Original Research Article

Assess the Knowledge and Adoption Level of Knowledge towards Mushroom Cultivation Technique

Abstract

The present investigation entitled "Assess the Knowledge and Adoption Level of Knowledge towards Mushroom Cultivation Technique" was carried out in Dhanbad district of Jharkhand. 120 farmers are taken as respondents as a size sample. The respondents were interviewed personally by a well-structured interview schedule. The data were coded, tabulated, and analyzed using suitable statistical tools. It was revealed that the majority of farmers had a medium level of knowledge regarding mushroom cultivation farming and a majority of farmers had a medium level of adoption regarding mushroom cultivation farming. There is a significant increase in the socio-economic status of the mushroom cultivation farmers after undergoing various development of entrepreneurial qualities in farmers through mushroom cultivation, the social freedom of farmers had increased they are allowed to mix with friends, their self-confidence increased, they joined social organization and literacy rate also improved. The majority of them had their own bank account, their income increased, and now they change their social status and as well as improved themselves.

Keywords: Knowledge, Cultivation, Farming Adoption, Entrepreneurial.

Introduction:

Mushroom cultivation has become an important agriculture activities contributing to the economy of our nation. It has proved to be a part of sustainable agriculture as mushroom farming today is being practiced in more than 100 countries and the production is increasing at an annual rate of 6-7 per cent. Present world production of mushrooms is around 3.5 million tones as per FAO statistics. In addition, mushrooms could potentially be very important in future food supplies and in new dimensions of sustainable agriculture. On the other hand sustainability of mushroom cultivation practice will make a woman self-reliant which can improve the rural livelihood as the women are the backbone of Indian agricultural workforce. They do the most tedious and back-breaking tasks in agriculture, animal husbandry and homes. A livelihood is sustainable when it can cope with and recover from the stresses and shocks and maintain or enhance its capabilities and assets both now and in the future without undermining the natural resource base **(Chambers & Conway)**.

There are two main types of mushroom growers in India, seasonal growers and round the year

growers. Both grow white button mushroom for the domestic market and export. The seasonal button mushroom growers are confined to temperate areas such as Himachal Pradesh, Jammu and Kashmir, hilly regions of Uttar Pradesh, hilly regions of Tamil Nadu and North Eastern hilly regions where growers take 2-3 crops of button mushrooms in a year. Also included in the seasonal growers are the growers from North Western plains of India who grow one winter crop of button mushrooms and sell it fresh. The all-season growers are scattered all over the country.

Growing in mushroom Bihar has vocational enterprise started in 1972.After establishment of Centre of Tropical Mushroom Research and Training (CTMRT) in B.U.A.T in 1991. The trade of mushroom growing had been commercialized. Bihar leads the country in terms of production of straw and oyster mushrooms. Indoor cultivation of button mushroom has been initiated successfully in the recent past and it is expected to grow further. Moreover, the cultivation method of the low temperature has already been initiated in the state with profound success. Preservation of straw mushroom through canning has been done successfully in Bihar for the first time in the country. The state is having the highest number (207) of spawn production units in the country. In spite of the phenomenal growth rate of the mushroom industry in the state, constraints do exist, that need addressable for the benefit of growers. The production of straw mushroom is very popular in Bihar. Bihar is the only state where straw mushroom is grown commercially for 10 months a year (February-November) involving poor farmers. The cultivation has spread rampantly as a cottage industry involving spawn production in low cost units in villages and outdoor cultivation under the plantations. The rice farmers of the coastal agro-ecological situation in particular have demonstrated a practical way to transform the ligno-cellulosic wastes directly into a highly acceptable, nutritious and delicious food for the people. Bihar produces 8129 tonnes of straw mushroom per annum contributing to 66 per cent of the total mushroom production of the state.

In recent times, small farmers in their quest to ensure livelihood security and large Agri-preneurs in anticipation of higher profit are exploring high value enterprises like floriculture, apiculture, terrace or roof gardening, mushroom cultivation, etc. Mushroom cultivation is emerging as an important horti-business activity with a potential for round the year returns. Mushroom entrepreneurship is a potential, yet largely untapped venture to address many of the problems plaguing rural India like hunger and malnutrition, decreasing land holdings, declining soil fertility, poverty, lack of employment and opportunities for income generation **(Verma,2014)**. Further, the need for promoting mushroom entrepreneurship emanates from the fact that per capita consumption of mushroom is very low (30 g per annum) in India compared to more than 4000 g in the western countries **(Wakchaure, 2011)** and for the increasing awareness for edible mushrooms because of their

health benefits.

Materials and Methods:

The study entitled **"Assess the Knowledge and Adoption Level of Knowledge towards Mushroom Cultivation Technique"** was carried out in Dhanbad district of Jharkhand. Dhanbad is the second-most populated city in the Indian state of Jharkhand after Ranchi. Appropriate number of villages will be selected through purposely based on the maximum area covered under mushroom cultivation (Ratanpur, Shahraj, Pargho, Nero, Ambadi).

From each village, 24 respondents were selected through random sampling method. Thus, constitutes the 120 respondents from 5 villages forms the respondents of the study. The dependent and independent variables are selected for the study based on the available literature and the expert's opinion in the field of extension.

Based on the objectives of the study, a pre-tested well-structured interview schedule was prepared and used for collection of data from the respondents. The data was gathered with the help of pre-structured interview schedule. Each one of the respondent were interviewed personally based on the pre-planned meeting and their responses were recorded. The data collected from the respondents were categorized, tabulated and analyzed with suitable statistical tools in SPSS 16 software. The results were presented in tables in order to exhibit the findings clearly and effectively reasonable.

The following statistical tools were used in the study based on the nature of the data and objectives of the study:

- Arithmetic mean
- Standard deviation
- Percentage analysis
- Pearson product moment correlation coefficient

3. Results and Discussion:

The study entitled **"Assess the Knowledge and Adoption Level of Knowledge towards Mushroom Cultivation Technique"** was undertaken to assess the knowledge and adaptation level of knowledge towards mushroom cultivation.

3.1.1 Overall Knowledge level of respondents about mushroom cultivation in Dhanbad District

To get an overview of the overall knowledge of respondents about mushroom cultivation in Dhanbad District, the respondents were categorized in to low, medium and high level of about mushroom cultivation on the basis of calculated mean score and standard deviation.

Table 1: Distribution of the respondents on the basis of Knowledge regarding mushroom cultivation N=120

S. No.	Scores	Respondents	
		Frequency	Percentage
1	Low	23	19.17
2	Medium	71	59.17
3	High	26	21.67
	Total	**120**	**100**

Mean = 2.02 SD= 15.52 CD=2. 33

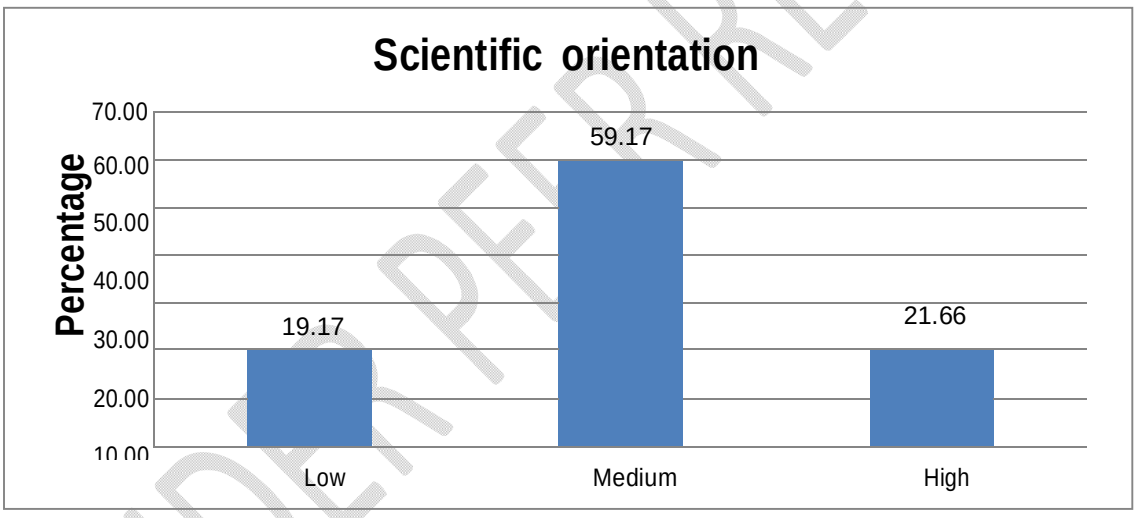


Fig 1: Distribution of the respondents on the basis of Knowledge regarding mushroom cultivation N=120

Table 1. reveals that out of total 120 respondents, majority of respondents (59.17%) were found in medium level of knowledge of mushroom cultivation, whereas, 21.66 percent respondents were observed in the high level of knowledge of mushroom cultivation group and remaining 19.17 percent respondents possessed low level of knowledge of mushroom cultivation in study area.

3.2: Adoption pattern of mushroom grower

ADOPTION: The adoption pattern of the mushroom growers was determined through 3- first time, often and regularly with percentage was calculated.

TABLE 2: Adoption pattern of mushroom grower respondents (N=120).

S.no	Statement	First Time		Often		Regularly	
		f	%	f	%	F	%
1	I cultivate different varieties of mushroom for diversification of farm and stability of income	19.00	15.83	64.00	53.33	37.00	30.83
2	I give sufficient attention for maintaining hygiene in and around the farm	36.00	30.00	30.00	25.00	54.00	45.00
3	The quality of compost/substrate, casing, and growing conditions in every part of the growing rooms are uniform	43.00	35.83	32.00	26.67	45.00	37.50
4	I always maintain proper records of farm inputs, mushroom yield, farm operations, accounts, costs and profits	54.00	45.00	29.00	24.17	37.00	30.83
5	I adopt physical and cultural control measures for managing pests and diseases in the farm	38.00	31.67	33.00	27.50	49.00	40.83
6	I take measures for proper disposal of mushroom residues and spent mushroom substrate	35.00	29.17	38.00	31.67	47.00	39.17

From the above table the data obtained revealed that the 1st recommended adoption of mushroom cultivation indicates that "I always maintain proper records of farm inputs, mushroom yield, farm operations, accounts, costs and profits" was the most adoption technique orientation encountered by majority of respondents with first time (45.00 percent), often (24.17 percent) and regularly (30.83 percent) respectively. Besides "The quality of compost/substrate, casing, and growing conditions in every part of the growing rooms are uniform" was the second adoption technique orientation encountered by majority of respondents with first time (35.83 percent), often (26.67 percent) and regularly (37.50 percent) respectively, Further followed "I adopt physical and cultural control measures for managing pests and diseases in the farm" was the third adopted technique orientation encountered by majority of respondents with first time (31.67 percent), often (27.50 percent) and regularly (40.83 percent) respectively, "I give sufficient attention for maintaining hygiene in and around the farm" was the fourth adopted technique orientation encountered by majority of respondents with first time (30.00 percent), often (25.00 percent) and

regularly (45.00 percent) respectively, “I take measures for proper disposal of mushroom residues and spent mushroom substrate” was the fifth adopted technique orientation encountered by majority of respondents with first time (29.17 percent), often (31.67 percent) and regularly (39.17 percent) respectively, and the last point was the least adopted “I cultivate different varieties of mushroom for diversification of farm and stability of income” was the adoption technique orientation encountered by majority of respondents with first time (15.83 percent), often (53.33 percent) and regularly (30.83 percent) respectively. When the rank order was taken according to the percentage the result obtained implied that technology number 4th had maximum percentage and technology number 1st had minimum percentage.

3.2.1 Overall adoption level of respondents about mushroom cultivation in Dhanbad District

To get an overview of the overall adoption of respondents about mushroom cultivation in Dhanbad District, the respondents were categorized in to low, medium and high level of overall adoption mushroom cultivation on the basis of calculated mean score and standard deviation.

Table 3: Distribution of the respondents on the basis of adoption regarding mushroom cultivation N=120

S. No.	Scores	Respondents	
		Frequency	Percentage
1	Low	35	29.17
2	Medium	63	52.50
3	High	22	18.33
	Total	**120**	**100**

Mean = 1.95 SD= 11.59 CD= 1.74

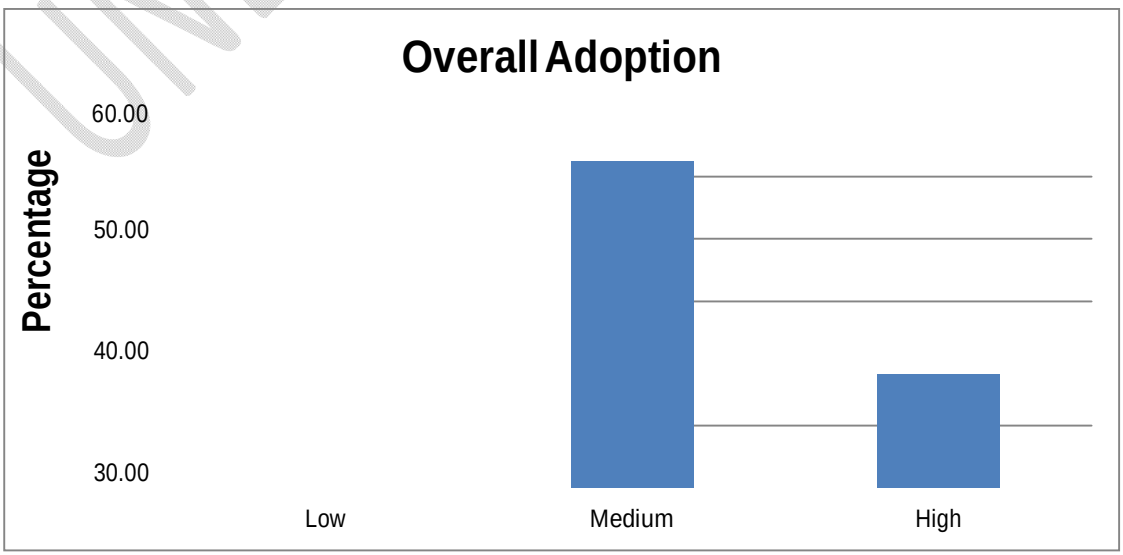
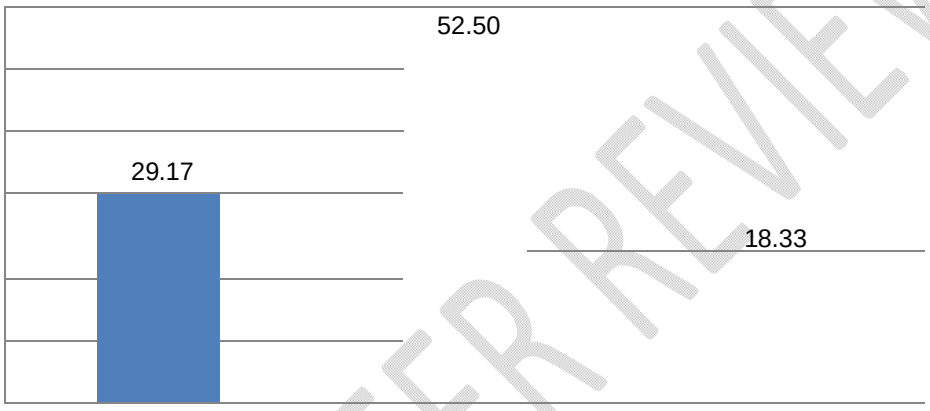


Fig 2:



Distribution of the respondents on the basis of adoption regarding mushroom cultivation

N=120

Table 3. reveals that out of total 120 respondents, majority of respondents (52.20 %) were found in medium level of adoption group, whereas, 29.17 percent respondents were observed in the low level of adoption group and remaining 18.33 percent respondents possessed high level of Adoption group about mushroom cultivation in study area.

4. Summary and Conclusion:

4.1 Summary:

Knowledge of respondents about mushroom production technology

Majority of respondents (59.17 %) were found in medium level of knowledge of mushroom cultivation, whereas, 21.66 percent respondents were observed in the high level of knowledge of mushroom cultivation group and remaining 19.17 percent respondents possessed low level of knowledge of mushroom cultivation in study area.

Adoption of mushroom production technology by the mushroom growers:

Majority of respondents (52.20%) were found in medium level of adoption group, whereas, 29.17 percent respondents were observed in the low level of adoption group and remaining 18.33 percent respondents possessed high level of Adoption group about mushroom cultivation in study area.

4.2 Conclusion:

It was revealed that majority of farmers had medium level of knowledge regarding mushroom cultivation farming and majority of farmers had medium level of adoption regarding mushroom cultivation farming. There is significant increase in the socio- economic status of the mushroom cultivation farmers after undergone various development of entrepreneurial qualities in farmers through mushroom cultivation, the social freedom of farmers had increased they are allowed to mix with friends, their self- confidence increases, they joined social organization and literacy rate also improved. Majority of them had their own bank account, income increased, now they change her social status and as well as improved yourself.

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