

Impact assessment of National Mushroom Mela

**Mahantesh Shirur*, B Vijay, K Manikandan, G C Wakchaure, Vikas Taank,
Sunil Verma and Reeta Bhatia**

Directorate of Mushroom Research, Solan (HP), India, 173213

** Corresponding author, E-mail: mahanteshshirur@gmail.com*

ABSTRACT

Despite various ICT tools for information dissemination, melas continue to be a significant mode of transfer of technology owing to many advantages. Face-to-face interaction, live demonstration of technologies, learning from other growers, etc are important components of mela. The present study was conducted to assess the impact of annual National Mushroom Mela organized by Directorate of Mushroom Research, Solan on 10th September every year. The increasing impact of national mushroom mela with respect to participation of stakeholders in the mela over recent years was witnessed. Due to proximity and high mushroom growing activity, participation from North India is significant. The meager participation of people from North Eastern India was conspicuously observed. Over a period of one decade, the National mushroom mela has extended its impact from provincial to Pan India as seen by the participation from most states of the country in the last three years. The farmers' problems with respect to marketing, processing and disease incidence seek intervention of the scientists to address these issues on priority. Looking at the scope of the melas in India, they hold much more relevance for mushroom growers considering the novelty of the crop and the special knowledge it demands for its cultivation.

Key words: Mushroom, Mela, Stakeholder, Participation, Kisan Goshthi

Mela or field day is considered as one of the most important method of teaching and transfer of technology in India. In recent times the melas faces many challenges in the wake of increased access to electronic and print media. The use of ICT tools like internet, e-mail, CD and DVDs, Expert System (ES) and the Decision Support System (DSS) are effectively catering to the information needs of the stake holders/ farmers. However, melas continue to be a significant mode of technology transfer in India owing to their effectiveness in facilitating face-to-face interaction with the experts and enabling farmers to see the improved technologies in action. Melas also offer unique advantage of integrating various approaches to extension like individual, group

and mass contact with use of appropriate audio visual aids. Thus, melas continue to hold relevance even during recent years because of their ability to bring the desirable changes in knowledge, skill and attitude among the clientele.

The Directorate of Mushroom Research, Solan (HP) organizes a National Mushroom Mela on 10th September every year. The objective of this mela is to showcase the improved technologies in the production, protection and post harvest processing of different cultivated mushrooms. A *Kisan Goshthi* (farmer-expert interaction) is organized during the mela with an objective to provide opportunity to all the stakeholders to interact

with the scientists and experts of the Directorate and other organizations. The annual mushroom mela is attended by large number of mushroom growers, entrepreneurs, spawn and compost suppliers, mushroom businessmen and scientists.

The present study was aimed to know the impact of the mushroom mela over the years with respect to participation level, representation of the stakeholders from different states, zones and gender. The present study would help to know the need to continue such melas or to suggest strategies for their effective organization in the future years.

MATERIALS AND METHODS

Present study was conducted at the Directorate of Mushroom Research, Solan where one-day mushroom mela is organized every year as Solan city was declared as 'Mushroom City of India' by the state government on 10th of September 1997. The visitors attending the mela are given a registration form, on submission of which they are given a registration kit containing free publications of the Directorate, a proforma for asking any queries in the *kisan goshti*, a writing

pad and a pen. This helps to elicit the information of all the visitors attending the mela. Personal interviews and discussions along with the structured schedules were also used for the study. The extent of usefulness about various aspects of mushroom mela as perceived by the stakeholders was quantified into three categories i.e. more useful, useful and less useful. Data was analysed with the help of frequency and percentages. The data is categorized and presented to show the representation from different zones of India. Locations of KVKs are taken as the criteria to analyse the representation from different zones.

RESULTS AND DISCUSSION

The findings of the study along with insights from the discussions held during the mela are summarized below.

Level of participation of stakeholders : The data revealed that the national mushroom mela is drawing large number of stakeholders consistently. The mushroom growers, entrepreneurs, and businessmen from different states participated in the mela. The data of participants in mushroom mela during last ten years is presented in table 1. It is observed that

Table 1. Number of stakeholders participated in mushroom mela in last ten years

Year	Zone - I		Zone - 2-8		Total		Grand total
	Male	Female	Male	Female	Male	Female	
2001	312	64	42	0	354	64	418
2002	343	63	15	0	358	64	422
2003	318	66	16	0	334	66	400
2004	238	100	14	0	252	100	352
2005	275	71	22	2	297	73	370
2006	184	170	63	0	247	170	417
2007	313	34	15	2	328	36	364
2008	332	67	59	10	391	77	468
2009	344	115	40	1	384	116	500
2010	352	66	70	9	422	75	497
Total	3011	826	356	24	3367	841	4208

2004 onwards, there has been a steady increase in the number of participants and maximum number of registered participants was recorded during last three years (2008-10). A perusal of the data revealed that majority of the farmers participating in the mela were from Himachal Pradesh, Haryana and Punjab. Mushroom cultivation activity is quite prominent in these states. Haryana has attained the sobriquet 'Mushroom bowl of India' owing to its increased white button mushroom production, especially by the seasonal growers. Cluster of seasonal mushroom growers puts up the temporary houses made of bamboo in Sonapat, Panipat, Kurukshetra, Hisar and many other districts in the state. Similar activity is found in Hoshiarpur, Ludhiana, Amritsar and Jalandhar districts of Punjab. Since the seasonal growers of North Indian plains start the compost preparation activities from September, majority of the growers tend to attend the national mushroom mela every year to know the latest technologies in mushroom cultivation. Also the

other reason for high participation from these states is their vicinity to Solan.

The results are an indication of increasing interest about the national mushroom mela among the stakeholders. Till recently, mushrooms were at large for the bourgeoisie because of their cost, unawareness about mushroom recipes, myths regarding their non-vegetarian status, fear about poisonous mushrooms, perishability, non-availability in the local markets, etc. However, mushrooms are gaining importance in recent times in the wake of increasing health awareness among the people and nutritional security offered by mushrooms. These factors are drawing the attention of the farmers, industrialists and businessmen to venture into the mushroom production, processing and marketing activities. As a result, the stakeholders look for mushroom mela as a significant source of information for their activities.

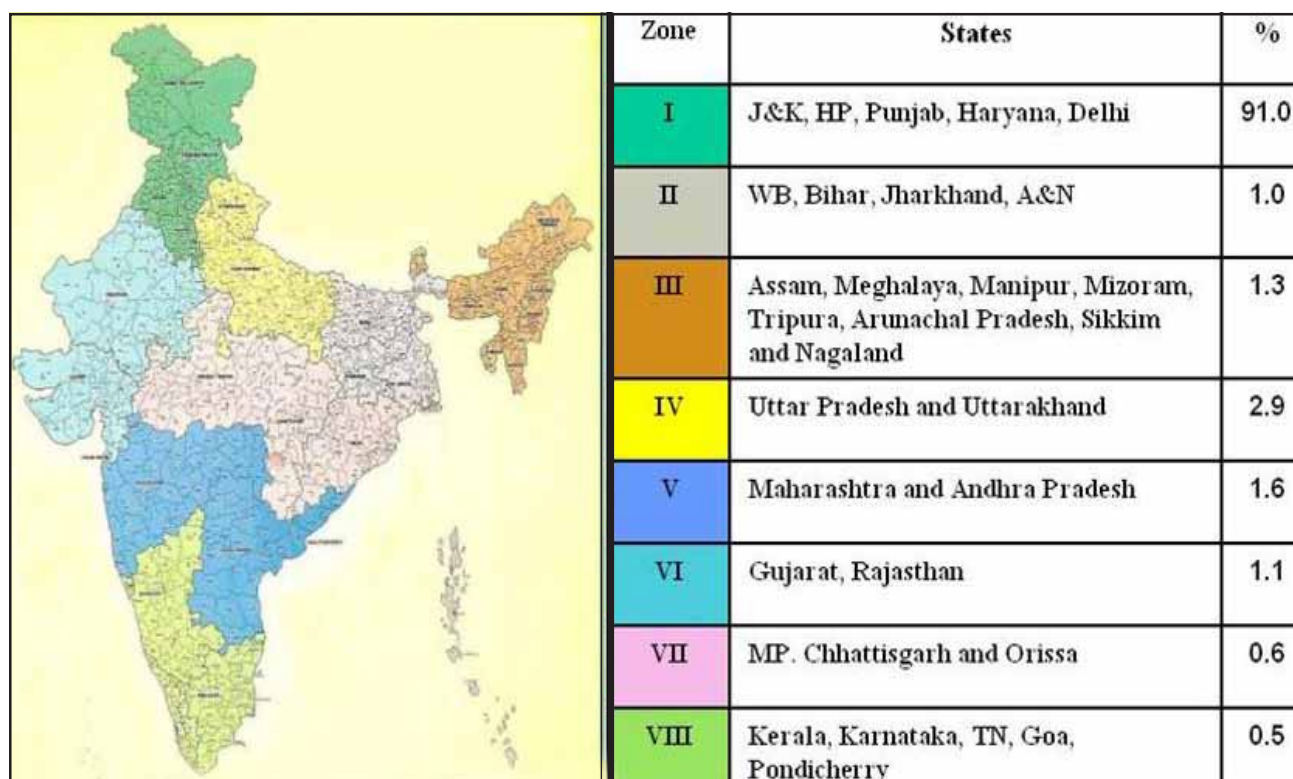


Fig. 1. Participation of stakeholders in the mushroom mela from different zones of India over last ten years

The participation from zone-I over the period of last ten years is 91% while rest of the India showed meager participation. The number of stakeholders attending the mela from all the eight zones is depicted in the map against each zone (Fig.1).

The participants from number of different states : The data was analyzed to know the participation level of states in the national mushroom mela (Fig. 2). In the initial years till 2007, the participation of states has almost remained constant and most of the participants were from North India. However, during the last three years, there has been a steep rise in number of states participated. This increase in participation levels may be owed to the increasing interest among the growers and entrepreneurs for mushroom cultivation in different parts of India. Showcasing of Directorate’s new inventions and technologies draws the attention of mushroom entrepreneurs from across the Indian states. The group of active mushroom growers from Uttar Pradesh and Orissa opined that they have come all the way to Solan to see the demonstration of new technologies working on the field.

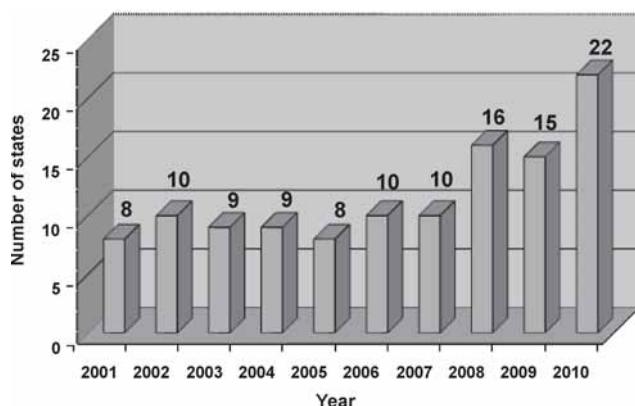


Fig. 2. Stakeholders representing number of different states of India in mushroom mela during last ten years

The participants from different states also increased because of felicitation of the progressive and innovative mushroom growers from different states of India (Since 2004). The

Directors of State department of Horticulture and in-charges of All India Coordinated Research Project Centres were asked to nominate the progressive and innovative mushroom growers from their states for the award. The selection committee screened the progressive mushroom growers out of more than 30 nominations from different states and chose seven such farmers for the award and felicitation during the 2010 mela. The awardees selected along with their brief achievements are presented in the table (table 2).

The results of the study underscores the importance of organizing such mushroom melas with the experts at regional level among the cluster of mushroom growers to cater to their information needs and to address the problems faced by them. The sixteen (16) All India Coordinated Mushroom Improvement project centers situated in different parts of the country can take initiative to organize such melas in collaboration with the Directorate of Mushroom Research, in their respective regions. The identification and recognition of progressive mushroom growers through out the country will encourage such farmers to aim for further success. This will also certainly motivate other farmers to take up mushroom cultivation as an agri-business activity.

Participation from North Eastern States : Mushrooms are the main component of subsistence and source of income among the tribal families of North Eastern India. For centuries, they were collecting wild edible mushrooms for their consumption and sale in the local market. However, in recent years the mushroom cultivation is being promoted as an income generating activity in these states. Technology mission for North Eastern states is being instrumental in spreading the knowledge of mushroom cultivation through trainings and demonstrations. Many young men and women are involved in horti-business of mushroom production for their livelihood.

Table 2. List of Progressive/ Innovative Mushroom Growers felicitated during mushroom mela 2010

Name and address of the awardees	Brief work/ achievement of the awardees
Sh. Jose Prakash Kalluparam Batho Veedu Punchakkari, Thiruvallam P.O., Trivendrum (Kerala)	Popularisation of mushrooms by making different mushroom products like Pickles, biscuits, pakora, samosa, soup, juices etc. Also cultivates Oyster and milky mushroom
Sh. Arun Manohar Makhare 'Flora Agro', Sc. No.115, Gawanwadi, Post Shirur, Tal-Shirur, Pune (Maharashtra)	Large innovative growing house with thermocoal as the insulating material. Indigenously built the large autoclave for sterilization of the mushroom growing substrate and spawn making
Sh. Harsunjit Singh Thiara Thiara Mushroom Estate, Vill Khanpura, near Nasrala Jalandhar road, Hoshiarpur (Punjab)	Innovative mushroom grower adopting recent technologies to produce white button mushroom in environment controlled units.
Sh. Motaram Sharma Vill Naani, Sikar Dt(Rajasthan)	Progressive mushroom grower of Rajasthan cultivating oyster and ganoderma mushrooms to suit to the prevailing climatic conditions of the state. Also produces ayurvedic medicinal juice from ganoderma mushroom
Sh. Jagdev Singh Vill Badhana, Dt Sonapat, (Haryana)	Progressive seasonal white button mushroom grower since 25 years. Adopted short method of compost production since last ten years
Sh. Vijay Sawan Vill Lachhiwala, Block Dohiwala Dehradun, (Uttarakhand)	Progressive mushroom grower with large environment controlled unit, advanced spawn production facility, pasteurization tunnels to produce compost by short method.
Sh Rajbeer Vill Badhana, Dt Sonapat (Haryana)	Progressive mushroom grower since 26 years, annual income from mushroom cultivation is more than 600,000

Being isolated from the main land of the country, many mushroom growers from N-E region showed interest in visiting the national mushroom mela at Solan every year. However, the overall participation from these states is only about 1.3 % during the last ten mushroom melas. In order to encourage the mushroom activity in these states the Directorate decided to invite some progressive and budding mushroom growers and reward them with a certificate of appreciation in the mushroom mela 2010. Nine such growers were selected and invited from Assam, Sikkim, Tripura, Mizoram, and Meghalaya. Looking at the potential in the region, a greater emphasis for mushroom research and training may be given on the N-E region.

Gender wise distribution of participants : Since mushroom cultivation is an indoor

activity, the nature of work aptly suits women especially those from rural background. Mushroom cultivation is mostly promoted as an agri-preneurial activity to be carried by farmwomen. Large number of women participated in the trainings and mushroom melas at the Directorate of Mushroom Research, Solan. An attempt is made to know the gender wise participation of stakeholders in the mela over the last ten years (table 1). In the last ten years the women participation has almost been steady and it mostly varied between 10-25 %. However in the year 2006, it was just above 40% because of educational and study tours of farmwomen of Self Help Groups (SHGs) sponsored by Government of Haryana.

Impact of mushroom mela : The response of 90 randomly selected participants was taken to

Table 3. Farmer's perception about usefulness of national mushroom mela (n=90)

Technology/ service assessed	More Useful %	Useful %	Less Useful %
Demonstration of cultivation technology of different mushrooms	51.1	38.9	10.0
Demonstration of compost production technology	68.9	23.3	7.8
Demonstration of spawn production technology	61.1	32.2	6.7
Discussion in the Kisan goshthi	64.4	31.1	4.4
Exhibition/ Sale of products during the mela	32.2	43.3	24.4
Demonstration of Temperature and RH meter in the growing rooms	24.4	31.1	44.4
Awareness about medicinal mushrooms	14.4	33.3	52.2
Information on buyers and suppliers of mushrooms and mushroom products	18.9	28.9	52.2
Information on finance and subsidy for mushroom cultivation	26.7	34.4	38.9
Interaction with scientists and other mushroom growers businessmen etc	56.7	34.4	8.9

know their response towards the mushroom mela 2010 and its usefulness. The extent of usefulness about various aspects of mushroom mela as perceived by the stake holders were quantified as more useful, useful and less useful (Table 3). The data revealed that, more than 50% of the respondents perceived that information received during mushroom mela 2010 on demonstration of cultivation technology of different mushrooms, demonstration of compost production technology, demonstration of spawn production technology, discussion in the Kisan goshthi and Interaction with scientists, other mushroom growers, businessmen, etc was more useful. Only two aspects i.e Awareness about medicinal mushrooms and Information on buyers and suppliers of mushrooms and mushroom products were found less useful by more than 50% of the respondents. Hence, it can be inferred that most of the technology or services, showcased during the mushroom mela, were rated as more useful to useful for the respondents. Similar trends were also observed by Manjula and Sheikh (2010), Gangadharappa and Jayaramaiah (1985) and Narayanaswamy *et al.* (2005).

Kisan goshthi and exhibition : For the benefit of the participants, a *Kisan Goshthi* was held to facilitate face-to-face interaction and discussion among various stakeholders and experts. This provided an opportunity to the farmers and mushroom growers to seek 'on the spot' solutions to their mushroom cultivation and related problems. All the participants were given a form to give their problem on paper before the start of the goshthi. The questions collected during the Kisan Goshthi were categorized and analysed to identify the areas where farmers wanted to get information. In total 64 questions were received from the farmers, which were categorized and presented in table 4.

The data revealed that, marketing of mushrooms was highest ranked query raised by the participants followed by wet bubble disease management, compost production technology, and yellow mould disease management. This showed that marketing of mushroom has been of much concern to the stakeholders. The diseases and pests together accounted for more than 35% of the queries in the kisan goshthi. The results are an indication of farmers needs

Table 4. Farmer's queries in forms submitted during discussions in kisan goshti during mushroom mela 2010

Topic on which questions were raised	Number	Percentage
Buyers and suppliers of dried mushrooms	13	20.32
Wet bubble disease and management	11	17.19
Compost production in white button mushroom	10	15.63
Yellow mould disease in mushroom	7	10.94
Marketing of fresh mushrooms	5	7.82
Pest incidence and management in mushrooms	4	6.25
Canning and preservation of mushrooms	4	6.25
Medicinal mushrooms	3	4.69
Development of new mushroom varieties	2	3.12
Training on mushroom cultivation technology and TEFR	2	3.12
Others	3	4.69
Total	64	100

and such results would contribute towards participatory approaches in mushroom research and transfer of technology.

The businessmen and entrepreneurs dealing with refrigeration for environment controlled mushroom units, instrument dealers, NGOs, mushroom growers, etc put up their stall to promote their products and business. In total 22 stalls were put by various organizations and firms during the 2010 mela. Leading mushroom houses like Himalayan International, Paonta Sahib; Vikas Mushroom Farm, Solan; INKAA Foods, Nalagarh; Yo Mushrooms, Mumbai; SM Refrigeration, Delhi; NCDS, Delhi; Dept of Horticulture, YSPUH&F Nauni; DMR, Solan; Nature Life Health Care Pvt Ltd, Delhi; Jain Irrigations, etc were few

important exhibitors in the 2010 mushroom mela.

CONCLUSION

The organization of national mushroom mela is beneficial in many ways and promotes popularization of mushroom production and consumption at national level. The impacts intruded in to the remote northeastern regions too. The identification and recognition of progressive mushroom growers throughout the country encourages such farmers to aim for further success. The kisan ghosti helps to prioritize the major problems faced by the mushroom growers and guides the future strategies needed for mushroom farming, promotion and research. It acts as a means to expose farmers with mushroom-based industries such as instrumentation, mushroom processing and other units. As a whole, mushroom mela motivates the farmers and entrepreneurs to take up mushroom cultivation as an agri-business activity.

The impact of extension practices is influenced by diverse factors (Deepu Mathew and Habeeburrahman, 2008) and based on that effectiveness of mela varies in different regions (Vasanthakumar, 2004). So the present study underscores the importance of organizing mushroom melas at regional level to cater to the needed information and to absolve the problems faced by local mushroom farmers. The sixteen co-coordinating centers of this Directorate situated in different parts of the country can take initiative to organize such melas in collaboration with the Directorate of Mushroom Research, in their respective regions.

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