



Impact of Training on Mushroom Cultivation for Women Entrepreneurship Development

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Abstract

The present study was conducted to find the impact of training programme conducted on mushroom cultivation for women entrepreneurship development by KVK Nalbari and Baksa in Nalbari and Baksa district of Assam. A total of 150 women trainees were randomly selected who have attended the training programmes conducted on mushroom cultivation from 2015 to 2018 at both of the KVKs. It was observed from the respondent that the knowledge gained after exposure to training programme was satisfactory in all aspects in comparison with pre training knowledge score. The study revealed that exposure to training had increased the knowledge of farmers regarding mushroom production technique by 73.7% and it might be due to the keen interest of the participants, ease of cultivation technique and method followed for technology transfer. Some trainees adopted mushroom cultivation as their employment source. A few trainees also set up spawn production unit for quality spawn and supply the spawn to other mushroom growers. Another group of trainees started enterprise on preparation value added product like pickles, mushroom powder, mushroom biscuits etc. from mushroom. The study revealed that training on mushroom production conducted by KVKs developed favorable attitude toward mushroom cultivation among the trainees. The overall perception level of the respondents was found to be changed after training. Awareness and training on mushroom production helped in nutrient supplement and income generation leading to mushroom based entrepreneurship development.

Key words: Training, Mushroom, Entrepreneurship, Spawn

Introduction

Cultivation of edible mushroom is one of the important and viable livelihood options for the youth as well as women farmers of the entire world in the entire world. Mushroom has become popular food in present days due to its rich nutritive value. Now a days, vegetarian people prefers mushroom as a source of protein. According to Chang and Miles (1991), the amount of protein in mushroom is double than any other vegetables. So, it is called vegetable protein. All types of edible mushroom contain varying degree of protein and fibre. It contains about 85-95% water, 3% protein, 4% carbohydrates, 0.1% fats and 1% minerals and vitamins (Tewari, 1986). They also contain B vitamins as well as powerful antioxidant called selenium which helps to support the immune system and prevent damage to cell and tissues. Mushrooms are being increasingly researched and used for their important health benefits with different varieties having different medicinal properties. Mushroom is ideal for reducing body weight (Qumio *et al.*,1990). Mushroom cultivation can help in reducing poverty and strengthen livelihoods through the generation of a fast yielding and nutritious source of food and a reliable source of income (Rachna *et al.*,2013). Mushroom production is simple, low cost, and suitable for rural areas, is labour intensive and can provide employment in both the rural areas and semi-urban. Mushroom is an indoor crop, grown independent of sunlight and do not require fertile land (Chadda and Sharma, 1995). Women can involve themselves in mushroom cultivation by utilizing their spare time without hampering household responsibilities. Promotion of mushroom cultivation by women farmer could relieve pressure on men and can uplift the status of women through additional earning. Mushroom cultivation requires less initial capital investment, and there are possibilities of round the year production. Mushroom substrate is clean agricultural waste material which is readily available and can be produced in temporary structure. The Food and Agricultural Organization (FAO) has recommended mushrooms as a food item contributing to protein nutrition of the developing countries. Hence, there is a demand for technology at grass root level to enable people to break away from the poverty trap

and to acquire a sense of livelihood. There are immense potentialities for establishing mushroom enterprises like spawn production, preparation of value added products etc. Extension and training have generally been considered the outlet for an exchange of concepts with in a community. Therefore, trainings have been widely accepted strategy with high returns on investment.

Keeping in view the increasing demand of mushroom due to its medicinal, nutritional and commercial value, the present study was undertaken with the specific objective to assess the impact of training on mushroom production as an enterprise by women.

Methodology

A total of 150 women farmers were selected from different villages of both Baksa and Nalbari district who have undergone through training on mushroom production techniques from 2015 to 2019. A questioner was developed covering background information. To assess the knowledge gained by the trainee and effectiveness of the training, a pre-evaluation before training and post evaluation after training was conducted to know the knowledge level of the participants about mushroom cultivation technology. To test the knowledge of the participants, a set of 8 questions related to mushroom production, nutritive value, value added product from mushroom, harvesting and storage process etc. were prepared. Change in perception level was calculated from the difference of scores obtained in pre and post evaluation of the training.

Result and Discussions

The major outcome of any training programme were gain in knowledge, gain in skill acquired and ultimately in more adoption of the technology. An important indicator of the impact of the training programme is the extent, to which they have adopted the particular technology *i.e.* vertical and horizontal spread of the technology. KVK Nalbari and Baksa has been conducting long and short duration training on Mushroom production both to rural youth and rural women. Mushroom production has become one of few enterprises which rural women of both the district has adopted as commercial enterprise and as a source of income generation after the proper dissemination of technology through KVK.

Reason for participations

The factors which attracted the farmers to join the training programme were given for ranking in order of importance as per their choice. Table 1 shown that 76% respondents joined training course to get scientific mushroom cultivation technology, 63.3% wanted to adopt mushroom farming as enterprise, 14.66% joined the course to get participation certificates to get government schemes and loan for establishing own business, 20.67% wanted to establish linkage with KVK for future help and only 8.67% showed their interest for technology transfer. Similar results were also reported by Kaur 2016 and Veena Shahi *et al.* 2018. It was evident that majority of the participants came to training programme to learn scientific mushroom cultivation technology followed by adoption of mushroom farming as enterprise. Lesser participants showed their interest to transfer the skill to fellow farmers about mushroom production.

Table1: Reason of participation in training programme in mushroom cultivation.

S. No.	Reason	Number of respondent	Percentage
1.	To learn scientific mushroom production technology	114	76.00
2.	To adopt mushroom production as enterprise.	92	62.30
3.	To get training participants certificate for Govt. Subsidy and loan from bank etc.	22	14.66
4.	To establish linkage with KVK	31	20.66
5.	To transfer the technology to fellow farmers	13	8.67

Increase in level of knowledge

Change in knowledge level of participant's pre and post training was shown in Table 2. The knowledge level of the participants was not satisfactory before training. In pre evaluation test, the level of knowledge of respondents was 4.8 per cent regarding nutritive and medicinal value of mushroom to 25.25 per cent in case of profitability in mushroom cultivation. The participants showed positive attitude towards mushroom farming after training. Post training score of various operations ranged from 74.3 per cent in case of pest and disease infestation in mushroom to 95.75 per cent regarding profitability in mushroom cultivation. The reason behind the satisfactory change in knowledge level might be due to the keen interest of the participants about the entrepreneur, ease of cultivation technique and method followed for technology transfer.

Table 2: Gain in knowledge level of respondents after training with respect to different operations

S. No	Particulars	Pre training knowledge percentage	Post training knowledge percentage	Change of knowledge level
1.	Identification of mushroom species	10.20	90.40	80.2
2.	Nutritive and medicinal value of mushroom	4.80	81.30	76.5
3.	Technique used for mushroom production	9.30	82.60	73.7
4.	Pest and disease infestation in mushroom	5.50	74.30	68.8
5.	Profitability in mushroom cultivation	25.25	95.75	70.5
6.	Harvesting and storage process	11.75	83.40	71.65
7.	Value added product of mushroom	10.45	92.60	82.15
8.	Awareness of govt schemes and subsidies for establishment of mushroom production unit	25.00	95.50	70.00

Entrepreneur Developed:**Entrepreneur 1**

Out of the randomly selected 150 trainees, one of the women Dolirani Das Haloi of Banekuchi village of Nalbari District has started commercial mushroom cultivation specially *oyster* mushroom. She sold a total of 81.4 quintal mushroom in last four years (2016-2019) as shown in the Table 3. Simultaneously, she had started preparing value added products from mushroom like pickle, mushroom powder, biscuits, bhujia, paneer etc and supplied it to various mall and markets of the nearby districts. KVK, Nalbari sent her to Directorate of Mushroom Research (DMR), Solan for advanced training on spawn production in 2016. After the training, she started spawn production unit at her own and now supplying spawn to mushroom growers of the neighboring district and providing free training to the interested farmers. She took part in various food festivals and Kishan Mela organized in nearby states like Meghalaya, West Bengal etc to showcase her value added products. She received best Women Entrepreneur award 2019 organised by Rotary Club, Guwahati, Assam. She also participated in the Farm innovators meet organized by IARI, New Delhi in 2019. The production and financial benefits of her enterprise is presented in the table 3.

Table 3: Quantity of mushroom and its worth sold by one of the beneficiaries

Year	Produced sold in qt	Worth in Rupees
2016-17	15.5	1,24,00.00
2017-18	18.3	1,55,550.00
2018-19	22.4	1,90,400.00
2019-20	25.2	2,52,000.00

Entrepreneur 2

Another young lady Deiji Deka Nath of Barjhar village, Nalbari district started mushroom farming after getting training from KVK, Nalbari. She started mushroom production from 2016 and now she is producing around 30 qt of mushroom per year as shown in the Table 4. She also developed one brand of dry mushroom “KathFu®” and it is now one of the popular brand of the state. She is exporting her produce to neighboring country Bhutan.

Table 4: Quantity of mushroom and its worth sold by another of the beneficiaries

Year	Produced sold in qt	Worth in Rupees
2016-17	17.3	1,40,00.00
2017-18	20.7	1,79,950.00
2018-19	24.4	2,07,400.00
2019-20	30.0	3,00,000.00

After successful completion of the trainings conducted by KVK, Nalbari and Baksa, around 300 nos of farm women and around 200 nos of rural youth have taken up mushroom cultivation as their source of livelihood. Every farmer is earning a very good amount of money from selling mushroom after their own consumption for nutritional security. The study also indicted the change in livelihood pattern of rural women mushroom grower. It reveals that after getting income from mushroom cultivation, they were expending more on food, health and education and made saving for future security.

Conclusion

KVKs are playing an important role in transferring the technology to the farmer's field through training, awareness programme and Front line Demonstrations. Awareness and training on mushroom production helped in nutrient supplement and income generation of farm women and youths. Farmers were convinced with importance of mushroom and incorporated it in their diet. The knowledge level of the participants about the various aspects of mushroom cultivation has changed notably after attaining the training which might be due to the keen interest of the participants, ease of cultivation technique and method followed for technology transfer. It also provided an opportunity to strengthen the linkage between farmers and scientist of KVK which helped in technology transfer and economic upliftment

of farming community. The study indicates that good conduct of training provides needed information and guidance to unemployed farm women to start and flourish an enterprise like mushroom cultivation.

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