Can Entrepreneurship Education and Training Assist Women Entrepreneurs to Make Agritourism a Success Story in India?

Purpose: The paper explores the role of entrepreneurship education and training amongst women entrepreneurs to promote the agritourism sector of the Indian economy.

Methodology: We used mixed methods to examine the linkages between traditional farming, agritourism and the role of entrepreneurial education to innovate and exploit strategic opportunities. The qualitative and quantitative data were collected using the questionnaire survey and in-depth face-to-face semi-structured interviews. The research involved a matched sample of 10 registered farmers (from the Punjab Heritage Tourism Promotion Board) and 200 unregistered male and female farmers selected randomly from the Indian State of Punjab. Semi-structured interviews were transcribed and quantitative responses were analysed using descriptive statistical methods, to examine the linkages between the EET and its impact on women-owned agritourist businesses.

Findings: Access to EET has a significant impact on the management, efficiency, and use of farming land. EET has positively impacted agritourism and attracted the urbanised population to experience rural culture, supports women's enterprises and enhances their socio-economic positioning. Therefore, EET enables farmers, especially women, to sustain themselves through increased income, enhanced farming practices and develop innovative agritourism enterprises. Moreover, this study underscores the importance of EET for the growth and success of agriculture in general, and agritourist firms, amongst rural farming communities in India.

Originality/values: Whilst most farming-based studies have focused on access to finance and issues related to the agricultural sector in India, this research makes an original contribution towards female participation in the agritourism sector. The nuanced, synthetical analysis of women's agri-tourism provides a new insight into the sector and the impact of EET to empower women entrepreneurs.

Practical implications: EET has the potential to promote agritourism to supplement women's income using innovative approaches and improve the flow of quality information to enhance access to external finance. The implications are that policymakers should provide targeted EET for male and female entrepreneurs is essential to promote agritourism in India and other developing economies.

Keywords: Agritourism, Women Entrepreneurs, Finance, Entrepreneurship and Training, India,

1. Introduction

Performance and survival of agricultural is essential for the Indian Agriculture sector as it encounters competition and challenges due to the global events and climate trends; coupled with uncertain commodity prices and rising input costs (Farhadi et al, 2022; Sharma et al., 2022; Puska et al., 2022; Sandhu and Hussain, 2021). It is nearly conventional wisdom that farming practices and operations evolve to respond to changes. Global farming practices and government policies have impacted upon farming communities and the gross national product (GNP) of India (Sandhu et al., 2017; Hussain and Matlay, 2007; Sandhu, 2007). The impact has resulted in a decline in the agriculture sector contribution by 18.6 percent in 2022, from 53 percent in the 1950s (RBI, 2022). Such a sharp decline in the sector has implications for food security and the well-being of the nation (Anwar et al., 2022; Kuriachen et al., 2022). Despite a steady decline of the agriculture's share in GDP, agriculture still plays a significant role in the overall socio-economic development of India as approximately 75% of the population is directly or indirectly dependent on agriculture; this demonstrates a significant population remains dependent on agricultural sector (Sandhu, 2020; Sandhu and Hussain, 2021). Thus, there is a case for promoting agricultural-associated businesses. Hence the need to create an additional source of income using existing agricultural land whilst fostering an inclusive and sustainable development to support the growth in agriculture and the rural economy. Agri-tourism promotes the development of both agriculture and tourism. It has been noticed that the tourism sector has suffered during the Covid-19 pandemic, however, agritourism has bounced back, hence the case to promote the sector.

Agritourism plays a significant role in the economic growth of developed and developing countries. It creates job opportunities, promotes training and motivates young people to participate in agriculture and environmental-related activities; and it plays a vital role in supporting rural development (Moyo et al., 2024; Lane and Kastenholz, 2015; Thomas et al., 2011; Privitera, 2010). Agritourism industry has gained traction in developed countries such as US, UK, Italy and Finland as it supports sustainability agenda and promotes income generating employment as well as alleviates poverty, unemployment and creates resilience amongst the rural communities through agri-portfolio diversification (Gajić et al., 2024; Streifeneder et al., 2023; Santucci, 2017; Bianchi, 2011). Moreover, it can support environmental protection activities through offering sustainable agritourism and generate economic benefits.

Agritourism has gained traction amongst the social, health-conscious urban population and by greater awareness of environmental issues emanating from Covid-19 (Brune et al., 2023; Ingrassia et al., 2023). Agritourism offers psychological and physiological benefits. Moreover, agritourism has augmented the income of farmers in the western countries, and women have been reported as the drivers of change (Halim et al., 2020; Matyakubov and Defrancesco, 2018). However, there is a research gap regarding agritourism in India and specifically women's participation (Sandhu et al., 2017). Women's contribution in the agricultural and allied activities has not been fully researched (Saroj et al., 2022; Sundari, 2020; Gil Arroyo et al., 2019; Sandhu et al.,2017:15a:12; Sandhu, 2007). Women are significant participants in the agriculture sector, representing 33 percent of cultivators and 47 percent of agricultural labourers, and by 2019 their contribution and engagement increased to 71 percent (Sundari, 2020; NSO, 2019). The concentration of women farmers is highest (28 percent) among small and marginal farmers (Gulati et al., 2020; Adesogan et al, 2020). The statistics suggest that there is a growing male rural to urban migration, leaving women in rural areas; this has led to 'feminisation' of the agriculture sector. Thus, women are potentially significant 'agents of change' for better nutrition and sustainable development (Sandhu and Hussain, 2021; Sandhu et al., 2015:17:12). Therefore, it is imperative to equip women with Entrepreneurial Education and Training (EET) to innovate to enhance productivity through better use of resources and developing alternative models of enterprise such as agritourism (Kain and Sharma, 2013; Kamaruddin et al., 2024). Therefore, EET is essential to upskill women entrepreneurs to exploit the changing environment and population preferences (Martins et al., 2022; Kamaruddin et al., 2024).

Literature suggests that country environment and economic context inform women's intersection with the formal and informal lending institutions (Webb et al., 2009; 2014; Martins et al., 2024), and in the context of Indian Punjab, women operate within the informal sector predominantly in farming. To enhance their access to finance and encourage innovation, entrepreneurial education and training are a prerequisite to reduce barriers to accessing capital and engaging in agritourism. However, women's access to entrepreneurial education, training and finance in emerging economies is under-researched (Hussain and Scott, 2015), Specifically, aspects of EET are unexplored for women (Welter et al. (2011). Much of the extant research on EET has been undertaken in the developed nations (Muhammad et al., 2011; Hussain et al., 2006; Matlay, 2008). Thus, there is a gap regards to the EET needs of women in developing nations such as India (Sandhu et al., 2012a; 2012b; Sampath, 2001). EET not only enhances productivity but also assists succession and ownership transition in farming (Sandhu et al., 2012: 2015:2017; Hussain and Matlay, 2007; Sharma et al., 2003; Sampath, 2001). This paper contextualizes empirical evidence and theory (Welter, 2011; Zahra, 2007; Zahra et al., 2014), explores the EET needs of women entrepreneurs engaged in agritourism in the Indian Punjab. It investigates the potential impact of public and private provision of EET aimed at women-owned and managed farms, in general, and agritourism.

Agritourism is now considered a pivotal tool to promote entrepreneurship in rural areas to prevent migration to urban cities and create sustainable income. The paper examines the fusion between entrepreneurship strategies employed by agritourism communities, in conjunction with farming, to diversify their income through leveraging agricultural resources and rural cultural practices/novelties to offer authentic experiences to the urban population. The findings suggest agritourism entrepreneurship serves to strengthen engagement between rural and urban diaspora populations that promote rural traditions and stimulate economic growth. The study through the lens of entrepreneurship in agritourism enriches rural economies through agritourism and serves as a transformative tool to supplement farming income and entrepreneurship in rural areas. The remainder of the paper is organised as follows: Section 2 analyses prior evidence on women entrepreneurs in emerging economies, the influence of entrepreneurial finance, gender, and the importance of EET. Section 3 highlights the significance of financial education to empower women entrepreneurs to pursue agritourism. Section 4 discusses the research methodology used for the study, while Section 5 provides a discussion of findings as grounded in the specialist body of knowledge, followed by the conclusion and recommendations.

2. **Literature review:**

2.1 Women Entrepreneurship in Emerging Economies

The agricultural sector of India is male-dominated, the contribution of women entrepreneurs to agritourism remains hidden and uncharted (Sandhu, 2012b). As a result, women's contribution to the family farm in India's agricultural sector remains a largely under-researched area of entrepreneurial studies (Sandhu et al., 2017; Hussain and Scott, 2015). Entrepreneurship is considered a panacea for economic growth globally; it is an engine to facilitate innovation, wealth and job creation (Garwi, 2024; Lee and Rodríguez-Pose, 2021; Kattak et al., 2020; Packard and Bylund, 2018). Entrepreneurs are part of entrepreneurial ecosystems (Manolova et al. 2016, citing Stam, 2015), therefore, Manolova et al. (2016) theorise entrepreneurial ecosystems by factors such as markets, human capital, finance, education/training, and policy. Although extant studies report that women entrepreneurs are agents for economic growth and poverty reduction (Beriso, 2021; Sajjad et al., 2020). Nevertheless, despite this, they encounter major obstacles in running their businesses (Leon-Himmelstine, 2021). Market inefficiencies, financial exclusion, gender inequalities are caused by social, religious, and cultural norms (Jayachandran, 2021).

2.1.1 Gender and access to finance for women Agri-entrepreneurs

Women, universally and more specifically in the Indian context, have lower access to financial institutions and this is a major issue for rural farming women in India. Yet, they have a high dependency on the income from farms. The COVID-19 pandemic has further demonstrated women's dependency on the agricultural sector (Jayachandran, 2021; Power, 2020). Women in developing countries experience unequal distribution of roles between men and women (Ortiz-Ospina and Roser, 2018), therefore, most women are mostly engaged in unpaid, unproductive domestic roles and farming-related activities (Mackett, 2021). Thus, women lack formal external income and their interaction with financial institutions through savings and loans is limited. Therefore, there is a persistent challenge to access formal finance as they lack collateral as well as a credit rating for the banks to use the information to make lending decisions. Therefore, this gives rise to perpetual gender inequality, economic poverty, and a persistent financial gap (Jagoe et al., 2022; Seedat and Rondon; 2021; Mariyono et al., 2021).

Social and cultural constraints also restrict women from taking part in work outside their homes. Women in many developing countries, live under a patriarchal system, where men dominate, especially their husbands (Procacci et al., 2024; O'Toole and Nayak, 2023; Williams, 2018). In such countries, challenges faced by women are further amplified and they tend to suffer a relatively high level of domestic violence; freedom to engage in labour markets is curtailed; their inability to make independent legal, social, and economic decisions restrict their social, financial, and economic mobility (Jayachandran, 2021). Such limitations negatively impact women's rights within the home and in society at large. Consequently, women have to reluctantly engage in the informal enterprise activities (beauty salons, food vendors) as a mean of meeting livelihood needs, but the informal income does not go through the banking sector to improve their credit score, which ultimately affects their ability to access finance (Martins et al., 2024; Silupu et al., 2023; Odhong et al., 2019; Schiff et al., 2013). The challenge for Indian rural women to access finance is similar to Western women operating in urban cities (Aloun, 2024; Anderson, 2024; Sani et al., 2024). Women in developed and developing countries create more profitable businesses, yet only 1% get funded by venture capitalists due to various barriers, societal and external perceptions (Berg et al., 2024; Brush et al., 2018; Xu et al., 2024; World Economic Forum, 2024). Therefore, most of the owned businesses are funded through personal savings or from family and friends (Odhong et al., 2019). Thus, the gap in access to credit exists when comparing the female entrepreneurs with their male counterparts, hence, limited access to finance is a barrier to female entrepreneurship (Xu et al, 2024; Martins et al., 2024; Ejaz et al., 2023; Brush et al., 2018). Anecdotal evidence from seminal literature shows that businesses without adequate and/or timely access to finance are less successful than those with formal and/or informal sources of loan, credit and bridging finance (Martins et al., 2024). The financial constraints experienced by rural Indian women are severe and their status is not acknowledged by the lending institutions. Moreover, a lack of entrepreneurial education and training limits their access to external credit. Therefore, it is hypothesised;

H1: The Finance gap adversely impacts the women-owned agri-enterprises.

2.2 Importance of Entrepreneurship Education and Training in owned businesses

Women are disproportionately affected by a lack of education due to deep-rooted gender discrimination, access to entrepreneurial education and finance (Roomi and Parrott, 2008). Education at large and financial literacy are positively linked with access to finance (Burchi et al., 2021; Hussain et al., 2018).

In many developing countries, female education is hindered by the male-dominated social and cultural norms that favour boys' education over that of girls (Lund, 2018). The lack of education, coupled with collateral requirements, restricts women from accessing finance from financial institutions (Egbo et al., 2020; Orobia et al., 2020). Hence, due to a lack of collateral, women have to rely on informal sources of finance, which often leads to their exploitation and manipulation by the informal lenders (Sandhu et al., 2017; Sandhu, 2007), especially in the case of developing countries. However, often informal

finance is inadequate to meet the requirements of women (Rosenberg et al., 2011), they end up borrowing from multiple sources, thereby further falling into the poverty trap (Duggan, 2016).

Multiple barriers to access finance led to a lack of self-confidence, self-esteem, and in turn, this limits their potential to grow. Nevertheless, EET can improve their access to external finance and business networks (Sandhu et al., 2017:15:12a: :b; Hussain et al., 2006). EET enables women to prepare financial information as required by lenders, plan and manage their agribusiness using technologies to survive and grow their businesses (Atarah et al., 2023; Altuzarra et al. 2021; Sandhu et al. 2012a:b). Inadequate or lack of education, training and technical knowledge make them less competitive and vulnerable to prolonged economic downturn (Inyega cited in Ezeliora & Ezeokana, 2011; Hussain and Matlay, 2007). There are several studies over the last two decades (Muhammad et al., 2011; Matlay, 2008; Hussain et al., 2006) that have suggested EET is important for businesses to access adequate external finance and manage the enterprise optimally. However, there exists a notable paucity of research on the EET that specifically analyses the challenges faced by women agri-entrepreneurs in India and therefore there is a gap in the literature about the Indian context (Sandhu et al., 2012a:b). However, there are now a growing plethora of literature (Tahboub and Slim, 2024; Atarah et al., 2023; Martins et al., 2022; Ejaz et al., 2021; Koomson et al., 2020) that has focused on the role of EET in the developing countries context when examining challenges for women entrepreneurs, more specifically accessing external finance and entrepreneurial education. There is only limited research that focuses on the EET needs of small businesses in developing nations such as India (Sandhu and El Gohary, 2022; Sandhu et al., 2012a; Sampath, 2001). But literature on agritourism in the Indian context is extremely limited and it is observed that EET is essential to promote entrepreneurship amongst rural women and to promote agritourism. However, access to finance is essential (Sandhu El-Gohary, 2022) to enable women farmers to start and maintain agritourism to complement their income from farming. This will improve the living standards of rural women and help to curtail rural-to-urban migration. There is now a growing recognition amongst policy makers in developing countries and nations in transition that EET contributes to better small business management and can assist with issues relating to succession and ownership transition in family firms (Sharma et al., 2003; Sampath, 2001). This research aims to bridge the knowledge gap and provide policy recommendations to promote EET at large and, most specifically, rural farmers operating agritourism. Thus, H2 examines the impact of EET on women's family-owned agritourist firms.

H2: Entrepreneurial Education and Training (EET) has a positive impact on rural women entrepreneurs engaged in farming.

The next section of this paper reviews the extant literature and considers how agritourism has the potential to supplement agricultural income with agritourism.

3. Financial education is a means to empower women entrepreneurs to pursue agritourism

Financial education empowers women to prepare financial information for the external lenders to make informed decisions, as traditionally, banks have argued that there is inadequate financial information to evaluate risk (Adefare et al., 2024; Fronda, 2024; Mishra, 2024). The agriculture sector has usually lacked adequate funding to innovate and optimise its growth potential. However, agritourism with an appropriate finance package provides opportunities for farmers at large and women in particular to pursue new avenues of revenue, in countries such as India (Grashuis et al, 2019; Puska et al., 2021; Moyo et al., 2024). It is observed that agritourism has gained popularity in many countries of the world to promote employment and income opportunities for rural communities, which are impacted by an outward migration (Poulaki et al., 2021; Ammirato, et al., 2020; Barbieri and Mshenga, 2008). However, women's outward migration is less than men and they have to sustain themselves with income from farming. Therefore, agritourism is a welcome opportunity that women are eager to exploit

(Poulaki et al., 2021; Ammirato, et al., 2020; Gil Arroyo et al., 2019). Studies relating to agritourism have examined different factors associated with their success (Che, 2007; Wicks & Merrett, 2003), and its benefits for farmers and local communities (Che, 2007; Wicks & Merrett, 2003) and their motivations (McGehee & Kim, 2004; Nickerson et al., 2001; Ollenburg & Buckley, 2007). McGhee (2007) examined barriers to agritourism and it is observed that access to finance is a challenge and financial education has the potential to reduce information asymmetry and enable women entrepreneurs to access external finance to use innovation in the farming processes and pursue agritourism.

Please insert Figure 1

Rural farming women have been impacted by a fall in farm income since the 1970s, caused by adverse socioeconomic, demographic, and political changes; this has led men to migrate to urban areas and internationally to supplement their income from farms (Sandhu and Hussain, 2021). This has led women to maintain farming businesses and liaise with government, the private sector, and formal and informal financial institutions (Adefare et al., 2024; Poulaki et al., 2021). However, lack of financial education has proved to be an obstacle, especially when pursuing new businesses such as agritourism to diversify their risk and exploit new opportunities (Carpio et al., 2008; Hyungsuk, 2012; Lane and Kastenholz, 2015). Agritourism has proved a success story for many economies (Thomas et al., 2011), especially women being a key driver of change (Khazami, et al., 2024; Kubal- Czerwińska, 2024; Landeta-Bejarano, 2024), and India is not an exception. However, limited financial literacy and knowledge are a barrier for women entrepreneurs in India. Women are key protagonists in the Indian rural families and agritourism in India, yet for the sector, financial literacy and education remain a challenge and an under-researched area of entrepreneurial studies (Streinfender et al., 2023; Sandhu et al., 2017; Hussain and Scott, 2015). Thus, this research is motivated by the gap identified in the literature relating to financial literacy and EET amongst rural women entrepreneurs. The study investigates the potential impact of public and private provision of financial education and EET to support women engaged in agriculture and agritourism, and whether it improves their access to finance. Hence, it can be hypothesised:

H3: Financial education and training empower women entrepreneurs to access finance to enhance their businesses.

Figure 1 outlines a conceptual model, which highlights the potential impact of EET on access to finance for women entrepreneurs and their farming activities. The findings will provide policymakers and practitioners with in-depth knowledge of challenges experienced by Indian rural women farmers when accessing external finance with and without EET provisions. Although the findings are India-specific, they have the potential to be generalised for other countries experiencing a similar ecosystem. In the section below, we provide the context of the region for the study.

The Punjab is an agriculture-based economy and is often referred to as the "grain bowl of India" (World Bank, 2004; 2009). The Punjab state has an area of 50,362 square kilometres with a population of over 30.18 million, of which 66 percent are based in the rural areas (Population of India, 2016). There are 13,069,417 females in Punjab, the sex ratio is 895 females per 1000 males, which is lower than the national sex ratio of 940 (Punjab data, 2021). Despite the low male-female ratio due to preferences for boys (gender discrimination), Punjab still stands fourth in terms of the number of women entrepreneurs amongst the other Indian States. However, women's contribution in agriculture and allied activities is growing considerably (Bhardwaj, 2022), though in India, women's participation in entrepreneurship is lower. There are 21.29 percent of total women-owned businesses, and only 13.41 percent of non-agricultural enterprises are owned by women (Bhardwaj, 2022). As per the World Bank, women's participation is 32.7%) percent much lower compared with Bangladesh 37 percent, Maldives 42.6 percent and Bhutan 64.5 percent (World Bank, 2024). Although Socio-cultural barriers, low education levels and training, lack of funds, confidence, the pay gap, unconscious biases, or lack of basic amenities like separate toilets, and adequate collateral and financial awareness are some of the various explanatory factors behind the low economic participation rates of women in India (Sandhu et al., 2012a:b; Yadav

and Kumar, 2024; Singh et al., 2023). However, the women's participation in agritourism is not studied in the Indian Punjab context, therefore, this study will provide new insight about EET and financial education for the Indian rural entrepreneurs, especially women.

4. Methodology:

We used a mixed-methods research approach to investigate key research questions associated with agritourism entrepreneurship amongst females in the Indian Punjab (Quisumbing et al., 2024; Dong et al., 2023; Medina-Vidal et al., 2023). A semi-structured questionnaire was used to collect quantitative as well as qualitative data to triangulate research findings to enhance the validity of qualitative data through benchmarking it with the quantitative findings.

A purposive sample was selected to gather in-depth information for this research, an approach that has been employed in previous research (Rani et al., 2024; Patton, 1990). The basis for selecting qualitative as well as quantitative methods was considered appropriate, given the complex nature of the Indian women entrepreneurs operating in rural Indian farming-related activities. Furthermore, from the pilot study, it was ascertained that these female entrepreneurs operate within a rigid caste, religion, gender, and landownership demarcated society. Moreover, access to education and finance is are major challenge.

To gain access to this particular section of the community was a challenge due to a trust deficit and their apprehension when dealing with outsiders. To negotiate access, one of the researchers was able to speak the language and had familiarity with the local culture and the norms. Therefore, using the local networks and knowledge access was negotiated through the village council (panchayat) and head of the community (sarpanch), who work with the community and have their trust. Through the village council and head (sarpanch), the study recruited women engaged in farming related activities. The researchers, having gained ethical approval from the University, piloted a semi-structured questionnaire with 10 female farmers. The questionnaires were translated into Punjabi, and after post post-pilot stage, the questionnaire was revised to improve its flow of questions and make the vocabulary more accessible. In total, 210 farmers completed the questionnaire, out of which 10 were registered farmers (from the Punjab Heritage Tourism Promotion Board) and 200 were non-registered male and female farmers who were selected purposively through the village council and head of community from the Indian Punjab. However, 80 responses were discarded due to incomplete data. 130 usable responses, 62 percent, were coded and prepared for analysis. To ensure the validity of survey responses and that these were representative of the wider population, a non-response bias test was carried out. Chi-square tests show no significant difference between the two registered and unregistered respondents, at the 5 per cent significance level, implying that a non-response bias was not a concern. To triangulate the findings of 130 respondents and to gain a depth understanding of the issues, 12 face-to-face, semi-structured interviews were conducted in the local language by one of the researchers. These interviews lasted between 45 to 60 minutes. The interviews were recorded, transcribed and analysed. Using the transcription, thematic analysis was carried out. The first author has firsthand knowledge of Indian rural female farmers and has local language proficiency. The author personally conducted interviews and transcribed the recorded information and analysed the transcriptions to draw out key themes. Furthermore, the English transcription of the recording was reviewed by one of the co-authors.

4.1 Data analysis

Thematic analysis was employed to evaluate responses of 10 female and 2 male farmers to test for the reliability and reflexivity (Braun and Clarke, 2022; Gioia et al., 2013; Neuendorf, 2002) using NVivo. However, the quantitative data derived from the survey were analysed using a binary logistic regression model to assess whether EET improved access to formal finance. Moreover, the researcher sought to establish whether knowledge of financial education and related skills had an impact on the financing choices made by women entrepreneurs, findings discussed in the next section. The quantitative and qualitative findings provided a rich picture of the issues facing farmers in Indian Punjab about access to EET and its impact on securing finance and pursuing agritourism. However, we recognise given the small sample size, these findings cannot be claimed to be generalised, but they provide strong evidence

for policymakers to provide EET for the women farmers in the Indian Punjab to support agritourism, an emerging area of growth.

4.2 Empirical model

The empirical model was adopted from Sandhu et al. (2012a to investigate the impact of EET and financial education on rural women entrepreneurs engaged in agritourism. The logistic model is a function of known inputs that helps to demonstrate normal and odd relationships between different variables. The model allows for to examination of the effect of multiple independent variables with one dependent variable whilst controlling for the other independent variables but also produces an equation (model) which can be used for prediction. This relationship is represented by the simple linear regression model in equation 1:

$$Y = \alpha + \beta'X + \varepsilon \quad (1)$$

Where α is the intercept, β is the coefficient to be estimated, and X is the independent variable determining financing preferences/financial education, β'X is the index, ε represents a residual term, and the error term has a logistic distribution with mean 0 and variance 1. The logistic regression is the "prediction of the probability of Y occurring given known values of X's" (see Field, 2009; Greene, 2003). The logistic model equation, with openwith(Y) being the probability of Y occurring, e the base of natural logarithms and $\beta_n$regression coefficient of the variable XiableX_n, is:

$$P(Y) = \frac{1}{1 + e^{-(\alpha_0 + \beta_1 X_{1i} + \beta_2 X_{2i} + \cdots + \beta_n X_{ni})}} \quad (2)$$

In this research context, we observe the rural entrepreneur's financial education impact on financing preferences. The dependent variable, knowledge of "financial education/skills also affect the financing preferences and consequently leads to increase in the access to bank finance," is taken as a binary variable where financial education (skills) and financing preferences take the value of 1 or 0 if it does not influence the financing decisions. Therefore, the unobserved variable Y in the case of binary logistic regression is:

$$Y = \begin{cases} 1 & \text{if} Y > 0 \\ 0 & \text{if} Y \leq 0 \end{cases} \quad (3)$$

4.2 Specifying variables

The dependent variable, financial education and skills, is rated and reported by the participants with a discrete scale of 0 and 1, where 0 depicts that the respondents do not possess knowledge about the financial skills and 1 shows that they have benefited from financial education and possess relevant skills. The hypotheses derived in the previous section, independent and dependent variables, are grouped according to business profile and characteristics of the family business owner/manager. Table 1 presents a summary of statistics, the dependent and independent variables.

Please insert Table 1

5. Findings

5.1.1 Agritourism: as a supplementary source of income

Please insert Table 2

Table 2 illustrates the demographics of respondents. 58 percent of the respondents were male, as the sector has male male-dominated nature in Indian Punjab. Whereas 42 percent were female, the majority of them reported a keen interest in agritourism. Further analysis suggested most women respondents (out of 55 women, 80 percent of women) worked on the farm either full or part time, along with

homemaking and involvement in poultry and dairy. Although the farms were registered under male names but over 60 per cent of them were managed by women, an invisible female majority. The analysis of semi-structured interviews showed that women proactively engaged with farming and agritourism in Indian Punjab. Women during their interviews were enthusiastic and well-motivated to engage with agritourism, as one respondent reported:

"*My life has been transformed since I opened my farms to welcome children and folks from the city. I have learnt so much about them, their lives and the jobs they do. I hope they too have enjoyed knowing where the food is produced and who produces it, it is a win-win for visitors and me. My income has gone up….." (R7).*

There was a clear realisation amongst all the women that to supplement their income, they have to innovate and agritourism is a complementary activity that can help them to supplement their income whilst working on farms to provide better education and opportunities for their children:

"The income from agritourism has helped me to pay school fees, meet medical expenses and buy internet access that has enabled me to connect with the world outside of Nawan Pind (village)….." (R3).

5.1.2 Impact of EET and financial education on access to finance for women

The women's responses also suggested that generally they have basic education, but entrepreneurial education and training are a missing link. In the Indian educational system, the focus is on writing and reading and not on the practical entrepreneurial education. Moreover, financial literacy is reported to be a major challenge by respondents:

"We do not know what the bank wants from us every time we ask for a loan. They speak in a language that we do not understand. I think we need some basic financial education to deal with banks. Last time I visited them, they wanted a business plan. I only know how to do things rather than write long stories……" (R5).

R5s comments are similar to 8 others that suggested the need for EET to equip these female farmers to acquire financial, business, internet, and marketing skills to promote their businesses. Without EET provisions, it appears the agritourism sector cannot realise its full potential.

Furthermore, the analysis of respondents suggested, there is keen interest amongst farmers in India, like their counterparts in the western countries, to engage with agri-tourism. 80 per cent, respondents recognised that Agri-tourism is a potential business model to market the rural heritage and culture to the urbanised population. Also, there was a recognition amongst the selected respondents, 45 percent, that agri-tourism has the potential to attract the Punjabi population living abroad and in the urbanised cities of India. However, when asked whether they would like to set up the agritourism business, 55 percent of the respondents replied negatively, and only 38 percent were interested in starting the business. This could be explained by the fact that 73 percent of farmers mentioned a lack of required knowledge and skills to enter the agritourism business.

In terms of educational achievements, 58 per cent of the respondents had educational qualifications equivalent to or less than senior secondary level education, but there is a lack of EET in the curriculum. Women in the sample generally were more educated than male, but they lacked financial and IT skills or the confidence to deal with external formal financial institutions. There was a realisation amongst females that they are poorly equipped in terms of knowledge, collateral required to access formal finance. One respondent (R2) expressed, *"We women are not taken seriously by the male-dominated financial institutions, and they think we do not know what we want."* This illustrated frustration experienced by females when approaching external financial institutions to secure funds to start any business or expand, especially when they lack EET.

The farmers,7 percent of the sample, involved in agritourism reported that there is a lack of support offered by the government, financial institutions, or any other sector. Lack of adequate finance, skills, and marketing knowledge was reported to be a major obstacle, these findings support H1. Limited EET was reported to be the major obstacle to planning properly and providing necessary facilities to their guests. The other major finding suggested that male farmers in rural India are not comfortable with their female family members of their families interacting with visitors due to cultural and religious sensitivities. Male respondents were not comfortable discussing their female involvement in agritourism and gave rather an evasive answer, *"We need support from authorities before involving our female family members. As outsiders can be a threat to their safety and honour…(R6)."* Many male farmers straight away rejected the idea of involving women in this business due to a lack of proper infrastructure and support.

5.2 Financial Education and Financing Choices

Please insert Tables 3 and 4

Binary logistic regression was performed (Table 3) to investigate the impact of financial knowledge and skills on rural entrepreneurs' financing preferences and agritourism resources. The findings report that the probability of using external finance is higher amongst the financially literate individuals, irrespective of their gender. Education of rural entrepreneurs plays a great role in allowing them to explore the necessary avenues to make agritourism a success. With adequate finance, they can market their product and use technology to enhance their business. Whereas those who were uneducated or less educated relied on internal sources of finance or informal lenders and sought advice from consultants while approaching the formal lending institutions. It seems that financial literacy added more value than formal education to equip rural entrepreneurs. These findings support H3. When explored further in the interviews, it transpired that educated female farmers were making the right financing choices and were funding their skill sets, also positively contributing towards their family wellbeing and growth. They were entrepreneurial in their action and approach, confirmed by respondents during the interview- one of them stated: *"Entrepreneurial training/ education helped me unfold key issues which were hindering my business and provided me with awareness and insight to look at things from a different perspective. It has extended my vision and approach to deal with day-to-day issues*." *(R4)* another respondent stated '*EET has improved my problem-solving skills, and they are helping me to successfully implement my business plan and have a positive impact on my personal life and family…*" *(R7)*

5.3 Informal sources used by women entrepreneurs

During the semi-structured interviews conducted with the respondents, it was evident that the male running households of similar size to women have significantly higher earnings. Females have less access to finance and are financially excluded from the mainstream financial institutions. This could be explained through the lack of EET amongst rural women, coupled with inadequate collateral, the findings support H1. Consequently, the rural women entrepreneurs' approach informal lenders, who charge higher rates and tend to exploit their vulnerabilities. It has been observed that there is a relationship between farm size and the type of informal financing employed by rural women entrepreneurs (Table 5). It was observed that most of the female farmers with a farm size less than two acres were relying on village landlords, shahukars and village grocers to meet their financial needs and they were from the lower caste or lower economic section of the society. These women reported that they suffer from direct or indirect verbal or sexual harassment when approaching informal lenders. One of the respondents (R3) expressed: *"Seeking finance from informal lenders is not easy. The way they question and tease you, sometimes physically touch you that makes you feel inhumane and one loses their self-respect and dignity."*

Please insert Table 5

The hypotheses H1, H2 and H3 are supported by the research results reported in Tables 2, 3, 4, 5 and respondents' interview excerpts. There exists a significant relationship between women's access to finance and its impact on their success. EET, Financial education and training help female entrepreneurs to explore more financial avenues to make their business a success by adopting innovative tools and practices to enhance their businesses.

6. Discussion

Rural women entrepreneurs are often constrained by many external factors, access to education at large and EET in particular is in short supply. Therefore, there is a link between access to finance and the availability of EET, particularly in Indian Punjab. There is a growing awareness amongst the women and policymakers of the importance of EET as an access to IT and internet has led to create greater connectivity between the rural and urban population; this has led to increased demand for agritourism, and rural farmers see this new demand in agritourism to supplement their agriculture income (Ateljevic, 2009). It is well evidenced in literature (Sandhu et al, 2012; 2017), women play a significant role in agriculture, and their contribution is neither recognised nor their importance acknowledged. The women's responses and the keenness with which they pursue agribusinesses suggest there is a huge latent potential that could be unleashed through enhanced access to EET and financial education. The changing roles of women and access to EET are leading to increasing interest amongst females to pursue agritourism. Figure 2 illustrates women's embeddedness within a cultural milieu, social structure and their family role expectations as illustrated in the diagram below:

Please insert Figure 2

The diagram illustrates that the role of women is constrained by cultural norms, practices, and institutional rigidities. Greater access to education leads to an increase in women's participation in the labor market, and a similar trend is observed in the rural farming sector. However, women tend to underreport their work, especially household domestic workers and petty agricultural workers. This might be a result of the prejudiced notion of Sanskritization (a sociological term, which refers to the process of a lower caste becoming a higher caste), where upper caste section of the population prevents their women to work outside, a traditional practice that continues to operate today but agritourism operates within their environment. Therefore, they can make a positive contribution. Hence, a positive force for change, findings consistent with Mariyono et al. (2021). Empirical evidence suggests that women and men entrepreneurs participating in agritourism would benefit from dedicated and contextualised EET and enhanced access to finance.

Many other contentious issues such as cumulative effect of psychological, social, economic and educational factors act as impediments for the growth of rural women owned businesses; these findings are supported by Martins et al., (2024) where it is suggested that internal and external factors impact women entrepreneurs operating in informal sector as it is the case within the Indian Punjab. Women entrepreneurs operating in the rural informal economy, in addition to gender discrimination, encounter barriers to access entrepreneurial education and training that limit their ability to access formal finance. In particular, women from the oppressed section of the society, so-called 'untouchables', are disproportionately impacted by financial exclusion and discrimination from formal and informal lenders. Within this group, women are deeply marginalized due to low literacy levels, segregated from the mainstream and lack of access to finance and technical education. There is evidence of intersectional constraints on equality and women's empowerment, including class, status, education, access to finance and gender. However, literature (Dutta and Das, 2024; 2017; Baruah, 2015; Clancy et al., 2012) suggests that women's entrepreneurship in agritourism can contribute to development goals such as gender equality and women's empowerment (SDG5) and sustainable access for all (SDG7).

7. Future research directions and implications

Tourism is the World's largest industry, however, agritourism is a new phenomenon that remains under-researched, particularly underappreciated from the lens of women in the Indian context. The findings of this research suggest that agritourism is vital for the economic development of the agriculture sector in an ever-competitive international context, and more so in India. The analysis suggests the future direction of agritourism in India should consider the following salient features: Firstly, entrepreneurship education to provide key knowledge, skills and know-how to develop and promote agritourism. Secondly, empower women, a disenfranchised group, to acquire education, skills to be an active part of the agritourism ecosystem. Thirdly, to induct innovative agri-entrepreneurship technologies to enhance income income-generating capacity of rural Indian communities and diversify their dependency on income from crops which are susceptible to seasonal variations. The findings of the paper suggest agritourism could be enhanced through empowering Indian women to mitigate their adverse economic position, enhance their social status within a restrictive society through greater access to EET.

The findings of the study offer insightful conclusions that have implications for policymakers, academics, and Agri-entrepreneurs. The policymakers within India need to recognise the importance of agri-entrepreneurs to generate economic activities to offer employment and prosperity for women operating in the informal sector. This may be achieved through a) capacity building by providing EET that in turn will enable women to engage with formal institutions to access finance to grow; b) promoting policies where financial institutions take into account the informal environment within which women operate in India. Thereby, reducing the finance gap for the rural women entrepreneurs; c) policymakers could provide digital platforms and access to modern technology to improve the flow of information to enhance marketing and connect rural communities with urban dwellers. Moreover, the financial institutions need to consider flexible credit scoring criteria to take account of rural women entrepreneurs' socio-economic environment and knowledge base whilst serving their needs. The lending manager may be provided training and awareness to engage with the informal women entrepreneurs working within rural India have limited access to EET and financial education.

The academics engaged in gender research and informal women entrepreneurship need to take into account the unique socio-economic environment that shapes women's experiences whilst engaging in informal entrepreneurship. In the Indian Punjab context, women engage in all aspects of farming and encounter gender discrimination, digital divide, limited, if at all, entrepreneurial social networks. Academic researchers need to explore how to enhance women's social networks, knowledge dissemination and entrepreneurial education.

The evidence suggests that female entrepreneurs are willing, able and actively seeking opportunities to engage with agritourism enterprises. In fact, they are a conduit for starting informal enterprises and agritourism in particular. Therefore, they require more targeted policy intervention and a conducive entrepreneurial ecosystem to grow.

The methodological approach employed for this study provided a multidimensional lens to study the behavioural aspects of women entrepreneurs. The quantitative data provided an opportunity to evaluate the relationship between factors that influence their behaviour and conduct, whereas qualitative data enabled researchers to investigate the collective effect of psychological, socio-economic factors that provide a comprehensive overview of the challenges and opportunities for the women-owned agritourist businesses in the rural Indian Punjab. It contributes towards the promotion of agritourism within India and provides empirical evidence that may provide a blueprint for other Indian states and developing economies across the globe. There is a scope to conduct scholarly, impactful research that may offer opportunities for the rural deprived communities to supplement their income through agritourism.

Future research should examine strategies to provide gender specific finance for agritourism activities in rural women entrepreneurs and extend the sample, incorporating multiple countries. The findings revealed a lack of commitment and strategies amongst the agritourism sector to cater for the urbanised population, who lack appreciation of the challenges rural areas face in providing modern sanitation

facilities. Moreover, an effort needs to be made to ensure agritourism continues to provide original and authentic experiences to guests/tourists rather than replicating city facilities in rural India.

8. Conclusion

There is empirically compelling evidence that supports the case for the provision of EET and financial education for women engaged in farming and agritourism activities. The government and support agencies have a role to ameliorate access to EET, financial education and formal bank finance by reducing the need for collateral. The provision of EET has to contextualise the rural settings to meet the needs of the rural communities. Informal providers of finance yield excessive power over rural farming communities, the government may develop policies to regulate the informal providers of finance. It is recommended that women should be empowered through education and greater engagement with the supporting agencies and networking to build their confidence and take independent decisions. The findings also support that there is a need for further research that examines the emerging role of women in the contemporary Indian rural entrepreneurial ecosystems and developing countries at large. Enhanced access to EET and financial education will reduce gender inequalities, in the state of Punjab, which remains low, as the Indian Punjab ranked 45th for SDG-5 for the Gender Equality goal. The analysis suggests the need for further research to examine the underperformance of Punjab in SDG-5.

References

Adefare, T. Adeola, O. Mogaji, E. Nguyen, P. and Mogaji, A. (2024). Empowering women agriculture entrepreneurs: banks' role in achieving sustainable development goals. *International Journal of Bank Marketing*, 42(4), 692-724.

Adesogan, T. and Dahl, E. (2020). MILK Symposium Introduction: Dairy production in developing countries. *Journal of Dairy Science*, 103(11), 9677-9680.

Aloun, M. (2024). Women in Trade. International Journal of Recent Research in Social Sciences and Humanities (IJRRSSH), 11(2), pp.97-106.

Altuzarra, A. Gálvez-Gálvez, C. and González-Flores, A. (2021). Is gender inequality a barrier to economic growth? A panel data analysis of developing countries. *Sustainability*, 13(1), 367 (1-21).

Ammirato, S. Felicetti, M. Raso, C. Pansera, A. and Violi, A. (2020). Agritourism and sustainability: What we can learn from a systematic literature review. Sustainability, 12(22), 9575.

Anderson, S., 2024. The Complexity of Female Empowerment in India. *Studies in Microeconomics*, 12 (1), 74-92.

Anwar, M. Clauss, T. and Issah, B. (2022). Entrepreneurial orientation and new venture performance in emerging markets: the mediating role of opportunity recognition. *Review of Managerial Science*, 16(3), 769-796.

Akaehomen, T. (2023). Enhancing the entrepreneurial capabilities of female immigrant entrepreneurs through Entrepreneurship Education and Training (EET)–The Irish Context. **In** *European Conference on Innovation and Entrepreneurship*, Vol. 18, No. 2, 1078-1086.

Atarah, A. Finotto, V. Nolan, E. and van Stel, A. (2023). Entrepreneurship as emancipation: a process framework for female entrepreneurs in resource-constrained environments. *Journal of Small Business and Enterprise Development*, 30 (4), 734–758.

Ateljevic, I. (2009). "Transmodernity: Remaking our (tourism) world", Tribe, J. (Ed.), *Philosophical issues in tourism*, Channel view publications: UK, 278-300.

Baruah, B. (2015). Creating opportunities for women in the renewable energy sector: Findings from India. *Feminist Economics*, 21(2), pp.53-76.

Barbieri, P. Cutuli, G. Guetto, R. and Scherer, S. (2019). Part-time employment as a way to increase women's employment:(where) does it work? *International Journal of Comparative Sociology*, 60(4), 249-268.

Barbieri, C. and Mshenga, M. (2008). The role of the firm and owner characteristics on the performance of agritourism farms. *Sociologia ruralis*, 48(2), 166-183.

Berg, E. Brink, T. and Comstedt, E. (2024). The Invisible Barriers of Female Entrepreneurship: Exploring the Impact of Internal Barriers on Female Entrepreneurs' Access to Funding. Available at https://www.diva-portal.org/smash/get/diva2:1865684/FULLTEXT02 (Accessed on 26th November 2024).

Beriso, S. (2021). Determinants of economic achievement for women entrepreneurs in Ethiopia. *Journal of Innovation and Entrepreneurship*, 10(1), 1-14.

Bhardwaj, N. (2022). "Women and Work in India: Trends and Analysis". Available at https://www.india-briefing.com/news/women-and-work-in-india-trends-and-analysis-24758.html/ (Accessed on 12th May 2022).

Bianchi, R. (2011). "From agricultural to rural: agritourism as a productive option". **In** Food, Agriculture and Tourism: Linking local gastronomy and rural tourism: *Interdisciplinary perspectives*, Springer Berlin Heidelberg, 56-71.

Braun, V. and Clarke, V. (2022). Conceptual and design thinking for thematic analysis. Qualitative Psychology, 9(1), 3–26.

Brune, S. Knollenberg, W. and Vilá, O. (2023). Agritourism resilience during the COVID-19 crisis. *Annals of Tourism Research*, 99 (1), 103538.

Brush, C. Greene, P. Balachandra, L. and Davis, A. (2018). The gender gap in venture capital- progress, problems, and perspectives. *Venture Capital*, 20 (2), 115–136.

Burchi, A. Włodarczyk, B., Szturo, M. and Martelli, D. (2021). The effects of financial literacy on sustainable entrepreneurship. *Sustainability*, 13(9), 5070.

Carpio, C. Wohlgenant, M. and Boonsaeng, T. (2008). The demand for agritourism in the United States. *Journal of Agricultural and Resource Economics*, 32 (2), 254-269.

Che, D. (2007). Agritourism and its potential contribution to the agricultural economy. Perspectives in Agriculture, Veterinary Science, *Nutrition and Natural Resources*, 2(063), 1–7.

Clancy, J. Oparaocha, S. and Roehr, U. (2012). Gender equity and renewable energies. In Renewable Energy (pp. 290-306). Routledge.

Dong, H. and Khan, S. (2023). Exploring the role of female empowerment in sustainable rural tourism development: An exploratory sequential mixed-method study. *International Journal of Professional Business Review*, 8(4), e01651-e01651.

Duggan, S. (2016). Doing bad by doing good? Theft and abuse by lenders in the microfinance markets of Uganda. *Studies in Comparative International Development*, 51(2), 189-208.

Dutta, B. and Das, D. (2024). Impact of Gender Empowerment on Gender-based Wage Inequality and Unemployment: A Theoretical Analysis. *Arthaniti: Journal of Economic Theory and Practice*, p.09767479241246967.

Egbo, P. Ezeaku, H. Igwemeka, E. and Okeke, M. (2020). Financial literacy and access: revisiting the bridges and barriers to women entrepreneurship in Nigeria. *Amazonia Investiga*, 9(29), 436-444.

Ejaz, L. Grinevich, V. and Karatas-Ozkan, M. (2023). Women's informal entrepreneurship through the lens of institutional voids and institutional logics. *Gender, Work & Organization*, 30 (4), 1254–1272.

Farhadi, A. Paknejad, F. Golzardi, F. Ilkaee, N. and Aghayari, F. (2022). Effects of Limited Irrigation and Nitrogen Rate on the Herbage Yield, Water Productivity, and Nutritive Value of Sorghum Silage. *Communications in Soil Science and Plant Analysis*, 53(5), 576-589.

Fronda, G. (2024). Empowering Nueva Ecija's farmers through microfinancing: A blueprint for enhancing financial literacy and agricultural resilience. *International Journal of Economics and Financial Issues*, 14(4), 123-130.

Gajić, T. Petrović, M. Blešić, I. Radovanović, M. Spasojević, A. Sekulić, D. Penić, M. Demirović Bajrami, D. and Dubover, D. (2024). The Contribution of the Farm to Table Concept to the Sustainable Development of Agritourism Homesteads. *Agriculture*, 14(8), 1314.

Gao, J. Barbieri, C. and Valdivia, C. (2014). Agricultural landscape preferences: implications for agritourism development. *Journal of Travel Research*, 5(3), 366-379.

Garwi, J. (2024). Unlocking Sustainable Agritourism Development in Angola: Critical Success Factors and Stakeholder Perspectives. Agritourism for Sustainable Development: Reflections from Emerging African Economies, p.142.

Gil Arroyo, C. Barbieri, C. Sotomayor, S. and Knollenberg, W. (2019). Cultivating women's empowerment through agritourism: Evidence from Andean communities. *Sustainability*, 11(11), 3058.

Gioia, A., Corley, G. and Hamilton, L. (2013). Seeking qualitative rigor in inductive research: notes on the gioia methodology. *Organizational Research Methods*, Vol. 16 No. 1, pp. 15-31.

Grashuis, J. and Su, Y. (2019). A review of the empirical literature on farmer cooperatives: Performance, ownership and governance, finance, and member attitude. Annals of Public and Cooperative Economics, 90(1), 77-102.

Gulati, A. Kapur, D. and Bouton, M. (2020). Reforming Indian agriculture. *Economic and Political Weekly*, 55(11), 35-42.

Halim, F. Barbieri, C. Morais, B. Jakes, S. and Seekamp, E. (2020). Beyond economic earnings: The holistic meaning of success for women in agritourism. *Sustainability*, 12(12), 4907.

Hussain, J. and Matlay, H. (2007). Vocational Education and Training in Small Ethnic Minority Businesses in the UK. Education + Training, Vol. 49 (8/9), 671-85.

Hussain, J. Scott, J. and Matlay, H. (2006). Access to Entrepreneurial Finance: An International Perspective. *Journal of Small Business and Enterprise Development*, Vol. 13 (1), 584-99.

Hussain, J. and Scott, J. (Eds.) (2015), Research Handbook on Entrepreneurial Finance, Cheltenham, Edward Elgar.

Hussain, J., Salia, S. and Karim, A. (2018). Is knowledge that powerful? Financial literacy and access to finance: An analysis of enterprises in the UK. *Journal of Small Business and Enterprise Development*, 25(6), pp.985-1003.

Hyungsuk, C. (2012). Agritourism: development and research. *Journal of Tourism research and hospitality*, 1 (1), 1-2.

Inyega, N. (2011). Research questions, hypotheses and instruments of data collection (Chapter 4). **In** Ezeliora, B. Ezeokana, J and Inyega, N. (Eds.) *Principles of research in education and social sciences.* Fourth Dimension Publishing Co. Ltd.: Nigeria.

Ingrassia, M. Bacarella, S. Bellia, C. Columba, P. Adamo, M. Altamore, L. and Chironi, S. (2023). Circular economy and agritourism: a sustainable behavioral model for tourists and farmers in the post-COVID era. *Frontiers in Sustainable Food Systems*, 7 (1), 1174623.

Jagoe, C. Toh, N. and Wylie, G. (2022). Disability and the Risk of Vulnerability to Human Trafficking: An Analysis of Case Law. *Journal of Human Trafficking*, 1 (1), 1-15.

Jayachandran, S. (2021). Microentrepreneurship in developing countries. *Handbook of Labor, Human Resources and Population Economics*, pp.1-31. Available at: https://www.nber.org/system/files/working_papers/w26661/w26661.pdf (Accessed on 5th May 2022).

Kain, P. and Sharma, M. (2013). Women entrepreneurship education need for today. *Journal of Management Sciences and Technology*, 1(1), pp.43-53.

Kamaruddin, A. Hasan, M. and Arisah, N.(2024). Exploring entrepreneurial literacy knowledge transfer among women farmers group. *Journal of Enterprise and Development* (JED), 6(2), pp.345-354.

Khattak, S. Ahmad, M. Khan, Z. and Khan, A. (2020). Exploring the impact of innovation, renewable energy consumption, and income on CO2 emissions: new evidence from the BRICS economies. *Environmental Science and Pollution Research*, 27(12), 13866-13881.

Khazami, N. Nefzi, A. and Yahyaoui, A. (2024). Role of rural women on the agritourism entrepreneurial behavior in Tunisia. *Cogent Business & Management*, 11(1), 2292313.

Koomson, I. Villano, A. and Hadley, D. (2020). Intensifying financial inclusion through the provision of financial literacy training: a gendered perspective. *Applied Economics*, 52(4), 375-387.

Kubal-Czerwińska, M. (2024). Rooted in Strength: Female Empowerment in Agrotourism. Local Perspective from the Polish Carpathians. **In** Rethinking Sustainable Tourism in Geographical Environments: Theory and Practices (pp. 221-246). Cham: Springer Nature Switzerland.

Kuriachen, P. Korekallu Srinivasa, A. Sam, S. and Surendran, S. (2022). The Economics of Climate Change in Agriculture. **In** Innovative Approaches for Sustainable Development. Springer international publishing: Cham, 1-20.

Landeta-Bejarano, N. Ruiz-Sinoga, D., Mendiburu-Rojas, F. Olaya-Reyes, A. and Beltrán, L. (2024). Gender Perspective and Agrotourism Development in Los Rios, Ecuador. *Kurdish Studies*, 12(3), 21-34.

Lane, B. and Kastenholz, E. (2015). Rural tourism: the evolution of practice and research approaches–towards a new generation concept? *Journal of Sustainable tourism*, 23(8-9), 1133-1156.

Lee, N. and Rodríguez-Pose, A. (2021). Entrepreneurship and the fight against poverty in US cities. *Environment and Planning A: Economy and Space*, 53(1), 31-52.

Leon-Himmelstine, C. and Phiona, S. (2021). Young women in the agricultural sector in Uganda. Available at: https://cdn.odi.org/media/documents/ODI-YFLP-GenderAgriculture-Report-FINAL-14.05.2021_C6kOx3x.pdf (accessed on 7th August 2022).

Lund, D. and Lee, L. (2018). Fostering cultural humility among preservice teachers. *The Wiley international handbook of service-learning for social justice*, 239.

Mackett, O. (2021). Female farm holding in Botswana's agriculture industry. *Agrekon*, 60(3), 317-334.

Manolova, T. et al. (2016) in T. Manolova, L. Edelman, A. Robb, F. Welter and C. Brush (Eds.), Entrepreneurial Ecosystems and Growth of Women's Entrepreneurship: A Comparative Analysis, Cheltenham, Edward Elgar.

Mariyono, J. Dewi, A. Daroini, B. Latifah, E. Hakim, L. and Luther, C. (2022). Farmer field schools for improving economic sustainability performance of Indonesian vegetable production. *International Journal of Productivity and Performance Management*, 71(4), pp.1188-1211.

Mariyono, J. Waskito, J. Suwandi, Tabrani, Kuntariningsih, A. Latifah, E. and Suswati, E. (2021). Farmer field school: Non-formal education to enhance livelihoods of Indonesian farmer communities. *Community Development*, 52(2), 153-168.

Martins, I. Nunez, M. Perez, J. and Villanueva, E. (2024). Scrutinizing informal female entrepreneurship: a systematic review and research agenda. *Journal of Small Business and Enterprise Development*. Available from: https://doi.org/10.1108/JSBED-03-2024-0165 (Accessed 17th March 2025).

Martins, I. Perez, P. and Novoa, S. (2022). Developing orientation to achieve entrepreneurial intention: A pretest-post-test analysis of entrepreneurship education programs. *The International Journal of Management Education*, 20(2), 100593.

Matlay, H. (2006). Researching entrepreneurship and education, Part 2: What is entrepreneurship education and does it matter? *Education and Training*, 48(8/9), 704-718.

Matlay, H. (2008). The Impact of Entrepreneurship Education on Entrepreneurial Outcomes. *Journal of Small Business and Enterprise Development*, 15 (2), 382-96.

Matyakubov, U. and Defrancesco, E. (2018). Role of agritourism in sustainable rural development in Uzbekistan: Insights from the Italian experience. *International Journal of Economics, Commerce and Management*, 3 (1), 88-102.

McGehee, N. (2007). An agritourism systems model: A Weberian perspective. *Journal of Sustainable Tourism*, 15(2), 111–124.

McGehee, N. and Kim, K. (2004). Motivation for agri-tourism entrepreneurship. *Journal of Travel Research*, 43, 161–170.

Medina-Vidal, A. Buenestado-Fernández, M. and Molina-Espinosa, M. (2023). Financial literacy as a key to entrepreneurship education: a multi-case study exploring diversity and inclusion. *Social Sciences*, 12(11), 626.

Moyo, J. Chari, F. Chabata, T. and Watyoka, N. (2024). Agritourism as a Tool for Sustainable Development for Rural Zimbabwe. In Agritourism for Sustainable Development: Reflections from Emerging African Economies (pp. 219-235). GB: CABI.

Mishra, D. Agarwal, N. Sharahiley, S. and Kandpal, V. (2024). Digital Financial Literacy and Its Impact on Financial Decision-Making of Women: Evidence from India. *Journal of Risk and Financial Management*, 17(10), 468.

Muhammad, A. Akbar, S. and Dalziel, M. (2011). The Journey to Develop Educated Entrepreneurs: Prospects and Problems of Afghan Businessmen. *Education + Training*, 53 (5), 433-437.

National Statistical Office (NSO) (2019) "Annual Report, Periodic Labour Force Survey (PLFS), 2017-18," Ministry of Statistics and Programme Implementation, National Statistical Office, Government of India.

Neuendorf, A. (2002), The Content Analysis Guidebook, SAGE, Thousand Oaks, CA

Nickerson, N. Black, R. & McCool, S. (2001). Agritourism: Motivations behind farm/ranch business diversification. Journal of Travel Research, 40(1), 19–26.

Odhong', C. Wilkes, A. van Dijk, S. Vorlaufer, M. Ndonga, S. Sing'ora, B. and Kenyanito, L. (2019). Financing large-scale mitigation by smallholder farmers: what roles for public climate finance? Frontiers in Sustainable Food Systems, 3 (1), 3.

Orobia, L. Tusiime, I. Mwesigwa, R. and Ssekiziyivu, B. (2020). Entrepreneurial framework conditions and business sustainability among the youth and women entrepreneurs. *Asia Pacific Journal of Innovation and Entrepreneurship*, 14 (1), 60-75.

Ollenburg, C. and Buckley, R. (2007). Stated economic and social motivations of farm tourism operators. *Journal of Travel Research*, 45(4), 444–452.

Ortiz-Ospina, E. Tzvetkova, S. and Roser, M. (2018). Women's employment. Our world in data. Available at:https://ourworldindata.org/female-labor-supply?preview_id=13372&preview_nonce=6d1f899c93&_thumbnail_id=-1&preview=true

Packard, M. and Bylund, P. (2018). On the relationship between inequality and entrepreneurship. *Strategic Entrepreneurship Journal*, 12(1), 3-22.

Patton, M. (1990). Qualitative Evaluation and Research methods. London: Sage.

Poulaki, P. Lagou, M. and Valeri, M. (2021). The Role of Female Entrepreneurship to the Development of Agritourism in Greece. **In** Valeri, M. and Katsoni, V. (Ed.) *Gender and Tourism*, Emerald Publishing Limited, Leeds, pp. 219-234. Available at: https://doi.org/10.1108/978-1-80117-322-320211013.

Power, K. (2020). The COVID-19 pandemic has increased the care burden of women and families. Sustainability: Science. *Practice and Policy*, 16(1), 67-73.

Privitera, D. (2010). Heritage and wine as tourist attractions in rural areas (No. 701-2016-48070). Available at: file:///C:/Users/id112058/Downloads/123%20completo.pdf (Accessed on 5th May 2021).

Procacci, V. Moscarini, F. and Sevilla Guzmán, P. (2024). Seeking Credit: A Small Business Owner's Journey. In Translating Knowledge into Innovation Dynamics.

Punjab data (2021). Population of Punjab. Available at: https://punjabdata.com/Population-of-Punjab.aspx#Punjab-Population-2021.

Puška, A. Nedeljković, M. Šarkoćević, Ž. Golubović, Z. Ristić, V. and Stojanović, I. (2022). Evaluation of Agricultural Machinery Using Multi-Criteria Analysis Methods. *Sustainability*, 14(14), 8675.

Quisumbing, R. Meinzen-Dick, R. Malapit, J. Seymour, G. Heckert, J. Doss, C. Johnson, N. Rubin, D. Thai, G. Ramani, G. and Meyers, E. (2024). Enhancing agency and empowerment in agricultural development projects: A synthesis of mixed methods impact evaluations from the Gender, Agriculture, and Assets Project, Phase 2 (GAAP2). *Journal of Rural Studies*, 108, p.103295.

Rani, P. and Kumar, R. (2024). Exploring Financial Inclusion Among Women Entrepreneurs: A Survey in Hazaribagh District, Jharkhand. *International Journal of Finance and Management Research*, 6(2), p.16413.

Reserve Bank of India, RBI (2022), "Handbook of Statistics on the Indian Economy." Times-Series Publications: New Delhi [Online]. Available at: https://dbie.rbi.org.in/DBIE/dbie.rbi?site=publications#!2

Roomi, M. and Parrott, G. (2008). Barriers to development and progression of women entrepreneurs in Pakistan. *The Journal of Entrepreneurship*, 17(1), 59-72.

Rosenberg, M. Seavey, B. Jules, R. and Kershaw, T. (2011). The role of a microfinance program on HIV risk behavior among Haitian women. *AIDS and Behavior*, 15(5), 911-918.

O'Toole, M. (2023). Women, Financial Inclusion, and Economic Development in Rwanda. **In** Political Economy of Gender and Development in Africa: Mapping Gaps, *Conflicts and Representation* (pp. 49-89). Cham: Springer International Publishing.

Saroj, S. Pradhan, M. Boss, R. and Roy, D. (2022). Roles of rural non-farm employment (RNFE) in India: Why RNFE, the conveyor of a shock like COVID 19 is also the key to recovery*? Journal of Asian Economics*, 1 (81),101485.

Sajjad, M. Kaleem, N. Chani, M. and Ahmed, M. (2020). Worldwide role of women entrepreneurs in economic development. *Asia Pacific Journal of Innovation and Entrepreneurship*, 14(2), 151-160.

Sampath, D. (2001). Inheriting the Mantle-Management of Succession and Transition in Indian Family Business, Response Books, New Delhi.

Sandhu, N. (2020). Dynamics of banks' lending practices to farmers in India. *Journal of Small Business and Enterprise Development*, 28 (1), 102-120.

Sandhu, N. Hussain, J. and Matlay, H. (2012a). Entrepreneurship education and training needs of family businesses operating in the agricultural sector of India. Education+ Training, 54(8/9), 727-743.

Sandhu, N., Hussain, J. and Matlay, H. (2012b), 'Barriers to finance experienced by female owner/managers of marginal farms in India'. *Journal of Small Business and Enterprise Development*, 19 (4), 640-655.

Sandhu, N. Hussain, J. and Matlay, H. (2015a). Informal lenders and small/marginal farmers in India: an unregulated sociological symbiotic relationship?' In J. Hussain and J. Scott (Eds.), *Research Handbook on Entrepreneurial Finance*, Edward Elgar: Cheltenham UK, 206-228.

Sandhu, N. and Scott, J. and Gibb, J. and Hussain, J. and Akoorie, M. and Sinha, P. (2017). Exploring entrepreneurial finance and gender in an emergent entrepreneurial ecosystem : The case of the Punjab, Northern India. In: Entrepreneurial Ecosystems and Growth of Women's Entrepreneurship : A Comparative Analysis. Edward Elgar Publishing Ltd., 172-196. ISBN 9781785364617.

Sandhu, N. and El-Gohary, H. (2022). Unveiling the Impact of Psychological Traits on Innovative Financial Decision-making in Small Tourism Businesses. *Journal of Knowledge Economy*. https://doi.org/10.1007/s13132-022-00987-

Sandhu, N. and Hussain, J. (2021). Entrepreneurship the mediating role of finance and entrepreneurial education for small farmers in developing countries: evidence from India. *International Journal of Entrepreneurial Behavior & Research*, 27 (6), 1403-1422.

Sandhu, N. (2007), "An empirical investigation of financial institutions' lending policies towards agribusiness during the post-green revolution in Punjab, India", unpublished PhD thesis, Birmingham City University, Birmingham.

Sani, N. Connelly, J. Toft, M. Rowa-Dewar, N. Delles, C. Gasevic, D. and Karaye, M. (2024). Rural-urban difference in the prevalence of hypertension in West Africa: a systematic review and meta-analysis. *Journal of Human Hypertension*, 38(4), pp.352-364.

Santucci, F. (2017). Agritourism for Rural Development in Italy, Evolution, Situation and Perspectives. *Fundamental and Applied Studies in EU and CIS Countries*, 1 (1), 302.

Schiff, H. Fries, R. and Chambers, T. (2013). Beyond the Threshold: Investing in Women-led Small and Growing Businesses. Available at: https://core.ac.uk/download/pdf/75780639.pdf (Accessed on 6th July 2015).

Seedat, S. and Rondon, M. (2021). Women's wellbeing and the burden of unpaid work. Available at: https://www.bmj.com/content/374/bmj.n1972 (Accessed on 10th August 2022).

Sharma, P. Chrisman, J. and Chua, J. (2003). Succession Planning as Planned Behaviour- Some Empirical Results. *Family Business Review*, 16 (1), 1-15.

Sharma, R. Kumar Sanu, S. Verma, K. and Rajput, S. (2022). Dimensions of sustainable tourism management: a case study of Alwar city, Rajasthan, India. Geojournal of Tourism and Geosites, 41(2), 335-342.

Silupu, B. Amorós, E., Usero, B. and Montoro-Sánchez, Á. (2023). A gender-comparative study of informal entrepreneurship: the moderating role of location decision. *Academia Revista Latinoamericana de Administración*, Vol. 36 No. 2, pp. 199-216. https://doi.org/10.1108/ARLA-03-2022-0040

Singh, V. Faujdar, K. Garg, D. and Singh, A. (2023). Importance of Agri-entrepreneurship in Indian economy: A Review. *Int. J. Enhanced Res. Sci., Technol. Engg*, 12(6), 203-211.

Stam, E. (2015). "Entrepreneurial ecosystems and regional policy: A sympathetic critique', Utrecht School of Economics", Discussion Paper Series, 15-07, Utrecht, Netherlands, Utrecht School of Economics.

Streifeneder, T. Hoffmann, C. and Corradini, P. (2023). The future of agritourism? A review of current trends of touristic commercialisation in rural areas. The Annals of Regional Science, 71(1), 93-119.

Sundari, S. (2020). Structural changes and quality of women's labour in India. *The Indian Journal of Labour Economics*, 63(3), 689-717.

Tahboub, M. and Slim, C. (2024). Influence of Entrepreneurship Education and Training and Business and Professional Infrastructure on the Entrepreneurial Intentions of Palestinian Entrepreneurs. *Journal of Arts, Literature, Humanities and Social Sciences*, (115), pp.375-397.

Thomas, E. and Magilvy, J. (2011). Qualitative rigor or research validity in qualitative research. *Journal for Specialists in Pediatric Nursing*, 16 (2), 151-155.

Webb, J. Tihanyi, L., Ireland, R. and Sirmon, D. (2009). You say illegal, I say legitimate: entrepreneurship in the informal economy. *Academy of Management Review*, Vol. 34 (3), 492-510.

Webb, J. Ireland, R. and Ketchen, D. (2014). Toward a greater understanding of entrepreneurship and strategy in the informal economy. *Strategic Entrepreneurship Journal*, Vol. 8 (1), 1-15.

Welter, F. (2011). Contextualizing entrepreneurship–conceptual challenges and ways forward. *Entrepreneurship Theory and Practice*, 35 (1), 165–184.

Wicks, E. & Merrett, C. (2003). Promoting rural development through agritourism. *Rural Research Report*, 13(9), 1–8.

Williams, K. (2018). Has the finance–growth link been broken? Panel data evidence from Latin America and the Caribbean. *Economia*, 19(3), 404-423.

World Bank. (2024), "Enterprise Surveys and Entrepreneurship database", Data Retrieved from World Bank Gender Data Portal (Online). Available at: https://genderdata.worldbank.org/en/home (Accessed on 27th November 2024).

World Economic Forum (2024), "Women founders and venture capital – some 2023 snapshots", World Economic Forum (Online). Available at: https://www.weforum.org/agenda/2024/03/women-startups-vc-funding/ (Accessed on 27th November 2024).

Xu, L. Ou, Y. Park, D. and Jiang, H. (2024). Breaking barriers or maintaining status quo? Female representation in the decision-making group of venture capital firms and the funding of women-led businesses. *Journal of Business Venturing*, 39(1), p.106368.

Yadav, S. and Kumari, V. (2024). Agripreneurship and Agri-Tourism in India: Combining Agriculture and Tourism. *International Journal for Research Trends and Innovation*, 9 (3), 341-345.

Zahra, S. (2007). Contextualizing theory building in entrepreneurship research. *Journal of Business Venturing*, 22 (3), 443–452.

Zahra, S. Wright, M. and Abdelgawad, S. (2014). Contextualization and the advancement of entrepreneurship research. *International Small Business Journal*, 32 (5), 479–500.

Zahra, S. and Sharma, P. (2004). Family Business Research: A Strategic Reflection. *Family Business Review*, 17 (4), 331-346.