1. INTRODUCTION

Agriculture is universally recognised as an economic activity involving the production of different types of crops and rearing of domestic animals with land and water as the basic input.

Since it provides the entire human population with food and social security, it constitutes as the main economic activity of the civilized world. Being the most popular economic and social activity, its development has also been a continuous process. Development in agriculture is possible only through sustained research and skill enhancement at local and universal levels and by improvement within a generation as also in corresponding generations.

More than 70 per cent of the population in India lives in rural areas. As a consequence 70 percent of Indian economy depends mostly on agricultural. It is but natural that the Governments of the land have laid great emphasis on development of Agriculture and its Allied Sciences right from the inception of Independence. During the past two decades a lot of importance has also been given to the concept of Agri-Enterprenuership among the rural population.

1.1 ENTREPRENEURSHIP CONCEPT

Agri-Enterprenuership is basically an old idea wherein the practising community is encouraged to set up their own business as related to their specialization. Thus the person becomes not only the Producer of agri goods but also its supplier and seller simultaneously in a very professional and scientific manner.
1.2 WOMEN & AGRO ENTREPRENEUR

Since times immemorial, women have played a key role in shaping the development of Human society. Notwithstanding the role of Indian women as the main pillars responsible for the growth of Agriculture, they have not received due share of respect and dignity.

The UN Food and Agriculture Organization (FAO) has revealed that if women in rural areas of the planet had the same access to the land, technology, financial services, markets and education as men enjoy, the number of hungry people would have been reduced by nearly 150 million. Over the years, Indian policy makers have, however, realized the importance of women as potential Entrepreneurs in recent years.

1.3 MUSHROOM-UNTAPPED POTENTIAL

Mushroom belongs to a group of organisms called Fungi. and are placed between meat and vegetables They grow on decaying organic materials and contain more protein, vitamin E and selenium than most vegetables. Mushroom is considered as a delicacy and, therefore, presents huge potential for generating additional income and employment. In India, erratic supply chain and poor skill enhancement have led to untapped potential of this cash crop.

1.4 GLOBAL PRODUCTION

Demand and subsequent production of Mushrooms is on rapid increase throughout the world. There are about 6,000 different species of
which at least 1,290 are reported to be edible. Use of mushrooms is medicinal as well as edible table delicacy.

Globally, the rate of mushroom production is 7 percent annually with China accounting for 70 percent of total production. India with 1.5 percent contributions eight with other major mushroom producing countries like Poland, France, Italy, Indonesia and Germany.

Six countries (USA, Germany, UK, France, Italy and Canada) consume 85 per cent of the total world mushroom consumption. The figure hereunder is indicative of the types of mushroom.

![Figure 1: Types of Mushroom Commonly Grown](image-url)
1.5 INDIAN SCENARIO

In India, about 200 species of native mushrooms are collected and sold or consumed locally since the climatic conditions are favourable for natural occurrence of mushrooms.

India’s production of mushroom was 40,600 tonnes as per the available estimates. Punjab, Haryana, Himachal Pradesh, Uttar Pradesh, Rajasthan and Jammu & Kashmir are the major producing States with 90% of production coming from Punjab, Haryana and Himachal Pradesh. In India, mushroom is a non-traditional cash crop grown indoors both seasonal crop and under controlled conditions. Button mushroom is cultivated in temperate regions of India. Oyster, Milky, Paddy Straw mushroom are cultivated in the tropical and sub-tropical regions. Two to three crops of Button mushroom can be harvested per year under controlled conditions, while for seasonal Button mushroom; one crop is harvested every year.

Total mushroom exports from India in 2009-10 were around 11000 tonnes valued at Rs 66 crore. India exports mushroom in two forms-fresh and prepared/processed to many nations with US, Israel and Mexico as its main importers. Button mushroom accounts for approximately 95 per cent of total mushroom exports. The current share of India in the world exports is less than 1 per cent, but possesses great however, India export potential.

India’s per capita consumption (20-25 g) is comparatively low as compared to that of Europe and the USA (2 to 3 kg).
1.6 JAMMU AT A GLANCE

District Jammu falls in sub-mountainous region at the foothills of the Himalayas and consists of THE CITY OF JAMMU, and surrounding areas at an elevation of 1030 feet above the sea level. The city of Jammu besides being the winter capital of the state, is known as the city of temples. It is believed that the city was originally founded by Raja Jamboo Lochan who lived in the fourteenth century B.C. The city is also known as "City of Temples" as it has quite a few well known temples and shrine for the attraction of Tourists.

The temperature variation is baffling as it shoots from 0.9 degree centigrade in winter to 46 degree in summer. The district is spread over an area of 3097 Sq kms and has a population of about 15.88 lakhs as per the estimates of 2001. It is the largest populated District of the state and second largest in terms of population density.

1.7 PHYSIOGRAPHIC FEATURES

Jammu Division is located between an altitude of 300 meters and 4200 meters above Mean Sea Level (MSL). Human population of the Division as per Census 2001 is 43.96 lakhs. In Physiographic terms the following broad divisions are generally recognized from agricultural point of view. Jammu state is divided into 3 climatic zones.

1) Subtropical Zone:

It spreads between an altitude of 300 and 1000 meters above MSL and enshrines Jammu district as a whole and parts of Kathua,
Udhampur and Rajouri districts. This zone has a hot summer, heavy summer monsoon and relatively dry but severe winter with predominant alluvial type of soil. Normal summer monsoon ranges between 1200 to 1500 mm from mid June to mid September. This zone is further divided into two sub zones comprising the following areas.

(a) **Irrigated Sub-tropical Zone:** Irrigated areas include Kathua, Barnoti, Hiranagar, Ghagwal, Samba, Vijaypur, Purmandal, Satwari, Bishnah, R.S. Pura, Marh & Bhalwal, Blocks on the right hand side of Jammu-Pathankot National Highway and Akhnoor, Khour.

(b) **Un-irrigated Sub-tropical Zone:** It includes Kandi and un-irrigated areas of Kathua, Barnoti, Hiranagar, Ghagwal, Samba & Purmandal to the left hand side of Jammu-Pathankot National Highway and Bhalwal, Akhnoor, Khour and parts of Kalakot, Nowshera and Sunderbani Blocks on Jammu-Poonch Highway and Ramban in Doda district Most of the canal irrigation system being located in the Sub tropical zone, production and productivity of crops is high in this zone.

2) **Intermediate Zone:**

This zone is located between an altitude of 1000 meters and 1500 meter above MSL. It consists of some areas of Basholi, Billawar, Rammagar, Udhampur, Reasi, Pouni, Chenani, Panchari, Ghordi, Mahore, Gool and large area of Kalakot, Budhal, Rajouri, Doda
Darhal, Thathri, Balakot, Ramsoo, Assar, Bhagwah, Ramban, Mahore, Mendhar, Poonch, Gordi, Panchari and Manjakot Blocks.

3) **Temperate Zone:**

This zone consists of other areas of Jammu Division which are located above 1500 meters altitude. Of special mention are the Blocks of Warwan, Marwah, Dachhan, Chhatru, Paddar, Kishtwar, Thathri, Bhaderwah, Banihal, Mendhar, Manjakot, Bani, Basohli and parts of Bhagwah, Assar, Gool-Gulabgarh, Mahore, Dudu-Basantgarh, Darhal, etc. This zone is has relatively mild but dry summer with little monsoon and fairly cold- wet winter. It is mostly a mono-cropped zone with low production & productivity.

![Diagram showing temperature zones in Jammu Province](image)

**Figure 2: Different types of Temperature Zones in Jammu Province**
1.8 DEPARTMENT OF AGRICULTURE IN JAMMU & KASHMIR

Agriculture mainly deals with cereals e.g. wheat, rice, ragi, oat, barley. Apart from the cereals now the term agriculture is further divided under following categories:-

1. Horticulture
2. Animal Husbandry
3. Sericulture
4. Fisheries
5. Cash Crop
Horticulture is further divided:-

- Pomology – study of fruits
- Floriculture – study of flowers
- Obriculture – study of vegetables

Animal Husbandry is further divided as:-

- Sheep husbandry
- Poultry

Sericulture (silk - which is done on mulberry trees) and

Fisheries

Cash crops are now getting more importance because it takes less time to grow and money return is quick. Cash crops mainly include Mushroom cultivation, Apiculture (Bee cultivation), Sugarcane, Cotton, Vegetables and Flowers

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Figure 4: Departments of Agriculture in Jammu & Kashmir
In Jammu state mushroom cultivation is done only in sub tropical zone, which comprises four districts out of 10 districts, namely: Jammu, Udhampur, Kathua and Samba.

**Table 1.1: Showing Mushroom Cultivation done in Four Districts of Jammu Division**

<table>
<thead>
<tr>
<th>S.No</th>
<th>District</th>
<th>No. of Admn. Blocks</th>
<th>No. Of Agri. Sub Divisions</th>
<th>No. of families (Total)</th>
<th>No. Of families in Mushroom cultivation (No)</th>
<th>Production of Mushroom till Dec 2011 (in Qts)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Jammu</td>
<td>8</td>
<td>4</td>
<td>260000</td>
<td>280</td>
<td>2600</td>
</tr>
<tr>
<td>2</td>
<td>Udhampur</td>
<td>7</td>
<td>2</td>
<td>75468</td>
<td>143</td>
<td>545.075</td>
</tr>
<tr>
<td>3</td>
<td>Samba</td>
<td>4</td>
<td>4</td>
<td>19898</td>
<td>93</td>
<td>350.007</td>
</tr>
<tr>
<td>4</td>
<td>Kathua</td>
<td>8</td>
<td>3</td>
<td>89658</td>
<td>100</td>
<td>592.006</td>
</tr>
</tbody>
</table>

Jammu’s mushroom production touched 5,416 quintals in 2010-11. In Jammu only three types of mushroom are cultivated

a) Button mushroom  Sept-March
b) Dhingri mushroom October / Dec- Jan /march
c) Milky mushroom    July-Sept
Method for mushroom cultivation

- **Cropping** - It is preparing of the compost bed (trays filled with materials like: - wheat bhusa.
- **Spawning** – It is process of mixing spawn (seed) in well prepared compost.
- **Cashing** – The process of applying chemically disinfected layer of 2-3 years old farm yard manure (FYM) over the spawn run compost.
- **Cropping** – After 12/15 days of casing, small pinheads start appearing. In another 7-9 days the pinheads become full mature mushroom.
- **Harvesting** – The mature mushroom buttons are harvested.
- **Washing** - The harvested mushrooms are washed and cleaned.
- **Packaging** – The harvested mushrooms are packed and are ready for marketing.
- **Marketing**—Sale of mushroom
1.9 JUSTIFICATION OF THE STUDY

Cash crops are now getting more importance because it takes less time to grow and money return is quick. Cash crop mainly includes Mushroom cultivation, Apiculture (bee cultivation), Sugarcane, Cotton, Vegetables and Flowers. Mushroom cultivation was taken for the study as Flowers, Cotton, Sugarcane cultivation land is needed. For Animal husbandry (poultry), Sericulture (mulberry leaves) and Fisheries (pond) also land is needed. For Apiculture (bee cultivation) one has to migrate with the boxes to areas where flowers are available so as bees can produce honey. On the contrary for mushroom cultivation none of the above mentioned things are required. Following are the reasons which makes mushroom cultivation convenient.

Table 1.2 : Showing viability of Females in Mushroom Cultivation

<table>
<thead>
<tr>
<th>S.No</th>
<th>Mushroom Cultivation</th>
<th>Viability for Females</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Non labour intensive</td>
<td>Can be accomplished by females in the family</td>
</tr>
<tr>
<td>2</td>
<td>Less time intensive</td>
<td>Can attend domestic chores as well</td>
</tr>
<tr>
<td>3</td>
<td>Non technique intensive</td>
<td>Can be easily learnt by even uneducated females in less time</td>
</tr>
<tr>
<td>4</td>
<td>Cash crop</td>
<td>Quick &amp; safe additional source of income for the family</td>
</tr>
<tr>
<td>5</td>
<td>All cultivation procedures done by females</td>
<td>Increases female empowerment &amp; participation</td>
</tr>
<tr>
<td>6</td>
<td>Indoor cultivation</td>
<td>Female do not have to be away from their home</td>
</tr>
<tr>
<td>7</td>
<td>Occupies very less space</td>
<td>Females can do the cultivation without using the agricultural land</td>
</tr>
<tr>
<td>8</td>
<td>Cultivation is done round the year</td>
<td>Income support is available round the year</td>
</tr>
</tbody>
</table>
Mushroom cultivation as mentioned in table no, 2 highlights that its non laborious and less time intensive makes it a highly accepted. It is non technical and indoor cultivation system. Mushroom cultivation is quick money return cultivation which is gaining pace gradually. It occupies less space and can be grown all throughout the year.

Being a non technical and indoor cultivation it can easily be grown by females of the house. And fast money return which is main luring part of mushroom cultivation.

1.10 OBJECTIVES

1) To examine and correlate demographic profile of sample with level of success in mushroom enterprise of the sample.
2) To analyse entrepreneurship traits of women entrepreneurs with that of success in mushroom enterprise.
3) To determine knowledge and adoption behaviour of sample in relation to mushroom technology.
4) To examine knowledge and awareness level of sample women entrepreneurs about government activities on mushroom cultivation programme in state.
5) To find out training needs of women entrepreneurs in mushroom cultivation with regards to production, promotion and marketing strategy of mushroom enterprise in the state.
6) To make interrelated analysis of the factors like demographic, knowledge and adoption of mushroom technology with that of production, successfulness and viability of mushroom enterprise.
<table>
<thead>
<tr>
<th>Factors</th>
<th>Demographic</th>
<th>Knowledge</th>
<th>Adoption</th>
</tr>
</thead>
<tbody>
<tr>
<td>Production</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Viability</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Success</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

7) To identify and analyse the constraints faced women entrepreneurs in mushroom enterprise in terms of production technology, on social, economic and marketing behaviour and consumer need.

8) To develop a strategy based on finding of the study to promote production, productivity and marketing of mushroom in the state.

1.11 NULL HYPOTHESIS

On the basis of the findings the investigator tried to formulate some of the strategies to promote mushroom cultivation in females.

1. There is no significant correlation between demographic profiles of the respondents with success.
2. Knowledge and adoption of women entrepreneur in mushroom technology is independent of their demographic characteristics.
3. There is no significant link between attributes of respondents and factors associated with mushroom technology.

1.12 OPERATIONAL DEFINITIONS

1. Entrepreneur: - An entrepreneur is a person who starts and assumes the risk for a business.
2. Entrepreneurship: - Entrepreneurship is the act of starting and running your own business or a tendency to be creative and wish to work for yourself in your own ventures.

3. Enterprise:- An undertaking; project, business venture or company

4. Mushroom: - Any of various rapidly growing, fleshy fungi, typically having a stalk capped with an umbrella like top.

5. Viability: - Viability refers to whether something is capable of growing, or something practical and able to be done.

6. Product: - Something that is produced & sold in large quantities.

7. Productivity: - Rate at which goods are produced.

8. Cultivation:- The act or art of growing Mushroom

1.13 DELIMITATIONS OF THE STUDY

a) Present study will be delimited to two highest mushroom producing districts as in Table 1.

b) Study will be delimited to those families engaged with minimum duration of 5 years in mushroom cultivation.
2. REVIEW OF LITERATURE

The main objective of this chapter is to comprehend relevant information to gain an in-depth understanding of women entrepreneurship, in mushroom enterprise. An attempt has been made to review the related literature highlighting the need to initiate the present investigation. The relevant literature and report of research studies conducted have been grouped under the following subheads:

- Entrepreneurship and women
- Women entrepreneurs in mushroom cultivation

2.1 ENTREPRENEURSHIP AND WOMEN

To change the social and economic status of women, it is important to direct efforts to the entrepreneurship development programme for the women to provide them social, economic and emotional security.

Sathiabama. K (2011) observed in the study “Economic empowerment of women led to development of family and community” that economic Empowerment of women has emerged as an important issue in recent times. This article deals with empowerment of rural women. The main reason behind low participation in decision making process is illiteracy, patriarchy, lack of clarity in government policies for empowerment. The meaningful participation can be ensured through awareness; monitoring of woman status on regular basis; research activities on woman participation in social sphere.
Mehta (2011) mentioned in her study that entrepreneur is an economic man, who tries to maximize his profits by innovation. Innovation involves problem solving and entrepreneur gets satisfaction from using capabilities in attacking problems. Rural women represent a sizeable percentage of labour force in our country yet they have not been brought under the main stream of development.

Karwa (2012) reveals in the study on “Role of women in mushroom cultivation: Indian perspectives” that Women in rural and lower-middle-income societies make an economic contribution to agricultural markets. Mushroom cultivation is an income-generating activity. This enables them to contribute to their families’ income and self-reliance.

A study conducted by Tabasum Nazir (2012) on “Role of Krishi Vigyan Kendras for the empowerment of rural women through vocational trainings” of rural women in Kashmir valley. A sample of 400 rural women were given training under different vocational training courses e.g. training of fruit and vegetable preservation, mushroom cultivation, earthen wear painting and fabric painting

The study revealed that

- Majority of the respondents (46.75%) became independent,
- (30.5%) respondents had reduced their dependency and
- A small number of respondents (22.75%) did not feel any change in their dependency.
Thus indicating that majority of the respondents developed their leadership qualities, can make self assessment, got economic freedom, developed their psychological confidence and became able to take decisions.

Verma (2013) observed that encouraged by profitability of element many people are growing mushrooms. Mushroom Research and Training Centre (MRTC) located at the G.B. Pant University of Agriculture and Technology, Pantnagar is actively involved in conducting training programmes on edible mushroom cultivation. The main objective of such programmes is to promote mushroom production as a self employment venture which can ultimately improve the socio-economic condition of the poor.

Singh (2013) emphasized in the study that Empowerment of rural women has emerged as an important issue today and their economic empowerment is being regarded as a very popular sign of progress for a country. It also indicates that for the real development Economic empowerment of rural women is very necessary

Raj (2014) in the study “Women Empowerment through Employment Opportunities in India” observed that Indian women constitute 50% of the Indian population and directly or indirectly contribute to the economic parameters of the nation. For ages most of their economic contributions have not been accounted for and their humble services have been taken for granted. It’s high time the role of women fraternity in the growth of an economy was recognized and necessary steps taken to involve the rural uneducated females in the
growth process simultaneously along with the urban uneducated as well as educated females.

According to Joginder (2016) in the study conducted on Economic Empowerment of Scheduled Caste Landless Rural Women through Mushroom Cultivation: A Case Study says that it was an initiative for economic empowerment of landless Scheduled Caste rural women by motivating them to adopt mushroom cultivation as an income generating activity. Training was imparted to 120 ladies for over a period of three years and was provided practical training on compost preparation, spawning and casing management practices, harvesting and packaging of button mushroom. The post- training evaluations of these 120 women showed that majority (>75%) of them gained low to medium level of knowledge on the vocation.

Ravi S. (2016) conducted the study which is about the status of tribal women in their community and the way how they empowered themselves through Self Help Groups and other organisations. The study has a conclusion that the tribal woman has to be given proper awareness about the schemes provided for the women development by the voluntary groups.

2.2 WOMEN ENTREPRENEURS IN MUSHROOM CULTIVATION

Kanwar (2003) Time use pattern of hill farm women was studied in two agro – climatic zones ( Sub -montane and low hills sub- tropical zone and Mid hills sub- humid zone) of Himachal Pradesh with a sample
size of 1500 covering three districts viz. Una, Kangra and Kullu. The data collected through interview using 24 hours recall method and participatory observation with the help of structured interview schedule. Findings revealed that women spent maximum time in cultivation activities followed by kitchen activities and management of animals and animal shed in both peak and slack periods. Whereas minimum time was spent on grazing of animals during peak period and carrying food to farm during slack period. An actively involved farm woman spent 15:64 hrs/day and 16:58 hrs/day for productive work during slack and peak period, respectively. It was further observed that time saved by farm women from farm activities during slack period was diverted towards care of children & family members, household work and mid work rest / leisure.

Mishra (2008) has studied entrepreneurship development for farm women through mushroom cultivation one 100 farm women of Pipili block of Orissa were selected for training on mushroom cultivation. The study revealed that

- 70% of women mushroom growers had improved their occupation followed by improvement in 'standard of living' (36%), 'better saving' (30%), 'knowledge and attitude' (24%) and 'social status' (10%).
- As perceived by the farm women, the maximum constraint in 'value added items' and least problem in 'lack of awareness in mushroom cultivation' is indicated.
- Sixty percent of the respondents stated that lack of 'quality supply of spawn bottle', 'practical manual for cultivation' and 'insurance'
were the three major constraints for successful mushroom entrepreneurship.

Yadav (2008) in the study revealed that the majority of the respondents were found in young age group, literate up to middle level, other backward caste; medium family sized and had membership in an organization signifying social participation. Majority of the respondents were small farmers, belonging to low level cultivation + mushroom production as occupation. The overall findings of knowledge showed that the respondents had medium level of knowledge; maximum knowledge was noticed in practice of selection of medium. Maximum respondents experienced various constraints like lack of technical knowledge, non availability of inputs, poor communication and poor marketing facilities, inadequate supply of spawn at appropriate time, lack of time, erratic local demand for mushroom, misconception that mushroom consumption is injurious to health.

A study by Khare Neeta et. al (2009) designed to assess the participation of women in mushroom production in Chhattisgarh, India. The respondents consisted of 280 women trained in mushroom production, purposively selected from 7 districts where more than 70% of the total trainees came from. The findings clearly indicate that

- Women had actively participated in most of the mushroom production activities.
- They acquired information mostly from scientists.
- Acquisition of training, the nutritive value of mushroom and easy production methods motivated them to cultivate mushroom.
• Age, attitude towards mushroom cultivation, extent of knowledge, and time allocation in mushroom cultivation were the factors found significantly associated with participation of women in mushroom production.

In the diversification booklet number 7 “Make money by growing mushrooms” by Elaine Marshall and N. G. (Tan) Nair (2009) under the Rural Infrastructure and Agro-Industries Division Food and Agriculture Organization of the United Nations Rome stated that

• Trade in cultivated mushrooms can provide a readily available and important source of cash income –women and the old, infirm and disabled.
• The role played by women in rural mushroom production can be very significant.
• Several programmes have enhanced women’s empowerment through mushroom production by giving them the opportunity to gain cultivation skills, financial independence and self respect.

In DARE/ICAR Annual Report 2009–2010 The Directorate of Research on Women in Agriculture Group approach and low cost methods suitable for resource poor women in agriculture labourers (WALs) was followed in developing agro-based enterprises namely mushroom cultivation which proved to be highly suitable enterprise in terms of average production and profit and use of leisure time.

Self help group named ‘Jai Sriram’ in Salepur, Orissa, has emerged as a path finder for women empowerment. The process of empowerment
of farm women in straw and oyster mushroom cultivation was initiated. Training-cum demonstration was organized to help women achieve competency. The first phase started with the enterprise of 30 beds of oyster mushroom. The investment was Rs 450, total yield was 50 kg, out of which they consumed 30 kg at home, and total income was Rs 800 with a profit of Rs 350.

- The male counterparts appreciate the farmwomen in this type of endeavor, as it did not disturb the household activities.
- The women used their leisure time for about 2 hr/per day and earned handsomely.
- SHG took initiative to train a group of members and out of them three have become trainers in mushroom cultivation.

The study conducted by S.K. Zamir Ahmed1 et. al. (January, 2010) topic “A Micro-Level Study of the Trained and Untrained Farm Women of Andaman” a study on the socio-psychological characteristics of 240 farmwomen both who had undergone three days training and untrained on the subjects namely Mushroom cultivation, Kitchen gardening, Layer cultivation and Fresh water pisciculture was carried out in South Andaman block, Port Blair of Andaman district. It was found that among the various categories of characteristics of the farm women most of the farm women

- belonged to middle age group,
- had primary level of education,
- Opting equally to have either agriculture as the main or subsidiary occupation.
• Possessed medium to low level of farm experience, with medium level of annual income followed by medium to low level of contact with extension agency.

This study was undertaken to assess the socio-psychological characteristics of the farm women of Andaman and Nicobar Islands (India).

A news article by Bhat Afsana Women's Jobs Pop Up in Kashmir 'Mushroom Villages’ We News correspondent Sunday, April 10, 2011 states that

• It's hard for many women in rural Kashmir to find income opportunities, but mushroom cultivation is popping up as a possible solution.
• The work can be done from home and a university is helping with training and marketing. Women here say that strict gender roles hinder their economic opportunities and the region's economic development.
• The female work participation rate is just 25.6 percent nationally and 22.5 percent in the state of Kashmir and Jammu.

**Gardner (2011)** Employment can be hard to find in rural Kashmir, India but a solution has emerged in the form of mushroom cultivation. In the Srinagar Valley strict gender roles have traditionally limited women’s economic independence. The female work participation rate is just 25.6 percent nationally and 22.5 percent in the state of Kashmir and Jammu, according to India’s latest census in 2001. To tackle this problem and to
provide a boost to the region’s economy, Sher-e-Kashmir University of Agricultural Sciences and Technology-Kashmir, SKUAST-K, has created two model “mushroom villages” in the northeastern districts of Baramulla and Budgam. The projects were set up in in 2009 and 2010 respectively, instructing both on site at the university and in women’s homes. After completing the training, women are given the materials to start mushroom production. So far, 136 are growing the fungi in their homes in Budgam village, and 65 women are growing mushrooms in Baramulla.

Manju (2012) conducted the study in two villages of Kurukshetra district of Haryana state. Data obtained by 50 rural women identified villages for assessment of the impact of mushroom production. The study revealed that exposure to training had increased the knowledge of rural women regarding all the subcomponents of mushroom production. The study further inferred that respondents after exposure training acquired knowledge and changes their attitude to the extent which was less than 66 per cent but of moderate level.

Kunwar (2012) established that the diet of an average Indian comprises calorie rich food stuff, but often is highly deficient in proteins. The edible mushrooms are the possible non-conventional foodstuff, rich in proteins. Mushrooms need promotion and acceptance from general public. The study had been undertaken to examine the problems and perspectives of adoption of mushroom cultivation by rural women of Kanpur. The results showed that rural women trainees adopted mushroom cultivation is large numbers. The highest adoption index was obtained by graduate women (9.341) and the lowest by illiterate women (0.186). Marketing of produce was the biggest problem faced by these trainees.
Barmon (2012) conducted study during 2011 to estimate profit, benefit cost ratio (BCR) and household income of mushroom production and also to explore the problems of producing mushroom and its marketing channels in Bangladesh. Thirty samples were randomly selected and information on mushroom production was collected using comprehensive questionnaire from Savar Upazila in Dhaka district. Mushroom was found to be a profitable agricultural enterprise (22,888 taka per farm). The benefit cost ratio (BCR) was 1.55. The average family household income was about Tk. 43,731. Usually, three intermediaries (mushroom office, wholesalers and retailers) are involved in the marketing channels of mushroom. The marketing margin of mushroom for farm-gate to wholesalers and wholesalers to retailers were taka 50 and 70 per kg, respectively. It was revealed that rich and middle income group were the main mushroom customers. Even though mushroom is a profitable enterprise, the producers faced numerous problems regarding production and marketing.

A study conducted by Government of Kerala “An Evaluation Study On Mushroom Cultivation In Malayalapuzha Grama Panchayath Pathanamthitta” November (2012) reflected that even though Mushroom cultivation is a profitable business in Kerala on account of its favorable climatic conditions, mushroom cultivation is not spreading fast. A study was conducted on 5 Kudumbasree units engaged in mushroom cultivation which indicated that

- Mushroom cultivation is not a very skilled process, so it can be adopted by anyone in the rural area to earn a livelihood.
• High nutritional value of mushroom gives good profit to the producer and hence is a good business opportunity.

**Verma (2013)** encouraged by profitability of edible mushroom many people are growing mushrooms. Main objective of training programmes on mushroom production is its promotion as a self employment venture which can ultimately improve the socio-economic condition of the poor. The study was conducted at the villages of Udham Singh Nagar district of Uttarakhand. The study revealed a positive outlook of a woman towards mushroom cultivation and also depicts various phases of her struggle.

“An Empirical Study of Status of Women Agricultural Labour in India” conducted by **Mr. Ramesh H. Parmar (July 2013)** concluded that Women constitute nearly half of the adult population in India and 77 per cent of them belong to the rural area. The major occupation of rural women is agriculture and related activities and thereby they contribute about three-fourth of the labour required for agricultural operations. Their role in sectors like poultry, piggery, duckery, goatery, sheep rearing, rabbit rearing, fisheries, sericulture and mushroom cultivation is also overwhelming.

**Acharya (2015)** states in the study that tribal women have started taking control over their lives, situations and adoption of new technologies such as off-season vegetables, mushroom cultivation. It is found that there is a threefold increase of returns in several income generating activities adopted by the tribal women. Introduction of new technologies like Mushroom cultivation, vermin composting and value
addition in cereals, vegetables and fruits gives a return of Rs. 8000/100 beds in 45 days, Rs. 10000/pit/annum and Rs. 6500/ quintal/annum respectively.

**Singla (2015)** in her study “Impact of mushroom cultivation on socio-economic conditions of rural women of Patiala, Punjab” observed the impact of mushroom cultivation on twenty five women mushroom growers of Patiala district of Punjab who were selected to study their socio-economic conditions and the constraints faced by them. The study revealed that 72 per cent of women mushroom growers had improved their occupation along with improvement in standard of living (64%), better saving (60%), knowledge and attitude (52%) and social status (24%). The farm women, faced the maximum constraints in value added items and minimum in lack of awareness in mushroom cultivation. Eighty eight per cent of the respondents stated that untimely supply of quality spawn and high costs of cultivation were the major constraints for successful mushroom entrepreneurship.

**Mandavkar (2015)** The success of any training programme depends on periodic appraisal so that required changes are introduced to improve upon the efficiency and effectiveness of the programme. One hundred and twenty five trainees were imparted training on value addition of fruits and vegetables by conducting 5 vocational training programmes and out of that 55 were selected for this study. The study was undertaken to assess the gain in knowledge of the participants, adoption status of the enterprise and suggestions from the ex-trainees.
Ipulet (2016) Uganda is blessed with a mild tropical climate and optimum temperatures for growing major varieties of mushroom. Traditionally, people collect wild mushrooms from forests or around termite mounds, and in the last two decades, women have taken up mushroom cultivation to meet the growing demand for food security and to generate family incomes. The Mushroom Training and Resource Centre (MTRC) is based in Kabale in South West Uganda. MTRC is a community-based organization and targets women and youth as the major beneficiaries of mushroom cultivation. Every member of the family enterprise contributes to decision-making in mushroom cultivation, thereby maximizing utilization of scarce family resources. Mushroom growing relies on labour from within the family, and women play an important role in inoculating the bags, harvesting and drying the mushrooms.

Singh (2016) to address the livelihood security of the small and marginal farmers, adoption of subsidiary occupations have been constantly advocated by the extension scientists. Mushroom cultivation, having no requirement of arable land, can be an important subsidiary enterprise for small and marginal farmers. The present study was conducted to evaluate the training programmes on mushroom cultivation organized by KVK, Moga (Punjab). The study revealed that majority of the trainees were found to be satisfied with respect to various aspects of training programmes like subject matter content, training duration, practical exercises, provision of literature. More than 90 per cent trainees found their training programme effective in meeting their expectations. The study further reveals that most of the trainees scored medium to high
knowledge scores after attending the training programme on mushroom cultivation. There was significant gain in the knowledge of the trainees after participating in mushroom cultivation training programmes. It was also observed that 37.24 percent of the trainees had adopted mushroom cultivation enterprise after training whereas 29.79 percent of the trainees discontinued the enterprise. Lack of proper infrastructure, discouragement by fellow farmers, lack of assured market, non-remunerative prices, and poor quality of spawn were found to be the main reasons for non-adoption and discontinuance of the mushroom cultivation enterprise.