

Correlates of Adoption Behavior of Paddy Growing Farmers

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Abstract

One of the major goals of extension is to get new and profitable technologies adopted by the rural community. Adoption is a decision to make full use of an innovation as the best course of action available. An innovation is an idea, practice or object that is perceived as new by an individual or other unit of adoption. The study revealed that majority of the farmers (67.33%) come under medium categories with respect to adoption of paddy technology. The coefficient of correlation ($r = 0.593$) was found to be highest in the knowledge of package of practices.

Key words : Adoption behavior, Correlation, Positive, Knowledge.

Raising of agriculture from traditional level to scientific level is difficult task in Indian setting. Transformation necessitates that the farmers should be enthused and motivated to accept and work for the change. The basic issue therefore is receptivity of farmers. They need to be prepared mentally and emotionally to accept new ideas and practices. This willingness and acceptability may be created, developed and sustained in them by continuous supply of information regarding different aspects of farm operations and constant education and training. The farmers need to know the necessity of adopting a particular farm practice replacing the traditional one. They have also to be informed what to do, when and how to avail of the existing services at various levels. The consideration and factors which motivate the farmers to accept and adopt or to reject and not to adopt a particular recommended practice, item or a program, cannot be codified categorically, because each farmer's reaction and norms of taking decisions are different. A farmers' behavior towards an appreciation of a particular idea or practice may not always be the same. There are several factors and forces influencing individually or in cumulative way the minds of farmers for the adoption of a practice.

One of the major goals of extension is to get new and profitable technologies adopted by the rural community. Adoption is a decision to make full use of an innovation as the best course of action available. An innovation is an idea, practice or object that is per-

ceived as new by an individual or other unit of adoption. Perception is an activity through which an individual becomes aware of objects around oneself and of events taking place. The technologies, practices developed through research are innovations. These may be new varieties of crops and plants, new breeds of livestock, new chemicals and medicines, new technique of doing things. Farmers themselves may develop some new practices which are also innovations. Irrespective of the time period the idea or practice was originally developed, when a person first becomes aware of it, it is an innovation to that person. Keeping these in view the present study was planned with the following objective : To study the adoption behavior of paddy growers, and to examine the association between selected independent variables with the adoption behavior of paddy growers.

Methods

The study was conducted in purposively selected Banka district of Bihar. Out of 11 CD blocks two blocks namely Banka and Rajaun were selected randomly. Thereafter 25% of gram panchayats from each CD Block were selected randomly. Then a sample of 25% villages were selected randomly from selected gram panchayats. Then samples of 300 farmers (paddy growers) were selected randomly on the basis of PPS sampling method. Data were collected with the help of semi-structured interview schedule

Table 1. Distribution of respondents on the basis of adoption of paddy technology. N = 300. Highest score = 32, Lowest score = 18, Mean = 25.77, SD = 2.43.

	Particular	Frequency	Percentage
1	Low < (mean \pm SD)	56	18.67
2	Medium (mean \pm SD)	202	67.33
3	High > (mean \pm SD)	42	14.00

specially developed on standard scales with slight modification in light of objective. In view of objectives of study, review of literature and discussions with academicians, eight variables namely socio-economic status, education, annual income, interpersonal interaction, innovation proneness, value orientation, package of practices, sources of information utilization, were selected to study adoption behavior.

Variables and Their Measurement

Adoption behavior of farmers which was taken as dependent variable was measured with the help of index developed in the line of adoption intensity index used by Choubey (1). Independent variables like socio-economic status and education was measured by SES scale (2). Annual income was quantified, interpersonal interaction was measured by scale developed by Bhople (3), innovation proneness was measured by scale developed by Choudhary (4), value orientation was measured by scale developed by Kittur (5), package of practices was measured by the scale developed by Singh (6) and sources of information utilization was measured by scale developed by Ramachandran (7). The data were collected with the help of semi-structured interview schedule. The data were tabulated, classified and statistically processed to draw relevant conclusion.

Formulation of Hypothesis

According to Goode and Hatt, hypothesis is proposition which can be put to test to determine validity.

HO₁ : There is no relationship between socio-economic status and adoption behavior of farmers. HO₂ : There is no relationship between education and adoption behavior of farmers. HO₃ : There is no relationship between annual income and adoption

Table 2. Correlation between adoption behavior and selected independent variables. **Correlation is significant at the 0.01 level (2 tailed). *Correlation is significant at the 0.05 level (2 tailed).

	Selected independent variables	Value of correlation coefficient (r)
1	Socio-economic status (X ₁)	0.269**
2	Education (X ₂)	0.268**
3	Annual income (X ₃)	0.241**
4	Interpersonal interaction (X ₄)	0.178**
5	Innovation proneness (X ₅)	0.264**
6	Value orientation (X ₆)	0.122*
7	Knowledge of package of practices (X ₇)	0.593**
8	Sources of information utilization (X ₈)	0.403**

behavior of farmers. HO₄ : There is no relationship between interpersonal interaction and adoption behavior of farmers. HO₅ : There is no relationship between innovation proneness and adoption behavior of farmers. HO₆ : There is no relationship between value orientation and adoption behavior of farmers. HO₇ : There is no relationship between knowledge of package of practices and adoption behavior of farmers. HO₈ : There is no relationship between sources of information utilization and adoption behavior of farmers.

Results and Discussion

Table 1 reveals that majority of the respondents (67.33%) had medium level of paddy technology adoption ; followed by low level of paddy technology adoption by 18.67% farmers. Only 14% of the farmers had high level of adoption with regards to paddy technology. This might be due to the reason that still majority of the farmers want to stick up with the practices they are following or they are lacking in risk taking ability. The findings are in accordance with the reports of Kumaravel and Krishnaraj (8) and Hanumanaikar et al. (9), but in contradiction with the findings of Bhatia (10) who reported that majority of respondents (60%) had low level of adoption.

Table 2 reveals the correlation coefficient values of different independent/predictor variables along with the dependent / response variable. With regards to adoption of paddy technology the correlation value

of the knowledge of package of practices was found highest i.e. 0.593. It is also highly significant indicating the strong association of the knowledge component with respect to package of practices. It means this variable exerted a significant effect on the adoption behavior of farmers. This rejects the hypothesis (H_{07}) stated in null form that there is no association between knowledge of package of practices with adoption behavior of farmers. This might be due to the fact that knowledge occurs when an individual (or other decision-making unit) is exposed to an innovation's existence and gains an understanding of how it functions. Knowledge in any sphere provides adequate strength to the innate faculty of an individual or a group to think various aspects of a practice and to take a considerable decision for final acceptance. Hence, it is quite natural that it has exercised a conspicuous role in the adoption behavior of the farmers. The finding of this study is in conformity with the findings of earlier workers (11—13).

The next important variable which showed positive and significant relationship with the adoption of paddy technology was found to be sources of information utilization (X_8) having r value 0.403. Based on assumption, source of information utilization was having significant positive relationship with the adoption of paddy technology. It consists of formal personal sources, informal personal sources and mass media. The significant relationship may be due to the easy accessibility of different sources of the information of these farmers. This finding is supported by findings of Ramegowda and Siddramaiah (14) Subashini and Thyagarajan (15), Pathak et al. (16).

The other variables like socio-economic status, (X_1), education (X_2), Innovation proneness, (X_5), Annual income (X_3), also show consistent, positive and significant correlation with adoption behavior having r values, 0.269, 0.268, 0.264 and 0.241 respectively. It means these factors exert influence on adoption, rejecting the null hypotheses (H_{01}), (H_{02}), (H_{05}), (H_{03}), that there is no relationship between these variables along with adoption behavior.

The positive and significant relationship of socio-economic status with adoption of paddy cultivation technology might be due to the reason that high socio-economic status easily signifies bigger farm size, better education, higher income, higher social participation. All these factors provide the farm-

ers a favorable environment due to which they can be rational and prone to adopt the appropriate paddy technology. This finding is in conformity with earlier reports (13, 17, 18).

In accordance with expectations, education was found to be significantly related with adoption behavior of farmers with regards to paddy technology (9, 15—20). Innovation proneness was having significant positive relationship with the adoption behavior of farmers. This might be due to dissatisfaction with the kind of traditional varieties they were growing and they may be looking for new avenues to take up fresh challenges and test their initiatives to succeed in their venture. It is necessary for the farmers to understand clearly the various dimensions of the technology which are imperative to accept and adopt new agricultural practices in their farms. The knowledge of package of practices plays an important role in adoption of paddy cultivation technologies, innovation proneness is certainly going to have significant positive relationship with adoption of paddy technology which is true to our expectation (Table 2). This finding is in conformity with the earlier reports (9, 14, 16, 21).

Annual income is also found to have positive and significant correlation with adoption of paddy technology as per assumption. This might be due to the reason that income and investment are inter correlated variables. This means a person having higher annual income bears the capacity of more investment in technological adoption in the form of purchase of quality seeds, fertilizers, pesticides, herbicides, labour cost. A person having higher annual income may also bear the capacity to take risk and as a consequence he invests more in adoption of technology (9, 13, 16, 22).

Although the remaining two variables, interpersonal interaction and value orientation are found to have positive and significant correlation with adoption but these two variables did not depict much strong association.

Conclusion

The study revealed that majority of the farmers (67.33%) come under medium categories with respect to adoption of paddy technology. The coefficient of correlation ($r = 0.593$) was found to be highest in the

case of knowledge of package of practices. So still there is a need to conduct training program on large scale so that farmers may get new knowledge about paddy cultivation and by adopting these technologies their economic status may be enhanced.

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