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Analysis of Constraints in Adoption of Mushroom Cultivation in Bihar

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ABSTRACT

Mushroom cultivation is one of the agricultural activity in which rural youth can play a vital role without sacrificing their household responsibilities to add good quality protein in their daily diets and by helping hand in malnutrition abolition. Vocational training programme was imparted during the year 2012-13 to 2014-15 by the Department of Plant Pathology, Bihar Agricultural College, BAU, Sabour, Bihar. 25 person were selected for participation in each programme. After each training programme data of number of mushroom units established and adoption rate of mushroom cultivation were collected from the trainees. According to this data 43, 63 and 54 mushroom units were established with adoption rate, 46.74, 52.00 and 57.00 per cent during the year 2012-13, 2013-14 and 2014-15, respectively. Major possible constraints such as technological constraints, economical constraints and marketing constraints were also evaluated in this study. Lack of proper marketing support and unavailability of quality spawn was the most significant constraint which was accountable for slower adoption. Inadequate knowledge about mushroom cultivation, lack of government policies, and transfer of technology were the other major hindrance in this progression.

Keywords: Adoption, constraints, Mushroom cultivation

INTRODUCTION

Agriculture is the framework of Bihar's economy involving around 81 per cent people to eke out their livelihood. Due to huge investment in the research development, this state became self-sufficient in food grain production during initial plan. With a view to maximize farm-income and self-employment, special emphasis is given to develop various agro-based enterprises like dairy, poultry, goatary, fish farming, tissue culture, bio fertilizer, bio pesticides, sericulture, mushroom cultivation, beekeeping and lac cultivation. Mushroom production has added a new dimension in agricultural diversity in addition to being eco-friendly and highly economic. The cultivation of mushroom is based upon the utilization of agricultural wastes with protein rich content in air and the entire cultivation is an indoor affair and women friendly in nature. Its cultivation has low cost intervention and hence, the employed youth and weaker section of the society can utilize agro waste for mushroom production for income generation and avoid the environmental pollution, besides protection with malnutrition. It is a one of the media of self-employment and extra earning for both semi-urban and rural people, especially poor, small and marginal farmers, farmwomen, landless laborers, rural unemployed youth, amateur entrepreneur and even retired or in-service person (Das, 2014; Biswas, 2015). Its relevance in the present scenario can be examined from the view that the agricultural land is decreasing day by day due to industrialization, population pressure and conversion into wasteland due to intensive agriculture. Mushroom can be cultivated in air since, the entire cultivation is an indoor affair, easily feasible and women friendly, a avenue in the direction of women empowerment.

Mushroom cultivation helps to improve the socio-economic condition of farmer and generate employment to both literate and illiterate. Apart from the socio-economic status of the mushroom growers, also can restrict the migration of rural youth to urban areas, thus helping rural societal development. Therefore, mushroom cultivation and business has scope in raising human value index of the society. Keeping the above mentioned fact in view, So the present studies was planned to find out the impact of vocational trainings in terms of adoption and to find out the constraints in adoption of mushroom farming.

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METHODOLOGY

The present studies were conducted during and after the vocational training on "Mushroom cultivation for self employment" for 3 to 5 days at the at Mushroom Production Unit, Department of Plant Pathology, BAU, Sabour for the farmers of different district from Bihar during four consecutive years (2012-13 to 2014-15). The details pertaining to number of training and trainees is mentioned in table 1. During starting the training programme, A questionnaire distribute among the trainees and write what are problems and difficulties faced by you during the mushroom cultivation. After observation of problems and constraints, the participants/trainees were trained. Various aspects of cultivation techniques of different edible mushroom preparation of spawn, substrates preparation including compost and casing preparation, Health/Medicinal benefits of the mushroom, value addition and marketing of mushroom *etc.* After the vocational training, the feedback was taken from the trained famers. Personal interaction among the trainees was also taken into the account for the feedback. The data were collected from trained famers after each training programme pertaining to adoption rate of mushroom cultivation.

A list of major possible constraints such as technological, economical & financial and marketing constraints were also considered in this study. Mean percent score (MPS) was calculated for each of the constraint on the basis of their degree of magnitude and ranked in order of their importance as per method described by Tanwar (2011). A sum of scores was calculated for each constraint and rank orders were placed, accordingly.

RESULT AND DISCUSSION

Data presented in table 1 and figure 1 pertaining to number of mushroom units established and adoption rate of mushroom cultivation were collected from the villagers after each training programme. The data indicated that 43, 63 and 54 mushroom units were established during the year 2012-13, 2013-14 and 2014-15, respectively. The adoption rate (%) of mushroom cultivation was calculated on the bases of No. of mushroom unit established and it was 46.74, 52.00 and 57.00 per cent during the year 2012-13, 2013-14 and 2014-15, respectively with overall average of 52.28 per cent . Arora (2015) conducted to ascertain the impact of vocational training programme on mushroom cultivation for self employment and had shown that the adoption rates increase from 9.83 per cent to 42.30 per cent.

Table 1: Training programs organized and adoption rate of mushroom cultivation in Bihar, 2012-15

Year	No. of vocational trainings conducted	No. of participants	No. of mushroom unit established	Adoption rate (%)
2012-13	3	92	43	46.74
2013-14	4	120	63	52.00
2014-15	3	94	54	57.00
Total	-	306	160	52.28

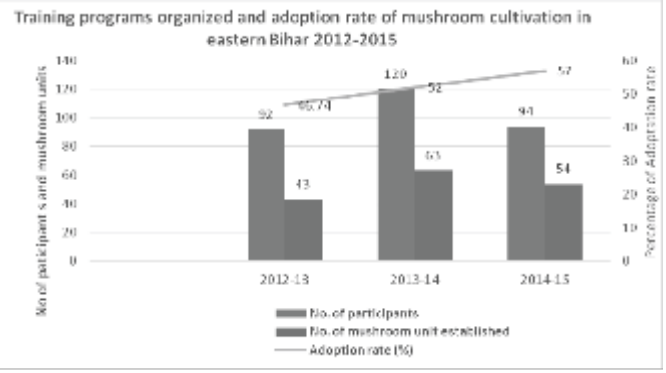

Figure 1: Training programs organized and adoption rate of mushroom cultivation in Bihar, 2012-15

Constraints of mushroom production

The purpose of the present study was to determine the constraints contradict by the respondents in adoption of mushroom cultivation in Bihar. Constraints in adoption of mushroom enterprise are classified as below;

Technological constraints

The data presented in table 1 revealed that unavailability of quality spawn and inadequate knowledge about mushroom cultivation were the major technological constraints faced by the majority of the respondents with the mean percent score of 82.5 and 74.6, respectively which come under rank of 1st and 2nd. Lack of transfer of technology (69.3%) and risk involvement due to perishable nature (64.0) was the 3rd and 4th major technological constraints aware by the respondents. Constraints like untimely accessibility of spawn due lack of spawn laboratories (53.0%) and inadequate training, extension activities and cooperation (47.7%) were also faced by respondents.

Table 2: Technological constraints faced by the respondents

Technological constraints	MPS (%)	Rank
Inadequate knowledge about mushroom cultivation	74.6	II
Lack of transfer of technology	69.3	III
Risk involvement due to perishable nature	64.0	IV
Unavailability of quality spawn	82.5	I
Untimely accessibility of spawn due lack of spawn laboratories	53.0	V
Inadequate training, extension activities and cooperation	47.7	VI
Overall	65.18	

Economical and financial constraints

Amongst the economical and financial constraints, lack of government policies (Schemes) (72.2%) was the most faceable constraint alleged by the respondents followed by providing less amount of Govt. subsidy (68.5%) which score the rank of 2nd (Table 2). Although in current attention the government accentuate on the use extends additional subsidy to those who adopt this practice, but as evident from the study in rural areas were posing hindrances in acquiring the subsidy. Another major economical and financial constraints perceived by the respondents were found to be high cost of maintenance (61.0%) followed by low risk bearing capacity (57.6.0%) and Inadequate coordination between public institutions providing services to rural population (43.0%).

\ The small & marginal seasonal mushroom growers who want to expand their temporary mushroom farms are usually unable to invest the required amount of money. Therefore, they need to finance loan from the financial organization to establish and commercialize the mushroom production unit. But the procedure of sanctioning loan from the financial organization are too complex to finance loan easily (Kavitha, 2006). Therefore, majority of trained respondents has reported 'Lack of support for mushroom enterprises from government side' as a major constraint.

Table 3: Economic and financial constraints faced by the respondents

Economic and financial constraints	MPS (%)	Rank
High cost of maintenance	61.0	III
Less amount of Govt. subsidy	68.5	II
Lack of government policies (Schemes)	72.2	I
Low risk bearing capacity	57.6	IV
Inadequate coordination between public institutions providing services to rural population	43.0	V
Overall	67.48	

Marketing constraints

The data presented in Table 3 showed that the various marketing constraints faced by the trained respondents. It was observed that the lack of straight marketing channel (85.5%) was the most serious marketing constraints perceived by the majority of the respondents (Table 3) and it was ranked first by them. Inadequate market price (71.4%) was the second major financial constraint as perceived by the respondents. Lack of marketing pool (67.0%) and lack of storage and transportation facilities are another marketing constraints. Since, in India there are no proper market places in rural areas if markets are available in their places then it will be for short duration like weekly or quarterly market.

Table 4: Marketing and transportation constraints faced by the respondents

Marketing and transportation	MPS (%)	Rank
Lack of straight marketing channel	85.5	I
Inadequate market price	71.4	II
Lack of marketing pool	67.0	III
Lack of storage and transportation facilities	46.0	IV
Overall	67.48	

Ranking of Constraints as per the feedback of respondents

Ranking of different kind of constraints was done as per the feedbacks of respondents (Table 5 and figure 2). Marketing and transportation constraints (67.48%) was the top ranked in the adoption of mushroom cultivation, followed by technological constraints (65.18%) and economical & financial constraints (60.46%).

Table 5: Ranking of constraints as per the feedback of respondents

Ranking of constraints	MPS (%)	Rank
Marketing and transportation constraints	67.48	I
Technological constraints	65.18	II
Economic and financial constraints	60.46	III

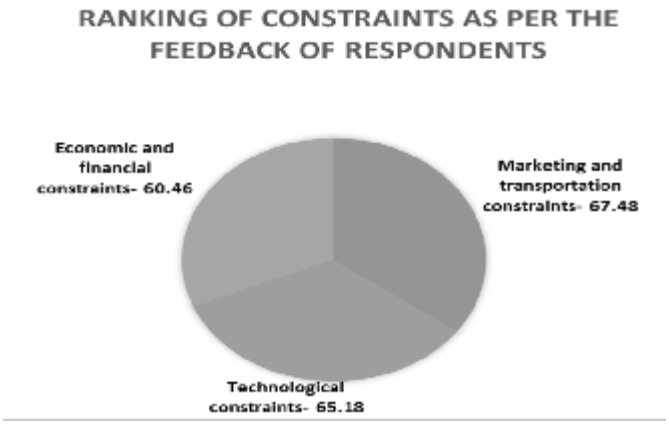

Figure 2: Ranking of constraints as per the feedback of respondents

Lack of strait marketing channels, unavailability of quality spawn, inadequate knowledge about mushroom cultivation and inadequate market price were found major components of constraints for slower adoption of mushroom enterprises. This finding has been also confirmed by the study of other workers (Patnaik and Mishra, 2008; Nasib *et al.* 2008 and Gautam *et al*, 2014).

CONCLUSION

Mushrooms are highly perishable commodity. It needs quicker disposal. Therefore proper marketing

facilitates is essential. Present study showed that the respondents succeeded in change their attitude after attaining training on all the aspects of mushroom cultivation. Marketing of mushroom play a vital role in the production process. The efficient and proper marketing provides and availability of quality spawn provide higher return to the producers and greater satisfaction to the consumers by way of reduction in marketing cost and unavailability of quality spawn. Scientists who are working in the Agricultural Universities, Krishi Vigyana Kendra and State Governments provide awareness, valuable and intensive training to the rural youth avoid the constraints of mushroom production.

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REFERENCES

Arora, R.K. (2015). Impact of vocational training programmes on "mushroom cultivation for self employment" in district Ambala, Haryana, *India. International Journal of Recent Advances in Multi-disciplinary Research,* 2 (1), 171-0173.

Biswas, M. K. (2015). Oyster Mushroom Cultivation: a Women Friendly Profession for the Development of Rural West Bengal. *International Journal of Bio-resource and Stress Management,* 5 (3), 432-435.

Das, D. (2014). Commercial Utilization of Mushroom Cultivation, *International Journal in Management and Social Science,* 12 (2), 58-66.

Gautam, A. K.; Singh, P.; Mishra, D.; Kumar, A. and Singh, A.P. (2014). Constraints in Adoption of Mushroom Production Enterprise. *Indian Journal of Extension Education,* 50 (1 & 2), 39-41.

Kavitha (2006). Problem in mushroom farming. Retrieved 3:50pm, April 11, 2014 from <http://www.agricultureinformation.com/mag/2006/02/problems-in-mushroom-farming/>.

Nasib, S.; Mehta, S.; Godara, A.K. and Yadav, V.P. (2008). Constraints in mushroom production technology in Hariyana. *Agricultural Science Digest;* 28 (2), 118-120.

Patnaik, T. and Mishra, S. (2008). Constraints in adoption of mushroom cultivation technology. *Asian Journal of Home Science,* 3 (1), 86-89.

Tanwar, P.S. (2011). Constraints perceived by goat keepers in adoption of goat husbandry practices in semi-arid Rajasthan. *Journal of Community Mobilization and Sustainable Development,* 6 (1): 108-111.