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A Study on Knowledge Level and Constraints Faced by the Paddy Growers of Jammu District of J&K State

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Abstract

This study was conducted in Jammu district of J&K state wherein two blocks viz., R. S. Pura and Marh were selected. A sample of 240 respondents was considered. The study was undertaken to ascertain the knowledge level of paddy growers regarding new technology and constraints responsible for low adoption of seed technology in the selected belt. This study clearly established that majority of the sample farmers have possessed 'fair' and 'good' knowledge with respect to new paddy production technology. Jammu district has a sub tropical climate with hot and dry climate in summer and cold climate in winter. Being in the foothills of the mountains, nights are generally cooler than what they are in the neighboring areas of Punjab. Minimum and Maximum temperature is around 4 Degree Celsius and 47 Degree Celsius respectively. Rainy season usually starts from the end of June or the beginning of July. Average rainfall in the district is about 1246 mm. Rice cultivation is the main source of livelihood for rural populations living in developing countries. Achieving self-sufficiency in rice production and maintaining price stability are important objectives in low-income countries.

Keywords: Constraints, farmers, knowledge, paddy.

Jammu district has a sub tropical climate with hot and dry climate in summer and cold climate in winter. Being in the foothills of the mountains, nights are generally cooler than what they are in the neighboring areas of Punjab. Minimum and Maximum temperature is around 4 Degree Celsius and 47 Degree Celsius respectively. Rainy season usually starts from the end of June or the beginning of July. Average rainfall in the district is about 1246 mm. Rice cultivation is the main source of livelihood for rural populations living in developing countries. Achieving self-sufficiency in rice production and maintaining price stability are important objectives in low-income countries. To achieve this goal one important factor is to make farmers knowledgeable about improved rice farming techniques (Rizwana and Thelma, 2009). India is the second leading producer of rice in the entire world, preceded only by China. Rice is grown extensively in India in about 42.56 m ha area with an annual production of 95.33 MT having an average yield of 2240 kg per hectare (Anonymous, 2010-11,). Annual consumption is around 85 million tons (Khatik *et al.* 2012). In this context, the present study was taken up to know the extent of knowledge and constraints in rice production among the paddy farmers in two different blocks of Jammu district.

Material and Methods

The study was conducted in two blocks of district Jammu viz., R. S. Pura and Marh. Considering the vast geographical situation of the district, it was not practically possible to study the entire district. Therefore, the study was concentrated with only two randomly selected blocks. A sample of 240 paddy farmers was drawn at random following multistage random sampling method for the study. For the collection of primary data from the farmers, a structured schedule was prepared well in advance and information collected by visiting each and every farmer individually. The statistical methods used in the analysis of data were frequency distribution, percentage, analysis of variance (X^2), and Pearson correlation coefficient analysis and inferences were presented in the tables 1 & 5.

Results and Discussion

Relationship/association between the knowledge, attitude with socio-economic features of farmers.

Association between knowledge, attitude with socio-economic features of the paddy growing sample farmers has been estimated and is presented in table 1.

Table 1: Relationship/association between the knowledge, attitude with socio-economic features of farmers

S.No.	Variables	Knowledge	Attitude
1.	Age (r)	0.082 NS	0.224**
2.	Caste (X^2)	6.510 NS	24.112*
3.	Education (X^2)	38.551**	45.713**
4.	Family composition		
	i. Family type (X^2)	8.223 *	2.567 NS
	ii. Family Size (X^2)	3.512 NS	22.211**
5.	Annual Income (r)	0.333 **	0.345**
6.	Size of holding (r)	0.165 **	0.226**
7.	Social participation (X^2)	32.064 **	42.230**
8.	Farm power (r)	0.469 **	0.413**
9.	Change agent linkage (X^2)	42.108 **	15.51 NS
10.	Contact with extension agencies (X^2)	38.444 **	50.375**
11.	Urban contact (r)	0.133 *	0.482**
12.	Socio-economic status (r)	0.363 **	0.501**

***Significant at 1% level,* Significant at 5% level NS = Non-significant*

Table 1 indicates that there is very highly significant positive correlation between 'Caste', 'education', 'income', 'size of holding', 'social-participation', 'farm power', 'change agent linkage', 'contact with extension', 'socio-economic status' and the knowledge of the farmers regarding the new paddy technology. The study also reveals that there is significant positive relationship between family type of the farmers and the knowledge about new farm technology. A negative correlation is also found in the 'age', 'caste', 'family type' and 'change agent linkage' and knowledge of the sample farmers.

It clearly means that the sample farmers depend more on such sources of farm information which are locally available to them. Their urban visits do not appear to be so much with a desire to seek information regarding new farm technology', as there may be other reasons of socio-economic felt needs. Further the table indicates the significant correlation between 'age', 'Education', 'size of family', 'annual Income', 'size of holding', 'social participation', 'farm power', 'contact with extension agencies', 'Urban contact', 'Socio-economic status' and attitude of farmers towards new technology.

It can also be seen that knowledge of the farmers towards new technology has positive but non-significant relationship with 'Caste' and 'age' of sample farmers. The other variables having non-significant positive relationship with attitude of small farmers towards new technology are 'family type' and 'change agent linkage'.

Thus, from the foregoing narration, it may be concluded that except 'age', 'family size' and 'urban contact' with knowledge and 'family type', with attitude all the other variables had significant correlation/association with knowledge, attitude and socio-economic components of the respondents.

Knowledge of the farmers regarding new technology

Knowledge of the small farmers regarding new technology was measured in terms of the package of farm practices of paddy. For this the knowledge score of each respondent was calculated with the help of modified knowledge test scale developed by Singh (1981). For the purpose of statistical analysis, the knowledge score was classified into four groups namely poor (1-10), Fair (11- 20), Good (21-30) and Very good 31-40).The related frequencies and corresponding percentages have been distributed in these four categories score as shown in table 2.

Table 2: Knowledge of the farmers regarding new technology

S.No.	Level of knowledge	No. of respondents	Cumulative frequency	Percentage	Cumulative frequency percentage
1.	Poor (1-10)	21	21	8.75	8.75
2.	Fair (11-20)	115	136	47.92	56.67
3.	Good (21-30)	87	223	36.25	92.92
4.	Very good(31-40)	17	240	7.08	100.00
Total		240		100.00	

Data set out in the table 2 reveal that nearly 48 per cent of the sample farmers have secured the knowledge score in the range of (11-20), which has been operationally categorized as fair' knowledge, 36.25 per cent respondents have 'good' knowledge and obtained the knowledge score in the range of 21-30. The percentage of respondents having scored the knowledge score in the range of 31-40 were only about 7 per cent. Thus, approximately 43 per cent farmers have scored 'good' and 'very good' knowledge score in the range of 21 to 40.

Thus, from the above explanation it may be concluded that majority of the sample farmers have possessed 'fair' and 'good' knowledge with respect to new paddy production technology.

Correlation coefficient between knowledge, attitude and adoption behaviour of the farmers

To access the relationship between knowledge and attitude of the farmers about new technology of paddy and level of the adoption of new technology, the needed statistical analysis was done in terms of correlation co-efficient between knowledge, attitude and different technologies pertaining to paddy crop. The result on this aspect is presented in Table 3.

Table 3: Correlation coefficient between knowledge, attitude and adoption behaviour of the farmers

S. No.	Adoption behaviour of new technology	Knowledge ('r' value)	Attitude ('r' value)
1.	Seed technology	0.226**	0.202**
2.	Fertilizer technology		
	(i) Nitrogenous fertilizer	0.305**	0.234**
	(ii) Phosphatic fertilizer	0.053 NS	0.186**
	(iii) Potassic fertilizer	0.020NS	0.186**
3.	Plant protection technology	0.196**	0.244**
4.	Weedicide technology	0.78**	0.048NS
5.	Irrigation technology	0.188**	0.236**

***Significant at 1% level, NS = Non-significant*

It is clear from the table-3 that there is very high significant and positive correlation between seed, Nitrogenous fertilizers, plant protection, use of weedicides and irrigation technologies with the knowledge of the farmers regarding the new technology of paddy, The study also reveals that phosphatic and potassic fertilizer have been found to be non-significant with the knowledge of new technology of the sample farmers.

Table further reveals that there is very highly significant positive correlation between seed technology, nitrogenous and phosphatic fertilizers technology, plant protection and irrigation technology and the attitude of the farmers. Weed technology and potassic fertilizer technology are found to be non-significant with the attitude of the sample farmers towards new paddy technology. Thus, from the above discussion, it may be concluded that all the variables are found to be significant as the correlation coefficient between knowledge and attitude with adoption behaviour is concerned, except phosphatic, potassic fertilizer with knowledge and weedicides and potassic fertilizer with attitude.

Constraints responsible for low adoption of seed technology

The results on this aspect have been presented in table 4.

Table 4: Constraints responsible for low adoption of seed technology

S. No.	Constraints for low adoption	No. of respondents	Percentage	Rank order
1.	Lack of knowledge of growing HYV paddy	145	60.42	II
2.	Untimely availability of seed	158	65.83	I
3.	High cost of HYV seed	103	42.92	IV
4.	Lack of finance	94	39.17	V
5.	Not convinced for profit	23	9.58	VIII
6.	More requirement of organic manure and fertilizers	38	15.83	VII
7.	Produce not good for consumption	47	19.58	VI
8.	Inadequate irrigation facility	140	58.33	III

More than one constraint has been reported by the respondents, hence. total percentage exceeds to 100.

It is evident from the table-4 that untimely availability of seed, lack of knowledge regarding HYV of paddy, inadequate irrigation facility, high cost of HYV paddy, and lack of finance are the important constraints responsible for low adoption of seed technology ranked I, II, III, IV and V, respectively. The constraints which are also responsible for low adoption of seed technology are not good for consumption, require more organic manure and fertilizers, not convinced for profit ranked VI, VII and VIII. These findings are in line with the findings of Oinam and Sudhakar, (2014), *Kumari (2012)* and *Jayasankar and Thyagarajan (2010*).

Constraints responsible for low adoption of plant protection technology

Data given in Table-5 clearly indicate that the important constraints which are responsible for low adoption in case of plant protection technology are 'lack of knowledge' (67.50%), 'lack of technical help' (60.42%), 'Non-availability of plant protection equipments' (58.33%), 'High cost of pesticide and fungicides' (56.25%), 'chemicals not-available' (51.67%).

Table 5: Constraints responsible for low adoption of plant protection technology

S.No.	Constraints for low adoption of plant protection technology	No. of respondents	Percentage	Rank order
1.	Lack of knowledge	162	67.50	I
2.	Lack of finance	110	45.83	VII
3.	Un availability of chemicals	124	51.67	V
4.	High cost of pesticides/fungicides	135	56.25	IV
5.	Un availability of equipments	140	58.33	III
6.	Hazardous to human and animals	58	24.17	XI
7.	Loss due to insects, pest is low	65	27.08	IX
8.	Harmful residual effects	60	25.00	X
9.	Lack of technical help	145	60.42	II
10.	Less effective chemicals due to adulteration	108	45.00	VIII
11.	Lack of conviction about effectiveness	112	46.67	VI

More than one constraint has been reported by the respondents, hence, total percentage exceeds to 100.

Thus, from the foregoing description it may be concluded that 'lack of knowledge', 'lack of technical help', unavailability of plant protection equipments' and 'High cost of pesticides and fungicides' are the main constraints responsible for low adoption of plant protection technology by the farmers.

References

Rizwana and Thelma, 2009. Knowledge level of paddy growers regarding improved practices of paddy cultivation in Raipur, Chhattisgarh, India. *International Journal of Rural Studies* **16**(1): 1-10.

Anonymous 2010. Agricultural statistics, Directorate of Economic and Statistics, Department of Agriculture and Cooperation, Government of India, New Delhi, pp 1-2.

Ram Lal Khatik, Bhimawat, B.S. and Upadhyay, B. 2012. Knowledge of improved rice production technology by the farmers in Dungarpur district of Rajasthan. *Rajasthan Journal of Extension Education* **20**: 97-101.

Termaric Oinam and Sudhakar, B. 2014. Constrains faced by the farmers in adoption of improved paddy practices in Bishnupur district of Manipur state. *International Journal of Economic and Business Review* (Online). **2**(7): 32-37.

Kumari, G. 2012. Constraints in Adoption of Integrated Pest Management (IPM) Practices by Rice Growing Farmers of Jammu Division. *Indian Research Journal of Extensor Education. Special Issue* (**II**) 15-17.

Jayasankar, R. and Thyagarajan, S. 2010. Constraints Experienced By The Rice Farmers In Adopting Recommended Biofertilizer Practices *International Journal of Current Ressearch.* **7**: 18-20.