

Mushroom cultivation: Scope for empowerment generation for rural women

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Considering the poverty ratio in rural population of N.E. India, mushroom cultivation may be taken as one of the technologies to uplift the economic status to earn sustainable income. CSIR-NEIST based mushroom cultivation technology is very successful and since last 35 years NEIST, Jorhat has been engaging itself for ameliorating the economic condition of the people in the rural areas by way of taking up extensive programme for propagating mushroom cultivation at grass root level. The raw materials required for this mushroom cultivation are easily assessable in the rural areas and the eco-climatic condition are also very much suitable for growing of a few commercially viable *Pleurotus* species, viz. *P. ostreatus*, *P. djamore*, *P. euos*, *P. florida*, *P. flabellatus*, *P. cornucopiae* etc.

The tech-economic viability was studied with consideration that production would be executed in a low cost bamboo shade (50 x 25 cm) that easily available in rural areas along with other raw materials such as paddy straw, firewood etc. Under these circumstances during pick season, within a period of 40 days, about 3-4 kg of fresh mushroom can be harvested from 3 compact bags, by utilization of 250 g spawn (provided 1 packet of spawn weighing 250 g used for making 3 compact bags). Thus, by expensing total production cost of Rs 40/- including (1 packet spawn- Rs 20, 3 polythene bags for Rs 6/- , plastic threads etc. including cost of raw materials) ,total sale realization can be minimum Rs 150/- each bag; with net profit of Rs 410/- .So by developing skilled on this line women can easily empowered.

Key words: *Pleurotus* spp., cultivation, rural women

INTRODUCTION

Women empowerment

Of the 1.3 billion people who live in absolute poverty around the globe, 70 per cent are women (PCI 2014). For these women, poverty doesn't just mean scarcity and want. It means rights denied, oppor-

tunities curtailed and voices silenced. Empowerment-encourages people to gain the skills and knowledge that will allow them to overcome obstacles in life or work environment and ultimately, help them develop within themselves or in the society. If women were empowered to do more and be more, the possibility for economic growth becomes apparent.

Indian scenario for women empowerment

In a developing nation like India, empowering women becomes quite fruitful for the economic growth of the country. Empowerment leads to women entrepreneurs that create new jobs for themselves and others and also provide society with different solutions to management, organisation and business problem. Women's entrepreneurship can make a particularly strong contribution to the economic well-being of the family and communities, poverty reduction and women's empowerment. Thus, governments across the world as well as various developmental organizations are actively undertaking promotion of women entrepreneurs through various schemes, incentives and promotional measures. In India, the micro, small and medium enterprises development organisations, various State Small Industries Development Corporations, the Nationalised banks and even NGOs are conducting various programmes including Entrepreneurship Development Programmes (EDPs) to cater to the needs of potential women entrepreneurs, who may not have adequate educational background and skills (Vijaya Kumar and Naresh, 2013). There are also several other schemes of the government at central and state level, which provide assistance for setting up training-cum-income generating activities for needy women to make them economically independent. Small Industries Development Bank of India (SIDBI) has also been implementing special schemes for women entrepreneurs.

Under, Prime Minister's Rozgar Yojana (PMRY), preference is given to women beneficiaries. The government has also made several relaxations for women to facilitate the participation of women beneficiaries in this scheme. The contribution from the Ministry of Micro, Small & Medium Enterprises (MSME) varies between 30-80% of the total project in case of hard intervention. Similarly, under the Credit Guarantee Fund Scheme for Micro and Small Enterprises, the guarantee cover is generally available upto 75% of the loans extended; however the extent of guarantee cover is 80% for MSEs operated and/ or owned by women.

Women empowerment through entrepreneurship is a must for a modern developed economy. Entrepreneurship happens to be one of the best ways towards self sufficiency and poverty alleviation for women in a country where employment is not guar-

anteed. Involvement of women in entrepreneurial activities would ensure effective utilization of labour, generation of income and hence improvement in quality of life (Nitin Huria, 2013). Assam is not lagging behind the rest of the country in respect of women entrepreneurship. This is evident from the fact that Assam accounts for 18 percent women entrepreneurs as against 7.7 percent in the country. Besides, the potential for developing women entrepreneurs in Assam is very high. Generally, women entrepreneurs in Assam are engaged mainly in traditional activities like weaving, knitting, embroidery, beauty parlour, running of schools, crèches, readymade garments, jam, jelly and pickle making etc. In recent years it has been observed that women entrepreneurs of Assam are venturing into non-traditional traits also. Considering the poverty ratio in rural population of N.E. India, mushroom cultivation may be taken as one of the technologies to uplift the economic status to earn sustainable income. CSIR-NEIST based mushroom cultivation technology is very successful and since last 35 years NEIST, Jorhat has been engaging itself for ameliorating the economic condition of the people in the rural areas by way of taking up extensive programme for propagating mushroom cultivation at grass root level (CSIR 800, 2010). The raw materials required for this mushroom cultivation are easily assessable in the rural areas and the eco-climatic condition are also very much suitable for growing of a few commercially viable *Pleurotus* species, viz. *P. ostreatus*, *P. djamora*, *P. euos*, *P. florida*, *P. flabellatus*, *P. cornucopiae* etc (Bordoloi *et al* 2010).

Women's empowerment can be greatly supported by self-help groups, 10-20 rural women from the same village, mostly poor women, and come together to contribute by weekly or monthly dues as savings and provide group loans to their members. Self-help groups are generally facilitated by NGOs, and increasingly advise and train members in a variety of on- and off-farm income-generating activities. Through promotion of self-help group, the overall status of women in terms of income, empowerment, welfare, etc can rise (Bordoloi *et.al* 2011)

Thus, rural women can empower themselves by forming self help groups and taking up mushroom cultivation as their income source, which is quite effective to obtain a sustainable income at a very low expense. In North eastern regions, rice culti-

vation is the main source of living and the staple food of the people, and firewood is also easily available as these regions are surrounded by forests. So the raw materials, specially paddy straw, firewood etc required for cultivation of mushroom shall be available free of cost. Moreover, water resource and bamboo shade house is easily available in almost all village areas.

MATERIALS AND METHODS

Spawn production

Mycelia of mushrooms or other fungi grown in specially prepared organic matter for planting in beds. Substrates like paddy seeds, wheat grains etc used for propagation of mycelium of mushroom fungi. CSIR- NEIST establishes 20 mushroom spawn units including all the instruments required for the production of mushroom spawn to the NGO through a Memorandum of Understanding between the two. Spawn is available at an affordable price @ Rs 20/- per packet, from local entrepreneurs, NGO's, etc

RESULTS AND DISCUSSION

For mushroom cultivation a bamboo shade house, with mud plastered walls is needed where the compact bags of mushroom can be hanged by tying with plastic threads. These bags are made of polythene, which is prepared with properly boiled paddy straw and the mushroom seeds of the spawn packets. Three no's of compact bags can be prepared from 1 spawn packet. The bags are prepared with layering of paddy straw and mushroom seeds alternately, and compress it hard to release the air until the polythene bag becomes full. This method is known as compact bag preparation method as the whole materials should be in compact form.

The compact bags are kept in dark room until the mycelium formation and bag turns completely white within 10-15 days depending on the type of species used. Later, it is transferred to the cropping room for hanging and watering should be done 2-3 times/day. Within 7-8 days the fruiting body appears and harvesting of the mushrooms can be done. The mushroom can be harvested upto 3-4 times from one compact bag, and nearly 1.5 kg is harvested from each bag.

Total production cost involvement for 1 packet

spawn (250 g)/3 compact bags preparation (including 1 spawn packet for Rs 20/-, 3 polythene bags for Rs 2/- each, Plastic threads, big sauce pan etc) is nearly Rs 40/-. The mushroom production from

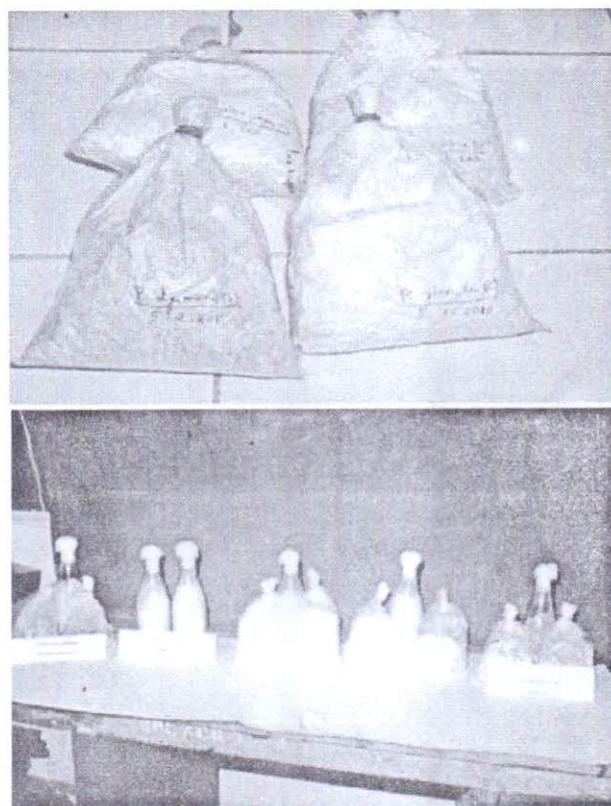


Fig. 1 : Spawn Packets and bottles

the 3 compact bags will be minimum 4.5 kg (provided 1.5 kg is harvested each bags). The selling price of mushrooms in North Eastern regions is Rs 100/ kg. Thus, selling price of 4.5 kg mushrooms will be Rs 450/-, with a net profit of Rs (450-40) = Rs 410/-.

If women of rural areas of different Self Help Groups engaged themselves for 2 hrs. per day in the mushroom cultivation and prepared atleast 3 compact bags, if they continued doing it for another 20 days in a month. Then the net income obtained from the cultivation will be Rs (410 x 20 days) = Rs 8,200/- in a month (provided the profit is Rs 410/- in a day) which is estimated excluding the labour cost.

Thus, by adapting this low cost mushroom technology, the women communities of rural areas can empower themselves and can strengthen their economic background.

Mushroom cultivation can play a significant role in the economic development of rural people. Because current market value of mushroom and nutritive value of mushroom is very high, consumption of mushroom can reduce their malnutrition. It is rich in vitamin particularly vitamin C and vitamin

B complex and minerals. It is also considered as a food of low caloric with little fat, where sugar content is very low, and as such are selected medicinal food for diabetic patient. Mushroom cultivation is a labour intensive activity. The fact that it can be taken-up on different scales like home based, small scale or large scale, it is a wonderful employment generating activity specially for the rural people. Thus, introduction of scientific cultivation of edible mushrooms and subsequently organised cultivation helps to generate income as well as employment, especially for women and ultimately lead to sustainable rural development.

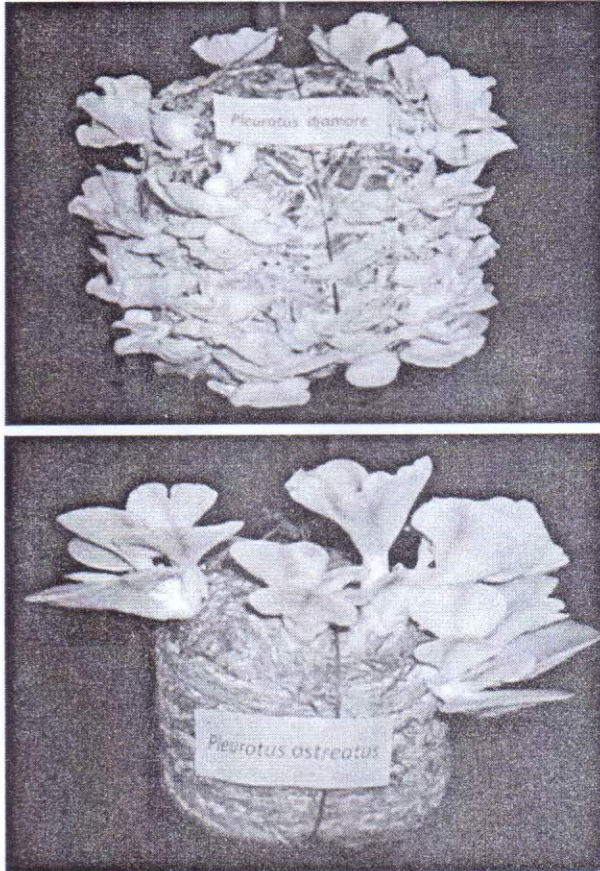


Fig. 2 : Oyster Mushrooms grown in paddy straw as substrate, ready for harvesting

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