

Mushroom – A Profitable Reward to Farm Women Under NICRA Scheme in Chhattisgarh

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The National Innovations in Climate Resilient Agriculture (NICRA) is a network project initiated by the Indian Council of Agricultural Research (ICAR) in February 2011. Its primary goal is to strengthen the resilience of agriculture against climate change and vulnerabilities by conducting strategic research and showcasing technological innovations. Farmers tend to face problems related to production and natural resource management but they might not have found the solutions to overcome them. In such situations, NICRA scheme is an opportunity for the researchers, extension professionals and farmers to work together and find appropriate ways through assessing different solutions.”

Since ancient times, mushrooms have been recognized as a food source, traditionally gathered from the wild by certain groups of people using empirical methods to identify edible species. With the advent of scientific cultivation techniques, cultivable edible species can now be produced for safe consumption. Pleurotus mushroom can be grown on any kind of agricultural waste containing lignin, cellulose and hemicelluloses. Species of Pleurotus, commonly known as oyster, abalone, or tree mushrooms, have been appreciated globally for their nutritional and medicinal properties since ancient times. In addition to being low in fat and rich in protein and vitamins, mushrooms also contain essential minerals like phosphorus and potassium, along with trace elements such as selenium. The cultivation techniques of this mushroom is very simple and economical in rural areas where the raw materials are easily available and may even provide gainful employment to the farm women engaged in production. Another advantage is that most agricultural residues are burnt, this can actually be used for mushroom cultivation. In addition to this, it paves way for diversification of farming and the spent substrate after the cultivation of mushroom is more readily digestible and it can be exploited as a source of manure. In Chhattisgarh, this project was operational in the tribal villages viz. Bakulahi and Gudeliya of district Balodabazar – Bhatapara under the leadership of Krishi Vigyan Kendra (KVK), Bhatapara. In Kharif season, these villages have more than 90% area under paddy crop and produced huge volume of biomass in the shape of crop residue.

NICRA villages offer significant potential for commercial mushroom cultivation by utilizing farm waste, providing an opportunity for increased income generation. Mushroom farming consumes huge quantity of organic farm wastes and degrades complex organic pollutants and thus helps to maintain environmental balance. It can solve environmental pollution to a significant extent and also provide an extra source of income to farm women. Empowerment of farm women has emerged as an imperative issue for rural economy. Farm women play substantial role in farming but are recognized only as invisible workers. Mushroom farming is a good way to empower the women farmers economically viable and environmentally sound.

Challenges

Lack of alternate opportunity of livelihood option for the farm women, and burning of paddy residue in NICRA villages is a relatively new challenge. Paddy cultivation is an age-old practice in NICRA villages. At previous decades, paddy was mostly manually harvested and the burning of paddy residues was not a countable problem. However, the increased mechanization of agriculture, the use of combine harvesters had become widespread which leaves behind a significant length of straw and stubble on the field. Ploughing this back into the soil was difficult or otherwise cutting and collecting, it was labour intensive and increasing expensive. The easiest and cheapest method for the farmers was to burn it in the field itself in the village.

Technology Adopted

As a result of the project members' brainstorming, one possible solution was evolved in the form of mushroom farming to utilize the crop residue and provide an alternative source of income to the farm women. Although this operation does not necessitate a large amount of capital, it does necessitate the training of farm women in order to be successful. The raw material used for the growing medium is the simply crop residue of paddy. Therefore, keeping in view of these benefits, mushroom farming was introduced in the adopted villages under NICRA Project. Initially farm women were totally unaware about the mushroom farming. They were hesitant to adopt this enterprise due to a lack of information, believing it to be a difficult technology. KVK Bhatpara conducted group meetings with the interested and potential farm women, addressing their concerns and motivated them to adopt mushroom cultivation. After the continuous efforts, a total of 20 farm women from each NICRA villages viz. Bakulahi and Gudeliya made ready to go for this farming. KVK Bhatapara was done this activity on group

basis and forms one group of 20 farm women from each village. These 2 groups of farm women were provided with trainings for cultivation of mushroom. Mushroom spawn and demonstration bags were provided to farm women. KVK scientists have regularly visited them to solve their problems which faced during cultivation, and keep them in pace and not to leave in between. They were also linked to various markets for sale of mushroom.

Impact and Lessons Learnt

Initially each group of farm women started with 200 bags of mushroom in a very low cost shed and within a month of mushroom production, each group harvested 260-280 kg mushroom from first crop and sold to the local market. Approximately Rs. 25 is the cost to prepare of one bag of mushroom and average yield from one bag is 1.4 kg, and popular selling rate of fresh oyster mushroom is Rs. 80-100 per kg. The farm women are interested in oyster mushroom production because it requires low investment and management. This enterprise does not demand to farm women to spare whole day in production unit. So they only visited to production unit in two times in a day thus they did their regular works at home and farm without suffering. They felt that it is a best alternate way to earn the money. They are continuously increasing the number of bags as per the demand of oyster mushroom in local areas. This low-cost mushroom production model is being popular in the district.



1. Bagging of Mushroom



2. Mushroom bags in low cost mushroom shed



3. Mushroom fruiting



4. Harvesting of mushroom

Godhan Nyay Yojana, a first of its kind scheme, has been launched in all district of Chhattisgarh on dated 20 July 2020. With implementation of this scheme, State Government aims to given a boost to rural economy and to create employment opportunities in the rural areas. Under this scheme, cowsheds have been constructed in the protected area. *Godhan Nyay Yojana* will be implemented through these cowsheds. Women self-help groups will conduct various income oriented schemes including the preparation of vermicompost at these centers. District administration is the major controlling body for this scheme in the district. Officers from district administration visited to mushroom units established by KVK, Bhatapara and very impressed with Mushroom Farming Model thus the district administration requested to KVK to provide trainings on mushroom production to SHGs of other villages of the district under *Godhan Nyay Yojana* to provide a profitable enterprise. Thus several meetings with SHGs were conducted by KVK officials in the operational villages under *Godhan Nyay Yojana* in which they were made aware and motivated to start a new venture *i.e.* mushroom production and add up to their income. Hands-on practical training in mushroom cultivation was provided to the 1000 farm women of SHGs by the KVK officials. After the hard efforts of KVK, this model is successfully replicated at 50 villages of Balodabazar-Bhatapara district under *Godhan Nyay Yojana* at present.

Summary

Training on mushroom production helped the farm women in tribal villages to have an alternative and sustainable source of income. On the other hand mushroom production consumes paddy straw as raw material which is a good remedy for the straw burning problem. Also rural people who are not getting balanced diet and lacking various vitamins, mineral and proteins can be made nutritionally secured with the abundant supply and changing dietary habits. NICRA scheme is not only helping in income enhancement of farm women but also playing a vital role in maintaining environment balance and meeting nutritional needs of the rural community.