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Research Article

Small Business Entrepreneurship Among Rural Women: A Strategy for Sustainable Development – A Case Study of Mazu Village

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Abstract

Rural women have traditionally played a vital role in sustaining households and communities; however, their entrepreneurial contributions are frequently undervalued in development discourse. This study examines the influence on sustainable development of small business entrepreneurship among rural women in Mazu Village, Bangladesh. A mixed-method approach was used in 2025 to collect primary data, including household surveys, semi-structured interviews and focus group discussions with women-entrepreneurs. The study's aim is to explore how rural women's entrepreneurial activities contribute to sustainable development and outline the key challenges they face in expanding their businesses and achieving economic empowerment. Important insights from the study are that women are increasingly participating in microenterprises, including handicrafts, food processing and small-scale trades while maintaining social integrity and supporting environmental stewardship. These activities contribute to enhancing household income, reducing poverty and empowering women-workers. In this way, women not only improve family welfare but also strengthen community resilience. Nevertheless, women entrepreneurs continue to encounter challenges, including limited access to credit facilities, inadequate training and cultural constraints that limit their opportunities and business development. This study demonstrates the alignment of female entrepreneurship with the United Nations Sustainable Development Goals (SDGs), particularly gender equality (SDG 5), decent work and economic growth (SDG 8) and poverty reduction (SDG 1). The research conducted in Mazu Village highlights the importance of policy interventions, skills development programs and inclusive financial mechanisms for expanding women's entrepreneurial opportunities. This case study is also indicative of similar opportunities in other settings within rural Bangladesh where women can facilitate better quality of life. Bangladesh can achieve sustainable and inclusive development by empowering rural women through small-business initiatives.

Keywords

Women Entrepreneurship, Rural Development, Microenterprise, Bangladesh, Mazu Village, Sustainability, Sustainable Development

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1. Introduction

Women's participation in rural economic activities has long been recognised as a vital part of sustainable development (SD). Rural areas are largely dependent on agriculture and informal economic activities, where women play a crucial role in maintaining household livelihoods and contributing to community welfare. Despite their significant contributions, they are often excluded from mainstream development discourses and overlooked in policy frameworks that promote entrepreneurship and innovation [1, 2]. In South Asia, women face numerous challenges, including limited access to education, finance and markets, as well as social and cultural constraints that hinder their entrepreneurial potential. These obstacles impede women's personal development and limit their ability to contribute to rural economic transformations.

Entrepreneurship is increasingly acknowledged as a vital component of rural development, facilitating income diversification, fostering innovation and promoting empowerment [3]. Women in rural areas can attain financial independence, improve their decision-making capabilities, and increase their participation in community development by initiating a small business venture. This aligns directly with the United Nations' Sustainable Development Goals (SDGs), particularly SDG 1 (No Poverty), SDG 5 (Gender Equality), and SDG 8 (Decent Work and Economic Growth) [4]. However, the relationship between rural women's entrepreneurship and sustainable development remains underexplored in rural Bangladesh, a country with predominantly village population which is on a journey to improve the income levels of its citizens.

The Bangladeshi government provides a compelling setting for examining rural women's entrepreneurship [5]. Approximately two-thirds of the population lives in the countryside of agricultural economies. Despite these challenges, Bangladesh's economic growth has remained stable, partly because of women's involvement in informal and small-scale entrepreneurial activities [6, 7]. Government and non-governmental initiatives, such as Rural Development Sangstha (RDRS) Bangladesh, offer microfinance (MF) programs and services that include savings, credit, insurance and skill development training [8]. Rural women now have more opportunities to access credit facilities, increase their incomes and engage in innovative activities. Despite these opportunities, according to the literature, systemic barriers, including socio-religious regulations, patriarchal social norms, inadequate training, lack of literacy knowledge and insufficient infrastructure, persist. These barriers prevent women from expanding their enterprises and integrating them into the formal economy.

Mazu Village is a significant example in the wider national context of Bangladesh. It is located in Alamdanga Upazila of Chuadanga District. This village represents a rural community where women are progressively integrating modern lifestyles with their traditional domestic responsibilities while engaging in small business entrepreneurship. Local businesses, such as tea shops, craft businesses, home-based food processing, tailoring services, barbershops and small-scale trading activities, not only supplement household income but also contribute to community resilience.

According to Mazu villagers' oral accounts, women's economic participation is deeply rooted in the rural cultural fabric, which includes family-owned retail shops and harvested crops predominantly managed by women. Their entrepreneurial roles have expanded significantly in recent decades because of improved mobility, access to microfinance and changing social attitudes toward women. Despite these advancements, women-entrepreneurs in Mazu Village still face challenges such as limited market access, insufficient digital literacy and reliance on informal credit systems to fund their business.

The case study of Mazu Village provides a micro-level perspective to understand the dynamics of rural women's entrepreneurship in Bangladesh. There are several reasons for understanding the importance of examining female entrepreneurs in Mazu Village. First, it underscores the typical challenges faced by women-entrepreneurs in environments with an insufficiently developed formal economic infrastructure. Second, it offers insights into how women navigate cultural barriers and gender roles while maintaining their entrepreneurial activities. Third, it contributes to an expanding body of literature linking grassroots entrepreneurship to sustainable development. This study demonstrates the resonance of local experiences with broader theoretical and policy concerns by presenting Mazu Village in global debates on women's entrepreneurship. This study aimed to achieve the following three objectives:

(1) Explore the entrepreneurial activities of rural women in Mazu Village;

(2) Identify the challenges and strategies involved in sustaining small-scale businesses in rural areas;

(3) Determine how these entrepreneurial activities contribute to sustainable economic growth, improved prosperity and environmental preservation at the household and community levels.

This study employed a mixed-methods approach, combining survey data, semi-structured interviews and focus group discussions to provide both quantitative and qualitative insights. By investigating Mazu Village, this study enhances our understanding of women's entrepreneurship and sustainability issues within the rural settings of Bangladesh. It presents an in-depth analysis of rural Bangladeshi women's entrepreneurial experiences, a perspective that is infrequently explored and often overlooked in global or regional studies. Furthermore, it focuses on entrepreneurship not only as a financial endeavour but also as a means of empowerment, resilience and community transformation. Ultimately, it presents policy recommendations that can guide local, national and international strategies to empower rural female entrepreneurs as sustainable development agents.

The exclusion of rural women from official development discourses and policy frameworks, despite their significant contributions, underscores the necessity of this study's findings. A broad body of literature, captured in the section to follow, provides the framework, outlines this oversight and sets the foundation for the study's methodology.

2. Literature Review on Women's Entrepreneurship: Theory and Perspectives

Different theoretical frameworks have been employed to analyse female entrepreneurship. Institutional theory posits that entrepreneurial opportunities and constraints in rural areas are influenced by both formal regulations, such as laws, financial systems and property rights, and informal norms, including gender roles and patriarchy [9]. The capability approach, as articulated by Alkire [10], underscores the importance of fundamental liberties for women, such as education, mobility and access to resources, as critical components for fostering entrepreneurial activity.

Understanding gender relations requires knowledge of female bargaining power within households across villages, cities and towns [11]. Feminist economics highlights the impact of unpaid care work, intra-household bargaining and gendered divisions of labour on women's entrepreneurial capacity and reinvestment strategies [12]. Women residing in rural areas often depend on strategies such as affordable loss, effective management and social networks rather than engaging in high capital planning [13]. Social capital theory argues that forming bonds with family and neighbours, as well as establishing connections with non-governmental organisations (NGOs), market agents and microfinance institutions, is crucial for facilitating access to information, trust and markets [14, 15].

Theoretical frameworks that explain the dynamics of rural women's entrepreneurship are essential for examining how these concepts manifest in practice across diverse global and regional contexts. Of interest here are the global as well as the national contexts as they determine women's behaviour and opportunities.

2.1. Global Perspective: Rural Women Entrepreneurs in Asia, Africa and Latin America

Particularly relevant from a global perspective are studies conducted across Asia, Africa and Latin America which reveal that enterprises managed by rural women are generally micro- or small-scale, with a primary focus on agro-processing, petty trade, handicrafts and providing of services [16, 17]. In Asia, women are involved in horticulture, dairy and handicrafts, and NGOs assist in enhancing product quality and market access [18, 19]. Women's businesses are vital for food security and informal retail in sub-Saharan Africa; however, they are hampered by limited land rights, weak infrastructure and exposure to climate risks [20]. Business training, cash transfers and childcare support have been combined to increase the survival and profitability of enterprises in Latin America [21]. Integrated interventions that include capital, skills and networks consistently demonstrate greater efficacy than isolated credit or training programs across all regions.

2.2. Regional Context: Female Entrepreneurs in Bangladesh

The increase in women's self-employment in Bangladesh's cottage industries and agriculture-based enterprises indicates a significant shift towards enhanced economic autonomy, which aligns with the focus of our study on Mazu Village. Microfinance institutions, such as Grameen Bank and BRAC Bank, have significantly facilitated women's ability to start businesses by providing credit at low-interest rates, digital entrepreneurial skill development training and group support [22].

Table 1. *Areas of digital training focus for women entrepreneurs.*

Training Focus Area	Key Topics Covered	Key Learning Points
Artificial Intelligence (AI) Skills	Introduction to AI tools for business growth and efficiency	An introduction to the use of AI tools in business growth and efficiency
Product Development	Designing and improving products using AI	Applying AI to create, enhance and develop products
Marketing Strategies	AI-driven market analysis and customer insights	The use of AI in customer insights, market trends and competitive positioning
Digital Branding	Online visibility, brand building, and digital storytelling	Developing an efficient online presence by utilising branding, storytelling and digital campaigns
Entrepreneurial Skills	Business management, innovation and sustainability	Improving business management, innovation and long-term sustainability

Note: Sourced from [23, 24].

In July 2025, BRAC Bank [22], in collaboration with the Bangladesh Open Source Network (BdOSN) and with the support of the Gates Foundation, conducted a workshop to train 100 female entrepreneurs in AI-driven product development, marketing and digital branding (see Table 1). This initiative was part of the "Digital Entrepreneurial Skill Development" program [23]. It was a step in the right direction for female-owned businesses, which remain smaller, less profitable and more concentrated in low-return segments than male-owned businesses [25]. Absence of collateral, limited access to formal credit, mobility restrictions and controlled cultural norms which prevent women from participating in the market, are all barriers to women's entrepreneurship.

Bangladesh Bank's recent innovations, such as digital financial services, agent banking and women-friendly support desks for small and medium-sized enterprises (SME), have begun to reduce gender barriers. However, their adoption remains uneven across remote villages in the regions of Bangladesh.

Building on global and regional evidence of rural women's entrepreneurship, it is important to examine how similar opportunities and challenges are evident in the context of Bangladesh's rural development.

2.3. Challenges and Opportunities for Women in Rural Bangladesh

Women-entrepreneurs in rural areas encounter a range of interconnected challenges that impact the development and sustainability of their enterprises. They include access to finances, issues with mobility and overall, the patriarchal norm prevalent in the Bangladeshi rural society.

2.3.1. Finance

For the past two decades, microfinance lending has been recognised as an important tool in the fight against poverty. Rural women entrepreneurs have found it especially effective in empowering them to start and sustain small-scale businesses, improve household income, and enhance their social and economic independence [26]. Although women-entrepreneurs who rely on microfinance are widely covered, they are often excluded from formal banking because of guaranteed requirements, high interest rates and insufficient working capital. These barriers limit their capacity to operate autonomously in establishing rural-based enterprises, which are crucial opportunities for sustainable development.

2.3.2. Mobility

Gender limitations, time poverty and safety concerns prevent women from travelling to markets, training centres or financial institutions. This limits their ability to negotiate power and expand markets, especially in developing countries such as Bangladesh [2].

2.3.3. Skills and Technology

Many women lack formal training in business management, accounting, quality control and digital marketing skills. The lack of digital access and literacy in e-commerce and fintech opportunities is exacerbated by the digital divide [27, 28] between urban and rural areas.

2.3.4. Patriarchal Norms

Women's income and profits are often resolved through family negotiations, but unsuitable work and unequal family decision-making norms prevent women from making their own choices, reinvesting and achieving long-term growth [29]. Rural families often have male guardians in charge of their households, particularly in terms of development decisions. Infrastructure and climate-related risks are also significant. The lack of rural infrastructure, such as roads, storage and electricity, increases costs and climate shocks significantly impact women in the agricultural and livestock sectors increasing their dependence on male guardians.

2.4. Links to the SDGs

Rural women's entrepreneurial activities directly contribute to SDG 1 (No Poverty) through income and livelihoods, SDG 5 (Gender Equality) by boosting agency and decision-making power, and SDG 8 (Decent Work and Economic Growth) by creating jobs and enhancing productivity. Furthermore, SDG 9 (Industry, Innovation and Infrastructure) is supported through the linkage between value addition and technology, and SDG 10 (Reduced Inequalities) is facilitated through the empowerment of marginalised women. Environmental sustainability aligns with SDG 12 (Responsible Consumption and Production) and SDG 13 (Climate Action). According to the literature, entrepreneurship can only have a transformative impact with the support of enabling ecosystems, including gender-responsive finance, childcare and legal protection [30].

2.5. Gaps in the Literature

Despite extensive research on female entrepreneurship, several gaps remain in the literature. Most studies have focused on macro-level or program-based research, neglecting the micro-level community dynamics and living strategies of the poor. The context-specific realities of rural Bangladesh, such as kinship ties, local markets and ecological challenges, have not yet been fully explored.

Based on the existing literature, it is clear that women-entrepreneurs have a significant role to play in development and the current sustainable development agenda provides specific goals to foster this engagement. Previous research dating back to the 1980s also highlights the barriers and obstacles women face in aspiring to initiate and maintain a business. Against this background, the question that emerges is how recent developments, including improved infrastructure, use of technologies and evolving socio-cultural norms, are impacting on rural Bangladesh and its women.

The literature on rural entrepreneurship and targeted policy design can be enhanced by a village-level case study such as Mazu. It can offer valuable micro-level insights into how women overcome financial, social and infrastructural constraints.

3. Methodology

This study employed a research design that combined quantitative and qualitative approaches [31] to capture the multifaceted experiences of the female entrepreneurs in Mazu Village. Surveys were conducted to gather broad quantitative data, and in-depth interviews and focus group discussions provided detailed insights into the women's motivations, challenges and strategies.

The study was conducted in Mazu Village, a rural community characterised by a substantial agricultural economy, moderate household income and deeply entrenched cultural traditions. This village’s socioeconomic background and demographic profile provide a suitable setting for exploring the connection between women's entrepreneurship and sustainable development. The sample selection focused on women-entrepreneurs operating in different sectors, such as handicrafts, tea stalls, food processing, small trading and agriculture-based enterprises. Representation of both traditional and emerging entrepreneurial activities was ensured. Data were collected by combining structured questionnaires for quantitative analysis, semi-structured interviews to explore personal experiences, and field observations to understand the social and cultural contexts of entrepreneurial activities.

Conducted in 2025, the study used a sample of 40 women entrepreneurs from Mazu Village for the survey. This was followed by 10 interviews, in addition to interviews with 10 responsible persons (village leaders, government officials, bankers and microcredit NGO personnel), as well as focus group discussions and field observations. The study is explorative in nature and does not seek statistical representation neither of Mazu Village (whose population is estimated at 3,500 residents), nor rural Bangladesh. Its aim is to highlight the issues and draw policy recommendations. The obtained insights can be transferable to other similar settings.

Descriptive statistics were used to analyse the quantitative data, while thematic coding was employed to interpret the qualitative insights. Consequently, this mixed-methods methodology strengthens the findings’ validity and reliability.

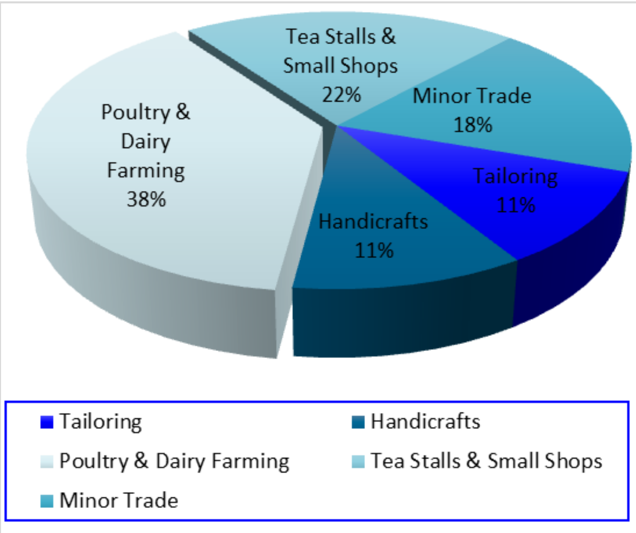
This study strictly adhered to ethical requirements for voluntary participation, confidentiality and data protection. Informed consent was obtained from all participants in Mazu Village, and their anonymity was maintained throughout the study. Priority was given to cultural sensitivity to ensure respectful engagement with the community's norms and values. The study was conducted independently; there was no oversight by the government, institutions or other organisations.

4. Findings and Discussion

This study shows that rural women in Mazu Village primarily participate in small-scale entrepreneurship, focusing on agriculture, handicrafts and microbusinesses, which are essential activities for household income and community development. Despite their limited access to finance, training and markets, female entrepreneurs are essential for achieving sustainable development. Their efforts have contributed to improved economic resilience and social empowerment in rural regions as well as protecting the natural environment.

4.1. Profile of Women-Entrepreneurs in Mazu

Women-entrepreneurs in Mazu Village tend to be between 25 and 45 years of age and are considered the most economically active group in the village (see Table 2). Approximately 40% of the female population sample have completed primary school, 30% have secondary education, and the remaining 30% have no formal education. Most households are extended families, with women managing household duties and entrepreneurial endeavors. Typically, entrepreneurs from low- to low-middle-income groups rely on household savings, small loans or family contributions to establish economic ventures [32, 33] This was also the case in Mazu Village.



Note: Sourced from Field visit, 2025

Figure 1. *Women-entrepreneurs of Mazu participating in small businesses.*

Table 2. *Demographic profile of women-entrepreneurs in Mazu Village.*

Variables	Category	Ratio/Percentage
Age	25-45	Majority
	Primary school completed	40
Education	High school completed	30
	Non-formal education	30
Household Type	Extended family structure	Majority
Role in Family	Balancing domestic duties and entrepreneurship	-------------

Note: Sourced from Field Visit, 2025

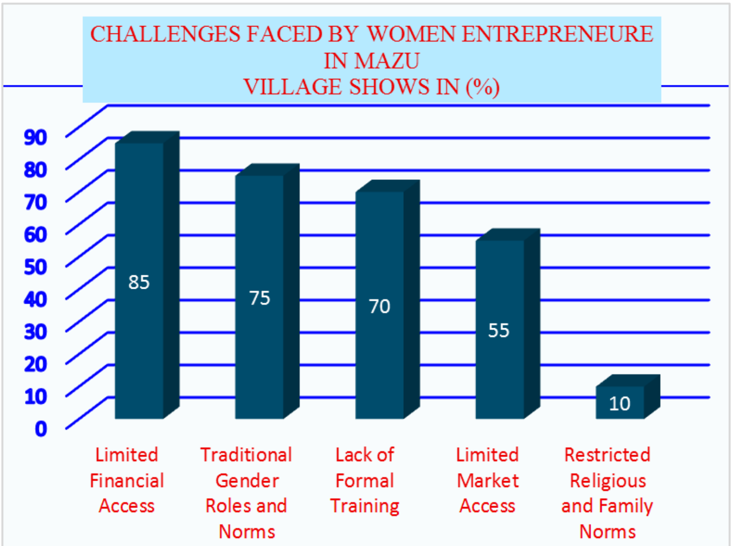
Small enterprises, with an average workforce of 1-3 family members, are typically active in the morning and afternoon. Tailoring (11%), handicrafts (11%), poultry and dairy farming (38%), tea stalls and small shops (22%), and minor trade/agriculture (18%) were the most common types of businesses (see Figure 1). Despite their limited resources, these enterprises play a vital role in boosting household incomes and improving community resilience.

4.2. Motivations for Entrepreneurship

Women in Mazu Village participate in entrepreneurial activities for a range of reasons, including the primary motivation of supporting household income as many families rely on women's businesses to supplement their earnings and meet their basic needs. By doing this, women can become independent and empowered through entrepreneurship. This extends beyond financial necessity and empowers them to make decisions, manage resources and gain confidence in their abilities. In addition, many women engage in business activities to earn community recognition, respect and social status within the village through their financial contribution.

4.3. Challenges to Women-Entrepreneurs

Women-entrepreneurs in Mazu Village face multiple challenges that hinder their businesses' growth and sustainability (see Figure 2). According to the survey, the most prevalent challenge faced by women is limited financial access, followed by gender and cultural restrictions, lack of training and limited market access.



Note: Sourced from field visit to Mazu Village, 2025

Figure 2. *Challenges faced by rural women-entrepreneurs in Mazu Village.*

4.3.1. Limited Financial Access

The main obstacle is that most women rely on personal savings or microcredit loans, which are often insufficient to scale up their ventures or invest in necessary resources. Access to financial facilities is a challenge faced by 85% of rural women entrepreneurs.

4.3.2. Traditional Gender Roles and Cultural Norms

Women often cannot devote the time and energy required for entrepreneurship because of their dual responsibilities in household work and business management. In some instances, their mobility is restricted by social expectations, which means that they may not be able to access broader markets or participate in networking activities because of their gender [34]. Although they have equal rights under the local law, women face strict cultural restrictions. Approximately 75% of the female entrepreneurs dealt with these issues.

4.3.3. Lack of Formal Training and Technical Knowledge

The lack of these skills prevents women from adopting modern business practices, effectively managing finances, or expanding their product and service offerings. Approximately 70% indicated that their activities were hindered owing to these problems.

4.3.4. Limited Market Access and Mobility Issues

Rural women's ability to achieve financial independence is significantly impacted by structural barriers, such as inadequate transportation facilities, intense competition and limited market awareness. Approximately 55% of the women-entrepreneurs face difficulties in sustaining their business activities, which are disproportionately affected by these unfavourable conditions.

4.3.5. Restricted Religious and Family Norms

Nearly 10% of the female entrepreneurs are confronted with limitations due to family expectations and socio-religious norms, which hinder their progress and restrict their economic activities. Despite these difficulties, women in Mazu Village can sustain their businesses and make significant contributions to household income and community development because of their resilience and resourcefulness.

4.4. Managing Strategies and Success Factors

Women-entrepreneurs in Mazu Village use various strategies to maintain and grow their small businesses, despite resource limitations and systemic challenges. Reliance on informal support networks, such as neighbours, friends and other women-entrepreneurs, is a key factor in providing advice, emotional encouragement and occasional financial assistance. These networks are alternatives to formal institutional support and strengthen community solidarity during times of need.

Family involvement is another critical factor for success. In the absence of older family members, women are responsible for running shops and collecting resources for their families. Such collaborations help women balance household duties with entrepreneurial activities, while reducing operational costs. Local resources, such as animal feed and other cooking ingredients, are crucial for enhancing sustainability in the region. Women frequently use locally available raw materials, traditional skills and community markets to reduce costs and maintain affordability. The local cultural and economic fabric is enhanced by embedding entrepreneurship, ensuring the continuity of businesses. These strategies demonstrate how rural women use community ties, family cooperation and resources to achieve business success and resilience.

4.5. Contribution to Sustainable Development

The contribution of women's entrepreneurship in Mazu Village is significant across the economic, social and environmental dimensions of sustainable development. Small-scale enterprises can alleviate household poverty by generating additional income. The promotion of income diversification leads to a decrease in dependence on agriculture and irregular labour wages. Families can gain greater financial stability and resilience against economic vulnerability through such businesses. The types and scale of businesses (see Table 3) are also appropriate to the rural conditions without putting too much pressure on the local environment.

Table 3. *Women-entrepreneurs' contributions in Mazu Village.*

Activity	Economic contribution	Social contribution	Environmental contribution
Poultry and dairy farming	Generates income and creates jobs	Improves services, participation and boosts decision making	Efficient resource use; promotes local sourcing
Retail shop and tea stall	Generates income and job opportunities	Improves services, participation and boosts decision making	Efficient resource use; promotes local sourcing
Food production and preparation	Supports family income and reduces expenses;	Supports children's nutrition; strengthens community cohesion	Maintains organic sources and sustainable practices

Activity	Economic contribution	Social contribution	Environmental contribution
	potential for microfinance		
Handicrafts such as nakshikatha	Increased household income; local sales	Strengthens women's power, inspires other village women	Use low-cost and recycled materials
Cooperative activity with family members	Economic empowerment, increase income	Improved mental and physical health	Encourage sustainable resource use and create an extended family bond

Note: Sourced from the Author's field visit, 2025

4.5.1. Poultry and Dairy Farming

In rural areas, women commonly engage in small-scale poultry and dairy farming, raising chickens, ducks, goats and cows to produce eggs, meat, milk and other dairy products. This activity is not only a source of food security for the family but also a reliable source of income for the household. It is small-scale with essential consideration of animal welfare and low environmental impact. This is a suitable option for women who balance domestic tasks, as it requires a relatively low capital investment and can be managed within the household.

4.5.2. Retail Shops and Tea Stalls

Rural women can start microenterprises that serve community needs by establishing retail shops and tea stalls, for example. These ventures usually involve selling groceries, household goods, tea and snacks, creating spaces for economic and social interactions in villages. In addition to generating immediate cash income, these businesses improve women's visibility in the local economy and encourage the development of entrepreneurial and customer service skills.

4.5.3. Food Production and Preparation

Women play a significant role in food production and processing, including the production of puffed rice, beef, chicken curry, vhuna khichri (rice and lentil dish), pickles, cakes, dried fish and spices, among others. Family members consume these products and also sell them in local markets in the nearby towns. Preserving traditional culinary skills through food preparation can lead to income opportunities through small-scale agricultural processing and catering services.

4.5.4. Handicrafts Such as Nakshikatha

Rural Bangladeshi culture and heritage are represented by Nakshikatha, a traditional handicraft – embroidered quilt said to be indigenous to Bangladesh [35]. By transforming household skills into marketable products through stitching artistic patterns, women can generate income and preserve their cultural identities. Women can use their leisure time productively and gain economic empowerment through sales at fairs, local markets and cooperatives.

4.5.5. Cooperative Activities with Family Members

Rural women frequently collaborate with family members to carry out farming, business and household tasks. By working together, the workload can be reduced, investment can be shared and productivity can be improved. Family-based entrepreneurship can strengthen social bonds, increase women's participation in decision-making, and help them achieve financial independence.

Entrepreneurship can positively impact environmental sustainability, as women rely on locally available raw materials and traditional practices to promote the sustainable use of resources. For instance, handicrafts frequently recycle or reuse local materials, and small-scale food processing utilises seasonal produce with minimal environmental impact. For example, rural women use locally produced rice, fruits and vegetables as their main food sources.

Compared to other rural studies, the case of Mazu Village supports the idea that female entrepreneurship improves household resilience, promotes gender equality and supports local economies. New insights into regional sustainable development can be gained by acknowledging the unique roles of family support and informal networks in Mazu Village.

5. Policy Implications and Recommendations

The results of this study underscore several structural and operational challenges to the advancement of rural sustainable development in Bangladesh. To effectively address these issues, policy interventions must be aligned with the challenges identified in this study.

5.1. Infrastructure Development

Inadequate road infrastructure, limited facilities options and insufficient access to services hinder women's entrepreneurial activities in the study area. Policies must prioritise public–private partnerships to enhance transportation networks and establish community-operated facilities.

5.2. Governance and Coordination among Stakeholders

Insufficient coordination among stakeholders and bureaucratic impediments diminish the efficiency and competitiveness of the SME sector. This sector can facilitate better skills development as well as encourage preservation of heritage.

5.3. Cultural Authenticity and Inclusion in the Community

The commercialisation of cultural elements and the marginalisation of local communities jeopardise both authenticity and sustainability. Therefore, it is crucial for policies to require community involvement in planning processes, endorse cooperative ventures for local artisans and implement revenue-sharing frameworks to empower female entrepreneurs.

5.4. Promotion and Awareness

Inadequate marketing efforts diminish the visibility and appeal of the services and products provided by women-entrepreneurs. Strategic policies must be implemented to support digital marketing initiatives, cultural tourism fairs and partnerships with media influencers to enhance the visibility of local brands.

5.5. Environmental Sustainability

Environmental degradation poses a significant threat to the sustainability of local businesses. Policies must enforce environmentally sustainable practices, including implementing waste management systems, eco-certification programs to promote sustainable practices.

5.6. Digital Knowledge

This study also explored the gap that necessitates boosting female entrepreneurship with easy access to digital knowledge in rural areas such as Mazu Village. Thus, it is crucial to improve women's access to microfinance and formal banking services. In this context, enterprises can expand and decrease their reliance on informal lenders by utilising affordable credit facilities and streamlined loan procedures. The introduction of skill development programs covering business management, ICT literacy and digital marketing could help women innovate, improve efficiency and access broader markets, especially for women living in remote rural regions (see Table 4).

Table 4*. Training modules required for digital skill development.*

Training topic	Basic skills	Use in business and activities
Basic digital literacy learning	Smartphone use, Bangla typing and internet safety	Communication & information search
Mobile banking	bKash/Nagad, payments, bill pay	Dealing with customers & suppliers
Business management tools	Sales/expense records, stock apps	Monitor costs for the shop, poultry, and livestock
Online marketing skills	Facebook/WhatsApp sales, product photos	Sales and marketing of products
E-commerce	Listing products, delivery systems	Wider market access
Agri-livestock Apps	Disease info, vaccination, weather updates	Better animal care and farm planning
Cyber security	Passwords, scam awareness	Secure money and mobile data from fraud

Note: Sourced from the Author

Women in rural areas can improve their entrepreneurial ventures using smartphones for secure digital financial management and to maintain basic sales and inventory records. By leveraging online platforms such as Facebook, WhatsApp and local marketplaces, they can connect with and expand their customer base. Agricultural applications facilitate the maintenance of healthy animals, improve planning and secure business operations while mitigating fraud risk. By enabling governmental and non-governmental organisations to provide effective digital training, women can manage their businesses with minimal financial and digital fraud risk.

The realities of rural women should be considered when tailoring government and NGO initiatives to ensure that training schedules, financial schemes and support services are culturally sensitive and practical for them. Collective bargaining power, resource sharing and emotional encouragement can be provided by strengthening community-level support systems, including cooperatives, women's face-to-face associations and peer networks. The unique importance of family support and informal networks in promoting development is exemplified by the Mazu Village experience. This provides a fresh perspective on the regional dynamics of sustainable development, which are often overlooked in other studies.

Addressing these challenges directly will enable policy measures to encourage female entrepreneurship, enhance local livelihoods and preserve Bangladesh's rich cultural heritage for future generations.

6. Conclusion

The Mazu Village case demonstrates the importance of rural women's entrepreneurship in providing livelihoods and driving sustainable development in rural areas. This study indicates that women-entrepreneurs play a key role in diversifying household income, reducing poverty and achieving social empowerment. Despite systemic challenges, their enterprises remain sustainable because they rely on family support, informal networks and local resources. This study demonstrates the potential of women's entrepreneurship as a viable route to sustainable rural development, bringing economic advantages and social changes to the community within the environmental constraints of their habitat. By presenting an empirically grounded perspective on rural Bangladesh, this study contributes to the literature for a region often underrepresented in global discussions on gender and entrepreneurship.

However, this study has certain limitations that may prevent its generalisability, such as its focus on a single village and relatively small sample size. Future research should prioritise conducting comparative case studies across multiple rural settings and employ longitudinal methodologies to enhance the understanding of the long-term effects of women's entrepreneurship on sustainable development.

By exploring the involvement of women in the transformation of rural economies, the study highlights that empowering female entrepreneurs is not solely a gender-related concern but also an essential approach to realising inclusive development. Women-entrepreneurs also contribute strongly towards the achievements of the local and global sustainable development goals.

Abbreviations

AI	Artificial Intelligence
BdOSN	Bangladesh Open Source Network
ICT	Information and Communication Technology
MF	Micro Finance
NGO	Non-Government Organisation
RDRS	Rural Development Sangstha
SDG	Sustainable Development Goal
SDGs	Sustainable Development Goals
SD	Sustainable Development
UN	United Nations

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Author Contributions

Md Abul Kalam Azad: Conceptualisation, Methodology, Data Collection, Formal Analysis, Writing – Original Draft.

Dora Marinova: Methodology, Formal Analysis, Writing: Review & Editing, Supervision

Conflicts of Interest

The authors declare no conflicts of interest associated with the publication of this study.

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