



Impact of Training Programmes on the Profitability of Mushroom Growers in Angul District of Odisha

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ABSTRACT

Paddy is the subsistence crop and grown as a major cereal in about 65 per cent of the total cultivable area in Angul district. For capacity building of the farmers, Krishi Vigyan Kendra conducted 16 training programmes, 8 demonstrations including 78 beneficiaries, entrepreneurs meet, field days, exhibitions, mushroom Melas etc over last 5 years covering technical financial and marketing aspects of mushroom cultivation. In the year 2016-17 the mushroom production increased gradually and reached to 1288 MT and proved as a promising enterprise for the district. Initially, 12 units were established having the adoption rate of 10 per cent in 2011 and later on increased to 72 units with adoption rate of 52 per cent. The objective of the study was to analyze cost benefit of mushroom production and to evaluate socio-economic constraints faced by farmers in adoption of the technology. It was found that the perishable nature of commodity (60%) and non-availability of quality spawn (55.8%) were the main problems for entrepreneurship in mushroom farming and it could be successful only if cold storage and packaging facility in paddy straw mushroom were given due importance. Hence, it can be concluded that mushroom cultivation is one of the most potential income generation activity with the remarkable diversity.

Key Words: Adoption, Enterprise, Mushroom, Successful.

INTRODUCTION

Paddy is the subsistence crop and apart from it, pulses like green gram, black gram, gram etc. and oil seed cop groundnut are grown in the district. The paddy is cultivated in an area of 88,270ha and 45,781 ha in irrigated and rain fed area, respectively. Using paddy crop residue as a mushroom substrate would subsequently convert it into a more protein-rich biomass and influence the mushroom yields (Mamiro and Mamiro, 2011). The mushroom cultivation could directly enhance livelihoods through economic, nutritional and medicinal contributions (Marshall and Nair, 2009). Mushroom farming is increasingly becoming attractive to small farmers because the farmers in rural areas are convinced about the profits of mushroom farming within short time. By using latest techniques, it can also be grown during off season too i.e. in poly house. It can become a viable and attractive activity for side-income and a part-time enterprise for rural farmers and peri-urban dwellers. This can enhance

their empowerment to gain other farming skills; greater financial independence and also self-respect (Zhang *et al*, 2014). The vocational trainings were imparted by the Krishi Vigyan Kendra for the farmers, farm-women and unemployed youth to increase the income and make them self-dependent entrepreneur in future. The objective of the study was to analyze the cost benefit of mushroom production and to evaluate socio-economic constraints faced by farmers in adoption of the mushroom production technology.

MATERIALS AND METHODS

The study was conducted in Angul district of Odisha state. The Krishi Vigyan Kendra conducted 16 training programmes, 8 demonstrations including 78 beneficiaries, entrepreneurs meet, field days, exhibitions, mushroom mela etc. over last 5 yr covering technical financial and marketing aspects of mushroom cultivation. For this study, 120 mushroom growers and 20 mushroom entrepreneurs

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were selected and regularly monitored by the KVK, who were practicing paddy straw mushroom farming successfully. An interview schedule was developed to collect the data regarding economics of mushroom enterprise. The data were collected by conducting personal interviews with the selected respondents. The socio economic constraints were also recorded by interviewing 120 mushroom growers. The data collected from the respondents were tabulated and analyzed by using frequency and percentage.

RESULTS AND DISCUSSION

The numbers of training programmes conducted by the KVK were given in Table 1. It was evident that 16 training programmes in 8 blocks of the district were conducted on paddy straw and oyster mushroom cultivation including 300 beneficiaries during the year 2011 to 2017. It was observed that more numbers of mushroom units were established and average adoption rate among the trainees increased. Initially, 12 units were established having the adoption rate of 10 per cent in 2011 which later on increased to 72 units with an adoption rate of 52 per cent.

Constraints perceived by mushroom entrepreneurs

The data on the constraints perceived by mushroom entrepreneurs were given in Table 2. It was found that the perishable nature of commodity (60%) and non-availability of quality spawn(55.8%)

were the main problems for entrepreneurship in mushroom farming and it could be successful only if cold storage and packaging facility in paddy straw mushroom were given due importance. The high cost for establishment and complex technology for mushroom spawn production also discourage entrepreneurs. The study also showed that the non-availability of basic raw materials(32.5%), lack of technical and financial support(27.5%), exploitation by middlemen (26.6%), unorganized market structure(19.1%) were major constraints in adoption of this technology. Poor production and frequent occurrence of diseases in mushroom were another 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.

After the introduction of mushroom in Angul district, there is a visible enthusiasm among farmers for adoption of mushroom cultivation with improved management practices. The numbers of mushroom growers in Angul district fluctuate, because of unstable production and market changes. Most of them (about 80%) are small growers and produce below 20kg fresh mushrooms a day. The medium scale (produce 20- 40 kg/d) growers constitute 17 per cent and big scale industries (producing more than 40kg/d) are around 3 per cent only. It was observed that the Mushroom entrepreneurs were

Table 1. Number of training programs organized and mushroom unit established in District Angul, Odisha during 2011-17.

Year	No. of trainings	No. of Participants	Mushroom Unit Established	Adoption Rate (%)
2011-12	2	50	12	10
2012-13	2	35	22	12
2013-14	3	75	30	24
2014-15	4	65	47	36
2015-16	3	45	61	44
2016-17	2	30	72	52

Profitability of Mushroom Growers

Table 2. Constraints perceived by mushroom entrepreneurs (n= 120)

Sr. No.	Parameter	Frequency	Percentage	Rank
1.	Perishable nature of commodity results in losses	72	60	I
2.	Non-availability of quality spawn	67	55.8	II
3.	Non-availability of paddy straw due to mechanization in paddy harvesting	39	32.5	III
4.	Lack of technical and financial support for production and management practices	33	27.5	IV
5.	Exploitation by middlemen	32	26.6	V
6.	Sale of produce is quite difficult because of unorganized marketing infrastructure	23	19.1	VI
7.	Mushroom is costly	22	18.3	VII
8.	Lack of education among villagers about nutritional value of mushroom	17	14.1	VIII
9.	Decrease in Biological efficiency	14	11.6	IX
10.	Non availability of skilled labour	11	9.1	X

in constant touch with the experts of the KVK for gaining recent knowledge regarding advancement of cultivation practices.

Economics of Mushroom enterprise

Mushroom entrepreneurs got income from sale of paddy straw mushroom from April to September. Major expenditure was initial cost on the construction of thatched house, cement tank, bamboo rack, purchase of paddy straw, pulse powder, quality mushroom spawn, polythene etc. While calculating cost, all fixed and variable costs were included in the study. The details of the total cost and gross returns of different mushroom entrepreneurs based on the information collected from individual entrepreneurs have been calculated. The net returns were calculated by subtracting total cost from gross returns.

From the perusal of data (Table 3), it was found that total 20 mushroom entrepreneurs were practicing paddy straw mushroom farming successfully. The number of beds per day varied between 10 to 60 and the average numbers of beds per day were 27.6. The net returns varied from Indian rupees 33,300/- to 3, 88, 800/-. The average mushroom production per mushroom bed was worked out to be 0.847 kg

while average net returns were Rs.1,03,736/-. Two farmers in this group were selling the mushroom in industrial area market resulting in high average sale rate and others through middle man at farm gate. It was evident from the results that the net return of mushroom entrepreneurs increased with the increase in the number of beds and introduction of yield potential paddy straw mushroom strain OSM 11 by KVK.

CONCLUSION

The above findings clearly indicated that the capacity-building could also have positive knock-on effects on individual skills capabilities, especially in cultivation techniques. Mushroom production in the district enhanced the livelihood security of small and marginal farmers who adopted this technology. The mushroom farming enterprises are having a great impact on the farmers but having the limitations of marketing problems of this high value perishable commodity. Another important aspect is timely availability of necessary inputs, technological knowhow and financial support to the farmers which may encourage adopting the technology in large scale and increased production and productivity of the mushrooms growers. Hence,

Table3. Economical Analysis of Successful Mushroom farms producing paddy straw mushroom (April-September) . N=20

Respondent	No of Beds/day	Average mushroom Produced (kg/bed)	Average Sale Rate (Rs./kg)	Mushroom Production in 6 m (kg)	Gross Return (Rs. in Lakh)	Cost (Rs. in Lakh)	Net Return (Rs. in Lakh)	B:C Ratio (Gross/ Cost)
n1	10	0.9	80	1620	1.296	0.81	0.486	1.6
n2	15	1.1	80	2970	2.376	1.35	1.026	1.76
n3	22	0.8	75	3168	2.376	1.782	0.594	1.33
n4	25	0.78	80	3510	2.808	2.475	0.333	1.13
n5	30	0.9	80	4860	3.888	2.70	1.188	1.44
n6	35	0.8	80	5040	4.032	3.150	0.882	1.28
n7	25	0.75	85	3375	2.868	2.475	0.393	1.15
n8	20	0.8	100	2880	2.880	2.160	0.72	1.33
n9	15	0.8	90	2160	1.944	1.350	0.594	1.44
n10	20	0.95	80	3420	2.736	1.800	0.936	1.52
n11	35	0.8	80	5040	4.032	3.465	0.567	1.16
n12	30	0.9	85	4860	4.131	3.240	0.891	1.27
n13	40	0.85	100	6120	6.120	3.600	2.52	1.7
n14	30	0.75	85	4050	3.442	2.430	1.012	1.41
n15	50	0.8	90	7200	6.480	4.500	1.98	1.44
n16	40	1.0	80	7200	5.760	4.320	1.44	1.33
n17	60	0.86	100	9288	9.288	5.400	3.888	1.72
n18	20	0.7	80	2520	2.016	1.620	0.396	1.24
n19	10	0.9	80	1620	1.296	0.900	0.396	1.44
n20	20	0.8	80	2880	2.304	1.800	0.504	1.28
Average	27.6	0.847	84.5	4189.05	3.603	2.566	1.037	1.40

it can be concluded that mushroom cultivation is one of the most potential income generation activity with the remarkable diversity. It may be concluded that by reaching the poor and ensuring their involvement in training programmes, the socio-economic status of the rural poor can be improved.

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Received on 02/11/18

Accepted on 20/01/18