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Profile characteristics and entrepreneurial attributes of trainees of National Training Programme on mushroom cultivation

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ABSTRACT

There is an increasing need of training on mushroom cultivation technology to the farmers and entrepreneurs. The training on mushroom cultivation technology for entrepreneurs is a flagship programme of Directorate of Mushroom Research, Solan aiming to facilitate imparting comprehensive knowledge of mushroom production among trainees. The 10 day training programme on mushroom cultivation technology for entrepreneurs attracts willing-entrepreneurs across the country for getting the training on mushroom cultivation. Analysis of profile characteristics and entrepreneurial attributes of trainees is key to assess the subsequent adoption of mushroom cultivation, marketing and processing activities by the trainees. Majority of participants were male, middle aged youth, well educated and mostly representing medium sized families. Trainees represented different parts of India and few from abroad. More than half of trainees were interested to learn the cultivation technology of different edible and medicinal mushrooms, where as little less than half were willing to learn only about white button mushroom cultivation aspects. Most trainees were having prior experience of entrepreneurship either in agriculture or horticulture activities. The mushroom entrepreneurial ability measured during 2012 indicated that, majority of trainees assessed themselves with medium level ability and very few with low level mushroom entrepreneurial ability.

Keywords: Mushroom cultivation, training, entrepreneurial ability

At a time when agriculture is in distress, farmers are looking into activities that can improve their livelihood security. Agri-preneurs are exploring the high value enterprises like floriculture and mushroom cultivation. Mushroom cultivation is an important horti-business activity which can help farmers realize round the year returns compared to many other crops or enterprises. However, mushroom being an indoor crop, its cultivation differs from other traditional vegetables. This is the reason for increasing need of training among the farmers and entrepreneurs who wish to take up mushroom cultivation as an horti-business activity. The Directorate of Mushroom Research, Solan offers year around training on mushroom cultivation technology.

The training programme on mushroom cultivation for entrepreneurs is most sought after training by the willing mushroom entrepreneurs. The systematic evaluation of training programmes have lot of implications for research on extension, especially for designing and reforming the course content and organisation of future training programmes. However, the trainees' profile and entrepreneurial attributes have often been neglected and their importance in having implications for adoption of mushroom entrepreneurship have not been analysed in appropriate perspective. In this context, the present study is taken to make an attempt to understand the trainees' profile and entrepreneurial attributes of trainees attending

the training programme on mushroom cultivation technology.

MATERIALS AND METHODS

The methodology followed for the research study is mentioned under three broad headings such as subjects and data collection, profile characters under study and variables under study.

Subjects and data collection

The data was collected through self administered questionnaires among the trainees participating in the national training on mushroom cultivation technology. The study was conducted for three successive years during 2010-12. The survey questionnaires were developed after a thorough review of literature and focusing on the objectives of the study. The pretesting of the questionnaire was appropriately done during earlier trainings and necessary changes were incorporated. The researchers had no bias in selection of the subjects of the study, as all the trainees - willing to be private entrepreneurs - attended the training at their own behest. The questionnaire was a blend of closed ended and open ended questions to elicit objective data and to express free opinion wherever essential. Necessary care was taken to ensure objectivity in the data collection with appropriate instructions during the data collection.

Profile characters under study

The data on profile characters of trainees was arrived with suitable classes in each criterion. In most cases, either the standard class or perceived equidistant values were engaged for classification. The States and Union territories of India were categorised into five regions depending on the locality. Considering the less number of subjects and being contiguous with Northern States, Madhya Pradesh is included in Northern region. Maharashtra is included in western region. Among the eastern states, two regions viz., eastern and North eastern are categorised. Sikkim is included as part of North eastern region in the study.

Variables under study

The personal profile characters and mushroom entrepreneurial orientation of trainees were evaluated among all the trainees for three years. Further, thirty trainees participating in 2012 were additionally evaluated about their perception on mushroom cultivation and self assessment of the ability to manage the mushroom entrepreneurship. In this case, a construct 'mushroom entrepreneurial ability' was developed based on 25 different statements on a 5-point Likert scale. The statements covered several traits required by the entrepreneurs like motivation level, decision making ability, information seeking behaviour, knowledge level, business background and orientation, investment capacity, risk bearing ability, marketing ability, etc.

RESULTS AND DISCUSSION

A total of 101 trainees took part in the three training programmes conducted for entrepreneurs during 2010-12. Majority of participants were male (H≈85%), middle aged youth of 21-40 years (>70%), well educated (H≈93%) and mostly representing medium sized families (>50%). Although, there was no particular trend about marital status and income of trainees, majority were married (H≈55%) and were from high income group (>40% with Rs 50,000/- or above per month). Most of the trainees represented North Indian states (H≈45%) followed by Western (H≈22%) and Southern states (H≈21%). Relatively less participants from Eastern (H≈10%) and North-Eastern states (Only one trainee in three years) attended the training. One each from United Kingdom and Uganda participated in the

training during 2009 and 2011 respectively. Details of profile characteristics of trainees are listed in table 1.

From the results of the study, it is observed that, women's participation in training on mushroom cultivation was modest. Even among the women participants attending the training, six women came to the training along with their spouse or their would-be managers. Many countries – especially developing- are emphasising mushroom cultivation as the best suited activity for women owing to its household nature, physically less demanding, waste recycling, livelihood support, etc. (Kiguli. J, 2005, Karwa and Rai, 2005, Kumar and Mashruwala, 1993). Though, all the above advantages are apparent in small projects and in some varieties of mushrooms, Women are far from being a reckoning force in Indian mushroom industry, at least in large commercial production units. However, their success in small units and as organised self help groups (SHGs) is well acknowledged and documented as a means of livelihood and profit making (Sabita, 2008).

Most trainees attending the mushroom cultivation training were between 21-40 years. It is explicable that, youth- especially the willing entrepreneurs and the unemployed -are inclined to explore into mushroom cultivation

Table 1. Personal profile characteristics of trainees attending training on mushroom cultivation technology for entrepreneurs

Sl. No	Criteria	Classes	2010 (n=36)	2011 (n=35)	2012 (n=30)	Total (n=101)
1	Sex	Male	33	31	22	86 (85.15)
		Female	3	4	8	15 (14.85)
2	Age	< 20 years	1	1	1	3 (2.97)
		21-30 years	10	14	15	39 (38.61)
		31-40 years	11	12	10	33 (32.67)
		41-50 years	9	5	3	17 (16.83)
		> 50 years	5	3	1	9 (8.91)
3	Marital status	Married	23	13	19	55 (54.46)
		Un-married	13	22	11	46 (45.54)
4	Education	10th and below	1	2	1	4 (3.96)
		12^{th}	1	1	1	3 (2.97)
		Graduate	19	17	14	50 (49.50)
		Post graduate and above	15	15	14	44 (43.56)
5	Income	< 10,000	3	1	1	5 (4.95)
		10,000 – 25,000	9	13	2	24 (23.76)
		25,000 – 50,000	12	5	11	28 (27.72)
		50,000 – 100,000	2	6	11	19 (18.81)
		> 100,000	10	10	5	25 (24.75)
6	Family size	1-2 members	1	3	3	7 (6.93)
		3-4 members	20	22	16	58 (57.43)
		5 or more	15	10	11	36 (35.64)
7	Region	Southern	11	6	4	21 (20.79)
		Western	5	10	7	22 (21.78)
		Eastern	2	3	5	10 (9.90)
		Northern	17	16	12	45 (44.55)
		North-Eastern	0	0	1	1 (0.99)
		Foreigners	1	0	1	2 (1.98)

and mushroom marketing or processing venture. Other than employment to the self, it offers employment to many skilled and semi skilled labours. Mushroom production units with a capacity of 200 and 3000 Tonnes per annum, even with mechanisation employs 20 and 200 staff respectively under Indian conditions (Vijay, 2011). Among the trainees, three married couple expressed willingness to set up mushroom house as family enterprises.

The education level of the trainees can be said as very high. Nearly 93% of trainees possessed either a graduate, post-graduate or higher degree. Mushroom production in commercial scale requires an understanding of mushroom biology, cropping cycle, spawn production techniques etc. Hence, the nature of mushroom enterprises engenders interest usually among the educated class. The less educated are lukewarm to venture into commercial mushroom production especially of white button mushrooms in India. However, the seasonal cultivation of white button mushroom during winter in North Indian states of Haryana, Punjab and Jammu & Kashmir presents an antithetical case for study. Here, the indigenous system of mushroom growing is practiced even by less educated villagers owing to its easy to adopt technology and better economic returns.

The income level was an important trait of study among the trainees. The entrepreneurs with high income attend the training more in number. About 95% of trainees were having their monthly income of more than INR 10,000/-. Trainees represented four different class of income in not much skewed distribution. Most trainees (H≈28%) were with income INR 25,000-50000, followed by (H≈25%) with INR >100,000/-, (H≈24%) with INR 10,000- 25,000/- and (H≈19%) with income of INR between 50,000-100,000. Considering other horticulture and agriculture based activities, mushroom production is treated as investment intensive enterprise (Zhang, 2011). Hence, most participants belonging to high income group may be attributed to the cost intensive nature of mushroom enterprises perceived by trainees.

The participants represented different states and Union territories of India and one each participant came from abroad in the year 2010 and 2012. Majority of trainees were from Northern region (H≈45%), followed by western (H≈22%), southern (H≈21%) and eastern region (H≈10%). Only one trainee from North East (Sikkim) attended the training in 2012. Number of participants varying for each region was on account of vicinity of the Directorate and partly to the business potential of mushroom in respective region. Eastern states like Orissa, West Bengal and Chhattisgarh are main contributors to production and consumption of paddy straw mushroom (*Volvariella volvaceae*) in India. People's choice, simple - low cost production technology combined with hot and humid weather of the region have established *Volvariella* as the leading edible mushroom in these states. The chances of entrepreneurs envisaging production of other mushrooms - especially the cost intensive white button mushroom over *Volvariella* are remote. Though, North-eastern states are hot spots for consumption of wild edible mushrooms, the commercial production in these states is in nascent stage. The almost secluded nature of north eastern states from mainland always draws fewer participants to training programs in the mainland. The Directorate considering this fact organises exclusive trainings in these areas for different group of clients like farmers, officials of state department of horticulture and staff of Krishi Vigyan Kendras and agriculture colleges.

All the trainees were analysed with respect to their entrepreneurial characteristics with particular emphasis on mushroom enterprises. Prior to arriving to this training, nearly 20% trainees were previously exposed to some other training on mushroom cultivation, whereas

about 21% trainees actually involved in mushroom cultivation in some scale. More than one third had the experience of running any other business/enterprises other than mushroom production. Almost half the trainees were having the background of either agriculture or horticulture. More than half of trainees coming to Directorate were interested to learn the cultivation technology of different edible and medicinal mushrooms, where as little less than half (H≈45%) were willing to learn only about white button mushroom cultivation aspects. With respect to investment in mushroom entrepreneurship, majority (H≈48%) were willing to go for medium units with moderate investment, followed by small units with less investment (H≈26%). Less than 20% of the trainees were willing to go for establishing large units with heavy investment. Interestingly, sizeable numbers of trainees (H≈17%) were keen to learn about seasonal cultivation of mushroom only. Entrepreneurial profile characteristics of trainees attending entrepreneurs training year wise are given in table 2.

Though, most trainees were having experience of working with either mushroom cultivation or other horticulture/agriculture based activity and even in some other business activity, their desire to venture into mushroom cultivation is an indication of mushroom cultivation as a prospective business. If not, it can be construed as their perception under prevailing market prices for mushrooms.

The 'mushroom entrepreneurial ability' was measured for thirty trainees participating during National training programme on mushroom cultivation during April- May, 2012. Based on the results obtained, the trainees were categorised into three classes. Seven trainees with average cumulative score of 4 and above were classified as persons with high mushroom entrepreneurial ability, 21 trainees (average cumulative score lying between 3.00 to 3.99) are classified as persons with medium and 2 trainees (average cumulative score of below 3.00) are classified as persons with low mushroom entrepreneurial ability. The results are presented in the table 3.

Table 2. Entrepreneurial profile characteristics of trainees attending entrepreneurs training on mushroom cultivation

Sl. No	Enterprise profile*	2010 (n=36)	2011 (n=35)	2012 (n=30)	Total (n=101)
1	Previously exposed to training on mushroom cultivation	6	6	8	20 (19.80)
2	Previously involved in mushroom cultivation/ marketing/ processing	6	5	10	21 (20.79)
3	Previously involved in any other business/ enterprises	10	17	10	37 (36.63)
4	Previously involved in agriculture or horticulture activity	20	11	15	46 (45.54)
5	Trainees interested in learning white button mushroom only	14	9	22	45 (44.55)
6	Trainees interested in learning about different mushrooms	22	26	8	56 (55.45)
7	Trainees interested in large units with heavy investment	12	2	4	18 (17.82)
8	Trainees interested in medium units with moderate investment	17	19	12	48 (47.52)
9	Trainees interested in small units with less investment	6	12	8	26 (25.74)
10	Trainees interested in learning about seasonal cultivation only	6	7	4	17 (16.83)

* Item 2,3 & 4 are mutually in-exclusive and might be overlapping or in succession for few trainees; 5&6 are mutually exclusive

Table 3. Distribution of trainees according to the self perceived mushroom entrepreneurial ability.

Sl No	Mushroom entrepreneurial ability	Score range	No of respondents
1	High	4.00 and above	07
2	Medium	3.00- 3.99	21
3	Low	Less than 3.00	02

CONCLUSION

The data on profile of the trainees indicates that, the entrepreneurs attending the training on mushroom cultivation technology for entrepreneurs are better educated, economically sound and ambitious with high achievement motivation level. The interest on mushroom cultivation as a business venture stems from their perception about high demand for mushroom in the vegetable market and anticipating the use of their resources to become successful entrepreneurs. However, the information needs of such a group of clients could be distinct to set up the commercial mushroom production units as compared to the farmers taking up mushroom for livelihood purpose. This information need varies from technical know-how, financial aid and assistance, market support, business opportunities in export and processing, etc. Such diverse needs must be addressed in holistic manner with joint efforts of research and other governmental institutions to enable the entrepreneurs to succeed in mushroom industry as a way of agri-business activity.

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