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Mushrooming Livelihoods: A Socio-economic Analysis of Solan District's Mushroom Agripreneurs

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Abstract

The present study was conducted during September, 2023 to April, 2024 in the Solan district of Himachal Pradesh, India, to assess the socioeconomic status of mushroom growers in the district and identify the key constraints hindering their progress. A survey of 54 randomly selected mushroom farmers was conducted. The findings revealed that most growers were literate, above 40 years of age and engaged in agriculture as their primary occupation. Land utilization varied across farm sizes, influencing productivity and economic returns. Economies of scale played a key role in profitability, with large-scale farmers earning significantly higher incomes. Small-scale growers cultivated an average of 481.48 bags, earning ₹ 1,24,574, while large-scale farmers handled 3,181.82 bags, securing ₹ 9,34,659. The study highlighted the potential of mushroom farming as a sustainable and profitable agricultural practice. While mushroom farming demonstrated strong potential as a sustainable and profitable agricultural venture, farmers faced numerous challenges, including the availability of essential inputs, financial constraints, infrastructure limitations, and quality control. Limited availability of spawned bags was observed as the top challenge (Garrett mean score: 76.58), followed by high capital investment (72.86) and lack of temperature-controlled rooms (68.49). While technical and administrative support, value addition and training were seen as less urgent but still necessary for long-term success. The study suggested that addressing these issues in a holistic manner is crucial for improving the productivity and profitability of mushroom farming, enhancing rural livelihoods and ensuring sustainable agricultural growth in the region.

Keywords: Constraints, cropping pattern, literacy, Garrett ranking technique

1. Introduction

Mushrooms are edible fungi that grow in moist environments and offer nutritional, medicinal, and economic benefits. Owaid et al. (2017) found that *A. bisporous* derived silver nanoparticles offer eco-friendly solutions for disease treatment and sustainable waste recycling According to an overview presented by Pathak et al. (2022), button mushrooms are rich in vitamin B12 and offers immense health benefits. Sinha et al. (2020) observed in their study that fruiting body has a significantly high level of nutrient and mineral composition, Lactic acid and probiotic bacteria, thus white button mushrooms can be used as a good source of food as well as medicine. Adams et al. (2008) also revealed that mushrooms contains anti-cancerous properties According to Marshall and Nair (2009) mushrooms require minimal land and can be cultivated indoors, making them an ideal choice for small and marginal farmersCommonly cultivated varieties include button mushrooms (*Agaricus bisporus*), oyster mushrooms (*Pleurotus* spp.), and shiitake mushrooms (*Lentinula edodes*). Mushroom farming is a sustainable agricultural practice requiring minimal space and utilizes organic waste materials like straw, sawdust, or composted materials, allowing for year-round production under controlled conditions.

The mushroom market has witnessed substantial growth in recent years. It is expected to increase from $66 billion in 2024 to $71.62 billion in 2025 at a compound annual growth rate (CAGR) of 8.5% and reach $105.54 billion in 2029 at a CAGR of 10.2% (Anonymous, 2025a). In India, the mushroom market was valued at USD 1.18 billion in 2023 and is projected to grow at a CAGR of 12.7% from 2024 to 2030 (Anonymous, 2025b). Button mushrooms remain the most in-demand variety widely used in diverse cuisines. Bijla and Sharma (2023) reported that Bihar leads mushroom production in India with 35.6 thousand tonnes, followed by Odisha, Maharashtra, Uttar Pradesh, and Uttarakhand. Northern states such as Punjab, Haryana and Himachal Pradesh primarily focus on button

mushroom cultivation. Himachal Pradesh is also making strides in mushroom production with key institutions like the ICAR-Directorate of Mushroom Research (ICAR-DMR) in Solan, and Department of Plant Pathology at Dr YS Parmar University of Horticulture and Forestry Nauni- Solan, playing pivotal roles in strategic and applied research on edible and medicinal mushrooms.

Mushroom cultivation is a profitable agribusiness promoting sustainability, resource efficiency, job creation and nutritional security while addressing climate challenges and offers numerous socio-economic benefits as also highlighted by Bijla and Sharma (2023). It generates employment opportunities, particularly in rural and semi-urban areas providing livelihoods and contributing to women empowerment. Many women engage in small-scale mushroom farming, supplementing household income. This sector aids in poverty alleviation due to its minimal land requirement, making it accessible to marginal farmers and the landless. Additionally, the growing international demand for mushrooms presents export opportunities, fostering foreign exchange earnings. Urban mushroom farming sustainable agriculture by utilizing vertical spaces and waste materials as discussed by Keshamma et al. (2021) in their study.

Socio-economic status (SES) is an individual's overall social and economic standing, typically assessed through education, income and occupation as given by Amitha et al. (2023). Chauhan and Sharma (2015) studied the production potential, economic viability, and marketing systems of mushroom farming in Himachal Pradesh. Sharma et al. (2021) analysed the contribution of mushrooms to farm income and the socio-economic status of growers in Shimla district, revealing that mushroom farming contributed significantly to farm income, particularly for medium and large-scale farmers, at 43.44% and 72.18%, respectively. Overall, it contributed 49.42% to total farm income. Kayastha et al. (2022) examined the profitability of white button mushroom cultivation in Himachal Pradesh, reporting that the cost per 100 bags was ₹ 19,457.83. According to Kayastha, (2021), mushroom farming contributed highest share (34.78%) to total farm income across all farm categories, with large farms reporting the highest contribution at 46.76%. The socio-economic profiles of mushroom growers, including family size, educational background, and occupation, provide insights into their support systems, knowledge levels, and economic stability. Acharya et al. (2024) highlighted the role of training, technology and innovation in boosting mushroom entrepreneurship with future strategies targeting market integration and value-added products for sustainable development. The present research was aimed to investigate the socio-economic status and constraints faced by mushroom growers in Solan district, Himachal Pradesh.

2. Materials and Methods

2.1. Selection of study area

The present study was conducted in Solan district ofHimachal Pradesh from September, 2023 to April, 2024. Socio-economic status (SES) refers to an individual's overall social and economic standing, which is often linked to improved health outcomes. It is commonly assessed using three key factors: education, income, and occupation. Baker (2014) defined the socio-economic status as a measure of individual's total combined social and economic status and tends to be positively related with better health.

2.2. Selection of sample

A comprehensive list of mushroom growers was compiled with assistance from the Department of Horticulture, Government of Himachal Pradesh and Directorate of Mushroom, Solan. A survey was conducted to collect information from 54 mushroom growers, selected through simple random sampling from various areas of the district.

2.3. Stratification of sampled households

Based on the number of mushroom bags cultivated by farmers, all growers were categorized into three groups: Small (<1000 bags), medium (1000–2000 bags) and large (>2000 bags). Table 1 provides details on their number, percentage, average number of bags used and average income. After analysing the data gathered from mushroom growers, it was seen that small farmers (48.15%) were the largest group with 26 farmers using an average of 481.48 bags and earning an average income of ₹ 1,24,574. Medium farmers (31.48%) included 17 farmers using around 1,111.11 bags with an average income of ₹ 3,22,778 showing a significant increase in income as the number of bags increased. Large farmers (20.37%) constituted the smallest group with 11 farmers using the highest average number of 3,181.82 bags and earning the highest average income of ₹ 9,34,659. As reported by Biswas (2014), a training

Table 1: Categorisation of mushroom growers on basis of number of bags and average income generated through mushroom farming

Category	No. of Bags	No. of farmers	Percentage of farmers	Average no. of bags	Gross income per farm (₹)
Small	<1000	26	48.15	481.48	1,24,574
Medium	1000-2000	17	31.48	1111.11	3,22,778
Large	>2000	11	20.37	3181.82	9,34,659
Total		54	100		

programs conducted during 2008–2009, by Visva-Bharati, Sriniketan, helped rural women in Birhum district adopt oyster mushroom cultivation, leading to an 88% rise in production and a 57% recognition of its profitability as an alternative income source. A study by Patel et al. (2023) in Bihar's tribal villages demonstrated that horticulture-based interventions, including mushroom cultivation, enhanced farm productivity and increased income by over 20%, empowering tribal women economically and nutritionally.

2.4. Analytical tools

The collected data were compiled and analysed using a simple tabular approach to assess the socio-economic status of the sampled farmers using various parameters such as sex ratio, literacy rate and literacy index.

2.4.1. Garrett's ranking technique

In order to know the constraints faced by the farmers in adopting mushroom farming, Garrett's ranking technique was employed. Garrett's formula for converting ranks into per cent is given as:

Percent position=$(100(R_{ij}-0.5))/N_j$

where, is the Ranking given to the i^{th} attribute by the j^{th} individual, and is Number of attributes ranked by the j^{th} individual.

The percent position of each rank was converted into scores referring to the table given by Garrett and Woodworth (1969). For each factor, the scores of individual respondents were added together and divided by the total number of the respondents for whom scores were added. These mean scores for all the factors were arranged in descending order. Ranks were given and the most important factors were identified.

3. Results and Discussion

3.1. Social and economic status assessment of growers

To assess the social and economic status, an in-depth exploration of the socio-economic profiles of mushroom growers focusing on their family size and structure, educational backgrounds and occupational statuses was done. Nyamayevu et al. (2024) also conducted a study on the social and economic status among the farmers to know their living conditions in Central Malawi. Understanding these characteristics is crucial for assessing the dynamics that influence their farming practices and overall livelihood. To understand the socio-economic characteristics of farmers practicing natural farming, Sharma et al. (2025), conducted study in Kangra and Solan districts of Himachal Pradesh to understand the socio-economic characteristics of farmers.

3.1.1. Family structure and demographics

The size and structure of sampled households in the study area have been presented in Table 2. Fifty-four families were analysed with 26 as small, 17 as medium and 11 as large families. Joint families made up 33.33% overall with the highest proportion in medium-sized families (41.18%). Nuclear families were more common (66.67% overall) especially in small-sized households (73.08%). The average family size was 4.89 persons with medium-sized families having the highest (5.28 persons). The sex ratio is a demographic indicator that describes the proportion of males to females in a population. This is a critical metric for understanding population dynamics and has many implications for social and economic planning. A host of factors including birth rates, mortality rates and cultural practices determine the gender ratio. The sex ratio (females per 100 males) was 81.68 overall, with large families having the highest ratio (95.83).

3.1.2. Age category of farmers

Farmers' ages must be categorized in order to comprehend agricultural sustainability, financial access, productivity and technological adoption. While older farmers may be resistant to change due to their expertise, younger farmers are more receptive to new ideas. It affects succession planning, credit availability and specific policies like retirement assistance and youth empowerment. Farmers of different ages employ different livelihood strategies like younger farmers are more interested in agribusiness while elderly farmers continue to practice traditional farming. In order to ensure sustainable agricultural growth and efficient policymaking it also aids in addressing social welfare demands. It is evident from the data (Table 2) that most respondents were aged 50 and above (30 out of 54 families, 55.56%). Very few respondents were below 30 years (only 1 person). The average age of respondents was 49.81 years with small family respondents being the oldest (48.52 years) and medium family respondents the youngest (46.94 years).

3.1.3. Literacy status

Literacy rate is the percentage of people those can read and write with basic understanding in their mother tongue. This measures the level of education for a population and is usually compared by standardized testing or survey. This is one of the most important indicators to determine if an area will grow economically and socially over time. The literacy status is vital factor influencing social status of farmers as literate farmers can read and understand information related to weather forecasts, pest control, advanced farming techniques and government schemes, which enables them to make informed decisions. Literacy enhances awareness of health, nutrition and sustainable practices, which leads to better living standards. Therefore, by analysing the data of mushroom growers, as evident from Table 2, it was observed that the highest educational qualification among respondents was Graduate level (25.21%). A significant number had completed senior secondary (21.49%) andmatriculation (22.31%). The literacy rate was found to be 100% in all the farm categories. Literacy index is a component of human development indices that measures the education level of a population including basic literacy skills such as reading and writing and assists policymakers in understanding educational progress.

Table 2: Demographic profile of mushroom growers

Particulars		Category			
		Small	Medium	Large	Overall
Size and structure of the family	No. of families	26.00	17.00	11.00	54.00
	No. of joint families	7.00	7.00	4.00	18.00
	Joint families (%)	26.92	41.18	36.36	33.33
	No. of nuclear families	19.00	10.00	7.00	36.00
	Nuclear families (%)	73.08	58.82	63.64	66.67
	Average size of a family	4.54	5.28	4.25	4.89
	Sex Ratio (females per 100 males)	73.77	84.78	95.83	81.68
Age group of respondents	Below 30 years	0.00	1.00	0.00	1.00
	30-40 years	6.00	0.00	2.00	8.00
	40-50 years	5.00	6.00	4.00	15.00
	50 above	15.00	10.00	5.00	30.00
	Average age	48.52	46.94	48.64	49.81
Education	Primary	17.14	7.95	8.16	11.98
	Middle	15.24	10.23	20.41	14.46
	Matric	25.71	20.45	18.37	22.31
	Senior Secondary	13.33	28.41	26.53	21.49
	Graduate	22.86	29.55	22.45	25.21
	Non School Going	5.71	3.41	4.08	4.55
	Literacy rate (%)	100.00	100.00	100.00	100.00
	Literacy index	2.99	3.36	3.22	3.17
Occupation Pattern	Agriculture	22.00	14.00	11.00	47.00
	%	18.64	14.74	21.57	17.80
	Service	7.00	5.00	3.00	15.00
	%	5.93	5.26	5.88	5.68
	Business	1.00	0.00	2.00	3.00
	%	0.85	0.00	3.92	1.14

The literacy index was obtained as 3.17 at overall level. It was found highest in medium farm categories (3.36).

3.1.4. Occupational distribution

On analysing the occupational status of sampled respondents, it was observed that agriculture was the dominant occupation (47.00% of respondents). Service sector employment accounted for 15%, while business involvement was minimal (3.92%). The highest percentage of farmers was found in large families (21.57%), while small families had the highest participation in the service sector (5.93%). Wangmo et al. (2024) also studied the rural household livelihood in Western Bhutan of farmers in which non-farm livelihood had a significant and positive effect on total income.

3.1.5. Land utilisation pattern

Analysing land use patterns is essential in socio-economic studies as they affect agricultural output, income distribution, resource utilization and societal structures. These patterns shape livelihoods, ensure food security and influence economic stability while also revealing disparities in land ownership and accessibility. Gaining insights into land use enables policymakers to develop sustainable agricultural practices, implement rural development initiatives and enhance climate resilience. The land use pattern of mushroom growers is presented in Table 3. The total land for each farm category was 60.39 acres (Small), 47.15 acres (Medium) and 44.89 acres (Large), summing up to 152.43 acres overall. Cultivated land decreased with farm size from 32.59 acres in small farms to 23.59 acres in large farms indicating that smaller farms allocate a higher proportion of their land (38.53%) to cultivation compared to larger farms (27.90%). Irrigated land was s highest in small farms (23.49

Table 3: Land use pattern of mushroom growers

Land use classes	Farm size (in acres)				
	Small	Medium	Large	Overall	Average
(I) Cultivated area	32.59	28.39	23.59	84.57	1.56
	(38.53)	(33.57)	(27.90)		
(i) Irrigated area	23.49	18.99	13.99	56.47	1.04
	(41.59)	(33.63)	(24.78)		
(ii) Unirrigated area	9.09	9.39	9.59	28.07	0.51
	(32.38)	(33.45)	(34.16)		
(II) Uncultivated area	27.79	18.75	21.29	67.83	1.25
	(40.97)	(27.65)	(31.39)		
(i) Pasture Land	20.29	13.59	11.34	45.22	0.83
	(44.86)	(30.06)	(25.08)		
(ii) Barren Land	3.79	2.19	1.19	7.17	0.13
	(52.78)	(30.56)	(16.67)		
(iii) Non-agricultural land	3.69	2.95	8.74	15.38	0.28
	(24.01)	(19.21)	(56.78)		
Total land (I+II)	60.39	47.15	44.89	152.43	

acres, 41.59%) and decreased in larger farms (13.99 acres, 24.78%) while unirrigated land remained consistent but was proportionally higher in small farms (32.38%). The proportion of uncultivated land was highest in small farms (40.97%) and lowest in medium farms (27.65%), highlighting variations in land utilization. Small farms also allocated the most land to pasture (20.29 acres, 44.86%) whereas large farms used less (11.34 acres, 25.08%). Barren land was more prominent in small farms (3.79 acres, 52.78%) compared to large farms (1.19 acres, 16.67%) indicating lower land productivity. Large farms however had the highest non-agricultural land (8.74 acres, 56.78%), whereas small farms had significantly less (3.69 acres, 24.01%) which interprets that larger landowners might use more land for housing, infrastructure, or business purposes. Kyalo et al. (2025) also studied the land utilisation pattern in Western Kenya mainly for the small farmers in the selected region.

3.1.6. Cropping pattern

The Table 4 represents the cropping pattern of vegetable crops (in acres) across small, medium and large farms, along with their overall distribution. Tomato occupied the largest area (18.67 acres overall) with small farms dedicating the highest proportion (42.78%). Capsicum (11.47 acres) and Beans (5.19 acres) were also widely cultivated with medium farms allocating the highest percentage to both (39.13% and 55.77% respectively). Chilli (4.87acres) and Bitter Gourd (4.27 acres) showed relatively balanced distributions across all farm sizes. Ginger (1.97 acres) and Garlic (3.27 acres) were grown in smaller areas with ginger being mostly cultivated in small and large farms. Cauliflower (3.97 acres) and Peas (2.47 acres)

Table 4: The cropping pattern of vegetable crops

Particulars	Total area under vegetable crops (in acres)			
	Small	Medium	Large	Overall
Tomato	4.99	5.59	5.09	18.67
	(42.78)	(29.95)	(27.27)	
Chilli	1.39	1.09	2.39	4.87
	(28.57)	(22.45)	(48.98)	
Bitter Gourd	1.19	1.69	1.39	4.27
	(27.91)	(39.53)	(32.56)	
Capsicum	4.89	4.49	2.09	11.47
	(42.61)	(39.13)	(18.26)	
Beans	1.69	2.89	0.59	5.17
	(32.69)	(55.77)	(11.54)	
Ginger	0.99	0.09	0.89	1.97
	(50.00)	(5.00)	(45.00)	
Garlic	1.49	0.59	1.19	3.27
	(45.45)	(18.18)	(36.36)	
Cauliflower	1.89	1.39	0.69	3.97
	(47.50)	(35.00)	(17.50)	
Peas	0.69	1.19	0.59	2.47
	(28.00)	(48.00)	(24.00)	

Note: Figures in parentheses are percentages to the total land

were more prominent in small and medium farms. The figures in parentheses indicates the percentage of each crop relative to the total land used for vegetable farming, highlighting variations in crop preferences across different farm sizes.

Table 5 displays the average area under different vegetable crops (in acres) for small, medium and large farms along with the overall average. Tomato had the highest average cultivation area (0.34 acres overall) with large farms allocating the most (0.42 acres). Chilli (0.08 acres overall) was more prominent in large farms (0.19 acre) while Bitter Gourd (0.07 acres overall) was evenly distributed across farm sizes.

Table 5: Average area under different crops

Particulars	Per farm area under different crops (In acres)			
	Small	Medium	Large	Overall
Tomato	0.29	0.31	0.42	0.34
Chilli	0.05	0.06	0.19	0.08
Bitter gourd	0.04	0.09	0.11	0.07
Capsicum	0.18	0.01	0.07	0.03
Beans	0.05	0.03	0.09	0.06
Ginger	0.03	0.01	0.07	0.03
Garlic	0.05	0.03	0.09	0.06
Cauliflower	0.06	0.07	0.05	0.07
Peas	0.02	0.06	0.04	0.04

Capsicum (0.03 acres overall) was mostly grown on small farms (0.18 acres) whereas beans (0.06 acres overall) and garlic (0.06 acres overall) were cultivated in smaller areas but showed a higher presence in large farms. Ginger (0.03 acres overall) was mostly grown on large farms while cauliflower (0.07 acres overall) had a balanced distribution. Peas (0.04 acres overall) were more prominent in medium farms (0.06 acres).

3.1.7. Income pattern

The Table 6 shows the income per farm patterns across different categories of vegetable crops (in Rupees) for small, medium and large farms along with the overall income. Tomato generated the highest income overall (₹ 1,28,340.56) with large farms earning the most (₹ 1,59,170.00) and contributed significantly to their total income. Garlic was the second-highest income-generating crop (₹ 1,17,465.28 overall) with large farms earning the most (₹ 1,86,937.50) making it a major source of income for them. Capsicum (₹ 50,210.34 overall) was also a high-income crop, particularly for medium farms (₹ 62,094.44).

Among other crops like Bitter gourd (₹ 12,717.31 overall) and Cauliflower (₹ 13,742.90 overall) showed significant earnings with large and medium farms earning the highest from these, respectively. Beans (₹ 6,381.17 overall) and Peas (₹ 9,467.65 overall) contributed less but still holds value particularly in medium farms. Ginger (₹ 23416.30 overall) showed an uneven income distribution with large farms earning the most (₹ 44,860.00). Chilli (₹ 3,525.01 overall) generated the lowest income with large farms contributing the highest (₹ 6,973.09).

Table 6: Income pattern under different crops

Particulars	Per farm income (in Rupees)			
	Small	Medium	Large	Overall
Tomato	109460.00	116391.67	159170.00	128340.56
Chilli	1653.04	1948.89	6973.09	3525.01
Bitter gourd	6624.44	14100.00	17427.50	12717.31
Capsicum	45040.74	62094.44	43495.83	50210.34
Beans	3796.30	12222.22	3125.00	6381.17
Ginger	22102.22	3286.67	44860.00	23416.30
Garlic	103472.22	61986.11	186937.50	117465.28
Cauli-flower	14050.93	15523.61	11654.17	13742.90
Peas	5171.85	13257.78	9973.33	9467.65

1US $= 86.04 INR (Avg. monthly value of the harvesting month)

3.2. Constraints faced by mushroom growers

Garrett's ranking technique was employed to analyse the constraints faced by mushroom growers. Table 7 highlights the key challenges encountered by farmers in mushroom

Table 7: Problems faced by mushroom growers

Sl. No.	Factors	Garrett mean score	Rank
1.	Limited availability of spawned bags	76.58	I
2.	Capital investment	72.86	II
3.	Non-profitable year round production due to non-availability of temperature-controlled rooms	68.49	III
4.	Contamination in compost bags	66.85	IV
5.	Diseases and insect-pest attack	55.77	V
6.	Storage and shelf life issues	52.80	VI
7.	Costly transportation	47.59	VII
8.	Fluctuation in price	41.73	VIII
9.	Post-harvest losses	38.49	IX
10.	Technical help during growing period	34.29	X
11.	Documentation for government support	31.76	XI
12.	Value addition facilities	25.56	XII
13.	Training for beginners by government agencies	7.32	XIII

farming, based on an opinion survey. These challenges have been prioritized using Garrett's ranking method. The study found that all sampled farmers engaged in mushroom farming faced thirteen major challenges during the practice of mushroom farming.

The thirteen major constraints were identified and ranked. These were limited availability of spawned bags, capital investment, non-profitable year- round production due to non-availability of temperature-controlled rooms, contamination in compost bags, diseases and insect-pest attack, storage and shelf-life issues, costly transportation, fluctuation in price, post-harvest losses, technical help during growing period, documentation for government support, value addition facilities, and training for beginners by government agencies. Sharma et al. (2025) used Garrett ranking technique to analyze the constraints faced by the farmers practising natural farming. They found that the most significant challenge encountered by farmers was labour demanding techniques, followed by an inadequate supply of skilled labour, high wage rates, a lack of market information, and the absence of a specialized market.

The most pressing challenge was the limited availability of spawned bags with the highest Garrett mean score of 76.58, indicating that farmers face significant difficulties in obtaining essential inputs for their farming activities. This was followed by capital investment (72.86), underscoring the financial burden involved in adopting natural farming methods. The non-profitable year-round production due to the non-availability of temperature-controlled rooms ranked third (68.49), reflecting the impact of inadequate infrastructure on maintaining continuous production. Contamination in compost bags (66.85) was ranked fourth, highlighting quality control issues during the composting process. Diseases and insect-pest attacks (55.77) came fifth, indicating that pest and disease management remains a critical concern for farmers. Storage and shelf-life issues (52.80) ranked sixth, pointing to the challenges in preserving produce over time, which affects marketability. Costly transportation (47.59) and fluctuation in price (41.73) were ranked seventh and eighth respectively, showing that market-related factors significantly affect farmers' profitability. Post-harvest losses (38.49) were ranked ninth, further emphasizing the need for better post-harvest management practices. Lower-ranked constraints included technical help during the growing period (34.29) and documentation for government support (31.76), indicating that while technical and administrative assistance were important, they are perceived as less critical than other challenges. Value addition facilities (25.56) and training for beginners by government agencies (7.32) were ranked the lowest, suggesting that although beneficial, their absence is not considered as pressing as other issues. It further highlighted the effort put in by the government agencies to train the beginners to setup their mushroom farming system. Various training programs, along with benefits from different schemes and subsidies support growers in mushroom cultivation.

4. Conclusion

The study assessed the socio-economic status of 54 mushroom growers in Solan district and identified key constraints. Small farmers cultivated an average of 481.48 bags with an income of ₹ 1,24,574, while large farmers managed 3,181.82 bags, earning ₹ 9,34,659. Despite its profitability, challenges like limited spawned bags and capital investment hindered growth. Strengthening training, infrastructure, and market access can enhance sustainability, empowering rural populations and positioning mushroom cultivation as a viable and income-generating livelihood option.

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