

Economic empowerment of women through mushroom cultivation

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ABSTRACT

There are 1600 mushroom species out of which 100 species have been accepted as food. More than 33 species of mushroom are under commercial cultivation throughout the world and 3 species are popularly grown in India viz, White Button mushroom, Oyster mushroom, and Paddy Straw mushroom. These mushrooms are rich in protein, vitamins, minerals and excellent source of thiamine, riboflavin, niacin and folic acid etc. The digestibility of mushroom protein is 71-90%. Major contribution to Indian mushroom production comes from white button mushroom (*Agaricus bisporus*) i.e. 90-92%, while rest comes from oyster mushroom (*Pleurotus Spp.*) and paddy straw mushroom (*Volvariella spp.*). For centuries, people across the world have been using wild mushrooms for food, medicine and cosmetics as well as for other economic and cultural purposes. Mushrooms are devoid of starch and low in calories and other carbohydrates. Apart from their nutritional value, mushrooms have potential medicinal benefits; they are an ideal food for diabetics and over-weight people. The present study was carried out to assess the economic empowerment through mushroom cultivation. The sample comprised of 450 randomly selected respondents trained by mushroom development departments. The structured schedule was developed for data collection and also 10 case studies were collected from selected respondents. The analysis revealed that more than ninety percent women in district Anantnag and cent percent women from Kulgam and Pulwama believed that enhanced income due to mushroom cultivation has helped them in purchasing luxurious items and raised their standard of living. Further, it was noticed that women in all districts (Anantnag, Kulgam and Pulwama) were in a position to provide good education and nutritious food to their children, due to increased income through mushroom cultivation. Majority of women in district Anantnag, Kulgam and Pulwama have become financially independent due to mushroom cultivation. 100.0% women in district Anantnag and Kulgam and 99.0% respondents in district Pulwama were able to fully support the families due to increased income through mushroom cultivation.

Keywords: Mushrooms, nutrients, species, digestibility, Medicines

Introduction

Mushrooms are popular for their delicacy and flavour rather for food. However it is an established fact that they are excellent sources of vitamins and minerals. Mushrooms are of great economic importance to man; their occurrence is dated back to the time of the early man. Most people eat mushrooms, mostly because of its flavour, meaty taste and medicinal value (Adedayo and Olasehinde 2010). The edible mushroom is an extremely prized and well-liked meals which can be effortlessly grown with a large amount of pleasure and satisfaction by beginners. There is a widespread incorrect impression that there is some secret about growing mushrooms indoors, that the process is shrouded in mystery, and that they've to become grown within the midnight darkness. However, although many farmers of mushrooms do not release a few of their techniques, this can be a misunderstood concept. Expanding mushrooms at home just require any dark corner or unused shelter exactly where temperatures are moderately cool and ventilation is suitable. They do not need sunlight and can be grown nearly anywhere outdoor and indoor where there's a dry bottom. Much more essential is to have moist atmosphere and mild even temperatures within the area where mushrooms may be protected from direct sunshine, winds, droughts, and sudden fluctuations of temperatures and moisture. Most desirable locations for growing mushrooms indoors are cellars, basements, closed tunnels, sheds, pits, and greenhouses (Ajay 2017). Mushroom cultivation is a women friendly profession. Mushroom growing is one agricultural activity in which rural farm women can play a pivotal role without sacrificing their household responsibilities. Women have the prime responsibility for domestic duties and food production. Both women and men contribute to agricultural production; women play a larger role. The increased participation of women in mushroom production and improved knowledge sharing related to mushroom cultivation and entrepreneurial skills has provided employment and income to housewives. Mushroom cultivation is simple, low cost, and suitable for rural areas, is less labour intensive. Mushroom cultivation will improve the socio-economic condition of farmers, families and solve employment problems of both literate and illiterate farm women (Singh et, al. 2018).

Review of Literature

Basha (2017) in his study found that women play an important role in all sectors and persuade economic, social and cultural opportunities. Women empowerment is a multilevel development concept. Women empowerment means all round development of women in socio and economical development of well being especially in education and income level. The study concluded that self help groups, earning opportunities through mushroom cultivation helped women to become economically empowered, gives economic independence and self esteem.

Yildiz et al (2016) found that the government has strongly encouraged and financially supported the farmers because of the advantages to mushroom quality and greater food safety assurance. It provides additional income to people living in the rural areas particularly those working in the agriculture sector.

Tarmizi (2016) revealed that fresh mushrooms should be consumed within two or four days of harvesting. Processing into profitable value- added products is an option to reduce the losses due to quality deterioration as well as gaining income and boosting consumption of mushrooms.

Shirur (2016) revealed that mushrooms have important sources of bioactive compounds and metabolites that have been considered as anti-bacterial, lowering cholesterol effects, anti-obesity and anti- diabetic properties, possible immune system enhancer.

Barney (2016) found that mushroom extracts are sometimes used as prevention or in the treatment of Parkinson, Alzheimer, hypertension, strokes and also reportedly reduce the risk of heart diseases.

Methodology

All the mushroom growers of the Kashmir valley were selected in order to identify the respondents who had undergone different vocational training courses during 2009-2012. The list of the beneficiaries was collected from the three districts of Kashmir valley Anantnag, Pulwama and Kulgam from the Departments of Mushroom Development. A total sample of 450 (197 Anantnag), (150 Kulgam), (103 Pulwama) mushroom growers was selected which represented fifty percent of the total number of women trainees from each district.

Results

Table 1.1: District wise Increase In Income of the women mushroom growers

	District								x ²	P- value
	Anantnag		Kulgam		Pulwama		Total			
	F	%	F	%	F	%	F	%		
Has your income increased by adopting improved practices										
Yes	185	93.9%	150	100.0%	103	100.0%	438	97.3%	15.83	0.00*
No	12	6.1%	0	0.0%	0	0.0%	12	2.7%		
Total	197	100.0%	150	100.0%	103	100.0%	450	100.0%		
Has your income increased by receiving trainings										
Yes	158	80.2%	108	72.0%	88	85.4%	354	78.7%	7.06	0.02*
No	39	19.8%	42	28.0%	15	14.6%	96	21.3%		
Total	197	100.0%	150	100.0%	103	100.0%	450	100.0%		
Does mushroom cultivation helped in savings and investment										
Yes	189	95.9%	144	96.0%	98	95.1%	431	95.8%	13.3	0.93
No	8	4.1%	6	4.0%	5	4.9%	19	4.2%		
Total	197	100.0%	150	100.0%	103	100.0%	450	100.0%		
Have you been able to provide good education to children due to increased income										
Yes	185	93.9%	150	100.0%	101	98.1%	436	96.9%	11.08	0.00*
No	12	6.1%	0	0.0%	2	1.9%	14	3.1%		
Total	197	100.0%	150	100.0%	103	100.0%	450	100.0%		
Do you get financially independent										
Yes	186	94.4%	150	100.0%	102	99.0%	438	97.3%	11.70	0.00*
No	11	5.6%	0	0.0%	1	1.0	12	2.7%		
Total	197	100.0%	150	100.0%	103	100.0%	450	100.0%		
Are you able to fully support the family due to increased income										
Yes	197	100.0%	150	100.0%	102	99.0%	449	99.8%	3.37	0.18
No	0	0.0%	0	0.0%	1	1.0%	1	0.2%		
Total	197	100.0%	150	100.0%	103	100.0%	450	100.0%		
Did you feel economically empowered										
Yes	188	95.4%	150	100.0%	103	100.0%	441	98.0%	11.79	0.00*
No	9	4.6%	0	0.0%	0	0.0%	9	2.0%		

Total	197	100.0%	150	100.0%	103	100.0%	450	100.0%		
Have extension methods been able to provide information that helped to become economically empowered										
Yes	197	100.0%	150	100.0%	103	100.0%	450	100.0%		
No	0	0.0%	0	0.0%	0	0.0%	0	0.0%	-	-
Total	197	100.0%	150	100.0%	103	100.0%	450	100.0%		
Has increased income helped in upgrade economic status in society										
Yes	141	71.6%	105	70.0%	82	79.6%	328	72.9%	3.16	0.20
No	56	28.4%	45	30.0%	21	20.4%	122	27.1%		
Total	197	100.0%	150	100.0%	103	100.0%	450	100.0%		
Has enhanced income helped to purchase luxurious items and raise standard of living of the family										
Yes	187	94.9%	150	100.0%	103	100.0%	440	97.8%	13.13	0.00*
No	10	5.1%	0	0.0%	0	0.0%	10	2.2%		
Total	197	100.0%	150	100.0%	103	100.0%	450	100.0%		
Has increased income from mushroom cultivation helped in purchasing material required for mushroom business										
Yes	40	20.3%	20	13.3%	15	14.6%	75	16.7%	3.40	0.18
No	157	79.7%	130	86.7%	88	85.4%	375	83.3%		
Total	197	100.0%	150	100.0%	103	100.0%	450	100.0%		

*Significant at 0.00 level

Source: Based on field survey

N =450

Mushroom cultivation ensures enhancement of family income at cost of less investment. Waste materials easily deposited into food materials enriching with nutrition is the extra benefit at the farmers hand. Mushroom cultivation can be one of the important livelihood options for rural masses, unemployed youths, landless farmers and women. Mushroom cultivation is an indoor activity using land which otherwise is of no use. It is a labour intensive and high profit venture for gainful employment of the poor people. The table shows that 93.9% women in district Anantnag, and 100% from Kulgam and Pulwama districts were of the opinion that their income had increased after adopting improved practices. More than eighty percent (80.2%) women in district Anantnag, 72.0% from Kulgam and 85.4% women from district Pulwama disclosed that their income had increased after receiving training related to mushroom cultivation. A large percentage of women in district Anantnag (95.9%), 96.0% from Kulgam and 95.1% from district Pulwama revealed that mushroom cultivation helped them in increasing their savings and investments.

Further, it was noticed that 94.4% women in district Anantnag, 100% from Kulgam and 99.0% women in district Pulwamawere in a position to provide good education, improved health condition, nutritious food to their children, increased standards of living due to increased income through mushroom cultivation. Majority of women in district Anantnag (94.4%), 100.0% in Kulgam and 99.0% in district Pulwamahave become financially independent due to mushroom cultivation.

100.0%womenin district Anantnag and Kulgam and 99.0% respondents in district Pulwamawere able to fully support the family due to increased income through mushroom cultivation. Since women cannot get rid of household activity completely, sharing of such activities with other family member would provide them more time running enterprises/ income generating activity. Operation of income generating activity or micro enterprise without assistance of family members particularly husband or father is difficult. More than ninety five percent (95.4%) womenin district Anantnag, 100.0% women in district Kulgam and Pulwamawere feeling economically empowered due to mushroom cultivation. Cent percent women from the districts Kulgam and Pulwama and 95.4% from Anantnag disclosed that extension methods have been able to provide them information which helped them to become economically empowered.

Further, it were observed that 71.6% women in district Anantnag, 70.0% from Kulgam and 79.6% from district Pulwamawere of the opinion that increased income helped in upgrading their economic status in society. More than ninety percent (94.9%) womenin district Anantnag and 100 percent women from Kulgam and Pulwamabelieved that enhanced income helped them in purchasing luxurious items and raised standard of living because of mushroom cultivation.

Income before and after of the training of the respondents

Annual Income (Rs)	Before Training		After Training		Quantum of improvement	
	F	%age	F	%age	F	%age
≤25000 (Rs)	74	16.44	0	0.0	0	0.0
25001 - 50000	44	9.78	67	14.9	23	5.1
250001-1000000	110	24.44	129	28.7	19	4.2
1000001-2000000	124	27.56	143	31.8	19	4.2
≥2000001	98	21.78	111	24.7	13	2.8
Total	450	100.0	450	100.0	74	16.4

The above table reveals the income status of the respondents. It is revealed that there was a sound improvement in the annual income of the respondents post training. Around 16.44% respondents had annual income in the range of Rs < 25000 before training and 0% respondents came in the range of Rs <25000 post training, for they improved their income and jumped in the next higher categories. Approximately, 10 percent (9.785) respondents had income range of Rs 25001-50000 before training and a huge improvement of 14.9% was seen after training, showing the quantum of improvement as 5.1%. Further, it was observed that 24.4% women had Rs 250001-1000000 income range before training, but the income of the respondents increased after training jumping to 28.7%, showing the increase of 4.2%. Majority of women i.e. (27.56%) before training had income of Rs 1000000-2000000 and after training the improved income can be recorded as 31.8% thereby, showing the rise of 4.2%. About 21.78% women had Rs >2000001 income pre-training and 2.8% improvement was observed after training, showing the quantum of improvement as 2.8%.

Conclusion

Mushroom production is the most appropriate job for the poor landless both men and women farmers. mushrooms can be grown in the small space of a farmers own house for small scale production and generate income that aids in the family support. It is evident from the study that the majority of women were of the opinion that their income had increased after adopting improved practices, were able to fully support the family due to increased income through mushroom cultivation. Since women cannot rid of household activity completely, sharing of such activities with other family member would provide them more time running enterprise/ income generating activity. Operation of income generating activity or micro enterprise without assistance of family members particularly husband or father is difficult. The study had confirmed that cent percent women disclosed that extension methods have been able to provide them information which helped them to become economically empowered. It is revealed that there was a sound improvement in the annual income of the respondents before and after training. Mushroom cultivation is a most popular activity for development programmes targeting income generation among women, because it is suitable for the women's life style. As the population of the world continues to increase, so the amount of food and the level of medical care available to each individual, especially those living in less developed countries, decreases. Mushrooms, with their great variety of species, constitute a cost-effective means both of: (a) supplementing the nutrition of the majority of human kind through mushroom production, and (b) of alleviating the suffering caused by certain kinds of illness using mushroom products. It is believed that advances in the scientific study of mushroom biology and in the technological development of the mushroom based industries would be served best if research into both these aspects could be jointly coordinated and were to be supported on a reciprocal basis. Mushroom cultivation can be a labour- intensive agro-industrial activity, it could have great economic and social impact by generating income and employment for both women and youth. Thus, mushroom cultivation reduces poverty and improves the life style of many poor farmers.

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