Extent of Knowledge of Bengalgram Farmers in Prakasham District of Andhra Pradesh

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ABSTRACT

Bengalgram is the most important pulse crop in India. The study was conducted in five mandals in Prakasam district. Three villages from each of the selected mandals were selected by following simple random sampling procedure, thus making a total of 15 villages. Eight bengalgram farmers were taken from each village, thus making a sample of 120 bengalgram farmers. Majority of the bengalgram farmers had medium level of knowledge followed by high (35.00%) and low (23.33%) level of knowledge. The correlation analysis revealed that education, farming experience, socio-politico participation, extension contact, mass media exposure, innovativeness, scientific orientation, risk orientation and economic orientation were significant at 0.01level of probability. Further regression analysis revealed that all the selected 11 independent variables put together, explained about 70.14 per cent variation in knowledge of respondents.

Key words : Bengalgram farmers, Knowledge.

Knowledge was defined as those behaviours and test situations which emphasised the remembering either by recognition or by the recall of ideas and material on some phenomenon (Bloom *et.al.* 1955). India is the largest producer of pulses in the world with 25 per cent share in the global production. Bengalgram, pigeonpea, mungbean, urdbean, lentil and fieldpea are important pulse crops contributing 39, 21, 11, 10, 7 and 5 per cent to the total production of pulses in the country. The total production of pulses (2006-2007) was 14.56 million tonnes from an area of 23.63 million hectares with an average productivity of 625 kg / ha. (The Hindu survey of Indian Agriculture 2009).

Bengalgram is the most important pulse crop in India. It occupies about 7.58 million hectares, with production of 6.91 million tonnes (Http:// www. india stat.com) which represents 30 per cent and 37 per cent of the national pulse area and production respectively. The major bengalgram producing states in India are Madhya Pradesh, Uttar Pradesh, Rajasthan, Maharashtra, Andhra Pradesh and Karnataka.

In Andhra Pradesh bengalgram is grown over an area of 6.38 lakh hectares with annual production of 9.37 lakh tonnes with a productivity of 1469 Kg per hectare. Though the area under bengalgram is more we could not meet the demand of people due to low production and productivity.

This is mainly due to the fact that bengalgram is being mostly grown in traditional way by the majority of the farmers. Therefore, it is the most important task that the farmers must be educated for making them to acquire better knowledge and skill and at the same time their attitude should be changed favourably as a prelude for successful adoption of scientific innovation which inturn will be converted to higher production. This could be possible only by understanding the extent of knowledge the farmers possess. The present investigation is undertaken to measure the extent of knowledge level of the farmers regarding various production recommendations in bengalgram cultivation.

MATERIAL AND METHODS

The study was carried out in Prakasam district of Andhra Pradesh. Expost-facto research design was followed for the study. Prakasam district was purposively selected because of its largest area, production and productivity under bengalgram crop in coastal districts of Andhra Pradesh. Prakasam district has three revenue divisions .Out of which Ongole revenue division was selected purposively because of highest acreage of bengalgram crop in the district. Five mandals namely Parchur, Inkollu, Korisapadu, Nagulauppalapadu, and Ongole were selected through random sampling method. From each of the selected mandals, three villages were

selected based on simple random sampling procedure. Thus fifteen villages were selected for the study. A total of 120 bengalgram growers were selected by selecting eight farmers from each village by simple random sampling procedure. Keeping the objectives of the study in view, a well structured interview schedule was developed and pretested. This was administered to sample respondents through personal investigation. The data thus obtained were coded, classified, and tabulated. Finally statistical tools such as mean, standard deviation, frequency, percentage, correlation coefficient, and multiple linear regression were used.

RESULTS AND DISCUSSION

Table 1 and Fig.1 showed that 41.67 per cent of the bengalgram farmers had medium level of knowledge followed by high (35.00%) and remaining with low (23.33%) level of knowledge.

The plausible reason behind this might be due to their inclination to confine to set pattern of going for same variety of bengalgram seed over the years without any change. The other reason for this trend could be due to majority of the farmers had small land holdings with high school education, medium extension contact, medium mass media exposure, innovativeness, scientific orientation, and risk orientation. Hence this trend was noticed. Similar findings were reported by Satpal Singh *et al., (*2003) and Shakya *et al.,* (2008).

Relationship between the selected independent variables and their extent of knowledge of the bengalgram farmers about recommended practices.

It was evident from the Table 2 that computed 'r' values of education, farming experience, socio-politico participation, extension contact, mass media exposure, innovativeness, scientific orientation, risk orientation and economic orientation were significant at 0.01 level of probability. The other variables such as land holding and market orientation did not show any significant correlation with the knowledge of the bengalgram farmers about recommended practices.

It was evident from Table 2 that there was a highly positive and significant relationship between extent of knowledge and education levels of bengalgram farmers. Educated farmers will have more information seeking behavior. This led to have better access to farm information sources such as farm magazines, farm bulletins, books on agriculture etc. and possess better capacity to grasp things

and analyze and interpret them in proper ways. Educated people have more exposure to extension agencies, scientists, and research stations etc. which also contribute to their increased knowledge. This finding was in agreement with the findings of Nagaraj *et. al.* (2000), Rajendra Kumar (2002), Sunil Arya *et. al.* (2003) and Shakya *et. al.* (2008).

It was evident from the Table 2 that there was positive and non-significant relationship between land holding and extent of knowledge of bengalgram farmers. This might be due to the fact that the majority of bengalgram farmers were leasing their lands instead of cultivating themselves, further researcher has also observed the prevalence of contract system from the sowing to harvesting. The findings of the study were in agreement with the findings reported by Rajendra Kumar (2002) and Janardhan (2004).

It was evident from the Table 2 that farming experience and extent of knowledge level of bengalgram farmers had shown positive and significant relationship at 0.01 level of probability. It is obvious that experienced farmers will have more knowledge because of continuous cultivation, trainings, extension contact etc. The finding was in line with the study of Prasad Reddy *et. al.* (2007) .

The Table 2 revealed that there was a positive and significant relationship between socio-politico participation and knowledge of bengalgram farmers. Farmers who actively participate in social activities through social organizations come across different types of people, exchange one's views and experiences, discuss about problems and solutions and thereby gain more and more knowledge. The finding was in line with the results of Rajendra Kumar (2002), Govinda Gowda *et. al.* (2002) and Shakya *et. al.* (2008).

Table 2 shows that there was positive and significant relationship between extent of knowledge and extension contact of bengalgram farmers. Extension contact enables the farmer to different kinds of information, inturn enlarge their sphere of knowledge about recent technology of bengalgram. Hence, the above relationship noticed. It is obvious that the higher contacts, higher will be the knowledge. The result was in conformity with the findings of Shantha sheela and Netaji seetharaman (2002), Sunil Arya *et. al.* (2003).

Contents of Table 2 revealed that there was a positive and significant relationship between mass media exposure and extent of knowledge of bengalgram farmers. It can be inferred that as the mass media exposure on the part of farmers

Table 1. Distribution of respondents according to extent of knowledge.

(n=120)

S.No.	Category	Respondents	
		Frequency	Percentage
1.	Low (<22.61)	28	23.33
2.	Medium (22.61 to 25.58)	50	41.67
3.	High (> 25.58)	42	35.00
	Total	120	100.00

Mean=24.1 $^{1/2}$S.D=1.48

increases, their knowledge would also increase. Mass media is a powerful source for spreading technologies. Thus the mass media provides enormous opportunity for related exposure of farmers to new technologies, motivating them to learn about bengalgram cultivation practices. The finding was in conformity with the findings of Rajendra Kumar (2002), Sunil Arya *et. al.* (2003).

Table 2 indicates that there was a positive and significant relationship between innovativeness and knowledge of bengalgram farmers. Farmers with innovativeness seek more information about latest technology and increase their knowledge. The finding was in accordance with the findings of Nagaraj *et. al.* (2000), and Prasad Reddy *et. al.* (2007).

It is clear from Table 2 that there was positive and highly significant relationship between scientific orientation and extent of knowledge of bengalgram farmers. Farmers having good scientific orientation will naturally prefer to know advanced technology in agriculture. The farmers with more scientific orientation develop, through contact with the scientists, subscribe and read journals, magazines, newspapers and there by possess more knowledge. The finding was in accordance with the findings of Vennila *et. al.* (2001), Govinda Gowda *et. al.* (2002) and Shakya *et. al.* (2008).

Figures in Table 2 pointed out that there was a positive and significant relationship between risk orientation and extent of knowledge of bengalgram farmers. Risk preference is expressed as the degree to which a farmer is oriented to take risk and courage to face uncertainties in bengalgram cultivation. A farmer who has this particular trait normally will have better knowledge. Hence efforts need to be made to increase the risk bearing ability of farmers through credit support and support price. The finding was in tune with the findings of Borkar *et.al.* (2000).

Table 2 explains that there was positive and significant relationship between economic orientation and extent of knowledge of bengalgram farmers. Farmers who possessed more economic orientation had more knowledge than their counterparts. These farmers always want to get maximum yields and to improve their income level, they have to know about latest agricultural practices. Thus economic orientation among them acts as an initiating factor for acquiring knowledge about improved technologies, hence this type of trend was noticed. The finding was in conformity with Nagaraj *et. al.* (2000), Rajendra Kumar (2002) and Shakya *et. al.* (2008).

Results furnished in the Table 2 shows that market orientation had positive and non-significant relationship with extent of knowledge of bengalgram farmers. Market intelligence and price forecast are not up to the marks as per bengalgram marketing are concerned. Further, the farmers are mostly small farmers who may not look about the marketing aspects and follow traditional methods. Hence it is not a significant factor for acquiring knowledge in bengalgram cultivation. This is needed to pay much attention by extension functionaries and scientists through better information systems therefore, the farmers need to be trained on bengalgram value added preparations and storage aspects.

Table 3 revealed that the coefficient of determination "R^2" value was significant, as the value of "a" was found significant. The "R^2" value of 0.7014 indicated that all the selected 11 independent variables put together, explained about 70.14 per cent variation in knowledge of respondents. Hence

Table 2. Relationship between the selected independent variables and their extent of knowledge of the bengalgram farmers about recommended practices.

(n=120)

S.No.	Independent variables	'r' value
1.	Education	0.5226**
2.	Land holding	0.1631NS
3.	Farming experience	0.2862**
4.	Socio-politico participation	0.2946**
5.	Extension contact	0.3938**
6.	Mass media exposure	0.4958**
7.	Innovativeness	0.4930**
8.	Scientific orientation	0.6902**
9.	Risk orientation	0.3651**
10.	Economic orientation	0.5170**
11.	Market orientation	0.1871NS

NS = Non significant   ** Significant at 0.01 level of probability

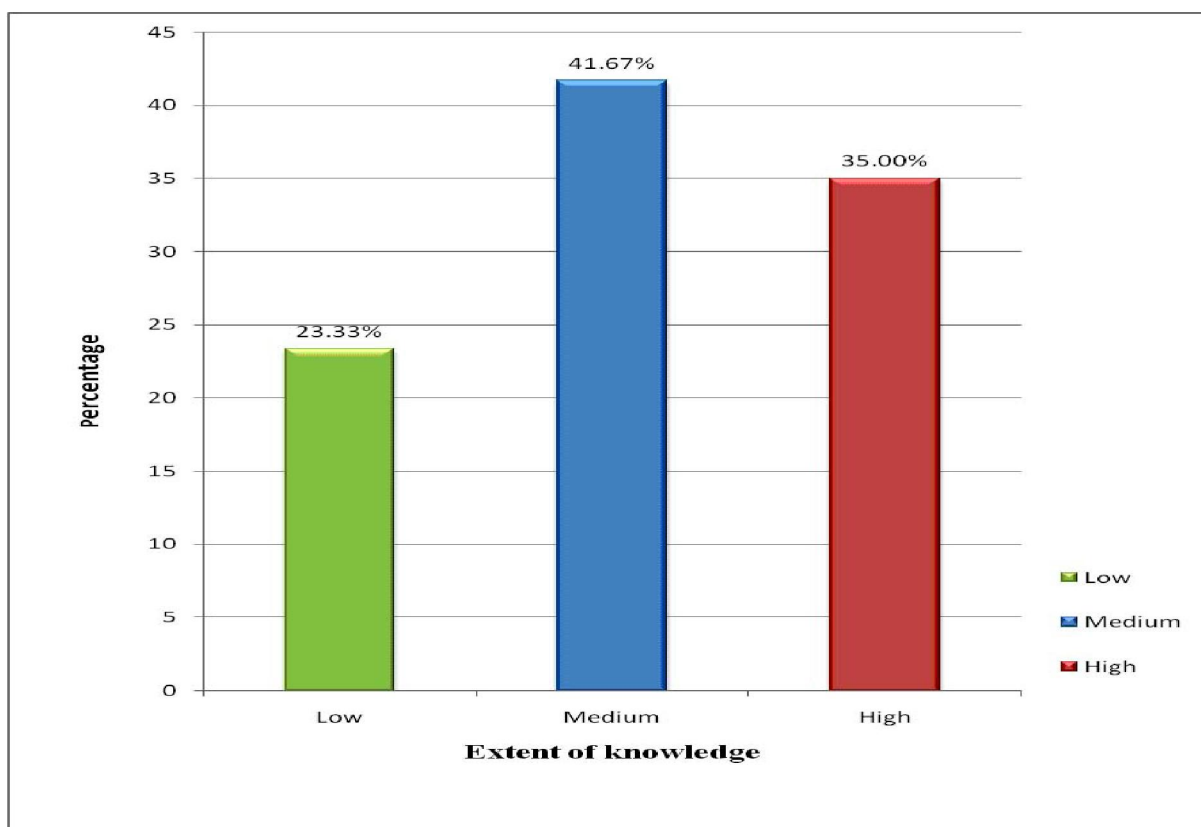Fig 1: Distribution of respondents according to extent of knowledge

Table 3. Multiple linear regression analysis of selected independent variables with extent of of knowledge of the bengalgram farmers

(n=120)

S.No.	Independent variables	Regression coefficient	Standard error	't' value
1.	Education	0.3070	0.1069	2.8716 *
2.	Land holding	0.1568	0.2367	0.6622NS
3.	Farming experience	0.1007	0.1287	0.7825NS
4.	Socio-politico participation	0.2218	0.0996	2.2263*
5.	Extension contact	0.2014	0.0708	2.8449*
6	Mass media exposure	0.1047	0.0761	1.3767NS
7	Innovativeness	0.2236	0.1295	1.7268NS
8.	Scientific orientation	0.4560	0.0879	5.1859NS
9.	Risk orientation	0.0947	0.1428	0.6635NS
10.	Economic orientation	0.2644	0.0858	3.0817*
11.	Market orientation	-0.2677	0.1323	-2.0220*

a = 0.0764 R^2 = 0.7014

NS = Non significant   * Significant at 0.05 level of probability

From the above table the MLR equation can be fit as

$Y = 0.0764 + 0.3070 x_1 + 0.1568 x_2 + 0.1007 x_3 + 0.2218 x_4 + 0.2014 x_5 + 0.1047 x_6 + 0.2236 x_7 + 0.4560 x_8 + 0.0947 x_9 + 0.2644 x_{10} - 0.2677 x_{11}$

it could be stated that the variables selected to a large extent explained the variation in knowledge of the bengalgram farmers.

The regression coefficient given in Table 3 further revealed that the independent variables namely education, socio-politico participation, extension contact and economic orientation were found to be positively significant as evident from their significant positive (+) values. This implied that education, socio-politico participation, extension contact and economic orientation had positively and significantly contributed to most of the variation in the knowledge of the respondents about the recommended practices of bengalgram.

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