# VARIABLES INFLUENCING TRIBAL LEADERS' KNOWLEDGE AND ADOPTION GAP FOR IMPROVED PADDY CULTIVATION TECHNOLOGIES

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***ABSTRACT***

*The present study was conducted in the Manpur block of Rajnandgaon district with the 85 tribal leaders who were selected from 17 villages of the block. The results of the research reveals that majority of the tribal leaders were having medium level of knowledge as well as adoption. The most of the tribal leaders were having no knowledge and a high gap in adoption for seed treatment and plant protection measures of paddy technologies. The variables age, occupation, sub caste and sources of information were having positive and significant relationship with adoption of recommended paddy technologies.*

## *INTRODUCTION*

Manpur is considered as tribal block of Rajnandgaon district. Rice is the staple food and kodo-kutki is secondary minor millet of the tribes of the block. The agriculture department of the state pays more emphasis on transfer of improved technologies of paddy. The present study was conducted to assess the extent of knowledge and adoption of the tribal leaders of improved paddy cultivation technologies with following specific objectives:

1. To study the level of knowledge of tribal leaders regarding selected paddy technologies.
2. To study the extent of adoption of tribal leaders regarding selected paddy technologies.
3. To study the relationship between independent variables and extent of adoption of improved paddy technologies by tribal leaders.

## *METHODOLOGY*

The present study was conducted in Rajnandgaon district of Chattisgadh state. The Manpur block, being a tribal block, was selected purposively. Out of total 70 villages in Manpur block, 17 (i.e. 10 per cent) villages were randomly selected. Five most popular leaders from each selected village were considered as respondents. Thus, a total of 85 tribal leaders were selected for this study.

The four improved technologies of paddy namely use of improved varieties, seed treatment, use of fertilizer and plant protection measures were selected for the purpose of this study.

The level of knowledge and extent of adoption for each of these technologies by the respondents were assessed with the help of a specially structured interview schedule. The knowledge index and adoption index were calculated for each of the respondents.

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**Table 1: Distribution of respondents according to level of knowledge regarding improved paddy technologies N=85**

| Practices | Extent of knowledge | | | |
|---|---|---|---|---|
| | Nil (0.00) | Low (<33.33) | Medium (33.34-66.66) | High (>66.66) |
| Overall knowledge of paddy technologies | 00 (0.00) | 23 (27.06) | 49 (57.65) | 13 (15.29) |
| High Yielding varieties | 00 | 57 | 24 | 4 |
| (0.00) | (67.06) | (28.24) | (4.70) | |
| Seed treatment | 73 | 03 | 5 | 4 |
| (86.23) | (2.35) | (5.89) | (4.70) | |
| Fertilizer use | 00 | 18 | 64 | 3 |
| (0.00) | (21.17) | (75.30) | (3.53) | |
| Plant protection measures | 51 | 8 | 21 | 5 |
| (60.00) | (9.41) | (24.70) | (5.89) | |

Figures in parentheses show percentage.

## *RESULTS AND DISCUSSION*

### *LEVEL OF KNOWLEDGE*

Data presented in Table 1 reveals that 57.65 per cent respondents were having medium level of knowledge, while 27.06 percent of the respondents were having low level of knowledge. There were 15.29 percent respondents who had high level of knowledge.

It is obvious from Table 1 that most leaders possess no knowledge for seed treatment and plant protection measures. Contrarily not a single respondent opined to have no knowledge regarding high yielding varieties and fertilizer use.

An attempt was also made to know the knowledge gap of the respondents. Data presented in Table 2 indicates that maximum knowledge gap was found in seed treatment practices (87.00 percent) followed by plant protection measures (71.64 percent).

### *EXTENT OF ADOPTION*

The data regarding extent of adoption of paddy technologies presented in Table 3 indicates that majority (62.35 per cent) of the respondents were medium adopters where as, 29.41 and 8.24 percent respondents were low and high category adopters respectively. The technology wise analysis indicates that majority of the tribal

**Table 2: Knowledge gap of the respondents regarding improved farm practices. N = 85**

| Sr. No. | Practices | Maximum obtainable score | Obtained mean score | Par cent | Knowledge gap | Rank |
|---|---|---|---|---|---|---|
| 1. | High yielding varieties | 4 | 2.53 | 63.25 | 36.75 | IV |
| 2. | Seed treatment | 6 | 0.78 | 13.00 | 87.00 | I |
| 3. | Fertilizer use | 16 | 8.01 | 50.06 | 49.94 | III |
| 4. | Plant protection measure | 12 | 3.40 | 28.33 | 71.67 | II |
| | Overall knowledge | 38 | 14.72 | 38.66 | 61.34 | |

**Table 3: Distribution of respondents according to extent of adoption regarding improved farm practices N = 85**

| Practices | Extent of Adoption | | | |
|---|---|---|---|---|
| | Nil (0.00) | Low (<33.33) | Medium (33.34-66.66) | High (>66.66) |
| Overall adoption of paddy technologies | 00 (0.00) | 25 (29.41) | 53 (62.36) | 07 (8.24) |
| High yielding varieties | 00 (0.00) | 57 (67.96) | 26 (30.04) | 02 (3.00) |
| Seed Treatment | 76 (89.65) | 01 ( 0.25) | 05 ( 6.76) | 03 (3.34) |
| Fertilizer use | 00 (0.00) | 22 (25.39) | 56 (66.10) | 07 (8.51) |
| Plant protection measures | 53 (62.40) | 23 (27.60) | 09 (10.00) | 00 (0.00) |

Figures in parentheses show the percentage.

leaders did not adopt the paddy technologies namely seed treatment (89.65 per cent) and plant protection measures (62.40 per cent). The highest adoption was observed for fertilizer use, followed by high yielding varieties.

The further analysis of adoption gap (presented in table 4) indicate that the maximum adoption gap was found in seed treatment practices (85.50 percent) followed by plant protection measures (78.09 percent). Similarly, the adoption gap was also found in high yielding varieties (61.75 percent) and fertilizers use (54.93 percent).

***RELATIONSHIP OF INDEPENDENT VARIABLES AND EXTENT OF ADOPTION***

The correlations of selected independent variables with the extent of adoption of paddy technologies by the tribal leaders are presented in Table 5. The results indicate that the variables namely age, occupation, land holding, sub caste and sources of information were found to be positively and significantly correlated with the extent of adoption of paddy technologies. Surprisingly, the contact with extension agent and level of aspiration

**Table 4: Adoption gap of respondents regarding improved farm practices**

| Sr. No. | Practices | Maximum obtainable score | Obtained mean score | Per cent | Adoption gap | Rank |
|---|---|---|---|---|---|---|
| 1. | High yielding varieties | 4 | 1.53 | 38.25 | 61.75 | III |
| 2. | Seed treatment | 4 | 0.58 | 14.50 | 85.50 | I |
| 3. | Fertilizer use | 16 | 7.21 | 45.06 | 54.93 | IV |
| 4. | Plant protection measures | 24 | 5.26 | 21.91 | 78.09 | II |
| | Overall adoption | 40 | 3.64 | 29.93 | 70.07 | |

**Table 5 : Relationship between independent variables and extent of adoption of recommended paddy technologies**

| Sr. No. | Independent variables | Correlation Coefficient |
|---|---|---|
| X1 | Age | 0.399 * |
| X2 | Education | 0.027 |
| X3 | Occupation | 0.371 * |
| X4 | Annual income | 0.047 |
| X5 | Land holding | 0.047 |
| X6 | Sub caste | 0.215 * |
| X7 | Sources of information | 0.215 * |
| X8 | Contact with extension agent | -0.376 |
| X9 | Level of aspiration | -0.038 |
| X10 | Level of knowledge | 0.143 |

*Significant at 0.05 % level

showed negative relationship with the extent of adoption of paddy technologies.

***CONCLUSION***

Majority of the tribal leaders were having overall medium level of knowledge regarding improved paddy technologies. There were 86.23 per cent local leaders who have no knowledge for seed treatment, while 62.40 per cent has no knowledge for plant protection measures of paddy cultivation.

In case of overall adoption 62.35 percent tribal leaders were found to be medium adopters regarding improved paddy technologies. In case of level of adoption of fertilizers, 66.10 per cent tribal leaders were medium level adopters of fertilizers, while 67.96 per cent were found to possess low level of adoption of high yielding varieties.

The analysis of adoption gap show that 85.50 and 78.09 per cent of the tribal leaders have adoption gap for seed treatment and plant protection measures of paddy technology, respectively.

The variables age, occupation, sub caste and sources of information were having positive and significant relationship with adoption of recommended paddy technologies. Contrarily, the contact with extension agent and level of aspiration has negative but non-significant relationship with extent of adoption of paddy technology.

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