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Marketing problems of mushroom cultivators with special reference to Nilgiris District

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Abstract
The market for mushrooms continues to grow due to interest in their culinary, nutritional, and health benefits. They also show potential for use in waste management. However, as fungi, mushrooms have life cycles very different from those of green plants. The choice of species to raise depends both on the growth media available and on market considerations. Mushroom cultivation offers benefits to market gardens when it is integrated into the existing production system. The present research was under taken with the objectives of analyzing the marketing problems of the mushroom cultivators, the role of the intermediaries in the marketing of mushrooms, analyzing the storage problem and to find the motivational factors of the mushroom cultivators. A sample of 30 mushroom growers were randomly selected from list of mushroom growers obtained from Directorate of Horticulture. None of the mushroom growers were using promotional elements for marketing of their produce. All the mushroom growers were selling their produce in packaged form but without any brand name. This article emphasized the need of canning and refrigeration facility for mushroom growers in case of higher production to stop distress sale and creating awareness among masses about nutritional importance of mushrooms to increase its consumption, Reduce market price of inputs, government incentives to mushroom cultivators, availability of good mushroom spawn, more extension and training for producers, easy loan program to the mushroom cultivators by the Government through the banks and most importantly mushroom association to be formed by the mushroom cultivators.

Keywords: mushroom cultivators, culinary, nutritional, health

Introduction
Mushroom (*Agaricus bisporus*) production is a lucrative and profitable cottage industry for low income rural households (Lelley, 1988) [4] and this industry is providing full or part time employment to rural and urban poor and marginal people in many developing countries (Ferchak and Croucher, 2001) [1]. Now mushroom is being cultivated in more than 100 countries of the world and the estimated total production is over 12 million tons (Suman and Sharma, 2007) [7]. Mushroom is considered as one of the important food items since ancient time and its consumption is being increased over the period for its significant role in human health, nutrition and diseases (Suzuki and Oshima, 1976; Uddin, *et al.*, 2011) [8, 9]. The edible mushrooms are also good source of protein, vitamins and minerals (Khan *et al.*, 1981) [2].
Market linkage is the most appropriate in the context of the farmers' involvement and the market to supply goods to consumers (KIT *et al.*, 2006; and Shepherd, 2007) [3]. Usually, marketing channel links the producers and consumers, and there by supplying goods from producers to consumers. A large number of intermediaries are involved in the marketing channels and they earn their daily livelihoods.

Meaning and importance of mushroom
Mushrooms are the fleshy fungi which constitute a major group of lower plant kingdom. A mushroom (or toadstool) is the fleshy, spore-bearing fruiting body of a fungus, typically produced above ground on soil or on its food source. Mushroom holds a very important place because of its importance and advantages. They are as follows:

- They are a good source of high quality proteins and are rich in vitamins and minerals.
- They have medicinal properties
- Mushrooms are capable of agro-waste degradation
- Mushroom grow independent of sunlight without fertile land. They do not compete with field or fruit crops and provide an additional avenue for increasing food supply.
- Mushrooms have a huge export potential.

- ❖ They offer vast rural employment potential.
- ❖ Mushroom culture requires a limited space. It does not require a large land space.
- ❖ Mushroom growing is one agricultural activity in which women can play a vital role without sacrificing their household responsibilities.
- ❖ Mushroom cultivation may be adopted as small-scale industry and may earn foreign exchange by commercial cultivation.

Objective

The main objective of this article is

- ➢ To find out the marketing problems of the mushroom cultivators.
- ➢ To examine the role of the intermediaries in the marketing of mushrooms.
- ➢ To analyse the storage problem of the mushroom cultivators.
- ➢ To find the motivational factors of the mushroom cultivators.

Methodology

The study was conducted during August 2015. Based on the objective of the study, primary data were used in the present study. Nilgiris District of Tamil Nadu was purposively selected because a large number of households are engaged in mushroom production in this region for their daily livelihood. Thirty (30) sample households were randomly selected and in motivation was collected on the marketing problems of mushroom cultivators through a pre-scheduled questionnaire. Data were analysed using statistical methods. Percentages were used for socio-economic variables like age and education. Percentage was also used to find the motivation of the mushroom cultivators and Anova technique was used to find the marketing problems of the mushroom cultivators. Convenient sampling method was adopted.

Statement of the problem

The movement of the products from the producers to the ultimate consumers involves various types of costs such as packing, transporting, weighment charges, loading and unloading charges, losses in the transport, losses due to storage, spoilage, taxes, etc. These costs are called marketing costs and it depends upon the marketing channels.

Marketing channel is defined as a set of interdependent organizations that help make a product or service available for use or consumption by the consumers (Kotler, 2010). The chain of intermediaries through which the various farm commodities pass between producers and consumers is called marketing channel. The existence of the agricultural farm depends on the marketing channel mainly because the agricultural commodities move from farmers to ultimate consumers through various market intermediaries that operate in the marketing system and marketing efficiency. Usually, three intermediaries are involved in the channel for mushroom - producers, wholesalers and retailers. Producers of mushroom sell their product to nearby mushroom office, wholesalers and retailers. The wholesalers buy mushroom directly from producers and mushroom office and sell it to retailers or sometimes directly to consumers. The retailers buy mushroom from wholesalers or directly from producers and sell it to consumers.

A number of studies have been made about the mushroom cultivators. But very few detailed studies have so far been conducted on the marketing channels of mushroom. Keeping in view these facts, the present study aims at understanding the problems in marketing of mushrooms by mushroom cultivators. As no such study has been carried out in the Nilgiris district, this article will be of great value to the officials and government in identifying the crucial areas of marketing problems faced by the mushroom cultivators.

Results and Analysis

The socio-demographic characteristics of the sampled mushroom producers are presented in Table 1. The age, education and the motivational factors are given in the table. Percentages are calculated for the sample respondent.

Table 1: Socio-demographic characteristics of samples of mushroom cultivators

Age	%	Education	%	Motivation	%
Below 20	Nil	HSC	13.3	Friends	60
20-30	33.3	UG	63.3	Family	23.3
30-40	66.7	PG	6.7	Others	16.7
		Graduate and others	16.7		
Total	100		100		100

Table 1 reveals the age, education and the motivational factors of the sample respondents. Age reveals that 66.7 % of the sample respondents belong to the age group of 30-40 years and 33.3 % of the sample respondents belong to the age group between 20-30 years. Education reveals that 63.3 % of the sample respondents have completed under graduation, 16.7 % have either completed their graduation or a diploma degree, 13.3 % of the sample respondents have completed their higher secondary and 6.7 % respondents have completed post graduation. The motivational aspect shows that friends have helped to motivate this project for 60% of the sample respondents, 23.3% of the sample respondents had their project motivated by their family members and 16.7 % of the sample respondents had their project motivated by others.

Analysis Of Variance

Analysis of variance (ANOVA) is a hypothesis- testing technique used to test the equality of two or more population means by examining the variances of samples that are taken. ANOVA allow one to determine whether the differences between the samples are simply due to random error whether there are systematic treatment effects that cause the mean in one group to differ from the mean in another.

ANOVA is based on comparing the variance (or variation) between the data samples to variation within each particular sample. If the between variation is much larger than the within variation, the means of different samples will not be equal. If the between and within variation are approximately the same size, then there will be no significant different between sample means. Using this technique, one can draw inferences about whether the samples have been drawn from population having the same mean. The basic principles of ANOVA is to test the difference among the means of the population by examining the amount of variation within each of these samples, relative to the amount of variation between the samples.

Channel of Network

Significance in the difference in the mean score within and between groups-

Analysis of variance [ANOVA]

Null Hypothesis

There is no significant relationship between age group and channel network of the respondent.

Table 2: Age group and channel network of the respondents

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	.000	1	.000	.000	1.000
Within Groups	6.000	21	.286		
Total	6.000	22			

The significance value of age group and channel network of the respondent is 1.000.this value is great then the 0.05.so the null hypothesis is accepted at 5% significance level.

Null Hypothesis

There is no significant relationship between education group and channel network of the respondent.

Table 3: Education group and channel network of the respondents

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	.500	3	.167	.576	.638
Within Groups	5.500	19	.289		
Total	6.000	22			

The significance value of education group and channel network of the respondent is 0.638. This value is great then the 0.05.so the null hypothesis is accepted at 5% significance level.

Null Hypothesis

There is no significant relationship between motivation group and channel network of the respondent.

Table 4: Motivation group and channel network of the respondents

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	.450	2	.225	.811	.459
Within Groups	5.550	20	.277		
Total	6.000	22			

The significance value of motivation group and channel network of the respondent is 0.459. This value is great then the 0.05.so the null hypothesis is accepted at 5% significance level.

Storage

Null Hypothesis

There is no significant relationship between age group and storage of the respondent

Table 5: Age group and storage of the respondent

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	.701	1	.701	.831	.372
Within Groups	17.733	21	.844		
Total	18.435	22			

The significance value of age group and storage of the respondent is 0.372. This value is great then the 0.05.so the null hypothesis is accepted at 5% significance level.

Null Hypothesis

There is no significant relationship between education group and storage of the respondent.

Table 6: Education group and storage of the respondents

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	2.256	3	.752	.883	.467
Within Groups	16.179	19	.852		
Total	18.435	22			

The significance value of education group and storage of the respondent is 0.467. This value is great then the 0.05.so the null hypothesis is accepted at 5% significance level.

Null Hypothesis

There is no significant relationship between motivation group and storage of the respondent.

Table 7: Motivation group and storage of the respondents

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	1.956	2	.978	1.187	.326
Within Groups	16.479	20	.824		
Total	18.435	22			

The significance value of motivation group and storage of the respondent is 0.326. This value is great then the 0.05.so the null hypothesis is accepted at 5% significance level.

Defaulters

Null Hypothesis

There is no significant relationship between age group and defaulters of the respondent

Table 8: Age group and defaulters of the respondent

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	.284	1	.284	.221	.643
Within Groups	26.933	21	1.283		
Total	27.217	22			

The significant value of age group and defaulters of the respondent is 0.643. This value is great then the 0.05.so the null hypothesis is accepted at 5% significance level.

Null Hypothesis

There is no significant relationship between education group and defaulters of the respondent.

Table 9: Education group and defaulters of the respondents

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	2.217	3	.739	.562	.647
Within Groups	25.000	19	1.316		
Total	27.217	22			

The significance value of education group and defaulters of the respondent is 0.647. This value is great then the 0.05.so the null hypothesis is accepted at 5% significance level.

Null Hypothesis

There is no significant relationship between motivation group and storage of the respondent.

Table 10: Motivation group and defaulters of the respondents

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	1.839	2	.919	.725	.497
Within Groups	25.379	20	1.269		
Total	27.217	22			

The significance value of motivation group and credit of the respondent is 0.497. This value is great then the 0.05.so the null hypothesis is accepted at 5% significance level.

Advertisment

Null Hypothesis

There is no significant relationship between age group and advertisement of the respondent

Table 11: Age group and advertisement of the respondent

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	.029	1	.029	.188	.669
Within Groups	3.275	21	.156		
Total	3.304	22			

The significance value of age group and advertisement of the respondent is 0.669. This value is great then the 0.05.so the null hypothesis is accepted at 5% significance level.

Null Hypothesis

There is no significant relationship between education group and advertisement of the respondent.

Table 12: Education group and advertisement of the respondents

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	.197	3	.066	.402	.753
Within Groups	3.107	19	.164		
Total	3.304	22			

The significance value of education group and advertisement of the respondent is 0.753. This value is great then the 0.05.so the null hypothesis is accepted at 5% significance level.

Null Hypothesis

There is no significant relationship between motivation group and advertisement of the respondent.

Table 13: Motivation group and advertisement of the respondents

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	.147	2	.074	.466	.634
Within Groups	3.157	20	.158		
Total	3.304	22			

The significance value of motivation group and advertisement of the respondent is 0.497. This value is great then the 0.05.so the null hypothesis is accepted at 5% significance level.

Suggestions

- Channels of marketing-There are large number of intermediaries in the marketing channels of mushroom industry. Therefore the mushroom cultivators do not receive a good price for their mushrooms. Thus the government should increase the market price of the mushrooms and reduce the number of intermediaries, so that the mushroom cultivators receive a larger benefit from their cultivation.
- Storage facility – The cultivated mushrooms are perishable in nature. There is a large need of proper storage facility for the mushroom cultivators. In Nilgiris there is a lack of storage facility. Therefore the government should take steps to provide storage facilities for the mushroom cultivators.
- Defaulters of mushroom cultivators- The wholesalers, retailers and distributors of mushrooms do not pay immediately to the mushroom cultivators. They buy on credit and delay the payments and sometimes do not pay at all. This affects the business of the small mushroom cultivators. This credit payment must be avoided by the buyers and the mushroom cultivators must be paid in cash so that they are able to reinvest in the business again and can continue producing without any financial problem.
- Advertisement- Mushroom cultivators produce on a small scale. Therefore they do not give importance to advertisement. But actually advertisement is a necessity. Advertisement will help many people to have an awareness in the society and improve their business on a larger scale.
- Reduce market price of inputs
- Government can provide incentives to mushroom cultivators
- Availability of good mushroom spawn
- Need more extension and training for producers
- Provide easy loan program to the mushroom cultivators by the Government through the banks.
- Mushroom association should be formed by the mushroom cultivators

Conclusion

Mushroom is an economically profitable and promising agricultural enterprise in Nilgiris District. Usually, small, marginal and landless farmers are engaged in mushroom cultivation mainly because small piece of land, and little amount of money are required as capital. Marketing costs and margins are relatively higher than those of other agricultural products in Nilgiris. The marketing margins of mushroom from farm-gate to wholesalers and wholesalers to retailers were Rs. 90 and 110 per kilogram, respectively. Smooth marketing channels are required for optimal mushroom production. Three intermediaries – mushroom office, wholesalers and retailers are involved in the mushroom marketing channels. Mushroom cultivators are facing major problems like storage, defaulters, advertising and transport. They are also facing problems relating to productions, which are high price of spawn, infestation of fly and cockroaches, and high temperature, marketing, technical and awareness problems. Economically solvent, rich and middle income group people are the main customers of mushroom in Nilgiris. A large number of small, marginal and landless poor farmers as well as women can earn a significant amount of money from mushroom

cultivation that can help reduce poverty and create employment opportunity in Nilgiris.

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