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#### Yugandhara Pagare

PG Student, Department of  
Extension Education, College of  
Agriculture, Latur, Maharashtra,  
India

#### Dr. Jyoti Deshmukh

Associate Professor, Department  
of Extension Education, College of  
Agriculture, Latur,  
Maharashtra, India

#### Vipin Samrit

M.Sc.(Agri.) Department of  
Extension Education, College of  
Agriculture, Latur, Maharashtra,  
India

#### Prajakta Takte

PG Student, Department of  
Extension Education, College of  
Agriculture, Latur, Maharashtra,  
India

#### Rachana Ghodke

PG Student, Department of  
Extension Education, College of  
Agriculture, Latur, Maharashtra,  
India

#### Corresponding Author:

#### Yugandhara Pagare

PG Student, Department of  
Extension Education, College of  
Agriculture, Latur, Maharashtra,  
India

## Relational analysis between profile and perception of farmers about ITK in plant protection

Yugandhara Pagare, Dr. Jyoti Deshmukh, Vipin Samrit, Prajakta Takte and Rachana Ghodke

### Abstract

In order to better understand the relationship between farmers' perceptions and profiles regarding indigenous technical knowledge (ITK) in plant protection, the current study set out to investigate "farmers' perceptions of indigenous technical knowledge in plant protection" in the Hadgaon, Bhokar, and Kinwat tahsils of Nanded district in the Marathwada region of Maharashtra state.

As regard with all independent variables like risk orientation, innovativeness had positive and significant relationship with perception while variables like farming experience, education, land holding, annual income, social participation, extension contact, information sources of ITK had positive and highly significant relationship with perception only one variable family size had positive and non- significant relationship with farming experience.

It was discovered that the independent variables' co-efficient of determination ( $R^2$ ) in multiple regression was 0.6030. That indicates that the overall variation is 60.30 percent.

**Keywords:** Local knowledge, indigenous technical knowledge, perception, ITK, relationship, relational analysis, profile

### Introduction

Indigenous Technological Knowledge (ITK) is deeply ingrained in a community's history and culture. It developed over the course of a few years through regular experimenting with community resources and day-to-day living. It is the customary, distinctive, locally specific knowledge that is indigenous to a given geographic place and exists within and develops around that particular circumstance. It is information that is passed down orally from one generation to the next, suggesting a system of shared or collective ownership. It is the methodical body of information that the locals have gathered by experience, unofficial experiments, and close observation of the circumstances in the area. It offers a useful framework for community-assistance initiatives. The product is Indigenous Technical Knowledge (ITK). Indigenous Technical Knowledge (ITK) is the result of millennia of survival via trial and error, as well as astute observation. It can serve as the foundation for the knowledge domain that extension workers and researchers use to create appropriate experimental procedures and research tactics.

The term "Indigenous" indicates that it is produced locally. It is probably still changing, nevertheless, as a result of exposure to conventional wisdom, outside influences, organizations, and individual inventions.

"Technical" refers to the specialised knowledge that certain individuals possess due to their personal involvement in a given field. As a result, people have more in-depth information than those who lack similar experiences or abilities to observe similar circumstances.

It is hoped that the study's conclusions would give agricultural scientists in the area fresh insight into how to improve ITK in order to make it more useful and adaptive.

### Methodology

The following study was carried out in the Nanded district of the Marathwada area of Maharashtra over the years 2022–2023.

The district of Nanded consisted of eight tahsils, from which Hadgaon, Bhokar, and Kinwat tahsils were chosen at random.

For the aims of the study, four villages from each tahsil were selected. Out of three tahsils, a total of twelve villages were selected for the study.

Randomly ten respondents were chosen from each hamlet that was considered. Thus, 120 respondents in all were chosen for the current investigation. For the purposes of the study, a straightforward random sampling approach was used to choose the respondents. Ex-post-facto research design was employed in the study to estimate the research.

The information gathered using a pre tested interview plan. Data analysis was conducted using statistical tests and methodologies, including frequency, percentage, mean, standard deviation, correlation coefficient and multiple regression.

### Objective

To find out relationship between profile and perception of farmers about indigenous technical knowledge in plant

protection.

### Results and Discussion

#### Relational analysis between profile and perception of farmers about ITK in plant protection

Perception is nothing but the sense of awareness about the physical environment around an individual.

Finding revealed that, variable like risk orientation, innovativeness had positive and significant relationship with perception while variables like farming experience, education, land holding, annual income, social participation, extension contact, information sources of ITK had positive and highly significant relationship with perception only one variable family size had positive and non-significant relationship with farming experience. As shown in table No. 1.

**Table 1:** Relational analysis between profile and perception of farmers about ITK in plant protection.

N=120

Sr. No.	Independent variables	Co-efficient of correlation
1.	Farming experience	0.593**
2.	Education	0.521**
3.	Family size	0.166 NS
4.	Land holding	0.602**
5.	Annual income	0.518**
6.	Social participation	0.330**
7.	Extension contact	0.457**
8.	Information sources of ITK	0.522**
9.	Risk orientation	0.243*
10.	Innovativeness	0.238*

\*Significant at 0.05 level of probability. \*\* Significant at 0.01 level of probability.

#### Multiple regression of independent variable with their perception about ITK in plant protection

It could be observed from Table No.2 that, co-efficient of determination (R<sup>2</sup>) of the independent variables was 0.6030. It means that 60.30 per cent of total variation in the perception of the farmer about indigenous technical knowledge in plant protection was explained by the 10 selected independent variables. The remaining 39.70 per cent of perception was remain unexplained also it was observed that, amongst

independent six variables like farming experience, education, annual income, social participation, risk orientation, innovativeness found to be positive and non-significant with perception and one variable viz., Family size was found to be negative and non-significant. Two variables i.e., Land holding and extension contact found to be positive and significant and one variable i.e., Information sources of ITK found to be positive and highly significant with perception. As shown in table No. 2.

**Table 2:** Multiple regressions of independent variable with their perception about ITK in plant protection

Sr. No.	Variables	Regression Coefficients (B)	Standard Error (SE)	't' value
1.	Farming experience	0.053	0.031	1.686 NS
2.	Education	0.147	0.169	0.874 NS
3.	Family size	-0.011	0.128	-0.088 NS
4.	Land holding	0.359	0.165	2.173*
5.	Annual income	1.19636E-06	1.19938E-06	0.997 NS
6.	Social Participation	0.457	0.233	1.957 NS
7.	Extension contacts	0.048	0.020	2.428*
8.	Information sources of ITK	0.099	0.025	3.930**
9.	Risk orientation	0.016	0.046	0.351NS
10.	Innovativeness	0.049	0.038	1.261 NS

R<sup>2</sup> = 0.603

F= 16.55

\*Significant at 0.05 level of probability.

\*\* Significant at 0.01 level of probability. NS= non-significant

### Conclusion

Amongst independent variable of farmers, seven variables farming experience, education, land holding, annual income, social participation, extension contact, information sources of ITK found to be positive and highly significant with perception and two variables viz., Risk orientation and innovativeness were found to be positively significant. Only

one variable i.e., Family size found to be positive and non-significant.

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