The results of the study depicted that the majority of the respondents were found in middle age category (59.16%), literate (83.34%), medium to high farming experience (70%), small and marginal farmers (79.19%) and medium material (5-8) possession category. About 85 percent had low to medium extension contact; fifty percent had medium mass media exposure and social contact. More than half of the groundnut farmers had medium **risk orientation** (54.18%), achievement motivation (57.50%), scientific orientation (54.18%) and management orientation (52.50%). About 46 per cent of the groundnut farmers were having medium magnitude of positive perception towards farm machinery followed by high (28.33%) and low (25.84%) magnitude of positive perception towards farm machinery. The variables like education (0.7039), land holding (0.5074), material possession (0.6536), extension contact (0.4449), mass media consumption (0.5089), Social contact (0.6985), risk orientation (0.5966), achievement motivation (0.4014), scientific orientation (0.6252) and management orientation (0.6710) had positively significant relationship with the magnitude of positive perception.

Key words: *Farm mechanization, Groundnut, Perception, Profile of farmers, Relationship.*

Groundnut is the largest oil seed crop grown in India in an area of 6.7 million ha with a production of 7.0 million tons annually. Andhra Pradesh state shares about 1/3rd of groundnut area of the country and occupies 3rd place in production contributing 18.81 percent of production in the country. Farm mechanization is an important component in agriculture, contributing significantly in enhancing the productivity as well as farm income. Several farm machinery were been invented and popularized from time to time by the scientists to take up different agricultural operations so as to meet the changing demands of the farmers. Accordingly, majority of the implements were been used by the progressive farming community and still there is plenty of scope to strengthen farm mechanization among small and marginal farmers. Groundnut is an important oilseed crop grown both in dryland and irrigated conditions having ample opportunities for farm mechanization. As perception is the precursor for decision making in the process of adoption, the present study was taken up with following objectives.

1) To study the personal, socio-psychological, economic and organizational characteristics of the groundnut farmers

2) To study the magnitude of positive perception towards farm machinery by the groundnut farmers

3) To study the relationship between personal, socio-psychological, economic and organizational characteristics and magnitude of positive perception towards farm machinery 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 during the year 2013. Four mandals were selected in chittoor district and from each mandal three villages were selected purposively based on highest area under groundnut for both mandals and villages. From each selected village ten groundnut farmers were selected randomly thus making a sum of 120 respondents for the study. The data were collected by personal interview schedule.

As per the recommendations of the scientists of Acharya N.G.Ranga Agricultural University, there were 33 implements for different operations in groundnut cultivation. Farmers perception on all the 33 implements was analysed through selective perceived attributes viz., Relative advantage, Compatibility, Complexity, Trialability

S.No	Attribute	Continuum and Score		
1.	Relative advantage	Highlyadvantageous (3)	Moderately advantageous (2)	Less advantageous (1)
2.	Compatibility	Highlycompatible (3)	Moderately compatible (2)	Lesscompatible (1)
3.	Complexity	Highlycomplex (1)	Moderatelycomplex (2)	Lesscomplex (3)
4.	Trialability	Highlytrialable (3)	Moderatelytrialable (2)	Lesstriable (1)
5.	Observability	Highlyobservable (3)	Moderately observable (2)	Lessobservable (1)

and Observability Each attribute was measured on three point continuum by giving scores of 3, 2, 1 as depicted below.

Magnitude of perception of the groundnut farmers towards farm machinery was quantified by pooling the scores of all the attributes for all the implements for each farmer.

RESULTS AND DISCUSSION

The groundnut farmers were distributed into different categories based on their selected personal, socio-psychological and economic characteristics are depicted in table-1.

Personal, socio-psychological and economic characteristics of groundnut farmers

Age

More than half (59.16%) of the groundnut farmers belonged to middle age category followed by old (22.50%) and young age (18.34%) categories. The probable reason for the above trend might be that the old age and middle age farmers taking agriculture as a prestigious occupation and continuing in the same occupation. On the other side the young farmers might be inclined towards other lucrative enterprises and jobs. It is in conformity with Kapse *et al.* (2000).

Education

Half of the respondents were under middle school (20.00%), high school (20.00%) and primary school (10.00%) education categories. This is a clear indication that that the school education is more accessible in rural areas and farmers might have acquired the needed educational requirements to take up profitable agriculture. In view of their socio economic status and also desire of having higher education, about 4.18 per cent of farmers completed their intermediate and 12 per cent of

farmers completed their graduation. On the other side due to lack o awareness and also poor socio economic conditions 16.66 per cent of farmers remain illiterates and 19.16 per cent acquired basic literacy to operate their farms. It is in conformity with Kalyan (2011).

Farming experience

43.34 per cent of the groundnut farmers had medium farming experience followed by high (30.00%) and low farming experience (26.66%). The probable reason might be that, majority of the farmers belong to middle age group and also there was awareness among the farming community about the education which made them to enter into farming after completing their education. It is in conformity with Naik (2006).

Land holding

45.84 per cent of the groundnut farmers were small followed by marginal farmers (33.33 %) and big farmers (20.83 %). The probable reason might be that, due to changed economic orientation in the rural areas, the farmers might be adopting the culture of nuclear family approach, which led to the fragmentation of the land holding resulting in more small and marginal farmers. It is in conformity with Kalyan (2011).

Material possession

Most of the groundnut farmers (78.33%) had medium level of material possession followed by low (17.50%) and high (4.17%) level of material possession. The probable reason for the above trend might be that the majority of the respondents were small and marginal farmers and because of poor socio economic condition, lack of availability of resources and most of them habituated to hiring of machinery from the fellow farmers if necessary.

Table 1. Profile characteristics of groundnut farmers.

(n=120)

S.NO	CATEGORY	FREQUENCY	PERCENTAGE	MEAN	S.D
AGE					
1.	Young age	22	18.34	-	-
2.	Middle age	71	59.16	-	-
3.	Old age	27	22.50	-	-
	Total	120	100.00	-	-
EDUCATION					
1.	Illiterate	20	16.66	-	-
2.	Functionally literate	23	19.16	-	-
3.	Primary school	12	10.00	-	-
4.	Middle school	24	20.00	-	-
5.	High school	24	20.00	-	-
6.	Intermediate	5	4.18	-	-
7.	College level	12	10.00	-	-
	Total	120	100.00	-	-
FARMING EXPERIENCE					
1.	Low	32	26.66	31.46	9.075
2.	Medium	52	43.34		
3.	High	36	30.00		
	Total	120	100.00		
LANDHOLDING					
1.	Marginal farmer	40	33.33	-	-
2.	Small farmer	55	45.84	-	-
3.	Big farmer	25	20.83	-	-
	Total	120	100.00	-	-
MATERIAL POSSESSION					
1.	NIL(0)	0	00.00	-	-
2.	Low(1- 4)	21	17.50	-	-
3.	Medium(5-8)	94	78.33	-	-
4.	High (9 & above)	5	4.17	-	-
q	Total	120	100.00	-	-
EXTENSION CONTACT					
1.	Low	47	39.17	8.166	1.897
2.	Medium	56	46.66		
3.	High	17	14.17		
	Total	120	100.00		
MASS MEDIA CONSUMPTION					
1.	Low	24	20.00	5.483	2.008
2.	Medium	59	49.16		
3.	High	37	30.84		
	Total	120	100.00		

Table 1. Cont.....

SOCIAL CONTACT					
1.	Low	16	13.33	23.80	3.914
2.	Medium	61	50.84		
3.	High	43	35.83		
	Total	120	100.00		
RISK ORIENTATION					
1.	Low	36	31.66	11.85	2.92
2.	Medium	65	54.18		
3.	High	19	15.86		
	Total	120	100.00		
ACHIEVEMENT MOTIVATION					
1.	Low	37	30.83	15.44	1.66
2.	Medium	69	57.50		
3.	High	14	11.17		
	Total	120	100.00		
SCIENTIFIC ORIENTATION					
1.	Low	38	31.66	17.05	4.58
2.	Medium	65	54.18		
3.	High	17	14.16		
	Total	120	100.00		
MANAGEMENT ORIENTATION					
1.	Low	36	30.00	33.41	7.861
2.	Medium	63	52.50		
3.	High	21	17.50		
	Total	120	100.00		

Extension contact

46.66 percent of the respondents were having medium extension contact followed by low (39.17%) and high (14.17%) extension contact. The above trend might be due to lack of sufficient number of field level extension functionaries, especially Agricultural Extension Officers, who are working at grass root level for transfer of technologies. On the other side, the farmers with more inclination towards latest production technologies might have been approaching the agricultural officers and other higher cadre extension officers for getting latest developments in agriculture. It is in conformity with Begum (2008) and Kalyan (2011).

Mass media consumption

Just below half (49.16%) of the respondents were having medium mass media consumption followed by high (30.84%) and low (20.00%) levels of mass media consumption. Eighty

per cent of farmers under medium to high mass media consumption category, This clearly signifies the effective utilization of different mass media sources by the farmers such as radio, television, print media etc by the farmers which are more accessible even in rural areas. On the other side, Illiterate farmers might have been grouped under low mass media consumption category. It is in conformity with Begum (2008).

Social contact

Results unveiled that half (50.84%) of the respondents had medium level of social participation followed by high (35.83%) and low (13.33%) levels. The probable reason for the above trend might be that, being a member of society everybody needs to work together co-operatively to achieve higher returns. The desire of being a member or office bearer in such societies helps in maintaining good rapport with fellow farmers which in turn results in better dissemination of technologies. It is in conformity with Devi (2012).

Risk orientation

Just above half (54.18%) of the groundnut farmers had medium level of risk orientation, followed by low (31.66%) and high (15.86%) levels of risk orientation. This result might be due to the fact that the young, educated and interested respondents with medium levels of scientific orientation were ready to face the risk while adopting the latest groundnut production technologies. The big farmers with higher education might have fell under high risk orientation category. This finding is line with the findings of Ashokkumar (2012).

Achievement motivation

More than half (57.50%) of groundnut farmers had medium achievement motivation followed by low (30.83%) and high (11.17%) achievement motivation. As most of the respondents might had high n-Ach factor which is an index of their entrepreneurial character. These respondents might be young and had medium to high level of education who had taken farming as a challenging task. It is in conformity with Naik (2006).

Scientific orientation

More than half (54.18%) of the respondents had medium scientific orientation followed by low (31.66%) and high (14.16%) scientific orientation. Poor education might have resulted in more than 85 % of the farmers with low to medium scientific orientation. Higher education might have helped the remaining 15 % of the farmers for high scientific orientation. It is in conformity with Naik (2006).

Management orientation

About half (52.50%) of groundnut farmers had medium Management Orientation followed by low (30.00%) and high (17.50%) management Orientation. As the agricultural scenario is changing from sustainability to commercialization, the farmers were oriented towards getting more profit rather than higher productivity with their better managerial abilities. On the other side the people with traditional way of farming includes laggards, illiterates, old people might be adopting the age old practices without proper resource management. It is in conformity with Kalyan (2011).

Magnitude of positive perception towards farm machinery

It is evident from the Table 2 that 45.83 per cent of the groundnut farmers were having medium magnitude of positive perception towards farm machinery followed by high (28.33%) and low (25.84%) magnitude of positive perception towards farm machinery.

As the farmers are taking up groundnut cultivation as a routine system of their life, they might have come across the day to day developments such as management practices, machinery etc.. The performance of those practices or machinery reflects the magnitude of positive perception by the farmers. Further the personal, social, psychological, environmental factors of the farmers and also the attributes of the farm machinery might have influenced the magnitude of positive perception by the farmers. Farmers with good education, passion towards innovation significantly differ from the farmers having illiteracy coupled with traditional approach. This might have been the reason for the above trend.

Table 2. Distribution of respondents according to their magnitude of positive perception towards farm machinery.

(n=120)

S.No	Category	Frequency	Percentage
1.	Low	31	25.84
2.	Medium	55	45.83
3.	High	34	28.33
1	Total	120	100.00

Mean: 320.23 S.D.: 40.15

Table 2. Relationship between the selected independent variables and perception of groundnut farmers towards farm machinery.

S.NO	Variable No	Independent variable	Correlation coefficient (r) values
1.	X ₁	Age	0.1358 NS
2.	X ₂	Education	0.7039**
3.	X ₃	Farming experience	-0.0852 NS
4.	X ₄	Land holding	0.5074**
5.	X ₅	Material possession	0.6536**
6.	X ₆	Extension contact	0.4449**
7.	X ₇	Mass media consumption	0.5089**
8.	X ₈	Social contact	0.6985**
9.	X ₉	Risk orientation	0.5966**
10.	X ₁₀	Achievement motivation	0.4014**
11.	X ₁₁	Scientific orientation	0.6252**
12.	X ₁₂	Management orientation	0.6710**

* : significant at 0.05 level of probability ** : significant at 0.01 level of probability
NS: Non-significant

Relationship between the selected personal socio-psychological, economic and organizational characteristics of groundnut farmers and their magnitude of positive perception towards farm machinery

Correlation analysis was done using statistical package for social sciences (SPSS) and the correlation coefficients were given in Table 3. The computed 'r' values of education (0.7039), land holding (0.5074), material possession (0.6536), extension contact (0.4449), mass media consumption (0.5089), Social contact (0.6985), risk orientation (0.5966), achievement motivation (0.4014), scientific orientation (0.6252) and management orientation (0.6710) were found to be positively significant at 0.01 level of probability. On the other side age (0.1358) and farming experience (-0.0852) were found to be non-significant with the extent of positive perception of groundnut farmers towards farm machinery.

Education is the base for state of mind. Higher the education, greater the scope of comprehension. When a person is properly educated, his state of mind will be enriched through enough knowledge. The farmers with high scientific orientation always seek for innovation. The scientific approach motivates the farmers to think from the angle of technology intervention suitable to their farming situation. It also helps in analyzing the

innovation in terms of its utility. Hence education and scientific orientation might have contributed significantly for the better perception on the different farm machinery in groundnut.

Participation of individuals with the society would provide an opportunity to share the experiences, views and opinions of the fellow farmers in the society. In course of time the farmer might be getting awareness on the day to day developments in the field of agriculture. Hence the social contact might have contributed significantly for better perception on the different farm machinery in groundnut.

The farmers with high management orientation, risk orientation and achievement motivation might have encouraged the farmer to perceive the latest technologies in a better way to make agriculture more profitable. Especially farm machinery found to be essential in the present day's agriculture. Hence management orientation, risk orientation and achievement motivation might have contributed significantly for the better perception on the different farm machinery in groundnut.

The variables like Extension contact, mass media consumption, material possession and land holding were also contributing significantly to better perception of farm machinery. Extension contact and mass media consumption are the indispensable sources for getting information. The received

information might have influenced the farmer to think more wisely and resulted in better perception. On the other side high material possession and land holding might have urged the farmers towards farm mechanization through better perception of the farm machinery.

CONCLUSION

As perception is the precursor for any decision making process, the present study revealed the perception of the farmers towards farm machinery. The relationship with the personal, socio-psychological, economic and organizational characteristics of the groundnut farmers will help in designing appropriate strategies for effective dissemination of farm machinery among groundnut farmers.

LITERATURE CITED

- Ashokkumar G 2012** Knowledge And Adoption Of System Of Rice Intensification (Sri) Technology Among Farmers In Nagapattinam District Of Tamil Nadu. M.Sc. (Ag.) Thesis submitted to Acharya N G Ranga Agricultural University, Hyderabad.
- Begum M K 2008** A Study On Participation And Decision Making Of Woman Farmers In Rainfed Groundnut Cultivation. M.Sc. (Ag.) Thesis submitted to Acharya N G Ranga Agricultural University, Hyderabad. <http://www.indiastat.com>.
- Devi S R 2012** Impact analysis of Sugarcane Production Technologies In Chittoor District Of Andhra Pradesh. M.Sc. (Ag.) Thesis submitted to Acharya N G Ranga Agricultural University, Hyderabad.
- Kapse P S, Pimprikar Y K and Wangikar S D 2000** Technological Gap In Summer Groundnut Cultivation. Maharashtra J. Ext. Edu., 19 : 56-58.
- Kalyan V N 2011** Impact Analysis Of Groundnut Production Technologies In Chittoor District Of Andhra Pradesh. M.Sc. (Ag.) Thesis submitted to Acharya N G Ranga Agricultural University, Hyderabad.
- Naik K P K 2006** Training Needs Of Groundnut Farmers Of Anantapur District Of Andhra Pradesh. M.Sc. (Ag.) Thesis submitted to Acharya N G Ranga Agricultural University, Hyderabad.

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