International Journal of Advanced Research in Management and Social Sciences
ISSN: 2278-6236
Impact Factor: 7.065

A STUDY ON KNOWLEDGE LEVEL OF RICE FARMERS OF IPM TECHNIQUES ON RICE BASED CROPPING SEQUENCES IN NORTH 24 PARGANAS DISTRICT OF WEST BENGAL,INDIA

RITUPARNA PAUL[1], ARUNASIS GOSWAMI[2],BISWAJIT PAL[3]

[1]Research Scholar, Department of Veterinary and Animal Husbandry Extension Education, West Bengal University of Animal and Fishery Sciences, West Bengal, India

[2]Professor, Department of Veterinary and Animal Husbandry Extension Education, West Bengal University of Animal and Fishery Sciences, West Bengal, India

[3]Assistant Professor, Department of Rural Studies, West Bengal State University West Bengal, India

ABSTRACT

Integrated Pest Management is an effective method to control pest and diseases. IPM is not a single pest control method but, a series of pest management evaluations, decisions, and controls. The different measures of IPM including chemical, mechanical, traditional and biological have a great effect on crop production. The study tries to find out the knowledge level of farmers about different IPM techniques on rice based cropping sequence. The study was conducted in Barasat I block of North 24 Parganas in West Bengal which was purposively selected. 5 Gram Panchayats have selected randomly and from each Gram Panchayat 20 farmers have also selected randomly to draw a sample size of 100. Every farmer has interviewed with the help of pre-structured interview schedule. The data are validated and tabulated for statistical analysis. The result shows that most of the respondents hard about IPM and also interested in the techniques but lack of training facility they were not able to use the IPM techniques. 87% of the respondents are interested in the use of IPM techniques but only 6% get proper training. Education has significant effect on knowledge of IPM. Land holding and family income have also significant effect on knowledge of IPM.

KEYWORDS: *IPM techniques, Knowledge, Rice farmer, Rice, Pest*

INTRODUCTION:

Agricultural practices need close observation and management steps starting from land preparation to harvesting. Pest and disease management of crops is a major part of any field

crop production. It is estimated that on an average of 25 % (35.55 million tones) crop has lost due to insect pests in the case of rice in India (Dhaliwal et. al., 2015). That indicates there may be a sharp gap in effective pest management procedures in India. IPM is a procedure to holistic pest management of a crop including several techniques like chemical, mechanical. Biological etc. The knowledge level of Indian farmers about the different IPM methods is the prime issue of concern. If the knowledge leads to the adoption of any technology then we should measure the knowledge level of a farmer and the present status of them on that major issue of crop management. The present study tries to find out the knowledge level of farmers on IPM techniques in rice-based cropping sequences.

METHODOLOGY:

The study was conducted during year 2014 in Barasat I block of North 24 Parganas in West Bengal which was purposively selected. 50% of the Gram panchayet (5 in number) were selected randomly from the block. From each gram Panchayat, one village is selected through a random table. 20 rice farmers aged 18 years and above were selected as respondents from each village with the help of a simple random method. Every farmer has interviewed with the help of pre-structured interview schedule. The data are validated and tabulated for statistical analysis.

RESULT AND DISCUSSION:

Table1: Farmers on knowledge on IPM

Knowledge on IPM	**Percentage (%)**
Heard about IPM	52.0
Observed any IPM technique	44.0
Use traditional practice for pest management	94.0
Aware of the training of IPM technique	6.0
Interested in IPM	87.0
IPM technique should be applied to protect the crop	84.0
Knowledge about pest of paddy	98.0
Knowledge on pest arise period	95.0

Almost half of the respondents (52%) have hard about IPM techniques. 44% of the farmers replied that they observed IPM techniques being followed in the field. The majority of the respondents (94%) use traditional methods for pest control and even they have not any training on IPM. Only 6% of respondents have training on IPM methods from government institutions. But 87% of the farmers are interested in IPM and they (84%) think that IPM technique should be applied to protect the crop. The majority of the farmers (98% and 95% respectively) know the pest of rice and when they arise. In the study, it is revealed that farmers are aware of IPM techniques and they also have knowledge about pest but due to lack of training facility inspite of being interested they could not apply it in their field. Karamidehkordi et.al (2010) find in their study that farmers were to some extent aware of the side-effects of the excessive use of chemical fertilizers and pesticides, they continued utilizing chemical inputs due to the shortage of knowledge of and little access to IPM techniques

Table2:Mean effect of Education and Knowledge level of IPM

Education	**Knowledge About IPM**
Illiterate	2.588
Can read only	3.536
Can read & write only	1.643
Primary	2.756
Middle	2.864
High school	3.634
Graduate & above	4.243
Test Statistics[a,b]	
Chi-Square	12.596
df	5
Asymp. Sig.	**.027**

Table3:Mean effect of Land holding and Knowledge level of IPM	
Land holding	**Knowledge About IPM**
Landless	3.002
Marginal	2.622
Small	3.972
Medium large	.577
Test Statistics[a,b]	
Chi-Square	9.359
df	3
Asymp. Sig.	**.025**

Table4:Mean effect of Family Income and Knowledge level of IPM	
Family Income	**Knowledge About IPM**
Below Rs. 5000/-	2.664
Rs.5001-10000/-	3.115
Above Rs.10000/-	3.563
Test Statistics[a,b]	
Chi-Square	12.601
df	2
Asymp. Sig.	**.002**

The study revealed that education has significant ($p<0.05$) effect on knowledge level of IPM. It seems that the respondents who have completed graduate or above degree have higher mean knowledge score than the respondents who can read and write only. The study revealed that educated people are more knowledgeable than the uneducated one.

Land holding is also significant ($p<0.05$) effect on knowledge. Small farmers are more knowledge about IPM than marginal farmers.

Family income has significant ($p<0.05$) mean effect on the knowledge level of IPM. It seems that the respondent group whose income is above Rs.10000/- have higher mean knowledge

score and the respondent with income upto Rs.5000/- has least mean knowledge score. The higher income group has the opportunity to gather their knowledge about IPM.

Table 5:.Pearson correlation of different variables

	AGE	GEN	RLG	CASTE	MARI_ST	EDU	Land holding	Eco_Stat	Total Com
Total Knowledge	**-.231***	.143	-.005	.073	.060	.185	**.289****	**.381****	.166

The table shows that the knowledge of IPM is negatively significantly (P<0.05) correlated with age. This findings supports the research findings of Borkhani et. al.(2011);Chaves and Riley (2001), Souza et al. (1993) and differ from the findings of Chaudhary et al. (2001) It seems that knowledge is inversely related to age which means lower age group has more significant knowledge than the higher age group. Knowledge is highly positively and significantly(P<0.01) correlated with land holding and economic status. The similar finding was reported by Borkhani et. al. It revealed that the large farmer and the higher income group have more IPM knowledge than the marginal farmer and lower income group.

CONCLUSION:

Integrated pest management is an important technique of any farming. In the study area, it is seen that majority of the respondents have hard about IPM techniques and they also interested in it. The study revealed that the educated and higher income group of farmers has knowledge of IPM. Land holding of farmers also leads to higher knowledge level on IPM techniques. But due to lack of training and poor facility they could not apply it. The government program on training of IPM has facilitated only a few farmers where there is a quite chance of extension work on this issue.

REFERENCE:

Borkhani, F.R;Fami,H.S;Rezvanfar,A and Pouratashi,M (2011).Application of integrated pest management (IPM) practices by paddy farmers in Sari county of Mazandaran province,Iran.African Journal of Agricultural Research. 6(21):4884-4892

Chaves B, Riley J (2001). Determination of Factors Influencing Integrated Pest Management: Adoption in Coffee Berry Borer in Colombian Farms. Agric. Ecosyst. Environ., 87: 159-177. Souza DG, Cyphers DM, Phipps T (1993). Factors Effecting the Adoption of Sustainable Agriculture Practices. Agric. Resour. Econ. Rev., 22(2): 159-165.

Chowdhury S, Ray P (2010). Knowledge level and adoption of the integrated pest management (IPM) techniques: a study among the vegetable growers of Katwa sub-division, Bardhaman district. Indian J. Agric. Res., 44(3): 168-176.

Dhaliwl, G.S;Jindal,V;Mohindru, B.(2015).Crop losses due to pests:Global and Indian scenario.Indian Journal of Entamology,77(2):165-168.

Karamidehkordi; Esmail , Hashemi; Atefeh (2010). Farmers' knowledge of integrated pest management: a case study in the zanjan province in iran.