

## MUSHROOM CULTIVATION: A TOOL OF SELF-EMPLOYMENT



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### Introduction:

Modern age is called an economic age. Money plays an important role for all-round development of the people, the society, and the nation. The spirit of India resides in the village where maximum number of people lives with minimum facilities. Poverty and unemployment are the main features of the rural India. The numbers of job seekers increases from year to year and government cannot afford job to all the job seekers in public sectors. Nagaland, the north eastern state of the country is also not an exception in this regard. Entrepreneurship development or way of self-employment is one of the most important measures to reduce this problem. Commercial mushrooms cultivation can ensure enhancement of family income at the cost of less investment because it is **called the vegetable of the future**. It may become a tool of "Self-employment" for the people. There are several benefits attached to mushroom cultivation in Nagaland as its climatic conditions are conducive for its growth. It requires minimum investment in planting materials and has maximum profit potential in the market. It is easily cultivable and requires small land holdings for cultivation without harming the environment. Mushrooms are part of the food habit of tribal people. The North Eastern Region including Nagaland has a good market for it. The present paper is an attempt to study the necessity and possibility of entrepreneurship and the available job opportunity through mushrooms cultivation for rural Nagas who seek to take a stand for their existence and also find the factors which create awareness among them. It also finds out the existing challenges and possible ways of overcoming from these challenges

### Mushroom Cultivation: A tool of self-employment to uplift Family Income

The total population of Nagaland is 19,78,502 (nineteen lakhs seventy eight thousand five hundred two) as per the'

2011 Census.<sup>1</sup> The state has an

unemployment rate of 8.9% according to the Ministry of labours annual Employment-Unemployment Survey, 2015-16 report.<sup>2</sup> It is because of having a weak industrial sector and an underdeveloped agriculture, bulk of the educated population being depended on the small size service sector available. There is no balance between the supply of workers and the demand for their services. Thus, open unemployment occurs because able and willing educated persons are in search of work, but there is no work for them and they remain unemployed. It has been rightly observed that: "Unemployment is a great evil, it is a poison, and it pollutes the society and wrecks the political fibre". It creates devils, it turns good man into bad, and it changes an honest worker into a criminal. It encourages dishonesty, patronizes corruption, glorifies falsehood, points out the dark side of human character and makes one blind to its good side. Self-employment can reduce the rate of unemployment and provide independence from it. Commercial Mushrooms cultivation can become a **tool of self-employment** and ensure to enhancement of family income at the cost of less investment. **Mushrooms, which is called the vegetable of the future** and accepted as an ideal health food and an efficient tool for recycling of organic wastes as well as a source of subsidiary income, are becoming very popular amongst rural mass in the region. It is a landless cultivation procedure with optimum utilization of available space and less input investment. Especially unemployed persons should come forward to learn the cultivation skills of mushroom to reap the benefits of nutritional security and subsidiary income through this venture. Different types of **Delicious Recipes** like Mushrooms on Toast, Mushroom Soup, Mushroom Pakoras, Mushroom Pulao, Mushroom Pickle, Mushrooms and Peas Variation, Mushrooms and Paneer, Mushroom Samosa etc. can be prepared from **it to attract the customers in the large scale**.

Nagaland, being the distinctive hotspot of rich

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biodiversity has served as the habitat of a wide variety of mushroom species (*Pleurotus sajorcajo*, locally called *Laphu*), either it is commonly cultivated oyster or naturally grown species. Moreover, the availability of labour, plenty of raw materials (paddy straw) and climatic conditions favour mushroom cultivation throughout the year. Mushrooms are rich in high quality protein having around 60–70 percent digestible amino acids. It is also rich in vitamins like B, C, D, K and minerals like calcium, phosphorous, potassium, iron, copper and high fibre content. It has a low quantity of carbohydrate and fats high quantity of water. Research studies have shown that it is an ideal food for people suffering from diabetics, heart ailments, hypertension and anaemia. At present India produces annually approximately 10,000 tons of mushrooms. It is popularly grown in the states of Orissa, Karnataka, Tamil Nadu, Maharashtra, Andhra Pradesh, Madhya Pradesh, West Bengal and in the North-Eastern States of Meghalaya, Tripura Manipur, Mizoram, Nagaland and Assam. The North Eastern Region including Nagaland has a good market for mushrooms.<sup>3</sup> Apart from domestic consumption, hotels, resorts etc which are coming up in a big way in the region are potential buyers of the products. Mushroom selling can be observed everywhere in the markets within and outside of Nagaland. The cost is around 150-300 per /Kg.

Many mushrooms species can be cultivated at home on a small scale using various methods. Since home cultivation is mainly a hobby, the expectations of the grower and the results of cultivation can vary widely. Commercial cultivation, on the other hand, requires reproducible, quantitative results. Since commercial cultivation usually involves a substantial investment, the cultivation techniques must be dependable with consistent results so that a marketing strategy can be formulated and a reasonable return on the investment realized.

#### Successful Stories:

**In Nagaland:** KVK Phek (Nagaland) disseminated cultivation of oyster mushroom among farmers of the district and trained 70 farmers from five different villages during 2007-08. Producers of Pfutsero and Pfutseromi villages could sell about 70% of surplus produce. Overall production from adopted villages recorded 812 kg in 2008-09. It has increased to 1060 kg in 2009-10. After seeing the success of these units, farmers from Gidemi, Kikruma and Zellome villages were encouraged to establish mushroom production units.<sup>4</sup> It

is also observed that now many consumers in urban centres now consider to visit to on-farm or farmer's markets as recreational activities because families want to enjoy seeing farms and talking with farmers. This is a kind of lesson for all the people of Nagaland to come forward and earn money through mushroom cultivation.

**In the North-East (Tripura):** Suman Bhattacharjee, who is a bank manager by profession, all of a sudden thought of getting self-employed by producing mushrooms. He initially took up training at the state government mushroom centre but was not satisfied, he then watched tutorials on YouTube and was so inspired that he immediately decided to quit his job and start his mushroom production centre, which in fact is totally a new concept in his village. By 2015, he started his own mushroom production centre at Anandanagar (Tripura) with two temporary sheds and along with few local housewives, who were trained by him in the trade. On an average, the daily production of oyster mushroom from his centre is around 25 kg. His monthly income is more than 35,000 from this small infrastructure.<sup>5</sup>

**National Level:** Sarala Bastian from Salem district of Tamil Nadu got married at the age of 17. But she did not wish to just be confined to her house. She wanted to do something on her own. She also wanted to be an independent and carve out to identify herself. Her father gave her the initial capital of 15,000 to start a business in 2004. She started a mushroom farm in her backyard. After few years only she has become a successful entrepreneur in this field. She transformed herself from a simple housewife into a successful entrepreneur with minimum resources at her disposal. As a female entrepreneur Sarala provides an inspirational example to the women in the society.<sup>6</sup>

#### Case of Nagaland: Problems and Prospects

Agribusiness is the single largest sector of economy in many developing countries and growing at very fast rate. The main aim of this business is to find the best interest of the consumer needs, wants and preferences and it creates such products which the consumers not only feel satisfied but is actually delighted by the value or the product that is offered.<sup>7</sup> Mushrooms are part of the food habit of tribal people. Even though, this industry is still in its infancy and only a fraction of the farming community is engaged in small scale seasonal production of mushrooms. Mushroom production has not gained momentum due to dearth of knowledge about the distinction between the poisonous

and non-poisonous species, improved production technology, availability of quality spawn, processing and marketing. ICAR Research Complex for NEH Region, Nagaland working with different stake holders took the opportunity to give a new dimension to mushroom cultivation in the state. The institute has been organizing on and off campus trainings and demonstrations on various aspects of distinguishing edible and poisonous mushrooms, low cost year round organic production technology, management of mushroom units and processing and preservation technologies. Through these trainings, demonstrations and personal contacts/visits, 200 numbers of beneficiaries comprising of practicing farmers, farm women and rural youths of different districts like Mon, Kohima, Peren, Wokha, Longleng, Zhunehoto are benefitted. Supply of high quality spawns of different species of oyster mushroom which can be grown in summer and winter season are made available to the growers throughout the year. On an average every month 1000 packets of 200gm spawn is supplied to beneficiaries from all the districts, NGOs from the state and neighbouring states. Records show that on an average from a mushroom bed prepared out of 2kg of paddy straw and 200gm produce 800gm-1.25kg of fresh mushroom. ICAR, Nagaland Centre, has revolutionized mushroom production in the state by providing technical guidance to the local budding entrepreneurs and as a result mushroom production is gearing up in the two newly set units at Medziphema, Kukidolong area.

To boost up mushroom cultivation various training programmes were held in different places of Nagaland. Training on low cost oyster mushroom cultivation was conducted exclusively for self- help groups mostly women from Kiphire, Mon, Longleng and Zunehoto districts on February 13, 2010 at state horticulture nursery, Dimapur. Mushroom cultivators representing self- help groups from four districts were assured of financial assistance of 30,000 to meet the cost of mushroom growing unit under Rashtriya Krishi Vikas Yojana (RKVY) scheme. The farmers from Longleng district were optimistic that their products would be easily sold since it has high demand in the market.<sup>8</sup>

Women Entrepreneurship Orientation Programme which was held on 12<sup>th</sup> -13<sup>th</sup> March 2014 in collaboration with Indian Institute of Entrepreneurship (IIE), Guwahati. The two days session included sharing of valuable information by visiting officials from various

government agencies within Nagaland. The schemes of KVIC (Khadi & Village Industries Commission), NABARD, and IIE (Institute of Industrial Engineer) etc. were discussed and the bank official explained how to avail loans.<sup>9</sup>

With an aim to promote skills for income generation to improve livelihood, one day hands on demonstration on oyster mushroom cultivation and value addition of horticulture crops was conducted on May 20, 2015 at Aoyimti village, Dimapur. The demonstration was organized by Central Institute of Horticulture (CIH), DAC (Development of Advanced Computing) Government of India (GoI) Medziphema and department of horticulture in collaboration with Metemlar SHG, Aoyimti. Director, National Research Centre on Mithun, Jharnapani, Dr. Abhijit Mitra spoke on the benefits of mushroom cultivation and preparation of pickles, squash, candy etc. The training was imparted to housewives and educated unemployed youth mainly comprise of women folks.<sup>10</sup>

Mushroom Development Foundation (MDF, established in 1997) has encouraged many small scale agricultural farmers to practice mushroom cultivation to sustain themselves and created a strong network to further their interest in this agricultural activity. MDF is presently working in various villages of Assam, Nagaland, Arunachal Pradesh and Meghalaya.<sup>11</sup>

One day training programme for “Package of Practices for Oyster Mushroom” was held and preparation of mushroom cultivation in poly bags was also demonstrated in the Yingli College, Longleng on 06-11-2015 as a part of Skill India Programme. It was organised by the District Agriculture Office, Longleng. Krishi Vigyan Kendra (KVK), Longleng popularizing oyster mushroom cultivation under guidance of its experienced scientists in the various villages in the District.

#### **Barriers/Challenges:**

Finance is regarded as “**life blood**” for any enterprise, be it big or small. The number of Nationalised Banks in the rural areas of Nagaland is very less. Such types of enterprises fail due to the shortage of finance. In case of **Women Entrepreneurs** if they approach to the bank for loan, the banks consider them less credit-worthy and discourage them borrowers on the belief that they can at any time leave their business. They are bound to borrow loan from local money lender with high interest.



Lack of education (for illiterate unemployed persons) creates problems for setting up and running of business enterprises; lack of access to the organised market and lack of transportation in rural areas limits their capacity to achieve growth<sup>12</sup> In addition to above problems, inadequate infrastructural facilities, shortage of power, high cost of production, social attitude, low need for achievement and socio-economic constraints also hold them back from entering into business. On the other way, the Government institutions/ departments organises Entrepreneur Development Programmes time to time under various programmes/schemes. At present programmes like Skill India, Digital India, Stand up India, Start up India etc are working in this regard. **Self-Employed Women's Association (SEWA)** is a trade union founded by Ela Bhatt in 1972 in Ahmedabad. It is an organization of poor, self-employed women workers who earn a living through their own labour or small businesses.

#### **Financial Assistance by Government Agencies:**

a. Pradhan Mantri Mudra Yojana (PMMY), a flagship scheme of Government of India, was launched on 8<sup>th</sup> April, 2015 to “fund the unfunded” by bringing such enterprise to the formal financial system and extending affordable credit to them. Any individual, proprietor, partner, SHG, JLC etc. engaged in non-farm activity for starting/ extending business activity such as manufacturing, trading and service etc are eligible to get maximum up to 10.00 Lakh as a loan through Bank. There are three categories of loan named **a. Shishu**- loan up to 50,000 **b. Kishore**- loan above 50,000 to 5.00 lakh and **c. Tarun**- loan above 5.00 lakh to 10.00 lakh.<sup>13</sup>

b. During 2015-2016, two livelihood programmes under the Transformative Livelihood Intervention (TLI) Project were initiated by **Government of Nagaland**. They are- 'Livelihood Enhancement through Development of Natural Resources Programme' and 'Community Based Mushroom Cultivation as Income and Nutrition Security for Rural Women of Nagaland'.<sup>14</sup>

c. A mushroom spawn production unit with laboratory to be operated and managed by

trained women personnel has been set up to enable regular supply of spawn to the women cultivators in Nagaland.

d. The government initiated several interest-free Loan Programmes to encourage small and big entrepreneurial activities amongst women in the state for self-employment and to enable employment generation through their ventures. They are-

- i. **Promotion of Women in innovative Enterprises programmes**-Under this interest-free loan of 5.00 lakh per beneficiary was provided to 38 women entrepreneurs in innovative enterprises.
- ii. **Women Entrepreneurial Development Initiative**- Under this interest-free loan of 2.00 lakh per beneficiary was provided to 20 women entrepreneurs from all over the state.
- iii. **Micro-credit Enterprise Development Scheme**- This programme targets the poorest-of-the-poor women and young girls who are willing to take up small enterprises but do not have the capital to even begin. An amount ranging from 10,000/- to 30,000/- is provided to the beneficiaries as a interest-free loan.

#### **Conclusion:**

India is one of the fastest emerging economies of the world. Entrepreneurship development plays a vital role for economic growth and development of a nation or a region within the nation.<sup>15</sup> The numbers of job seekers increases from year to year and government cannot afford job to all the job seekers in public sectors. Entrepreneurship development is one of the most important measures to reduce this problem. It has become the need of the hour in the state. But, the growth of such type of entrepreneurs requires acceleration. Government here can play a major role in overcoming the challenges faced by the rural entrepreneurs and also make policies, rules and regulation related to it. Government must come forward to put a pressure to the financial agencies for providing financial assistance to them without delay. There must be the provisions of frequent vocational and skill development training for women

entrepreneurs which will help them for their confidence building. There are several benefits attached to mushroom cultivation in Nagaland as its climatic conditions are conducive for its growth. Mushroom cultivation requires minimum investment in planting materials and has maximum profit potential in the market. It is easily cultivable and requires small land holdings for cultivation without harming the environment. The State is rich in its biodiversity and has its own indigenous crops like Naga Raja Chilli, Naga Cucumber, Naga Garlic, Naga Leek etc which have still a great potential for development in the state. These indigenous crops are yet to be explored like Mushroom to its fullest potential. Unemployed youths can choose their career in this field also and earn money by the commercial production of these indigenous crops. But over all there is need to adopt adequate measures to enable them to have access to information and skills, technology, markets, finance credit and access to appropriate technology and tools to reduce drudgery in agricultural work.

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