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## RESEARCH ARTICLE

### ASSESSMENT OF SIGNIFICANCE BETWEEN SOCIO DEMOGRAPHIC DETERMINANTS OF FARMERS AND BRAND PREFERENCE -A CASE STUDY OF CHILLI SEED IN GUNTUR DISTRICT OF ANDHRA PRADESH

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#### ABSTRACT

This study was taken up to analyse the association of socio demographic variables like Age, Education, Income of farmers towards preferring different varieties or brands of Chilli seed in Guntur District. Through Chi square analysis it was found that, there is no significant association of socio demographic factors and brand preference while significant association has found with seed characteristics like yield, quality, resistance to pest and disease, timely availability of seed. It is noticed that, majority of the farmers i.e. 42.50 per cent preferred seed variety which has high resistance to pest and disease resistance followed by availability of seed and Price. There are 8 seed brands which are popularly used by farmers in Guntur i.e. VNR – 577, US 341, VIKRANTH BSS – 355, GAYATRI – 155, JINI 2626, ROMY 21355, BYADAGI. It was found that, 24 percent of farmers prefer BYADAGI variety though its cost is high as it has good quality and high resistance to pest and diseases coupled with credit facility that brand.

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## INTRODUCTION

Guntur district is in the Coastal region of Andhra Pradesh and often referred to as the Land of Chillies. Among the horticultural crops, the major crop grown and cultivated by farmers is chilli with a area under green chilli cultivation is 623 ha with production of 17444 MT and dry chillies it is 82758 ha with the production of 501299.8 MT. Majority of the small and marginal farmers cultivate the chilli crop with their innovative ideas on variety, fertilizer dose and agronomic practices. Chillies are produced seasonally but consumed throughout the year. It is a much simpler crop to cultivate with duration of 3 to 4 months and farmer get returns immediately once after crop is harvested. It can survive on different soil types and several climatic conditions and plants are propagated by seed, often in nursery beds and then transplanted into fields later. The change in cultivation practices, demanded the farmers to adopt hybrids rather than seeds of the previous harvest crop.

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Higher yield, creating more opportunity to bring chillies to the market. By considering the circumstances and opportunities, the seed industry of both public and private sectors started releasing many number of F1-hybrid seed varieties with different brand name into the market to meet the demand of farmers. Different seed varieties or brands are available in the market such as VNR – 577, US 341, VIKRANTH BSS – 355, GAYATRI – 155, JINI 2626, ROMY 21355, BYADAGI. Farmers try to choose a seed which has high yield potential. Awareness level of the farmer often claimed to be one of the factor in preferring specific seed variety or brand. As most of the farmers were illiterate, they depend on fellow neighboring farmers, relatives, dealers for information. Dealer act as main source of information about arrival of seed in the market. The study was taken up to investigate the farmers demographic variables like age, education, income have any association to purchase seed brand and to analyze for factors they give priority and consider towards brand preference. The information was collected about popular chili seed brands prevailing in the study area belongs to the agricultural year 2019-2020.

**Data and Study Area:** Purposively selected two mandals in district which has highest area and production of chilli. The selected two mandals in the district were Vatticherukuru and

Sattenapalli with maximum area of cultivation and production of crop. Three villages in each mandal were selected based on the area coverage under chilli production. Hence, total of 6 villages were selected for the study. The selected villages were Gudipudi, Nandigama, Peddamakkena, Anantavarappadu, Vatticherukuru and Lemallepadu. From each village 20 farmers were selected randomly and total sample size of farmers was 120 from six villages of selected two mandals.

## MATERIALS AND METHODS

**Chi-Square Test:** To compare an observed with an expected group of frequencies, we must be able to state what frequencies would be expected. The hypothesis  $H_0$  states the proportion of objects falling in each category in presumed population. That is from the null hypothesis we may reduce what are expected frequencies. The chi-square technique gives the probability that the observed frequencies could have been sampled from a population with the given expected values.

The null hypothesis  $H_0$  may be tested by using the following statistics:

$$\chi^2 = \sum_{i=1}^k \frac{(O_i - E_i)^2}{E_i}$$

Where,

Degrees of freedom =  $k-1$

$O_i$  = Observed number of cases in the  $i^{\text{th}}$  category

$E_i$  = Expected number of cases in the  $i^{\text{th}}$  category when  $H_0$  is true

$K$  = Number of categories

If this value  $\chi^2$  is greater than the table value of  $\chi^2$  at a specified level of significance for  $(k-1)$  degrees of freedom, it will be significant and then we shall be justified in suspecting significant divergence between the fact and theory and rejecting the null hypothesis of equality of two sets of observed and expected frequencies. If the value of  $\chi^2$  is non-significant, it justifies the agreement between the observed fact and the theory or hypothesis. If the  $\chi^2$  is equal to zero, then the agreement is perfect.

## RESULTS AND DISCUSSION

As shown in the table 1, The respondents were classified into four groups based on age. Among the sample farmers, 8.33 per cent of the farmers were found in the age group of less than 30 years, 30 per cent of the farmers were found in the age group of 30-39, with percentage of 30.75 belong to the age group of 40-49 and 24.17 per cent of sample farmers were in the age group of more than 50 years. Among the respondents 60.83 per cent were illiterates, Sample farmers who had education up to 10<sup>th</sup> standard and intermediate level were 21.67 per cent and 13.33 per cent respectively. Only 4.17 percent had degree and above education level. Based on annual income respondents were categorized into four groups. Among the respondents 63.33 per cent had an annual income of 1 lakh to 3 lakhs, 19.16 per cent of them had more than 3 lakhs and 15.83 per cent had above 50000 to 1 lakh. Only 1.66 per cent of the respondents had an annual income below 50000. Sample farmers were divided into 3 groups based on family size *viz.*, small, medium and large. Total family members in

small, medium and large were up to 3 members, 4-6 members and more than 6 members respectively. Majority of the farmers *i.e.* 49.16 per cent were small farmers. 33.33 per cent and 17.50 per cent were medium and large farmers respectively. Based on farming experience farmer respondents are divided into four categories. Among them 41.67 per cent of the farmers had farming experience of above 15 years. 33.33 per cent and 18.33 had experience an experience of 6-10 years and 11-15 years respectively. Only 6.67 per cent of them had 1-5 years of farming experience. that farming was the only occupation for 22.5 per cent of the sample farmers in the study area and 77.5 per cent of them had business enterprises in addition to farming.

### Source of Purchase of chilli seed by sample farmers:

From the table 2 it can be inferred that 30 percent of farmers purchase chilli seed from the retail shops located in local villages or mandal headquarters, 46.66 percent of farmers purchase chilli seed directly from the dealers itself and 23.33 percent of farmers purchase chilli seed from the local distributors. Dealers have great impact on farmers as they influence in such way that the farmers get convinced and purchase seed as recommended by the dealers.

### Average distance travelled by the sample farmers for the purchase of chilli seed:

From the table 3, it can be inferred that majority of the farmers *i.e.* 40.83 per cent purchased chilli seed within a radius of 10-20 km. Only 31.66 per cent and 19.16 per cent of them purchased seed within the radius of 0-10 km and 20-30 km respectively. Thus, the results revealed that sample farmers preferred nearby source *i.e.* within the radius of 20 km for purchase of chilli seed.

### Preferred mode of purchase of chilli seeds by sample farmers:

A perusal of table 4, shows the information regarding mode of payment done by the sample farmers while purchasing chilli seed. about 69.16 per cent of the farmers preferred purchasing by credit as the dealers were offering them on credit basis, 21.66 per cent of the farmers preferred cash and 9.16 per cent of the farmers used both cash and credit for payment

## ASSESSMENT OF SIGNIFICANCE OF SOCIO DEMOGRAPHIC CHARACTERISTICS AND BRAND PREFERENCE

**Significance between Age and Brand preference:** Chi square test was employed to find the association between demographic variable *i.e.* age in four category below 30, 31-40, 41-50 and above 50 with eight seed brands available in the market as shown in Table 5

**Interpretation:** It is found that the calculated value of "P" value (0.315) is more than the desired significant level (0.05). It can be concluded that there is no significant relationship between age and brand preference.

### Significance between Income and Brand preference:

Chi square test was employed to find the association between economic variable *i.e.* Annual Income in four category below 50,000, 50,000 to 1 lakh, 1 lakh to 2 lakh and more than 2 lakh with eight seed brands available in the market as shown in Table 6

**Table 1. Between Socio demographic determinants of Sample farmers N=120**

Particulars	Category	Frequency (No. of farmers)	Per cent (%)
Age(years)	Less than 30	10	8.33
	30-39	36	30.00
	40-49	45	30.75
	Above 50	29	24.17
Farm Size	Small (2-5 acres)	59	49.16
	Medium (5-10 acres)	40	33.33
	Large(>10 acres)	21	17.50
Farming Experience	1-5 years	8	6.67
	6-10 years	40	33.33
	11-15 years	22	18.33
	Above 15 years	50	41.67
Family Size	Up to 3 members(small)	38	31.66
	4-6 members(medium)	64	53.33
	>6 members (large)	18	15.00
Education	Illiterate	73	60.83
	Up to 10 <sup>th</sup> standard	26	21.67
	Intermediate level	16	13.33
	Degree and above	5	4.17
Income	Below 50,000	2	1.66
	Above 50,000 to 1lakh	19	15.83
	1 lakh to 3 lakhs	76	63.33
	More than 3 lakhs	23	19.16
Income	Below 50,000	2	1.66
	Above 50,000 to 1 lakh	19	15.83
Income	1 lakh to 3 lakhs	76	63.33
	More than 3 lakhs	23	19.16
Occupation	Only Farming	27	22.5
	Business Enterprises +Farming	93	77.5

**Table 2. Source of Purchase of chilli seed by sample farmers N=120**

Purchase centers	Frequency (No. of farmers)	Per cent (%)
Retailers shops	36	30
Seed dealers	56	46.66
Local distributors	28	23.33
Self-retained seeds from previous crop	0	0
Online purchase of seed	0	0

**Table 3. Average distance travelled by the sample farmers for the purchase of chilli seed N=120**

Average distance travelled (in km)	Frequency (No. of farmers)	Percentage (%)
0-10	38	31.66
10-20	49	40.83
20-30	23	19.16
30-40	10	8.33

**Table 4. Preferred mode of payment of chilli seeds by sample farmers N=120**

Mode of payment	Frequency (No. of farmers)	Per cent (%)
By cash	26	21.66
By Credit	83	69.16
Both cash and credit	11	9.16

**Table 5. Test for significance between Age and Brand preference**

Age	Brand name /variety name								Total freq.	Percentage (%)	sig. (Chi-square)	p-value
	VNR – 577	US 341	VIKRANTH	BSS – 355	GAYATRI – 155	JINI 2626	ROMY 21	355 BYADAGI				
	Freq.	Freq.	Freq.	Freq.	Freq.	Freq.	Freq.	Freq.				
Below 30	3	1	0	1	2	2	0	1	10	8.33	0.05	0.315
31- 40	7	1	0	10	6	3	2	7	36	30.00		
41 - 50	5	4	5	5	5	4	8	9	45	37.50		
Above 50	2	2	1	4	3	3	7	7	29	24.17		
Total	17	8	6	20	16	12	17	24	120	100		

**Table 6. Test for significance between Income and Brand preference**

Annual income	Brand name /variety name								Total	Percentage (%)	sig. (Chi-square)	p-value
	VNR – 577	US 341	VIKRANTH	BSS – 355	GAYATRI – 155	JINI 2626	ROMY 21	355 BYADAGI				
	Freq.	Freq.	Freq.	Freq.	Freq.	Freq.	Freq.	Freq.				
Up to Rs. 50,000	1	1	0	2	3	0	0	0	7	5.83	0.05	0.618
50,001 to 1,00,000	5	3	1	1	2	3	5	7	27	22.50		
1,00,001 to 2,00,000	9	3	5	15	9	7	9	14	71	59.17		
More than 2,00,000	2	1	0	2	2	2	3	3	15	12.50		
Total	17	8	6	20	16	12	17	24	120	100		

**Table 7. Test for significance between Education and Brand preference**

Education	Brand name /variety name								Total Frequency	%	Chi square	p-value
	VNR – 577	US 341	VIKRANTH	BSS – 355	GAYATRI – 155	JINI 2626	ROMY 21	355 BYADAGI				
	Freq.	Freq.	Freq.	Freq.	Freq.	Freq.	Freq.	Freq.				
Illiterate	9	4	6	10	9	7	13	15	73	60.83	0.05	0.739
10 <sup>th</sup>	4	3	0	6	4	1	3	5	26	21.67		
XII <sup>th</sup>	3	1	0	4	2	2	1	3	16	13.33		
Degree	1	0	0	0	1	2	0	1	5	4.17		
Total	17	8	6	20	16	12	17	24	120	100		

**Table 8. Test for significance between Seed characteristics and Brand preference**

seed characteristic	Brand name /variety name								Total freq.	Percentage (%)	Chi-square	p-value
	VNR – 577	US 341	VIKRANTH	BSS – 355	GAYATRI – 155	JINI 2626	ROMY 21	355 BYADAGI				
	Freq.	Freq.	Freq.	Freq.	Freq.	Freq.	Freq.	Freq.				
Price	2	4	2	2	2	0	0	3	15	12	0.05	0.018
Yield	1	0		1	5	4	3	4	18	15		
Quality	3	0	0	6	3	2	5	5	24	20		
Pest and disease resistant	11	2	2	11	5	3	8	9	51	42		
Timely Availability	0	2	2	0	1	3	1	3	12	10		
Total	17	8	6	20	16	12	17	24	120	100		

**Interpretation:** It is found that the calculated P value (0.618) is more than the desired significant level (0.05). It can be concluded that there is no significant relationship between income and brand preference.

**Significance between Education and Brand preference:** Chi square test was employed to find the association between demographic variable i.e Education in four category below Illiterate, 10<sup>th</sup>, intermediate, Degree level of literacy with eight seed brands available in the market as shown in Table 7

**Interpretation:** In the above test the “P” value (0.739) was more than 0.05 (Table 4.31). This infers that literacy status of the farmers was independent of brand preference towards chilli seed brands. Thus, null hypothesis is accepted.

**Significance between Seed characteristics and brand preference by sample farmers:** The seed characters like price, yield, quality, resistance to pest and disease and timely availability of seed were taken into consideration to test the significant association towards different brands as shown in the table 8

**Interpretation:** There is a statistically significant relationship between product factor and brand preference as the “P” value 0.0187 is less than desired significance level of 0.05 and null hypothesis is rejected. Majority of the farmers i.e. 42.50 per cent preferred seed characteristic with pest and disease resistance followed by 20 per cent of the farmers prefer seed characteristic with quality of seed.

## Conclusion

A strong and good quality brand attains trust, confidence, and reliability in farmer’s mind. Seed premium quality makes them to choose the specific brand among large number of available brands for their cultivation purpose and if farmer didn’t get the expected yield he will be switching to other brands or try new brand. The study analysed that, demographic variables of farmers doesn’t had any significance association in preferring seed variety. While the seed quality and characteristics played a major role for farmer to choose a variety. The government should give emphasis on organization of training courses through Rythu Bharosa Kendram which was newly established by the state government for the farmers on different aspects such as quality seed, awareness of suitable varieties in their locality, familiar with mobile applications for online purchase of seed material, farm inputs.

## REFERENCES

- Chi, H.K., Yeh, H. R. and Yang, T. Y. 2009. The impact of brand awareness on consumer purchase intention: the mediating effect of perceived quality and brand loyalty. *Journal of international management studies* .4(1): 135-144.
- Dhadhal, C. H. 2018. Brand preference of consumers for selected brands of FMCG products- A Study of Rajkot city. *Research Journal of Applied Research*. 4: 1708-1712.
- Gogulamanda, S. K., Samsai, T. and Praveena, S. 2017. Brand preference of farmers and dealers towards Bt cotton hybrid seeds in Guntur district of Andhra Pradesh. *International Journal of Commerce and Business Management*. 10(2): 83-88.
- Gomathi, M. and Gomathi, R. 2013. A study on consumer preference towards selected Fmcg personal care products in Erode town, Tamilnadu. *International Journal of Scientific Research*. 2(11): 317-319.
- Hitesh, R., Jatin, P., Hasumati, S., Patel, G. R. and Joshi, K. M. 2017. Farmers buying behaviour of cumin seeds in Banaskantha district of Gujarat state. *International Journal of Agriculture Sciences*. 9(5): 3767-3769.
- Joshi, G. R., 2006. Farmers' preference for rice varieties in Nepal. Therole of attributes. *SAARC Journal of Agriculture*, 4: 179-189.
- Kang, G., Cai, F. and Zhang, S. 2015. Empirical research on factors that influence the behavior decision of repeated seed purchase for farmers- field investigation based on 519 vegetable farmers in Wuhan city. *SHS Web of Conferences* 17, 1-9.
- Patel, B. and Chavda, K. 2017. Factors influencing seed purchase decisions in rural areas of Gujarat. *Journal of Modern Developments in General Management & Administration*. 1(1): 1-8.
- Rajaveni, N. and Ramaswamy, M. A study on consumer brand preference on the consumption of cooking oil of various income groups in Chennai. *Master Thesis Submitted to Sathyabama University*. 1-15.
- Sajjan, S. S. and Kerur, N. M. 2018. To assess the brand preference in hybrid cotton seeds in North Karnataka. *International Journal of Commerce and Business Management*. 11(1): 75-80
- Sarwade, W. K. 2011. Brand preferences and consumption pattern of edible oils in Maharashtra state. *International Conference on Economics and Finance Research*. 4: 330-334.

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