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## Constraints Faced by Trainees of Mushroom Research and Training Center, Pantnagar

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### **Abstract:**

*Mushroom Research and Training Centre (MRTC) located at the G.B. Pant University of Agriculture and Technology, Pantnagar is actively involved in conducting training programmes on edible mushroom cultivation. Main objective of training programmes on mushroom production is to promote mushroom production as a self employment venture which can ultimately improve the socio-economic condition of the poor. It has also been observed that some of the people trained at MRTC have adopted mushroom cultivation on other hand some have not. It was found worthwhile to study the reasons of adoption, rejection and continued adoption of mushroom cultivation as an enterprise. Trainees suffer from various types of constraints while starting, practicing and continuing mushroom cultivation as an income generating activity. A research namely 'Constraints faced by trainees of Mushroom Research and Training Center, Pantnagar' was undertaken to find out various constraints faced by the trainees of MRTC, Pantnagar. The study was conducted in three villages of Udham Singh Nagar district of Uttarakhand. Data were collected through pre-tested semi- structured interview schedule Focous Group Discussion and case study. Total 110 ex-trainees of MRTC, Pantnagar were selected through census method as respondents. The study also pointed out the need help trainees to get rid of personal, technological, infrastructural, economic, social constraints and also lack of awareness, training constraints, marketing and manpower constraints faced by them.*

**Keywords:** Constraints, trainees, training programme, mushroom production

### **1. Introduction**

India has a tremendous potential for the growth of agro-based industries and presently one of the focus- segment is mushroom production and processing. The diversity in soil and climatic conditions in India allows a production of variety of mushrooms in different parts of the country. This provides vast potential for the cultivation of mushrooms due to ample availability of raw materials and conducive climatic conditions. Mushroom cultivation is highly profitable and sustainable enterprise for small and marginal; and agricultural laborers. Farmers who are not getting good returns from agriculture are also keen to adopt other agriculture related activities to enhance their income and mushroom cultivation is one of them, which provide extra income to the farmers other than field crops in two to three months duration. Since mushroom cultivation does not require big land and can be grown in the houses/ small huts, people has limited or no land also showing interest in starting mushroom cultivation as an venture of income generation. Mushroom cultivation is the most economic way of upgrading lignocellulolytic waste and hence, is the way to increase the income of the farmers other than field crops, which ultimately increase the human resource directly or indirectly (Singh *et al.*, 2003). Mushroom cultivation as a self employment venture is now being promoted by various Government Departments, State Agricultural Universities, and National Research Centre for Mushroom (NRCM) and N.G.Os. Mushroom Research and Training Centre (MRTC) located at the G.B. Pant University of Agriculture and Technology, Pantnagar is also actively involved in conducting training programmes on edible mushroom cultivation for Below Poverty Line (BPL) beneficiaries of the state. Main objective of these training programmes is to promote mushroom production as a self employment venture which can ultimately improve the socio-economic condition of the poor. It has also been observed that some of the people trained at MRTC have adopted mushroom cultivation on other hand some have not. Thus it was found worthwhile to study the constraints faced by BPL trainees in Mushroom cultivation to explore the reasons of adoption, rejection and continued adoption of mushroom cultivation as an enterprise.

## 2. Methodology

Uttarakhand state of India constitutes the universe of the proposed study. Mushroom Research and Training Centre (MRTC) of G. B. Pant University of Agriculture and Technology, Pantnagar established on its main campus was selected as it is the only centre in the state which has been engaged in imparting mushroom cultivation training of seven days in collaboration with the development department of the state to BPL families under *Swarnjayanti Gram Swarajgar Yojna* (SGSY) from 2001 to 2004. The ex- post- facto research design was used to meet out the objectives set forth for the study. Interview schedule, case study and observation were taken as a tools for data collection after pretesting. The total of 110 trainees trained by MRTC, Pantnagar during 2001- 2004 from Rudrapur block were selected as respondents through census method. From the selected block, three villages namely Shimla Pistaur, Bhoorarani and Chhatarpur were selected purposively as maximum number of BPL beneficiaries who were trained by MRTC belonged to these villages. Trainees were grouped in three categories as practicing growers (who started this venture after training), discontinued growers (trainees who started but discontinued the mushroom cultivation) and non- practicing growers (trainees who never started mushroom cultivation). The data was collected with the help of interview schedule from October, 2007 to February, 2008. All the respondents were personally interviewed by the researcher in the study area. During each visit to selected village researcher used to maintain a field diary. Researcher also tried to document the facts in photo and video format which enabled her to have a closer look on the various aspects the study. The data thus collected were tabulated and statistically analyzed to interpret the result.

## 3. Results and Discussion

Various constraints faced by the practicing growers, discontinued growers and non- practicing have been analyzed and discussed as follows.

### 3.1. Personal Constraints

Sl. No.	Personal Constraints	Practicing Growers (percent)	Discontinued growers (percent)	Non-practicing growers (percent)
1.	Excessive burden of work	66.66	88.23	100
2.	Lack of leisure time	44.44	58.82	68.18
3.	Trainee's illiteracy	22.22	88.23	45.45

Table 1: Distribution of the trainees on the basis of constraints faced by the trainees

### 3.2. Multiple Responses Were Allowed

Table 1 revealed that among personal constraints reported by the trainees, 66.66 percent practicing growers, 88.23 percent discontinued growers and all non-practicing growers reported excessive burden of work as a constraint whereas lack of leisure time and confidence were also realized as constraints by 44.44 percent practicing growers, 58.82 percent discontinued growers and 68.18 percent non-practicing growers of this venture. Illiteracy was also reported as barrier by 22.22 percent practicing growers, 88.23 percent discontinued growers and 45.45 percent non-practicing growers.

### 3.3. Social Constraints

Among various social constraints experienced by the trainees (**Table 2**) negative attitude of people towards this venture was one of the constraints reported by 11.11 percent each, practicing growers and discontinued growers and 18.18 percent non-practicing growers.

Sl. No.	Social Constraints	Practicing Growers (percent)	Discontinued growers (percent)	Non-practicing growers(percent)
1.	Negative attitude of society towards women entrepreneur	11.11	11.11	18.18
2.	People regard mushroom as a non-vegetarian food	11.11	17.65	-
3.	People misconceive it as dog's umbrella or Snake's umbrella and as poisonous	44.44	29.41	-
4.	Misconception about mushroom consumption is injurious to health	33.33	17.65	-
5.	Lack of awareness about nutritional value of mushroom	11.11	29.41	-

Table 2: Distribution of the trainees on the basis of social constraints faced by the trainees

### 3.4. Multiple Responses Were Allowed

It is also clear from Table 2 that peoples' perception about mushroom as non vegetarian food, as dog's or snake's umbrella, that it is injurious to health and lack of awareness about its nutritional value were considered as constraints by 11.11 percent, 44.44 percent, 33.33 percent and 11.11 percent practicing growers respectively. The discontinued growers of mushroom cultivation reported these constraints as 17.65 percent, 29.41 percent, 17.65 percent and 29.41 percent respectively.

### 3.5. Constraints Related To Lack of Awareness

Data presented in Table 3 evince that lack of awareness about improved technologies was realized as a constraint by 33.33 percent practicing growers and 29.25 percent who discontinued.

Sl. No.	Constraints related to lack of awareness about:	Practicing Growers (percent)	Discontinued growers (percent)	Non-practicing growers (percent)
1.	Various improved technologies	33.33	29.25	-
2.	Loaning schemes	33.33	35.25	100
3.	Training opportunities	11.11	52.94	13.64

Table 3: Distribution of the trainees on the basis of constraints related to lack of awareness faced by the trainees

### 3.6. Multiple Responses Were Allowed

Lack of awareness about prevailing loan schemes was another constraint which was reported by 33.33 percent practicing growers, 35.25 percent discontinued growers and all who did not start mushroom cultivation. Lack of awareness about training opportunities was also expressed as constraint by 11.11 percent practicing growers, 52.94 percent discontinued growers and 13.64 percent non-practicing growers.

### 3.7. Financial Constraints

As far as financial constraints are concerned (Table 4) majority of the practicing growers reported complicated loaning procedure (77.78 percent), increasing price of spawn (66.67 percent) and delay in getting payment from sale of produce (55.55 percent) as major constraints. The other constraints reported by practicing growers were delay in getting loan and very high initial investment (44.44 percent), lack of government support in the form of loan and subsidies and difficulty in arranging loan (33.33 percent). It was also found that some of grower faced problem because of the high labour cost (22.22 percent) and non availability of funds and finance for extension and improvement of their unit (11.11 percent).

Sl. No.	Financial Constraints	Practicing Growers (percent)	Discontinued growers(percent)	Non-practicing growers(percent)
1.	Delay in getting loans	44.44	64.70	-
2.	Complicated procedure in getting loans	77.78	100	100
3.	Non availability of funds and finance	11.11	17.65	100
4.	High initial investment	44.44	88.23	-
5.	Increased price of spawn	66.67	100	-
6.	Increased labour cost	22.22	17.65	-
7.	Delayed payment from sale of produce	55.55	88.23	-
8.	Lack of government support in the form of loan and subsidy	33.33	100	100
9.	Difficulty in arranging loan	33.33	100	100
10.	Lack of awareness of the incentive meant for the them	33.33	76.47	-

Table 4: Distribution of the trainees on the basis of financial constraints faced by the trainees

### 3.8. Multiple Responses Were Allowed

The discontinued growers also reported various constraints in this regard which includes delay in getting loan (64.70 percent), complicated loaning procedure, increased price of spawn, lack of government support in the form of loan and subsidies and difficulty in arranging loan (100 percent), non availability of funds and finance and increasing labour cost (17.65 percent), delay in getting payment from sale of produce (88.23 percent) and lack of awareness of incentives (76.47 percent). All the non-practicing growers reported complicated loaning procedure, non availability of funds and finance and difficulty in arranging loan as major constraints faced by them.

### 3.9. Infrastructural Constraints

Sl. No.	Infrastructural Constraints	Practicing Growers (percent)	Discontinued growers(percent)	Non-practicing growers(percent)
1.	No cold storage facility	55.55	23.53	-
2.	Seasonal activity	55.55	100	-
3.	Lack of space	55.55	100	81.82

Table 5: Distribution of the trainees on the basis of infrastructural constraints faced by the trainees

### 3.10. Multiple Responses Were Allowed

Under infrastructural constraints Table 5 revealed that majority of practicing growers (55.55 percent) experienced improper storage facility, lack of adequate space and seasonal nature of mushroom crop as the constraints whereas all the discontinued growers reported that lack of adequate space and seasonal nature of mushroom crop as the major constraints faced by them. Vast majority of non-practicing growers (88.12 percent) also expressed that they did not start this venture due to lack of adequate space.

### 3.11. Input Constraints

It is clear from Table 6 that all the practicing growers and discontinued growers of this venture reported that poor quality of spawn and inadequate supply of spawn at appropriate time was the main constraints they experienced.

Sl. No.	Input constraints	Practicing Growers (percent)	Discontinued growers(percent)	Non-practicing growers(percent)
1.	Poor quality of spawn	100	100	-
2.	Procurement of raw material is time consuming	55.55	70.59	-
3.	Non availability of quality spawn in the area	66.67	100	-
4.	Inadequate supply of spawn at appropriate time	100	100	-
5.	Non availability of compost when needed	55.55	76.47	-
6.	Unavailability chemicals in nearby market	44.44	64.70	-

Table 6: Distribution of the trainees on the basis of input constraints faced by the trainees

### 3.12. Multiple Responses Were Allowed

It is also clear that more than half to about three fourth majority (55-76 percent) of them (practicing growers as well as who discontinued) experienced constraints related to procurement of raw material, non availability of quality spawn and non availability of compost when they needed. Only 44.44 percent practicing growers and 64.70 percent discontinued growers of this venture also reported the unavailability of chemicals in nearby market. None of the trainees who could not or did not start this venture reported any constraint related to input supply.

### 3.13. Manpower Constraints

Table 7 revealed that among the constraints related to manpower, very few practicing growers as well as discontinued growers (5.88 percent) reported leaving of experienced workers and non availability of skilled labourers.

Sl. No.	Manpower Constraints	Practicing Growers (percent)	Discontinued growers(percent)	Non-practicing growers(percent)
1.	Experienced workers leave the unit after sufficient exposure	11.11	5.88	-
2.	Non availability of skilled labourers	11.11	5.88	-

Table 7: Distribution of the trainees on the basis of constraints related to manpower faced by the trainees

### 3.14. Multiple Responses Were Allowed

As non-practicing growers could not or did not start the mushroom cultivation thus none of them reported any constraint related to availability of manpower.

### 3.15. Marketing Constraints

As far as market related constraints are concerned it is clear from **Table 8** that all the practicing growers reported poor marketing avenues, malpractices of middleman, and no control over price fixation as major constraints. The other constraints reported by the practicing growers includes no demand of other varieties of mushroom ( 66.66 percent), erratic demand for mushroom, lack of transport facility and perishable nature of the crop (44.44 percent) non availability of proper agency for purchase of mushroom and less demand of mushroom (33.33 percent).

SL.No.	Marketing Constraints	Practicing Growers (percent)	Discontinued growers(percent)	Non-practicing growers(percent)
1.	Distant location of markets	33.33	94.12	-
2.	Poor marketing avenues	100	100	-
3.	Less demand for mushroom	33.33	58.82	-
4.	Non availability of proper agency to purchase mushroom	66.67	94.12	-
5.	Erratic local demand for mushroom	44.44	100	-
	Malpractices of middlemen	100	100	-
6.	Lack of transport facility	44.44	41.18	-
7.	Perishable commodity results in losses	44.44	100	-
8.	No demand of other varieties of mushroom	66.67	58.82	-
9.	No control over price fixation	100	82.35	-

Table 8: Distribution of the trainees on the basis of marketing constraints faced by the trainees

### 3.16. Multiple Responses Were Allowed

Discontinued growers of this venture also reported several constraints in this regard and all of them expressed poor marketing avenues, erratic demand for mushroom, malpractices of middleman and perishable nature of the crop as major constraints they faced. The other constraints faced by them includes distant location of market, non availability of proper agency for purchase of mushroom (94.12 percent), no control over price fixation (82.35 percent), less demand of mushroom and no demand of other varieties of mushroom (58.82 percent).

### 3.17. Training Constraints

It is clear from Table 9 that about two third to three fourth majority (66.67-77.78 percent) of the practicing growers reported that they had received only few training of short duration so they could not get the things properly. More than three fourth of practicing growers also reported lack of proper extension services at village level which can upgrade their skills in mushroom cultivation and only very few of them felt that training provided to them was not practical in nature. Discontinued growers of this venture also reported the same constraints and all of them reported that they had received only few trainings of short duration so they could not get the things properly (47.06 percent).

Sl. No.	Constraints related to training	Practicing Growers (percent)	Discontinued growers (percent)	Non-practicing growers (percent)
1.	Short duration of training course	77.78	47.06	90.90
2.	Very few number of trainings received	66.67	100	72.73
3.	Lack of practical oriented training	11.11	5.88	-
4.	Lack of proper extension services in the villages	77.78	23.53	-
5.	Training did not provide complete entrepreneurial skills	-	5.88	9.09

Table 9: Distribution of the trainees on the basis of constraints related to training faced by the trainees

### 3.18. Multiple Responses Were Allowed

Only few of them also reported other constraints also and these were lack of proper extension services at village level (23.53 percent) and lack of practically oriented training that was not enough to develop entrepreneurial skills among them (5.88 percent). Similarly, the trainees who never practiced mushroom cultivation after training reported few training programmes (90.90 percent) and short duration of training programme attended by them as major constraints (72.73 percent) due to which they could not start this venture. Very few of them were of the opinion that training did not provide them complete entrepreneurial skills (9.09 percent).

### 3.19. Technological Constraints

Data regarding technological constraints as presented in Table 10 indicate that all the practicing growers and discontinued growers reported complex cultivation practices of mushroom as major constraint faced by them. Huge majority (88.23 percent) of discontinued growers also reported that complex technology of spawn production was the major constraint faced by them. The other constraints reported by the practicing growers were lack of proper knowledge of compost preparation and lack of technical guidance in post harvest technology (33.33 percent) and complex technology of spawn production and lack of literature in simple language on mushroom cultivation (22.22 percent). Only few discontinued growers also reported these constraints but they were few in numbers (5.88 percent).

Sl. No.	Technological Constraints	Practicing Growers (percent)	Discontinued growers(percent)	Non-practicing growers(percent)
1.	Lack of proper knowledge of compost preparation	33.33	5.88	-
2.	Complex technology of spawn production	22.22	88.23	-
3.	Complex cultivation practice	100	100	-
4.	Lack of technical guidance in post harvest technology	33.33	5.88	-
5.	Lack of literature in simple language on mushroom cultivation.	22.22	29.41	-

Table 10: Distribution of the trainees on the basis of technological constraints faced by the trainees

### 3.20. Multiple Responses Were Allowed

### 3.21. Constraints Related to Crop Management

Data presented in Table 11 evince that all the discontinued growers of this venture and vast majority of practicing growers (88.89 percent) faced the problem of frequent occurrence of disease in mushroom crop.

Sl. No.	Constraints related to crop management	Practicing Growers (percent)	Discontinued growers(percent)	Non-practicing growers(percent)
1.	Frequent occurrence of diseases in mushroom	88.89	100	-
2.	Poor and irregular production	66.67	94.12	-
3.	Unfavorable climatic conditions	44.44	94.12	-

Table 11: Distribution of the trainees on the basis of constraints related to crop management faced by the trainees

### 3.22. Multiple Responses Were Allowed

Two third of practicing growers (66.67 percent) and huge majority of those discontinued (94.12 percent) also reported poor and irregular production of mushroom crop as a constraint. The unfavourable climatic conditions were also reported as constraint by 44.44 percent practicing growers and 94.12 percent who discontinued.

## 4. Conclusion

It can be summarized that mushroom is a highly delicate crop and need more care and attention. Without proper knowledge one cannot understand its complex growing technology. As it is a seasonal crop some time irregular production also create problem for growers. It can be also inferred that most of the growers do not get proper venues for marketing of produce and availability of cooperative system can be very helpful for them. These results are in conformity with the findings of **Khurana and Sharma (1995)** who also reported that the complex technology for spawn production, complex cultivation practices and poor production were major constraints faced by mushroom cultivators. Thus it can be inferred that trainees advocated for providing financial help after training in the form of subsidy or loan. Proper marketing system and regular consultancy were other areas that need attention of stakeholders. It might be due to the fact that majority of the trainees did not get financial help from the government or suffered from the delay in loan because of the complicated loaning procedure. Further, due to lack of proper marketing system and irregular consultancy services affected them adversely. On the basis of conclusion following implications could be drawn.

### 4.1. Implications

- i. Since mushroom cultivation is capital-intensive and increases with increase in farm-size, the financial assistance through institutional agencies at cheaper interest rate would help increase mushroom production.
- ii. Proper institutional arrangements are required to supply the good quality of spawn at reasonable prices and in desired quantities to the mushroom growers.
- iii. Farmers' co-operative marketing societies and farmer's organizations may be promoted to take care of surplus quantity of mushroom production.
- iv. Mushroom being a highly perishable crop and prone to high temperature, marketing infrastructure such as cold storage facilities is of immense importance. Similarly, suitable arrangements are needed by the processing units for the management of surplus mushroom.
- v. To overcome social constraints in the community, group and participatory approach must be adopted in the formulation as well as implementation of programmes for mushroom cultivation.

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