

TO STUDY THE RELATIONSHIP BETWEEN PROFILE CHARACTERISTICS OF PADDY AND COTTON GROWERS WITH THEIR KNOWLEDGE LEVEL OF PLANT PROTECTION MEASURES

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Abstract—The present study was conducted in Karimnagar district of Telangana state. Ex post facto research design was adopted in the present investigation. Karimnagar district was purposively selected for the study. The study was conducted in 6 villages selected from 3 Mandals of Karimnagar district which included 20 farmers from each selected village thus making a sample of 120 farmers. The analysis of relationship between profile characteristics of paddy and cotton growers with their knowledge level of Plant Protection Measures indicated that variables such as education, family size, annual income, social participation, Risk orientation, economic motivation, innovation, mass media participation, extension contact and awareness exhibited positive and significant relationship paddy and cotton crops. Land holding of paddy growers and age of cotton growers having negative relationship with the knowledge level of Plant Protection Measures of paddy and cotton crop.

INTRODUCTION

Rice in India is important to the national economy. India is the world's second largest producer with approximately 43 million hectares planted area, accounting for 23% of the world's share in production. India is the second major rice producer in the world after China. The country's productivity is higher than Thailand and Pakistan at 2.2 tons /ha. In Telangana the area under rice is 20.00 lakh ha and production is 66.22 lakh tones. In Telangana, Karimnagar district top in rice production compared to west Godavari in Andhra Pradesh. Karimnagar district referred to as "rice bowl" of Telangana. Area under rice in Karimnagar is Nearly 2,06,100 tonnes paddy was produced by sowing crop in 32,976 ha in kharif 2016. In Rabi, 4,20,961 tonnes of yield was produced from 61,906 ha. (lasania, 2017)

Cotton is one of the main fiber and cash crops in India and it plays a leading role in the industrial and agricultural sectors of the country. It affords the

rudimentary raw material (cotton fiber) to cotton textile industries. India remains the leading country in terms of area under cotton cultivation and raw cotton production in the world. As per CAB estimate, cotton production in India during 2017–18 is expected to produce 377 lakh bales of 170 kg from 122 lakh hectares with a productivity of 524 kg lint/ha (CAB as on 12:12:2017). Telangana is the third highest in terms of cotton cultivation and production in India, after Gujarat and Maharashtra. There was substantial increase (22%) in area under cotton crop and the state's cultivation increased to 17.78 lakh hectares and production jumped to 37.33 lakh bales in 2015-16. (Balakrishnan). Plant protection measures are very important in modern agriculture as most of the crop loss is due to pest and diseases. So in order to protect the crop from pest and disease attack to get more yield, farmers are over using plant protection chemicals without having awareness and knowledge on recommended Plant Protection Measures.

MATERIALS AND METHODS

The research design adopted for this study was ex-post-facto research techniques, since the phenomenon has already occurred. The State of Telangana was selected purposively. Karimnagar district was selected among 10 districts in Telangana state is having highest area and production under paddy crops compared to other districts in Telangana state. Manthani, Pedhapally, and Kamanpoormandals were purposively selected since these mandals are having more number of paddy and cotton growers and occupy more area under paddy and cotton cultivation as compared to the other mandals in the district. Two villages were selected randomly from each mandal. Thus, constitute 6 villages (2×3) for the study. Gopalpoor, Kammampalli, from Manthani; Elukalapally, Jayyaram, from Ramagundam, Dharamaram, Kamanpoor, from Pedhapally were selected. Ten farmers were selected randomly from each village using random number Tables. Thus, constitute (20×6) 120 respondents for the study. The data were collected from Karimnagar district of Telangana state using a pretested interview schedule, the interview method was adapted wherever needed and confirmed. The final interview schedule was taken to elicit the information from the respondents by personal interview schedule. The data was analysed by mean, standard deviation, percentage, frequency and correlation were employed to draw valid inferences.

RESULTS AND DISCUSSION

Age vs. knowledge

From the Table 1 it is clear that there was a non-significant relationship between age and knowledge level among paddy and cotton growers. This shows that knowledge is an important element that decide the understanding level of any technology. As the knowledge goes on increases with the age. it is clear from results that middle and old age people are having more knowledge because they are having more farming experience than younger. These results are similar with the findings of Sarma (2013) and Ashok Kumar (2018).

Education vs. knowledge

The data in the same table shows that education had positive and significant relationship with the knowledge level of paddy and cotton growers. This

might be the due to the reason that Plant Protection Measures being complex in nature they could be better understand by persons with higher education level. And is an important fact that an educated person is in a better position to gain information, understanding and interpret complex information. The findings are in line with the results of Sarma (2013) and Ashok Kumar (2018).

Land holding vs. knowledge

From same Table It is evident that coefficient of correlation between Landholding and the Knowledge level of the Paddy and Cotton growers was significantly related. The possible reason for this kind of results may be that big and medium holding farmers will be having more opportunities and potentialities to acquire more information and learn about more technologies. This results are similar to the findings of Gopinath (2005) and Ashok Kumar (2018).

Annual income vs knowledge

The findings obtained are indicated that annual income had positive significant correlation with the knowledge level on Plant Protection Measures in paddy and cotton crop. The conceivable reason might be that persons with more assets are in well off situation to secure knowledge through extension contacts and involvement in extension events as well as through their easy contact to mass media and had more risk taking ability. These factors might have encouraged the farmers of higher income group to gain knowledge and to pursue more information as regards to Plant Protection Measures in paddy and cotton cultivation resulting in the positive and significant relationship with this variable. These findings are in line with the findings of Devarani (2014) and Ashok kumar (2018).

Social participation vs. knowledge

The results of this study revealed that social participation is having positive and significant relationship with the knowledge level of paddy and cotton growers on Plant Protection Measures. The reason behind this might be due to more social participation of farmers exposes them to wide sources of knowledge related to agriculture and also provide good opportunity to have interpersonal interactions which may help in collecting more information about different plant protection activities. These finding are similar to the results of Shakya (2008) and Singha (2013).

Table 1. Relationship between independent variables with Knowledge level on Plant Protection Measures in Paddy and cotton. (n=120)

Sl. No.	Socio- Psychological characters	'r' value	
		Paddy	Cotton
1.	Age	0.072	-0.220
2.	Education	0.463**	0.355**
3.	Family size	0.088	0.208
4.	Land holding	-0.130	0.105
5.	Annual income	0.352**	0.293*
6.	Social participation	0.330*	0.459**
7.	Risk orientation	0.013	0.308*
8.	Economic motivation	0.278*	0.312*
9.	Innovation	0.336**	0.258*
10.	Mass media exposure	0.049	0.349**
11.	Extension contact	0.402**	0.352**
12.	Awareness	0.319*	0.362**

* - Significance at 5% level of probability ** - Significance at 1% level of probability

NS – Non-significant

Risk orientation vs. knowledge

From same Table it is evident that coefficient of correlation value between Risk orientation and the Knowledge level of the Paddy and cotton growers was positively and significantly related. Risk taking is the capability to make the right choice during uncertainties; these uncertainties are nothing but the constraints. The farmer who is willing to take calculated risks during constraint situation will gain enhanced results. Sometimes it is seen that many farmers were taking risks due to peer pressure or demanding situation. This finding is in agreement with results of Thiyagarajan (2011) and Devarani (2014).

Economic motivation vs. knowledge

Results in Table 1 showed that economic motivation had positive and significant relationship with knowledge level of paddy and cotton growers with regard to Plant Protection Measures. The reason for this results could be due to farmers involvement in farming will get high yield and returns. These finding are in line with the findings of Gopinath (2005) and Thiyagarajan (2011).

Innovation vs. knowledge

Data in the same Table shows that relationship between innovation and knowledge level of paddy and cotton growers was positively and significantly related. The reason behind this results might be due to the fact that Innovative farmers are always experimenters. During any peak situation farmers

with high levels of innovativeness will try new ways of doing things to change the existing situation and thereby obtaining new knowledge. Present results are similar to the findings of Singha (2013); Devarani (2014) and Ashok Kumar (2018).

Mass media exposure vs. knowledge

There was a significant relationship exist between mass media participation and knowledge level paddy and cotton growers with respect to Plant Protection Measures. The reason might be the people who participate more in mass media will be exposed to various sources they will gather more information related to new technologies and find out solutions to particular problem. These findings are in line with the results of Singha (2013), Devarani (2014) and Ashok Kumar (2018).

Extension contact vs. knowledge

Results from the table indicated that there is a positive and significant relationship between extension contact and knowledge level of paddy and cotton growers on Plant Protection Measures. greater the extension contact, better would be the knowledge of recommended practices among respondents about Plant Protection Measures in rice and cotton cultivation. This might be the reason that farmers approach to change agents like AEO, AO, ADA etc., when they need Information regarding Plant Protection Measures in rice cultivation. These findings were similar with the results of Sarma *et al.* and Ashok Kumar (2018).

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