Research Note

Technological Gap in Adoption of Recommended Wheat Production Practices

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Wheat is the main rabi crop growing in Vindhyan Plateau of Madhya Pradesh and Sehore is one of the major wheat growing area in the plateau. The technological development in agriculture increased the production and productivity but the impact of improved wheat production practices has not been so prominent in some area of Madhya Pradesh particularly in traditional practicing areas. In wheat growing area of Madhya Pradesh the technological change have been found in wide scale but the growth of wheat production in wheat growing area has been very slow mainly due to traditional nature of farming dominated by rainfed wheat production situation resulted very low level of productivity. With the introduction of high yielding and improved variety and use of adequate fertilizer, plant protection measure and irrigation, repeatedly, It was noted that there is a yield gap between tradition farmer's production practices and improved production practices. Many research results stated that if such yields could be realized by all the farmers then the present level of wheat production can be increased by more than 30 per cent, which indicated the magnitude of un-harvested yield that it still there in the wheat growing area. Keeping the view as importance, the present study was carried out to estimate the technological gap in wheat production and to examine-the relationship between technological adoption and different interrelated socio personal, socio-physiological and socio economic factors at the existing level of resources in wheat production.

METHODOLOGY

The sample of the study has been selected through multi-stage sampling technique; these are selection of block in the district and respondents in the block for finding the facts of the study. There are 5 blocks namely Sehore, Ashta, Ichhawar, Nasriullaganj and Budhani in the district. Out of these Sehore block was selected

purposively because it was serve is great deal of convenience for the researcher in term of accessibility, ease of rapport building, time, money and efforts A list of villages in block was prepared in ascending order to total wheat area in the village. Out of these villages, 10 villages were selected randomly for present investigation.

Separate list of wheat growing farmers of these selected villages was prepared and arranged them in ascending order to wheat growing area under their possession. From these lists 10 farmers from each list were selected with the help of simple random sampling method. Thus, in all, 100 farmers were selected from 10 selected villages for this study.

The data was collected personally by the researcher through a structured and pre-tested interview schedule. The input output data pertaining to wheat production and technological gap were collected during the agricultural year 2007-08. Simple Statistical tools were used to highlight the facts of the study.

Technological gap index was majored with the help of following formula:

$$GI = \frac{R-A}{R} \times 100$$

Where,

GI= Gap index in percentage

R=Recommended package of practices in terms of total score fixed for a component

A= Actual adoption of the package of recommended practices in terms of score obtained by the farmers out of the total score fixed for that component.

Liner multiple regression analysis was done to estimate the relationship between technological adoption and selected independent variables

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variable do not effect the other variable. Zero order correlation coefficient between socio economic characteristics of farmers and adoption level is presented in table 2.

Table-2: Association of socio-economic characteristics of farmers with adoption level.

S.No	Characteristics	'r' value
1	Age	0.298**
2	Education	0.312**
3	Caste	0.291**
4	Size of land holding	0.271**
5	Annual Income	0.272**
6	Size of family	0.326**
7	Marital status	0.219**
8	Extension participation	0.295**
9	Social Participation	0.291**
10	Socio-economic status	0.245**
11	Economic motivation	0.253**
12	Source of Information	0.245**

*= Significant at p=0.05   **= Significant at p=0.01

The results of correlation analysis in above table revealed that characteristics namely Age (0.298**), Education (0.312**), Caste (0.291 **), Size of land holding (0.271 **), Annual income (0.272**), Size of family (0.326**), Extension Participation (0.295**) and Social Participation (0.291 **) were positively and significantly at 0.01 per cent level related to adoption level respectively. The remaining characteristics namely marital status (0.219*), socio economic status (0.245*), economic motivation (0.253*) and source of information (0.245*) were positively and significantly at 0.05 per cent level related to adoption level respectively.

Thus, it can be concluded that all the characteristics of farmers were found to positively and significantly correlate with adoption level, indicating that higher in frequency of socio economic characteristics of farmers results higher the adoption level of farmers. It can be inferred that farmers having higher frequency of characteristics adopted higher level of improved wheat production practices to have deeper knowledge as well as skilful development for making wheat cultivation more scientific.

Influence of socio-economic characteristics of farmers on their adoption level about cultivation of wheat

In order to study the relative influence of socio-economic characteristics of farmers on their overall adoption level in regards to wheat practices, the values of standard partial regression coefficient (ß- values) were calculated and presented in table 3.

Table-3: Standard partial regression coefficient (ß-values) of adoption level with their socio-economic Characteristics

S.No	Characteristics	'ß' value	't' value
1	Age	1.221*1.283	
2	Education	0.834*	1.641
3	Caste	1.134*	1.246
4	Size of land holding	2.160*	2.677
5	Annual Income	0.774*	1.005
6	Size of family	2.239*	2.151
7	Marital status	1.885*	1.179
8	Extension participation	0.439*	0.330
9	Social Participation	1.914*	2.033
10	Socio-economic status	0.386*	0.782
11	Economic motivation	0.105 NS	0.533
12	Source of Information	0.756*	1.562
	Coefficient of determination (R^2) =0.400		
	Multiple correlation coefficient R) = 0.632		

*= Significant at p=0.05   **= Significant at p=0.01

The study of standard partial regression coefficient revealed that out of all socio economic factors only one factor, namely economic motivation (values 0.015 N,S.) Influence the adoption level of the farmer's positive but not significantly. The other remaining socio economic factors influenced the adoption level of farmers positive and significantly.

Thus, it can be concluded that all the socio economic factors except economic motivation had strong contribution towards adoption level while the contribution of economic motivation was found to positive but non significant.

Null Hypothesis:

There are no relationships between socio-personal and socio-economic characteristics and adoption level of improved wheat production practices.

Empirical Hypothesis

There are positive relationships between socio-personal and socio-economic characteristics and adoption level of improved wheat production practices.

The co-relation coefficient of all the characteristics of farmers were found to positively and significantly correlate with level of improved wheat production practices, indicating that higher in frequency of socio economic characteristics of farmers results higher the adoption level of farmers, Hence, the null hypothesis was rejected and original proposition that there are significant and positive relationships between socio-economic attributes and adoption level of farmers was accepted.

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