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EMPOWERING RURAL LIVELIHOODS: DYNAMICS OF MUSHROOM ENTREPRENEURSHIP IN MEGHALAYA INDIA

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ABSTRACT

The present study explores mushroom entrepreneurship in Meghalaya, India, analyzing data from 200 entrepreneurs across four major districts. This study examines the socio-demographic and enterprise characteristics, motivational drivers, training exposure, credit access, and market participation. Results show the sector is dominated by women, middle-aged individuals, and joint families, with most enterprises being start-ups focused on oyster mushroom cultivation. Key motivators include innovation and economic opportunity, supported by strong training exposure but hindered by limited credit and market access. The findings highlight the sector's inclusivity and emphasize the importance of institutional support and targeted policies to enhance rural development, women's empowerment, and income diversification in the region.
***Keywords*:** Agribusiness, Demographic profile, Institutional support, Mushroom entrepreneurship,

Introduction

Mushroom entrepreneurship is increasingly recognized as a transformative force for rural and peri-urban livelihoods in India, especially in the Northeastern states such as Meghalaya. This sector delivers a unique mix of economic, nutritional, and social benefits. Mushroom cultivation requires minimal land and capital, making it accessible to smallholders, women, and marginalized groups, and serves as an effective tool to address underemployment, poverty, and malnutrition (Shirur & Shivalingegowda, 2015; Verma, 2014). The Government of Meghalaya, through the Meghalaya Mushroom Mission, has promoted mushroom cultivation via cluster-based approaches, infrastructure development, and capacity-building initiatives, aiming to reach thousands of farmers and entrepreneurs (Meghalaya Mushroom Mission, 2021).

Despite these efforts, persistent challenges include inadequate access to quality spawn, limited credit, and market integration (Maring *et al*., 2023). The rising demand for mushrooms, driven by shifting dietary preferences and health awareness, presents significant opportunities for income diversification and women's empowerment (Acharya & Sarangi, 2024). Studies across India further highlight the importance of technological support, training, and innovative practices in boosting productivity and profitability in mushroom enterprises (Acharya & Sarangi, 2024).

Materials and Methods

A mixed sampling approach was adopted to ensure comprehensive representation of mushroom entrepreneurs in Meghalaya, focusing on East Khasi Hills, Ri-Bhoi, West Garo Hills, and North Garo Hills. These districts were selected for their high production,

institutional infrastructure (Mushroom Development Centres, Krishi Vigyan Kendras), and ongoing entrepreneurship interventions (Meghalaya Mushroom Mission, 2021).

50 entrepreneurs per district were selected, totaling 200 respondents. Snowball and purposive sampling techniques ensured inclusion of both established and emerging entrepreneurs. A structured questionnaire was administered, covering socio-demographic characteristics, enterprise features, training exposure, access to credit, marketing channels, and entrepreneurial motivations. Data were grouped by related variables and analyzed using descriptive statistics, cross-tabulation, and frequency analysis. Findings were compared and discussed with reference to relevant studies.

Results and Discussion

The mushroom entrepreneurship sector in Meghalaya is characterized by distinctive socio-demographic and enterprise features that reflect broader trends in rural agripreneurship and align with findings from national and international studies.

As shown in Table 1, the sector is dominated by women (64.00%), with most entrepreneurs aged 36–50 years (47.50%) and from joint families (54.50%). Over half have at least lower secondary education, and a significant proportion (69.00%) are from low-income households. This demographic pattern highlights the sector's inclusivity and its appeal to women and youth, consistent with the observations of Shirur and Shivalingegowda (2015), who noted mushroom entrepreneurship's potential for engaging marginalized groups and promoting gender equity. (Maring *et al.*, 2023) similarly found a predominance of female entrepreneurs and middle-aged participants in Meghalaya, suggesting that the sector offers viable opportunities for women's economic empowerment and rural livelihood diversification. High female participation also mirrors trends in other Indian states, where women-led mushroom ventures have generated employment and fostered community development.

These findings are supported by studies such as Nambiar (2020), Sonam and Hans (2020), and Gayatri (2021), who reported that the majority of mushroom entrepreneurs are in the 25–50 years age group, while educational attainment among entrepreneurs is highly diverse, ranging from illiteracy to graduate and postgraduate degrees (Bashir, 2018; Ovharhe *et al.*, 2020). The prevalence of joint families and medium family sizes is also consistent with research by Singh (2011) and Aysha *et al.* (2018), indicating that family structure plays a supportive role in rural entrepreneurship.

Table 1: Socio-Demographic Profile of Mushroom Entrepreneurs

Variable	Particulars	Frequency (%)
Age	20–35 years	80 (40.00)
	36–50 years	95 (47.50)
	>50 years	25 (12.50)
Gender	Male	72 (36.00)
	Female	128 (64.00)
Marital Status	Unmarried	53 (26.50)
	Married	147 (73.50)
Education Level	Illiterate	24 (12.00)
	Can Read Only	15 (7.50)
	Can Read and Write	3 (1.50)
	Primary Level	16 (8.00)
	Lower Secondary Level	51 (25.50)
	Upper Secondary Level	21 (10.50)
	University Diploma	41 (20.50)
	Graduate and above	35 (17.50)
Family Type	Nuclear	91 (45.50)
	Joint	109 (54.50)
Annual Income	≤ 1,20,193	138 (69.00)
	> 1,20,193	62 (31.00)

Table 2 reveals that nearly half of the entrepreneurs identify mushroom as their main enterprise (47.00%), with oyster mushrooms overwhelmingly dominant (90.50%). Most enterprises

are start-ups (74.50%) and individually owned (61.00%). A significant portion (63.00%) have been established for over five years, indicating sector stability and growth. These patterns are consistent with findings by Shirur and Shivalingegowda (2015) and Acharya and Sarangi (2024), who noted that oyster mushrooms are favored for their ease of production and market demand.

The dominance of start-ups and sole proprietorships aligns with research by Agbenyegah (2013) and Kumar (2016), who found that independent business models are preferred for their simplicity and autonomy. The cluster approach promoted by the Meghalaya Mushroom Mission has further facilitated the emergence of new enterprises and collective marketing, supporting the growth of FPOs and cooperatives (Meghalaya Mushroom Mission, 2021). The preference for start-ups over inherited businesses is also supported by Fairlie and Robb (2007) and Shirur *et al*. (2017), who emphasized the importance of individual initiative, education, and training in entrepreneurial success.

Table 2: Enterprise Characteristics

Variable	Particulars	Frequency (%)
Primary Enterprise	Poultry	5 (2.50)
	Bakery	6 (3.00)
	Private Job	4 (2.00)
	Mushroom	94 (47.00)
	Vegetables	51 (25.50)
	Other crops related	40 (20.00)
Secondary Enterprise	Mushroom	101 (50.50)
	Vegetables	77 (38.50)
	Silk weaving	15 (7.50)
	Other crops related	7 (3.50)
Types of Mushrooms	White button	52 (26.00)
	Oyster	181 (90.50)
	Shiitake	4 (2.00)
Type of Enterprise	Subsidiary	73 (36.50)
	Major	94 (47.00)
	Sole	33 (16.50)
Nature of Enterprise	Start-up	149 (74.50)
	Inherited	51 (25.50)
Years Established	3–5 years	74 (37.00)
	>5 years	126 (63.00)
Ownership	Individual	122 (61.00)
	Co-operative society	64 (32.00)
	Partnership	14 (7.00)

Table 3 demonstrates that innovation and creativity (92.00%), higher earnings (77.50%), and economic opportunity (56.50%) are the primary motivators for entrepreneurship. Training exposure is high, with most entrepreneurs receiving both theoretical and practical instruction from institutions such as Central Agricultural Univeristy (CAU) (92.00%) and Mushroom Development Centre (MDC) (80.00%). The critical role of training in enhancing productivity and profitability is well-documented (Acharya & Sarangi, 2024; Mazumdar *et al*., 2020). However, access to credit remains a challenge, with government grants (53.00%) and self-financing (42.50%) as the main sources, highlighting the need for improved financial inclusion and support for small-scale entrepreneurs (Maring *et al*., 2023; Malikadas, 2013).

These findings are in line with Shirur and Shivalingegowda (2015), which emphasize the importance of institutional support and capacity-building in successful mushroom ventures. The high level of training participation contrasts with the generally low rates of formal business training reported in other rural entrepreneurship studies (Deepthi, 2016; Maziku *et al*., 2014), suggesting that targeted interventions in Meghalaya have been effective in building entrepreneurial capacity.

Table 3: Entrepreneurial Behaviour, Training, and Credit Access

Variable	Particulars	Frequency (%)
Driving Factors	Innovation & creativity	184 (92.00)
	Prospect for higher earnings	155 (77.50)
	Economic & market opportunity	134 (56.50)
	Authority & responsibility	113 (56.50)
	Challenge & risk-taking	33 (16.50)
	Self-realization of goals	61 (30.50)
	Social recognition	95 (47.50)
	Flexible time of working	66 (33.00)
	Entrepreneurial family	39 (19.50)
Work Experience	No experience	48 (24.00)
	Job in same field	24 (12.00)
	Training related	99 (49.50)
	Family background	29 (14.50)
Training Institutions	CAU	184 (92.00)
	MDC	160 (80.00)
	ATMA	84 (42.00)
	KVK	83 (41.50)
	Megha Food Cooperative Society	121 (60.50)
Types of Training	Mushroom cultivation	198 (99.00)
	Spawn production	50 (25.00)
	Value addition	67 (33.50)
Training Participation	Theory	139 (70.50)
	Both (Theory + Practical)	61 (30.50)
Access to Credit	Friends/family subsidy	50 (25.00)
	SHG Loan	53 (26.50)
	Self finance	85 (42.50)
	Government grant	106 (53.00)
	Bank	68 (34.00)

Table 4 shows that mushroom enterprises are highly labour-intensive, with family labour (2–3 members) predominant and long working hours common as over 41.00% report working more than 81 hours per week. Direct sales to consumers (38.00%) and cooperative marketing (43.00%) are the main channels, with local markets (54.00%) being the primary outlet. This structure is typical of smallholder agribusinesses and supports findings that highlight the importance of local networks and collective action for market access (Shirur & Shivalingegowda, 2015; Maring *et al*., 2023).

Social participation through SHGs (34.00%), FPOs (36.50%), and cooperatives (34.50%) further enhances access to resources, training, and markets, as advocated by the Meghalaya Mushroom Mission and documented in recent case studies (Acharya & Sarangi, 2024). These findings are consistent with Salleh *et al*. (2011) and Tripathi (2024), who observed that moderate levels of social participation and extension contact are typical among rural entrepreneurs, contributing to improved information access and collective bargaining power.

Table 4: Labour, Marketing, and Social Participation

Variable	Particulars	Frequency (%)
Labour Availability	Family Labour (No.)	2–3
	Paid Labour (No.)	1–2
Working Hours/Week	Less than 40 hours / week	47 (23.50)
	40–60 hours / week	18 (9.00)
	61–80 hours / week	52 (26.00)
	More than 81 hours / week	83 (41.50)

Marketing Channel	Mushroom grower – Consumer	76 (38.00)
	Mushroom grower- Retailer- Consumer	35 (17.50)
	Mushroom grower- Wholesaler- Consumer	48 (24.00)
	Mushroom grower- Wholesaler- Retailer- Consumer	41 (20.50)
Output Sales	Local market	108 (54.00)
	Co-operative society	86 (43.00)
	Hotels	21 (10.50)
	Intrastate (another district)	29 (14.50)
Social Participation	Village Panchayat	70 (35.00)
	Cooperatives	69 (34.50)
	Farmer Club	22 (11.00)
	FPO/CBO	73 (36.50)
	SHG	68 (34.00)
	NGO	19 (9.50)

Conclusion

The Meghalaya's mushroom sector is characterized by high female participation, middle-aged participation, diverse educational backgrounds, preference for sole proprietorship, high training exposure, and reliance on family labour. Key drivers include innovation, economic opportunity, and the prospect of higher earnings. However, challenges, particularly in credit access, high labour demands, and market integration. Institutional support emerges as a critical enabler of entrepreneurial success. Mushroom entrepreneurship in Meghalaya is both inclusive and dynamic, offering significant opportunities for rural development, women's empowerment, and income diversification. However, addressing persistent barriers in finance, infrastructure, and market access remains essential for unlocking the sector's full potential.

Policy Recommendations

- Expand training and capacity-building, especially in value addition and marketing, to further enhance productivity and profitability.
- Strengthen institutional linkages and cooperative models to improve access to resources and markets.
- Enhance access to affordable credit and input subsidies for small-scale entrepreneurs.
- Promote women's participation and leadership in mushroom enterprises, leveraging their proven role in sector growth.

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Competing Interests

Authors have declared that no competing interests exist.

Authors Contributions

This work was carried out in collaboration among all authors. All authors read and approved the final manuscript.

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