Relationship and Influence of Independent Variables on How to Do Knowledge of IPM Practices under Irrigated Condition

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Abstract : The area under cotton in India *is* the largest and constitutes nearly one-fourth of the World's cotton area. The cotton productivity in India is abysmally low as compared to many other countries, including our neighbor, Pakistan. Under the impact of green revolution, due to monocropping, there have been many outbreaks of insect pests especially on rice and cotton. To meet these challenges, it is of utmost importance that in future the insect problems would have to be tackled through Integrated Pest Management (IPM). IPM has been defined by Pretty et al (1992) as the integrated use of some or all the pest control strategies in a way that not only reduce pest population to economically acceptable levels but it is and non-polluting. The IPM programme aims at educating the farmers and extension agencies through Farmers Field Schools (FFS). Coimbatore district stands first in total number of IPM-FFS training programmes conducted for cotton throuout the Tamil Nadu State over the years and hence, it was selected for the study. The highest area under cotton and maximum number of IPM -FFS training programmes conducted were considered as the criteria to select the Taluk representing irrigated condition. The same criteria were used for selection of Block where Madukarai block under irrigated condition were selected. This part deals with the specific objective was to study the relationship and influence of profile characteristics with how to do knowledge of IPM oriented cotton growers under irrigated condition. When all the other variables are kept at constant level, a unit increase in educational status, area under cotton cultivation and extension agency contact increase in how to do knowledge by 1.436, 0.522 and 0.2217 units respectively among IPM oriented cotton growers under irrigated condition.

Keywords – Cotton, How to do knowledge, IPM, Rainfed condition.

I. INTRODUCTION

India accounts for almost 25 to 30 per cent of World's export of cotton and there are bright chances for further increase in its share. The area under cotton in India is the largest and constitutes nearly one-fourth of the World's cotton area. Under the impact of green revolution, due to monocropping, there have been many outbreaks of insect pests especially on rice and cotton. To meet these challenges, it is of utmost importance that in future the insect problems would have to be tackled through Integrated Pest Management (IPM). IPM has been defined by Pretty et al (1992) as the integrated use of some or all the pest control strategies in a way that not only reduce pest population to economically acceptable levels but it is non-polluting. The IPM programme aims at educating the farmers and extension agencies through Farmers Field Schools (FFS). Under IPM-FFS programme, farmers are made experts in identifying natural enemies of pests, monitoring regular pests and taking suitable management measures. In the year 1999-2000 under ICDP (Intensive Cotton Development Programme) totally 1500 FFS were organized and 45000 cotton growers were trained throughout India (Ananymous, 2001). Coimbatore district stands first in total number of IPM-FFS training programmes conducted for cotton throughout the Tamil Nadu State over the years and hence, it was selected for the study.

II. SPECIFIC OBJECTIVE OF THE STUDY

The specific objective of this study was relationship and influence of how to do knowledge of Integrated Pest Management (IPM) adopting cotton growers with their profile characteristics under irrigated agro-ecosystem in Coimbatore district of Tamil Nadu, India.

III. REVIEW OF LITERATURE

Vanilla (1998) reported that the variables like age, education, farming experience, social participation, economic motivation, risk preference and material possession were found to have positive and significant relationship with how to do knowledge, where as farming experience was found to have non-significant relation with how to do knowledge.

Arulmurugan (2000) opined that the characteristics such as social participation, economic motivation and risk preference showed positive and significant relationship with how to do knowledge. The other variables such as age, farm size, farming experience, extension agency contact and mass media exposure exhibited non-significant relationship with how to do knowledge.

Jayalakshmi (2000) concluded that farm size, material possession and contact with extension agency showed positive and significant relationship with how to do knowledge, where as age, education, farming experience, occupation status, social participation, mass media exposure, risk orientation, economic motivation and innovativeness showed non-significant relationship with how to do knowledge.

Kumar (2002) inferred that education, extension agency contact, social participation, innovativeness, mass media exposure, risk orientation had positive and significant relationship with knowledge of the farmers.

Gopinath (2005) reported that knowledge and education, extension agency contact, social participation, economic motivation, innovativeness, mass media exposure, risk orientation and scientific orientation were positively and significantly related with each other.

Kumar (2012) found that education, extension agency contact, social participation, economic motivation, innovativeness, mass media exposure, risk orientation and scientific orientation had positive and significant relationship with knowledge of the farmers.

IV. RESEARCH METHODOLOGY

Coimbatore district stands first in total number of IPM-FFS training programmes conducted for cotton throuout the Tamil Nadu State over the years and hence, it was selected for the study. The highest area under cotton and maximum number of IPM -FFS training programmes conducted were considered as the criteria to select the Taluk representing irrigated condition. The same criteria were used for selection of Block where Madukarai block under irrigated condition were selected. In Madukarai block, four villages were selected. A sample of 100 farmers was selected for study. This part deals with the specific objective was to study the how to do knowledge of IPM oriented cotton growers under irrigated condition. How to do knowledge consists of information that is necessity to use an innovation properly. The adopter must understand what quantity of an innovation to secure, how to do use it correctly and so on (Rogers, 1983). The list of items that would help to measure the how to do knowledge on recommended IPM technologies were prepared in consultation with entomologists, extension scientists and by referring to the IPM-FFS guide.

V. RESULT AND DISCUSSION

1. Relationship of Independent Variables with How to Do Knowledge of IPM Practices under Irrigated Condition

It may seen from Table 1 that out of the sixteen variables studied under irrigated condition, the correlation co-efficient value of nine variables viz., educational status, annual income, area under cotton cultivation, IPM equipment possession, extension agency contact, mass media exposure, innovativeness, risk orientation and economic motivation were found to have positive and significant relationship at 1 % level with how to do knowledge whereas farm size had showed negatively significant relationship at 1 % level with how to do knowledge

The remaining characteristics viz., age, occupation, experience in cotton cultivation, social participation and attributes of IPM were non-significantly correlated with how to do knowledge.

2. Influence of Independent Variables with How to Do Knowledge of IPM Practices under Irrigated Condition

The results of multiple regression are given in Table 1, which indicated that out of the selected sixteen characteristics under irrigated condition, only three variables viz., educational status, area under cotton cultivation and extension agency contact had influence towards the how to do knowledge among IPM oriented cotton growers under irrigated condition. The R^2 value indicated that, all the 16 characteristics taken together explained as much as 63.08 per cent of the variation in the how to do knowledge, *ceteris paribus*

It may be inferred that all the other variables are kept at constant level, a unit increase in educational status, area under cotton cultivation and extension agency contact increase in how to do knowledge by 1.436, 0.522 and 0.2217units respectively among IPM oriented cotton growers under irrigated condition.

VI. CONCLUSION

Cotton is a very important commercial crop and is of vitally important both in the agricultural as well as industrial economy in a country. The farmers how to do knowledge was increased by attended IPM-FFS training conducted by state department of agriculture in the survey conducted area. It may be concluded from the study that when all the other variables are kept at constant level, a unit increase in educational status, area under cotton cultivation and extension agency contact increase in how to do among IPM oriented cotton growers under irrigated condition.

Table 1. Correlation and Multiple Regression Analysis of Independent Variables on How to Do Knowledge of IPM Practices under Irrigated Condition

V.NO	Variables	'r' value	't' value	B value	Standard error
1	Age	-0.1253 [NS]	0.6347[NS]	0.0574	0.0905

2	Educational status	0.6353**	4.3167**	1.6361	0.3751
3	Occupation	-0.0980 [NS]	-1.2662[NS]	-2.1490	1.6971
4	Farm size	-0.5185**	-0.0411 [NS]	-0.0113	0.2751
5	Area under cotton cultivation	0.3907**	2.1169 [NS]	0.4955	0.2341
6	Farming experience	-0.0861 [NS]	1.4091 [NS]	0.1575	0.1118
7	Experience in cotton cultivation	0.0022 [NS]	-0.4553 [NS]	-0.0486	0.1068
8	Annual income	0.4685**	-0.2992 [NS]	-0.0054	0.0181
9	Social participation	0.1522 [NS]	1.2033 [NS]	0.2410	0.2002
10	IPM equipment possession	0.4450**	-0.8759 [NS]	-0.1513	0.0961
11	Extension agency contact	0.5953**	2.3705**	0.2277	0.0961
12	Mass media exposure	0.5777**	0.5334 [NS]	0.0644	0.1207
13	Risk orientation	0.3672**	0.1391 [NS]	0.0140	0.1008
14	Economic motivation	0.4270**	0.8595 [NS]	0.0951	0.1106
15	Innovativeness	0.4811**	0.9393 [NS]	0.6746	0.7183
16	Attributes of IPM	0.0965 [NS]	1.6717 [NS]	0.3574	0.2138

** - Significant at 1 % level R^2 = 0.6308   F value = 8.8614**
 * - Significant at 5 % level
NS – Non-significant

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