



Market Linked Technology of Mushroom Production for Subsidiary Income and Nutritional Security of Farm Families of Uttar Dinajpur District of West Bengal

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ABSTRACT

The small-scale mushroom production represents an opportunity for farming community interested in an additional income and is an ideal option specifically for those without much land. In Uttar Dinajpur district of West Bengal, mushroom cultivation is becoming more popular these days, among farmers and farmwomen as an easy and reliable method to increase their family income. Farmers initiated their cultivation on a small scale, in each one's homestead and after gaining confidence many of them expanded their cultivation by making investments for constructing separate sheds. Now five of them had grown to an entrepreneurial level of making around 50-70kg of mushroom per day and were selling at price of Rs.80/ to Rs.100/kg. Moreover, they had also converted their produce to value added products like dried mushroom, pickles and cutlets which fetches additional revenue for them. On an average, they were earning an additional income of Rs.25,000/- to 30,000/- month. Initially the SHGs, Farmers' Clubs and individual farmers started producing fresh mushrooms and sell it in the local markets as well as in big markets through middlemen. Later on all the SHGs, Farmers' Clubs and individual farmers were brought under single umbrella to form one Producers Organization with joint initiative of NABARD and KVK by this process total daily production of mushroom from each group picked up and channelized to bigger market at Siliguri, Nepal, Bhutan etc. resulting better price thereby ensuring more net return to the individual groups. The spent substrate along with cow dung and other agri-waste materials converted into compost and applied directly back to the soil.

Key Words: Entrepreneurial, Farming, Mushroom, Small scale, Substrate.

INTRODUCTION

Mushroom is a delicious food consumed throughout the world. It is also called the future vegetable which is a guarantee for food insecurity, malnutrition problem and has medicinal value. The small-scale mushroom production represents an opportunity for farming community interested in an additional income and is an ideal option specifically for those without much land. In Uttar Dinajpur district of West Bengal, mushroom cultivation is becoming more popular these days, among farmers and farm women as an easy and reliable method to increase their family income. Mushrooms can be successfully grown without access to much land,

and can provide a regular income throughout the year.

Mushroom cultivation is highly compatible with a variety of other traditional agricultural and domestic activities, and can make a particularly important contribution to the livelihoods of the disabled, of women and the landless poor who, with appropriate training and access to inputs, can increase their independence and self-esteem through income generation.

The average daily per capita rural income of this already identified disadvantaged district of the country is only Rs. 10.34, which is lowest in

the state. Although Uttar Dinajpur is located along a principal highway axis and is well connected with Siliguri, Nepal, Bhutan, adjoining Bihar and Kolkata, the dearth of medium and large industry in the district severely restricts the scope for alternative non-farm employment. High levels of rural poverty across the region also inhibit the growth of local markets. Mushroom having short crop duration and no marketing problem for its disposal. Fresh mushroom can be sold in market. There is also growing market for processed-dried and packed mushrooms as their shelf life is longer. Most of the farmers are not getting good returns from agriculture and want to adopt other agriculture related activities to enhance their income so mushroom cultivation is one of the best options, in just three months short duration.

MATERIALS AND METHODS

Innovation of KVK in Linking up the Farmers

In case of popularization of mushroom cultivation in district Uttar Dinajpur Krishi Vigyan Kendra started working since 2011-12 primarily conducted a baseline survey on status of mushroom cultivation in the district and results were not very encouraging. There were only 2-3 running units, majority of the sample groups were not aware of this cultivation. No knowledge of nutritional and medicinal value of mushrooms among majority of them even they have fallacies about mushrooms and were not ready to accept it as their regular food. For creating awareness about mushrooms and its cultivation at village level KVK has published articles in local newspapers.

KVK organized many meetings with farmers who were engaged in this cultivation and searched for reasons for non popularization of mushroom cultivation. Emphasis was given on creating market linkages for mushroom farmers because two blocks of Uttar Dinajpur district were so near (about 55 Km) from national and International market of Nepal and from Siliguri itself that they could cater the need of Sikkim, Darjeeling and Bhutan.

Uttar Dinajpur KVK trained 25 farmers and farm women in first year from two blocks only and out of them, only 6 started their small scale units, 5 farm women cultivated mushrooms at household level. Small-scale mushroom production represented an opportunity for farmers interested in an additional enterprise and was a specialty option for farmers without much land. After getting Skill development training from Krishi Vigyan Kendra initially the SHGs, Farmers' Clubs and individual farmers started producing fresh mushrooms and sold it in the local markets as well as in big markets through middlemen. Later on, all the SHGs, Farmers' Clubs and individual farmers were brought under single umbrella to form one Producers Organization with joint initiative of NABARD and KVK by this process total daily production of mushroom from each group was picked up and channelized to bigger market at Siliguri, Nepal, Bhutan Etc. resulting better price thereby ensuring more net return to the individual groups. Moreover, realizing the demand of processed mushroom in the form of pickle in the north-eastern states the members of the SHGs were trained with that particular skill and started producing mushroom pickle with their surplus produce.



Mushroom production for subsidiary income and nutritional security

Adoption of Technology among Farm Families

Through KVK Uttar Dinajpur, they learned the fundamental aspects of mushroom farming and had hands on training. Growers were also made familiar with fungi life cycles, and the importance of hygiene and sterilization in developing successful growing environment. Farmers were also trained in the post harvest handling and processing aspects as well. They initiated their cultivation on a small scale, in each one's homestead and after gaining confidence some of them expanded their cultivation by making investments for constructing separate sheds.

way of mushrooming growth of resorts, hotels, restaurants and food outlets. This situation has created an exponential growth in the demand of fresh and processed mushroom in the market – so much so that the practicing mushroom growers already developed by the Uttar Dinajpur KVK have become incapacitated to keep pace with the market demand. Being endowed with favorable climatic support, hence, KVK played a very important role in aggressive endeavor in linking prospective individual growers as well as identified SHGs with the enterprise building process on mushroom with due forward linking support for market promotion of the same.

RESULTS AND DISCUSSION

Effect of Popularization of Technology on Production, productivity and Economic Gains

The recent surge of expansion of tourism industries in the adjoining Eastern Himalayan and Dooars region of West Bengal has paved the

Horizontal Spread of Technology

Agri-preneurial empowerment is an intertwined process of livelihood promotion in a fashion so as to provide the target communities desired choice and voice and rural youths are the prime

Criteria	Past Scenario	Present Scenario
Status of mushroom production in the district	No. of commercial units: 5 Fresh mushroom production. : 50 – 55 q/ya/unit <input type="checkbox"/> Individual growers <input type="checkbox"/> Imperfect market linkage <input type="checkbox"/> No assured spawn availability <input type="checkbox"/> Production restricted to only Oyster mushroom	No. of commercial units: 28 Fresh mushroom production : 70 – 100 q/yr/unit <i>Activities</i> <input type="checkbox"/> Formation of registered production groups <input type="checkbox"/> Capacity building training <input type="checkbox"/> Linkage with organized markets <input type="checkbox"/> Assured availability of quality spawn through KVK and other labs <input type="checkbox"/> High value Button mushroom, Milky mushrooms in addition to Oyster one
Criteria	Past Scenario	Present Scenario
Increased Profitability	<i>Rs. 0.8 – 0.9 lakh/yr/unit</i> <input type="checkbox"/> Insufficient market linkage <input type="checkbox"/> No product diversification <input type="checkbox"/> No product registration and branding	<i>Rs. 1.8 – 2.0 lakh/yr/unit</i> <i>Activities</i> <input type="checkbox"/> Formation, registration and capacity building of processing-cum-marketing groups <input type="checkbox"/> Value addition in terms of space, form and time <input type="checkbox"/> Product registration, branding and market promotion <input type="checkbox"/> Efforts for Provisioning of city based “One Stop Shop”
Outcome :		
<input type="checkbox"/> Greater income seasonality <input type="checkbox"/> Steady market availability <input type="checkbox"/> Sustainable family income <input type="checkbox"/> Reduced vulnerability and increased resilience.		



Table 1. Year wise trend of trainings, its impact and horizontal spread of technology.

Year	No. of Trainings	No. of Persons	Unit Establishment by SHGs and FCs	Individual entrepreneur	Production at household level
2012-13	02	25	04	02	05
2013-14	05	98	06	08	18
2014-15	10	217	08	16	24
2015-16	12	290	09	18	35
2016-17	11	280	09	18	36

target for ushering agri-preneurial empowerment through mushroom cultivation. KVK trained only 25 farmers and farm women in first year (2012-13) from two blocks only and out of them, 6 farmers has started their small scale units, 5 farm women cultivated mushrooms at household level. Small-scale mushroom production represented an opportunity for farmers interested in an additional enterprise and is a specialty option for farmers without much land.

CONCLUSION

Mushroom cultivation has helped in reducing vulnerability to poverty and strengthens livelihoods through the generation of a fast yielding and nutritious source of food and a reliable source of

income. Since it does not require access to land, mushroom cultivation is a viable and attractive activity for both rural farmers and peri-urban dwellers. Small-scale growing does not include significant capital investment: mushroom substrate can be prepared from any clean agricultural waste material, and mushrooms can be produced in temporary clean shelters. They can be cultivated on a part-time basis, and require little maintenance. Indirectly, mushroom cultivation also provides opportunities for improving the sustainability of small farming systems through the recycling of organic matter, which can be used as a growing substrate, and then returned to the land as fertilizer.

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