

# MUSHROOM FARMING AND WOMEN EMPOWERMENT

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## INTRODUCTION

Empowerment of women and gender equality recognized globally as a key element to achieve progress in all areas since they are multifaceted, multidimensional and multilayered concept. Women constitute almost half of the total population of the world and out of this two third of world adult illiterates are women. Entrepreneurship development and income generating activities are a feasible solution for empowering women. Suitable enterprises of women will not only enable them to get better jobs and in becoming economically self reliant and independent but society will also be benefitted. In the present era, mushroom farming is a profitable enterprise since per unit productivity of mushroom is several folds high than any other crop.

Through the analysis of Indian history it has been revealed that the Indian women are subjected to patriarchal rule, as the women from other nations of the world, receiving the respect in society through marriage and motherhood, both of which valued a high level of chastity. The position of women also concern with political changes as in times of uncertainty, they regressed (socially depreciated) and during stability they developed. As men always remain in the higher position of political and economic power, they (women) are always lagging behind in the possession of political and economic power and thus these precarious scenarios forced them towards the status of 'Marginalized' and 'Excluded'. (Chakravorty. T; 2019)

## The Need for Women Empowerment in India

'EMPOWERMENT' may be described as a process which helps people to assert

their control over the factors which affect their lives. Empowerment of women means developing them as more aware individuals, who are politically active, economically productive and independent and are able to make intelligent discussion in matters that affect them.<sup>1</sup> Women empowerment as a concept was introduced at the International women Conference in 1985 at Nairobi, which defined it as redistribution of social power and control of resources in favor of women. (Panucha. S and Khatik. A; 2005). According to the UNDP Report, 67% of the world's total work is done by women but only a marginal 10 percent of the global earning is attained by them and an utterly insignificant 1% of the global property is owned by them.



Women in agriculture are helping to pave the way for a better future. As leaders, it is our responsibility to make sure the next generation of women are educated, encouraged and empowered to take on the challenges of meeting the world's growing fuel, fiber needs, food (e.g. spices, fish, poultry, and mushroom farming, etc).

Under the Horticulture Development, many productive steps will be taken such as production of protective farming, self employment of women by promoting mushroom production. Also efforts will be made to increase the farmer's income through new technology based schemes which will benefit our

farmers. The incorporation of agro allied sectors in the composition of output and occupation is considered as a potential source of economic growth and transformation in the rural and total economy.

At present scenario it has been observed that many of the women usually take the training of mushroom cultivation but not practice it regularly due to some unknown reasons. Therefore it has been not possible to gather all the essential information for this paper.

### **Mushroom Farming in India:**

Mushroom cultivation is a women friendly profession. Mushroom growing is one agricultural activity in which rural farm women can play a pivotal role without sacrificing their household responsibilities. Mushroom cultivation is simple, low cost, and suitable for rural areas, is less labor intensive and can provide employment in both the semi urban and rural areas. Mushroom cultivation will improve the socio-economic condition of farmers, families and solve employment problems of both literate and illiterate, especially rural farm women. Mushroom cultivation as an entrepreneurship development among rural farm women could prove a suitable approach for economic empowerment. This is the only possible way to empower rural farm women by providing resource support such as organizational development, vocational training, skill up-gradation training, entrepreneurship development training, financial linkages and technical support so that they will get employment/self-employment and earn good incomes. The rural farm women can adopt agriculture based agribusiness on individual or group level and raise their income and employment opportunities which make them economically and socially empowered, Mushroom production.

### **How the Mushroom Farming made the Women Farmers "Self-Dependent":**

According to the Economic Survey of 2017-18, the agricultural industry employs more than 50% of the total workforce in India and contributes around 17-18% to its GDP. Talking about women, India's agrarian industry employs 80-100 million female farmers. From preparing the land, selecting seeds, transplanting the

seedlings, applying manure, fertilisers or pesticides, and then harvesting, winnowing and threshing, women work harder and longer than male farmers.

Despite all their hard labour in the field, the National Commission for Women's data suggests that Bihar's agricultural industry employs 85% of females, but they are not officially deemed farmers; they're either labeled "agricultural laborers" or "cultivators".



The project ensures daily income to farmers and provides a minimum of double return within 45 days. Also, Mushroom's production is devoid of big land or space. It's primarily grown within the household, or sometimes, in a low-cost hut. Even its production process can be taken care of by a single person, and doesn't require many. As many of the farm equipment are not female-friendly, they possess a greater risk of injuries. This project came as a boon to women farmers. There is no usage of big farm machinery in growing mushrooms. It is grown in mushroom bags that are kept inside the house. This helps women take care of it at their convenience.

To make India a progressive country, it is essential to work on rural India, where agriculture forms the backbone. We cannot afford to ignore that, and need to focus on our country's women farmers if we want the second Green Revolution in India. In my opinion, everything starts and ends with agriculture as it is impossible to survive without food. Therefore, women need to be given lots of opportunities as men. (Kumari. S; 2020)

### **Present Scenario of Mushroom Cultivation:**

The mushroom cultivation market is estimated to account for a value of USD



16.7 billion in 2020. The global mushroom cultivation market is projected to witness significant growth due to factors such as the multiple health benefits of mushrooms, increasing per capita mushroom consumption, cost-effective production and rising demand for vegan and natural food in the diet and increasing health-conscious population across the globe. However, the lack of technical knowledge for spawn production among growers in developing countries can hinder the growth of the market. Mushroom is a widely consumed mushroom type across the world and can potentially offer many health benefits. The mushroom type is commercially grown in almost all the major mushroom producing countries such as China, Japan, the US, the UK, Germany, and Poland. Increased R&D on the white mushroom to find the potential to prevent cancer, along with its availability at affordable prices as compared to special mushroom varieties, is projected to escalate the demand for button mushroom during the forecast period. It contributes more than 40% of global production. According to the China Business Research Institute, the country was the largest edible mushroom producer at a global level and reached an estimated annual yield of 38.42 million tonnes in 2017. This accounted for about 75% of the total global output. Furthermore, the CCCFNA Edible Mushroom Branch (2018) stated that the export of edible mushrooms was valued at USD 3.8 billion in the same year. According to a research paper, mushroom cultivation is the fifth-largest agricultural sector in the country, valued at USD 24.0 billion. The Asia Pacific is the leading region in the global mushroom production market. The per capita consumption in China, the largest producer of mushrooms in the world, is higher than any other country. The consumption of mushroom in Asian countries such as Japan, India, and others are increasing at a significant rate accredited by increasing production. Increasing vegan population and shifting trend toward nutrition-rich food have led to the market growth of mushrooms in Asian countries.

The cultivation of mushrooms had been started in other parts of the world many centuries ago, the origin of its cultivation in India is comparatively recent. The first attempt of mushroom cultivation is known as that by Thomas and his colleagues in Coimbatore by trying to cultivate Paddy straw mushroom. The first

scientific attempt to cultivate Button mushroom is credited to the Government of Himachal Pradesh in collaboration with ICAR under the scheme "Development of Mushroom Cultivation in Himachal Pradesh" in 1961 which was later taken up as an enterprise by the progressive farmers of Himachal Pradesh and Jammu and Kashmir in the late 1960s. The cultivation of mushroom spread to other hilly areas of Uttar Pradesh and Tamil Nadu in the early 70s. It was adopted by the farmers of Haryana, Uttar Pradesh and Punjab in the late 70s and early 80s as a seasonal crop. The country's capital Delhi and the economic capital Mumbai together formed a big market for the utilization of fresh mushrooms to the magnitude of 10 to 12 tonnes per day. Today one of the biggest units of mushroom cultivation in India is located in Madras. There are very result-oriented with exhilarating figures of mushroom trade in India at the present time. The corporate houses have set up many export-oriented units encompassed with advanced technology and machinery throughout the country for enhanced mushroom production. In the past decade, there has been a many-fold increase in mushroom production in India (Day. A 2020).

### **Impact of Mushroom Cultivation on Livelihood of Women Mushroom Growers:**

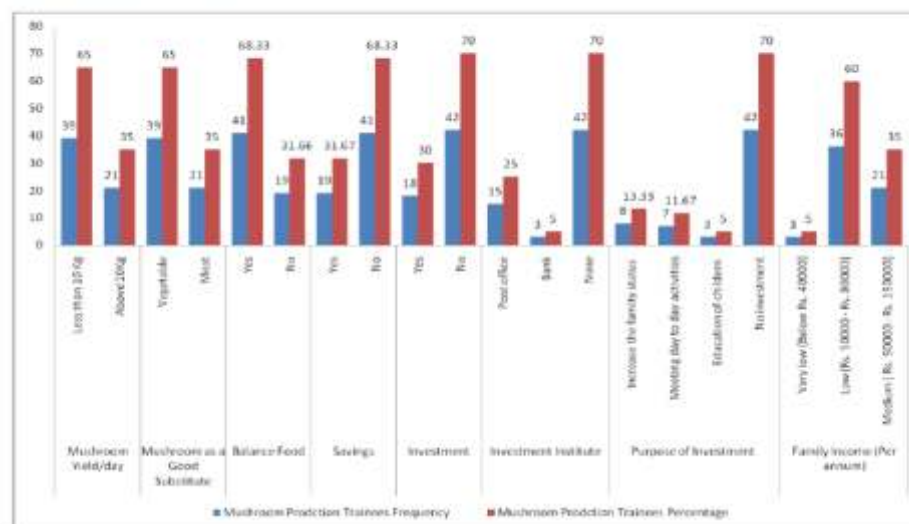
The data on livelihood of women mushroom growers indicated that majority of the mushroom growers (65%) grow mushroom approximately 10 kg/day. Maximum of the respondents (65%) reported that mushroom is a good substitute of vegetables and remaining respondents (35%) expressed eat as good substitute of meat. It is evident from (Table 2) that maximum of the respondents (68.34%) usually consumed balance food at their home and 31.66 per cent of the respondents could not eat balance food, which may be due to their financial position, lack of knowledge etc. The data revealed that more than half of the respondents 68.33 per cent of women mushroom growers could not save their money regularly but only few growers (31.67%) saved their money for their future purpose. The data pertaining to the investment indicated that maximum of the respondents (70%) could not invested their money and 30 per cent of the respondents made their investment in

different investment institution especially in Post office (25%) and Bank (5%) for their future need. Further, it was revealed that 13.33 per cent respondents invested their money for increasing their family income status followed by the respondents who were meeting their day to day activities (11.67%) and only 5 per cent respondents invested money for education of their children.

### Impact of Mushroom Cultivation on Livelihood of Women Mushroom Growers

SL. NO.	Particulars	Categories	Mushroom Production Trainees	
			Frequency	Percentage
1	Mushroom Yield/day	Less than 10 Kg	39	65
		Above 10Kg	21	35
2	Mushroom as a Good Substitute	Vegetable	39	65
		Meat	21	35
3	Balance Food	Yes	41	68.33
		No	19	31.66
4	Savings	Yes	19	31.67
		No	41	68.33
5	Investment	Yes	18	30
		No	42	70
6	Investment Institute	Post office	15	25
		Bank	3	5
		None	42	70
7	Purpose of Investment	Increase the family status	8	13.33
		Meeting day to day activities	7	11.67
		Education of children	3	5
		No investment	42	70
8	Family income (per annum)	Very low(Below Rs. 40,000)	3	5
		Low(Rs. 50,000-80,000)	36	60
		Medium (Rs. 90,000-1,50,000)	21	35

Source: UNDP. Work and livelihoods

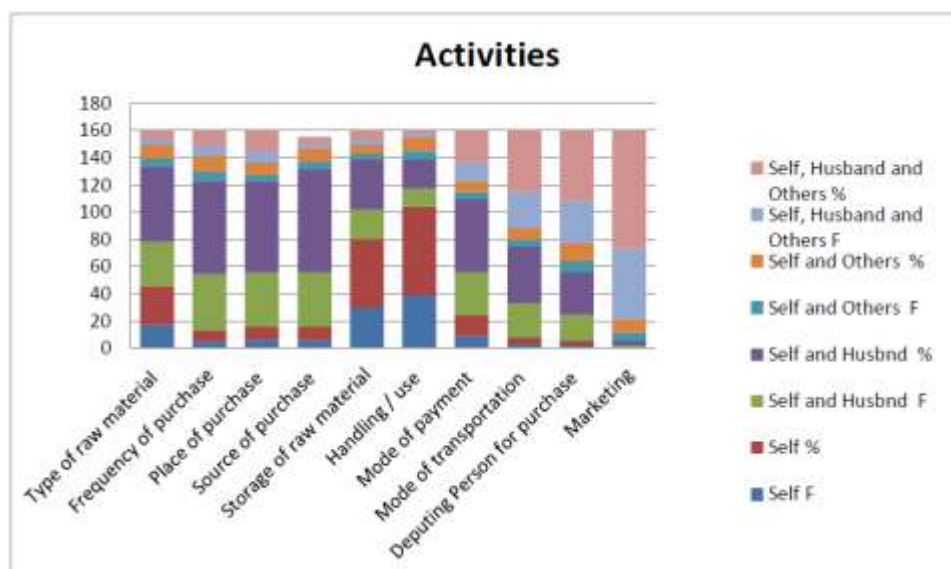


**Decision Making Pattern of Women Mushroom Growers:**

SL. No.	Activities	Self		Self and Husband		Self, Others and		Self, Husband and Others	
		F	%	F	%	F	%	F	%
1	Type of raw material	17	28.33	33	55	6	10	4	6.67
2	Frequency of purchase	5	8.33	41	68.33	7	11.67	7	11.67
3	Place of purchase	6	10	40	66.67	5	8.33	9	15
4	Source of purchase	6	10	40	75	6	10	3	5
5	Storage of raw material	30	50	22	36.66	4	6.6	4	6.66
6	Handling / use	39	65	13	21.67	6	10	2	3.33
7	Mode of payment	9	15	32	53.33	5	8.33	14	23.34
8	Mode of transportation	3	5	25	41.67	5	8.33	27	45
9	Deputing Person for purchase	2	3.33	19	31.67	8	13.33	31	51.67
10	Marketing			2	3.33	6	10	52	86.67

Source: NABARD

Further, it was reported the maximum percentage of respondents (68.33%) were taking decisions about frequency of purchase of raw materials jointly with their husband. Whereas 66.67% of the respondents took decisions for selection of place of purchase of mushroom production related materials with the help of their husband. Three fourth of the respondents used to decide jointly about source of purchase for mushroom cultivation but 50% of the respondents of mushroom production usually take self-decisions for storage of raw materials for their business and more than half of the respondents (65%) were taking self-decision for use of all the raw materials.





The results of the study indicated that the majority of the respondents (53.33%) were taking decision about mode of payment for purchase of materials with the help of their husband only followed by Self, Husband and Family members (23.34%) and 45% respondents take decisions for mode of transportation with the help of self and husband. More than 50% respondents took decision about deputing the persons for purchasing with the help of their husband and other family members. This was followed by the main activity, 86.67% of the total women growers who used to take regarding marketing the help of their husband and other family members.

### **Few Case Studies on Mushroom Cultivation by the Women of India:-**

#### **I. A Special Case Study on Mushroom Cultivation in Bihar:**

Years ago, when Bina Devi married into a family of Dhauri village, Munger district, Bihar, things were not any different from any other village of the country. Like the other women, she would spend her days cleaning, cooking and doing household chores limited within the boundaries of her new home. Any work outside the doors of the house was considered beyond the capacity of a woman.

Little did anyone know that Bina was different. With the right encouragement and training, this woman would pick up farming equipment, earn the moniker of 'Mushroom Mahila' of Munger, empower hundreds of her sisterhood and receive an award from the President of India! All due to the grit and guts she has in abundance.

The training was a bid to empower rural women to get involved in organic farming that will not only benefit their households financially, but also contribute to the well being of the environment.

In 2013, Bina began her journey of breaking gender stereotypes from within the very doors of her home. And, it all started from under her bed!

The journey from that 1 kilo to the recognition as 'Mushroom Mahila' of Munger has been exponential and extremely humbling, she says, in response to the recent Nari Shakti Puraskar she won from President Ram Nath Kovind. On 8 March, she was among 16 other women who were honoured with this prestigious award.



Bina has also been involved in spreading digital literacy among women and was awarded by Tata Trusts, for training 700 women how to use mobile. She has also helped 2,500 farmers create self-help groups, and taught them the System of Rice Intensification (SRI) method of crop farming.

Owing to her extensive work in this sector as well as her contribution in rural development, Bina also served as the sarpanch or village head of Dhauri Panchayat in Tetiabamber block for five years. During her time, she not only promoted organic and mushroom farming, but also trained people in vermi-compost production, organic insecticide and dairy farming.

Today, she single-handedly supports an entire family of 18 members, with her monthly earning of Rs.90,000 (Rs 30,000 from mushroom farming and Rs 60,000 from organic farming of miscellaneous vegetables), while also financing the education of her four children. (Barua. A; 2020)

## **II. Another Case Study of Chhattisgarh:**

Korba, in Chhattisgarh, is the third-largest city in the state, and home to many tribes and indigenous communities. An organization, Dhristee, works to empower women through Self Help Groups (SHGs) by setting up micro-enterprises. Amidst the many challenges that it faces in the process is making the women more comfortable in order to share their worries and come together to run an enterprise.

One of these micro-enterprises that turned out to be profitable was the cultivation of mushrooms, the edible and fruiting fungi. The systematic and scientific cultivation of mushrooms on a commercial scale was proposed to the women. This model, however, had already been tested and was a failure.

Members of Dhristee poked and prodded a little to understand the reason behind the failure. So, with the consent of the women, it was decided to organise a workshop to gain more knowledge on this subject. A training session was arranged in Jindal Institute in Tamnar in Raigarh, 70 kms from the residences of these women. Some of the women were ready and excited to see a new place, and a few saw this as an opportunity.

Urmila came for the workshop, leaving her home at 5 AM and returning at 10 PM, and also persuaded another woman from her SHG to join her.

Mushrooms are available in different varieties—button, paddy, oyster, shiitake, milky, etc.—some of which we can cultivate in India. Each of these varieties needs different settings to grow.



### **Variety of Mushrooms**

Dhristee also taught the women the idea of fixed costs, managing labour, and coming up with a break-even analysis for the process. The model considers anything other than the raw material cost as profit. The tricky part of working in a



tribal belt is ensuring that the women know which types of fungi are edible and not poisonous, as there are many myths surrounding the various varieties of mushrooms in the region. Back to our friend Urmila Yadav. After attending the training that day, she got in touch with the concerned trainer directly to start her new business.

Urmila got back to the Dhristee team once to arrange a hoarding in front of her house to promote her group and their newest venture. When the team asked her how she had managed to do all of this, she said simply, "We are responsible for our own lives." Clearly, Urmila has been responsible for starting her own enterprise, and teaching it to the women of her group. (India Fellow; 2019)

### **III. One More Study from Delhi:**

In the year of 2018, Monika Chowdhry barely broke even the investments in her mushroom farm. A diligent money-manager, she knew that without strictness, she would have incurred losses in the first year of her business. But every new venture goes through the initial slow cycles. Same was the case with this Delhi entrepreneur.

Today, in her second year of business, Monika managed to turn the tables around. Far from standing at the brink of losses, she now earns an average of Rs 1 lakh every month.

Monika worked as a digital marketing professional for government institutions for more than 15 years. We are all familiar with the conflict of career Vs passion. Monika was no different. Even as she designed campaigns for various government organisations, she knew her heart was in addressing healthcare issues.

A chance suggestion by her husband's friend about a training course at the Directorate of Mushroom Research (DMR) got her interested in farming. After undergoing the training at DMR, Monika started setting up her farm in June 2018. She set up everything in a month, yet the battle was just half-won.

Despite the availability of online videos, books and well-intentioned recommendations, no one could give a guaranteed answer to her queries about



nurturing a farm without chemicals.

In the first month, Monika harvested about 20–25 kg of mushrooms. At present, she harvests an average of 45 kg every week. (Patel. T; 2019)

#### Mushroom Cultivation Profit Analysis in India:

Here in this section, you are going to see the mushroom cultivation profit margin. We have given detailed information in the below section.

- The Total Yield of Button Mushroom per 1 Square Foot is 10 Kg to 15 kg.
- While the same Yield per 250 square foot is about 2,500 kg.
- If you see the Cost of Button Mushroom per KG in the market, it is about Rs. 120.
- Now the Total Cost of Button Mushroom for 2,500 kgs @ Rs. 120 is Rs. 3,00,000.
- Total Recurring Cost of Mushroom Farming Rs. 1,60,000
- The Net Profit of Mushroom Farming per year is Rs. 1,40,000

This is all about the Mushroom Farming Profits in India. If you maintain properly, you will get good profits. Furthermore, check the link below to know more about Commercial Mushroom Farming.

#### Commercial Mushroom Farming Profit Margins in India:

S.No.	Particulars	Numbers
1	Yield per 1 Square Foot	10 Kg to 15 kg
2	Yield per 250 square foot	2,500 kg
3	Cost of Button Mushroom per KG	Rs. 120
4	Cost of Button Mushroom for 2,500 Kgs' @ Rs. 120	Rs. 3,00,000
5	Cost of Mushroom Farming	Rs. 1,60,000
	Net Profit of Mushroom Farming	Rs. 1,40,000

Source: [www.gov.in](http://www.gov.in)

From the above table, you can get to know the mushroom farming profit margin. If you see the table, you can get to know that the income is about Rs. 3,00,000. While the net profit in mushroom farming in India is about Rs. 1,40,000.

#### Scope of Mushroom Cultivation in India:

Mushroom cultivation in India is growing gradually as an alternative source of income for many people. At present, the total mushroom production in India is

approximately 0.13 million tons (according to 2021 data).

Mushroom production has tremendous scope. Mushroom has excellent medicinal properties. It is rich in protein, fiber and amino acids.

Mushroom farming is one of the most profitable agri-business that someone can start with low investment and less space.

Mushroom is such a product, which can be consumed by vegan as well as vegetarian people. India is such a secular country where a huge number of people lived in vegetarian foods that's why mushroom cultivation is more profitable than non-vegetarian farming.

### **Conclusion**

Agricultural labour-saving technologies have often been developed with the focus on men's work and needs, and have overlooked or neglected women-led production processes (such as post-harvest processing) and activities associated specifically with women's work (such as home gardens). There is insufficient technology adapted for women that takes into account the nature of their work, their time use, their physique, and the social and cultural context they live in.

Women entrepreneurship is instrumental for achieving economic and societal growth. Despite constituting around half of the total population of India, the economic participation of women is very limited. Women entrepreneurs of India are now emerging in non traditional sectors. Women entrepreneurs are a heterogeneous segment having diverse demographic, economic and educational background. It is imperative that the policies and schemes cater to the unique needs of every segment. It is evidenced that there are numerous challenges faced by women in the course of their entrepreneurial career.

Despite the fact that government has framed and implemented various supportive measures, women entrepreneurship in India remains alarmingly low. Majority of the women owned establishments are concentrated in unregistered sector and hence are unable to reap the benefits of government support. Impact assessment of existing policies and schemes may reveal novel ways in which women entrepreneurship can be nurtured. Women entrepreneurship is a diverse

and complex domain which requires extensive and intensive research endeavours for decoding its dynamics.

Increasing awareness of nutritive and medicinal value of mushroom, a boost in cultivation of mushrooms resulted in mass scale. Cultivation of mushrooms helps to convert agro-wastes into human food. Their cultivation provides labour employment as they are fast growing and are responsible for production of quality food. Mushrooms represent untapped source of nutraceuticals and valuable palatable food.

In the concluding lines it can be said that, lack of awareness, shelf life maintenance of pure culture, unpredictable yield, shorter shelf life are some of the limitations in mushroom industry. Indifference of academicians, Govt., and institutions adds to the constraints of mushroom cultivation. Developing sporeless or low spore shedding *Pleurotus* and other mushrooms with desired traits will also help the mushroom industry.

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