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# Extent of adoption of recommended brinjal production technology among the farmers of Gaurela-Pendra-Marwahi (GPM) district of Chhattisgarh

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**Abstract**
Present study was carried out during 2020-21 in the Gaurela Pendra Marwahi district of Chhattisgarh. This study was conducted in purposively selected 10 Villages of Gaurela and Pendra blocks with sample comprised of 100 respondents. The findings of the study showed most of the respondents belonged to middle age group (37-56) years, had primary level of school education, followed by illiterate (26.00%) of the respondents who were educated upto middle school whereas (22.00%) respondents were high school (5.00%) high higher secondary (3.00%), graduate (3.00%) and above (3.00%). Social participation were majority of respondents (63.00%) have membership in one organization followed by 18.00 per cent of respondents have no member in any organizations and 11.00 per cent respondents have membership in more than one organization. Only 8.00 per cent of the respondents belong to executive /office bearer category. reveals that extent of adoption of recommended brinjal production technology among the respondents of study area. It was found that majority of the respondents (51.00%) were had medium level of adoption of respondents. reveals that source of information and knowledge level were found highly positively and significantly correlated with adoption level of recommended brinjal production technology at 0.01 level of probability. Moreover, with the increase in knowledge level, adoption of recommended technology by the respondents also increases.

**Keywords:** Adoption, brinjal, practices, statistical tools

## Introduction
Horticulture crops include a wide variety fruits, vegetables, flowers, plants and spice crops are all examples of food crops. Producing vegetables is the most appealing to farmers since it pays better than field crops. Brinjal (*Solanum melongena* L.) the origin of cultivated brinjal is India. Brinjal has been in cultivation for a long time, with its origins in the Indo Burma region belongs to the family Solanaceae. Farmers rely on their livelihood for food security and income generation, and their level is closely related to the performance of agricultural sector. These population make up a large part of the world.

Vegetables produce the largest yield per unit of land, as well as the highest income. Vegetable's production has historically has been a source of supplemental income for small holders and via extensive farming, has provided useful employment. India is the world's second-largest vegetables growers after China, with 10.35 million hectares under cultivation and a total production of 196.27 million tonnes (Anonymous 2020-21). Objective extent of adoption of recommended brinjal production technology among the farmers.

## Materials and Methods
The study was conducted in two selected blocks namely Gaurela and Pendra block of the Gaurela - Pendra -Marwahi District in 2019-20.10 villages were chosen randomly and data was collected purposively from 100 (10x10) brinjal growers' respondents via personal interview. To find out the adoption index quotient the extent of adoption regarding recommended brinjal production technology were. Data were analysed by using appropriate statistical methods like, mean, percentage and correlation.

## Results and Discussion
**Attributes of the respondents:** The majority (59.00%) of the respondents were found in middle age group (37to57) years. The maximum number of the respondents were found to be educated upto primary school majority (41.00%) followed by illiterate (26.00%) of the respondents who were educated upto middle school whereas (22.00%) respondents were high

school (5.00%) high higher secondary (3.00%), graduate (3.00%) and above (3.00%).

Social participation were majority of respondents (63.00%) have membership in one organization followed by 18.00 per cent of respondents have no member in any organizations and 11.00 per cent respondents have membership in more than one organization. Only 8.00 per cent of the respondents belong to executive /office bearer category. Majority (59.00%) of the respondents have medium level of social participation followed by the low level of social participation (30.00%) and high level of social participation (11.00%). The finding are similar to Kalyan, (2011) [2] and Khalache *et al* (2012) [3] Singh (2011) [7].

**Table 1:** Distribution of respondents according to their Socio-personal profile.

(n=100)

| Si. No. | Categories | Frequency | Percentage |
|---|---|---|---|
| 1. | **Age** | | |
| | up to 36 years | 23 | 23.00 |
| | 37 to 56 years | 59 | 59.00 |
| | above 57 years | 18 | 18.00 |
| 2. | **Education** | | |
| | Illiterate | 26 | 26.00 |
| | Primary school (1st to 5th) | 41 | 41.00 |
| | Middle school (6th to 8th) | 22 | 22.00 |
| | High school (9th to10th) | 5 | 5.00 |
| | Higher secondary (11thto12th) | 3 | 3.00 |
| | Graduate and above | 3 | 3.00 |
| 3. | **Social participation** | | |
| | No member in any organization | 18 | 18.00 |
| | Member of one organization | 63 | 63.00 |
| | Member of more than one organization | 11 | 11.00 |
| | Executive/ office bearer in any organization | 8 | 8.00 |

**Extent of adoption of recommended brinjal production technology by brinjal growers.** The data presented in table-2 reveals that extent of adoption of recommended brinjal production technology among the respondents of study area. It was found that majority of the respondents (51.00%) were had medium level of adoption of respondents fully adoption by the brinjal growers it is evident that majority (33.00%) of the respondents have adopted stage of seedling for transplanting followed by transplanting time and method (29.00%), irrigation (27.00%), nursery bed (26.00%) weed identification and management (25.00%), selection and preparation of land for transplanting (25.00%), seed rate and seed treatment (23.00%), insect, pest and disease identification and management (20.00%), selection of variety (19.00%), Manures and fertilizers (19.00%) and Harvesting (19.00%)

In case of partial adoption of practice wise extent of adoption of recommended brinjal production technology, majority (75.00%) of the respondents have partially adopted technologies related to harvesting, followed by insect, pest and disease identification and management (70.00%), selection of variety (69.00%), manure and fertilizer, (66.00%), seed rate and seed treatment (65.00%), irrigation (62.00%), selection and preparation of land for transplanting (61.00%), stage of seedling for transplanting (58.00%), nursery bed (57%), transplanting time and method (55.00%), weed identification and management (54.00%).

With regards to no adoption, majority (21.00%) of the respondents have not adopted proper weed identification and management in brinjal crop followed by nursery bed (17.00%), transplanting time and method (16.00%), manures and fertilizer (15.00%), Selection and preparation of land for transplanting (14.00%), selection of variety (12.00%), seed rate and seed treatment (12.00%), Irrigation (11.00%), insect, pest and disease identification and management (10%), stage of seedling for transplanting (9.00%), and harvesting (6.00%). Findings are similar as reported by Shriwas (2015) [6] and soni (2018) [8].

**Table 2:** Distribution of respondents according to their practice wise extent of adoption regarding recommended brinjal production technology

(n=100)

| SI. No. | Recommended practices of brinjal production technology | Level of adoption | | |
|---|---|---|---|---|
| | | Fully adopted | Partially adopted | Not adopted |
| **Cultural practices** | | | | |
| 1. | Nursery bed | 26 (26.00) | 57 (57.00) | 17 (17.00) |
| 2. | Selection of varieties | 19 (19.00) | 69 (69.00) | 12 (12.00) |
| 3. | Stage of seedlings for transplanting | 33 (33.00) | 58 (58.00) | 9 (9.00) |
| 4. | Irrigation | 27 (27.00) | 62 (62.00) | 11 (11.00) |
| **Physical /Mechanical practices** | | | | |
| 5. | Selection and preparation of land for transplanting | 25 (25.00) | 61 (61.00) | 14 (14.00) |
| 6. | Seed rate and seed treatment | 23 (23.00) | 65 (65.00) | 12 (12.00) |
| 7. | Transplanting time and method | 29 (29.00) | 55 (55.00) | 16 (16.00) |
| 8. | Manures and fertilizers | 19 (19.00) | 66 (66.00) | 15 (15.00) |
| 9. | Weed identification and management | 25 (25.00) | 54 (54.00) | 21 (21.00) |
| 10. | Harvesting | 19 (19.00) | 75 (75.00) | 6 (6.00) |
| **Biological /Chemical practices** | | | | |
| 11. | Insect, pest and disease identification and management | 20 (20.00) | 70 (70.00) | 10 (10.00) |

F= Frequency % = Percent

**Table 3:** Distribution of respondents according to overall extent of adoption regarding brinjal production technology (n=100)

| SI. No. | Categories | Frequency | Percentage |
|---|---|---|---|
| 1. | Low (upto 24 score) | 23 | 23.00 |
| 2. | Medium (25to29 score) | 51 | 51.00 |
| 3. | High (above 30 score) | 26 | 26.00 |

Mean= 27.34 S.D.= 3.128

The table 3 show that majority (51.00%) of the respondents have medium level of adoption followed by the high level of adoption (26.00%) and low level of adoption (23.00%).

**Relationship between independent variables and adoption of recommended brinjal production technology:** The outcomes of statistical analysis presented in Table-4 reveals that source of information and knowledge level were found highly positively and significantly correlated with adoption level of recommended brinjal production technology at 0.01 level of probability whereas, the variables like, education, social participation, annual income, irrigation facility and risk orientation were found correlated 5% level of significance relationship with dependent variable. Age was found to be negative and significantly correlated with the adoption of recommended brinjal production technology. The similar results were also reported by Tinde (2015) [9] in his study. The results reveal that with increase in educational qualification, adoption level also increases. Similarly, with increase in number of source of information, their adoption level also increases due to increase in their annual income. Moreover, with the increase in knowledge level, adoption of recommended technology by the respondents also increases.

**Table 4:** Correlation coefficient between independent variables and adoption level of recommended brinjal production technology

| SI. No. | Independent variables | Coefficient of correlation "r" value |
|---|---|---|
| 1. | Age | -0.356* |
| 2. | Education | 0.559* |
| 3. | Social participation | 0.251* |
| 4. | Land holding | 0.204 |
| 5. | Annual income | 0.325* |
| 6. | Irrigation facility | 0.402* |
| 7. | Source of information | 0.619** |
| 8. | Risk orientation | 0.306* |
| 9. | Knowledge | 0.522** |

***** Significant at 0.0 5% level of significance
****** Significant at 0.0 1% level of significance

## Conclusion

The overall level of adoption of brinjal production technology was medium. Maximum adoption was noticed in the practice weed identification and management. Adoption level of farmer should be increased in various aspects of brinjal production technology use *i.e.* of proper dose of fungicide, insecticide, fertilizers and manures through systematic training programme, which could be more effective in future brinjal production.

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