Sustainable Financial Practices and Women's Contribution to Green Startups in India: A Conceptual Framework

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ABSTRACT

India's shift to a sustainable and low-carbon economy has raised the importance of green startups as drivers of environmental innovation and inclusive growth. At the same time, women entrepreneurs play a crucial role in promoting sustainable business practices. However, their participation in green startups is still limited due to challenges like lack of access to financing and structural barriers. Sustainable financial practices, such as green finance, ESG-linked funding, ethical banking, and inclusive digital finance, offer great potential for empowering women entrepreneurs and improving green startup ecosystems. Despite the growing academic interest in sustainable finance and women-led entrepreneurship, the link between these areas remains mostly unexplored in India. This conceptual paper suggests a framework that shows how sustainable financial practices affect women's financial empowerment and, in turn, their contributions to green startups in India. The study draws on insights from sustainability, entrepreneurship, and gender-finance research. This framework sets the stage for future empirical studies and provides valuable perspectives for policymakers and financial institutions looking to promote gender-inclusive green growth in emerging markets.

Keywords: Sustainable finance, women entrepreneurship, green startups, financial empowerment, ESG

1. INTRODUCTION

In recent years, the link between sustainable development, financial innovation, and inclusive entrepreneurship has become a major focus for both researchers and policymakers. Green startups, which integrate environmental sustainability into their core operations, have gained popularity around the world. They are seen as important players in promoting ecological innovation and boosting the economy. Meanwhile, women entrepreneurs are increasingly recognized for their contributions to sustainable development, bringing unique leadership styles, a community focus, and social innovation to entrepreneurship. However, challenges like

limited access to funding, gender biases, and systemic obstacles still restrict their impact, particularly in fast-growing areas like green startups.

Sustainable financial practices have become an important way to link financial systems with environmental and social goals. In India, initiatives such as green bonds, sustainability-linked loans, digital financial inclusion, and programs for women entrepreneurs highlight the growing significance of sustainable finance. This paper aims to address this gap by offering a conceptual framework tailored for India's developing economy.

2. REVIEW OF LITERATURE

Alhadhrami, A., & Nobanee, H. (2019). Sustainability practices and sustainable financial growth. This paper examines corporate financial sustainability amid risks and opportunities. It identifies, analyses, and categorizes strategies to enhance sustainability, while assessing associated risks. Using qualitative methods, it reviews scholarly literature on the topic. Insights from finance experts reveal how stakeholders evaluate, control, and maintain sustainability. The paper proposes an integrated decision-making and auditing approach to monitor firm financial health.

Sharma, K. R. S., & Vidyashree, D. P. B. (2025), The Impact of Financial Literacy on Women's Economic Empowerment in India. This study shows financial literacy possessed by only 27% of Indian women boosts their economic empowerment via better decision-making, savings, investments, and rural income stability. Literature reviews and a conceptual model highlight its role in reducing gender gaps and driving socioeconomic development, urging targeted government programs for broader impact.

Gupta, R. (2025). Women-Led Green Entrepreneurship: Motivators and Challenges, this study shows that women entrepreneurs lead 18% of India's green startups (WISER, 2024), driving renewables, waste management, and sustainable agriculture despite barriers like financing gaps, gender biases, and skill deficits. They overcome challenges via alternative funding (SHGs, microcredit), community networks (e.g., SEWA), and eco-innovations like solar dryers. Examples include Babita Raheja's solar training for 4,500+ rural women and Sonal Shukla's plastic-to-furniture venture. Studies urge gender-lens investing, incubators, and policy reforms for equitable green growth.

Serin Peter, Geetha Elangovan & Anju Gupta (2025) Digital engagement in financial inclusion for bridging the gendered entrepreneurial financial gap: evidence from India.

The study links the growth of women's entrepreneurship with fintech and digital technologies, arguing that these trends democratize entrepreneurship and relax gendered constraints. A survey-based study of 214 women entrepreneurs, framed by social cognitive theory, finds that digital financial literacy significantly improves both financial inclusion and firm performance, with financial inclusion partially mediating this effect. It further reports that financial behaviour weakens the positive impact of digital financial literacy on performance and does not significantly alter its effect on inclusion, implying that digital literacy must be complemented by improved financial habits to narrow the gender finance gap.

Kumar, J. S., & Shobana, D. (2023). Evolution and significance of women entrepreneurs in India. This research examines the historical context of women in entrepreneurship, indicates a rise in their participation to around 14% of total entrepreneurs, and highlights the sectors they dominate, such as textiles and healthcare. Women-owned enterprises provide significant employment opportunities and contribute meaningfully to GDP. However, access to finance remains a significant barrier. Government initiatives like Stand-Up India and MUDRA Yojana aim to support women entrepreneurs with financial assistance and skill development, underlining the importance of continued targeted policies to foster their growth further.

3. RESEARCH GAP

While sustainable finance, women entrepreneurship, and green startups have been studied separately, there is a lack of research that combines these areas into a clear framework, especially in India. Previous studies often overlook the gender-specific financial aspects of green entrepreneurship. This paper aims to address that gap by showing how sustainable financial practices can increase women's participation in green startups across India.

4. OBJECTIVES

The research aims to:

1. Investigate how sustainable financial practices can support women entrepreneurs in India.
2. Evaluate the contributions of women to green startups by looking at sustainability.
3. Create a model that links sustainable finance with women-led green startups.
4. Suggest ideas for further empirical research.

5. RESEARCH METHODOLOGY

For a comprehensive understanding of the Sustainable Financial Practices and Women's Contribution to Green Startups in India, extensive academic literature, government publications, websites, and research articles have been analysed, and secondary data have been collected for the research.

6. CONCEPTUAL FRAMEWORK

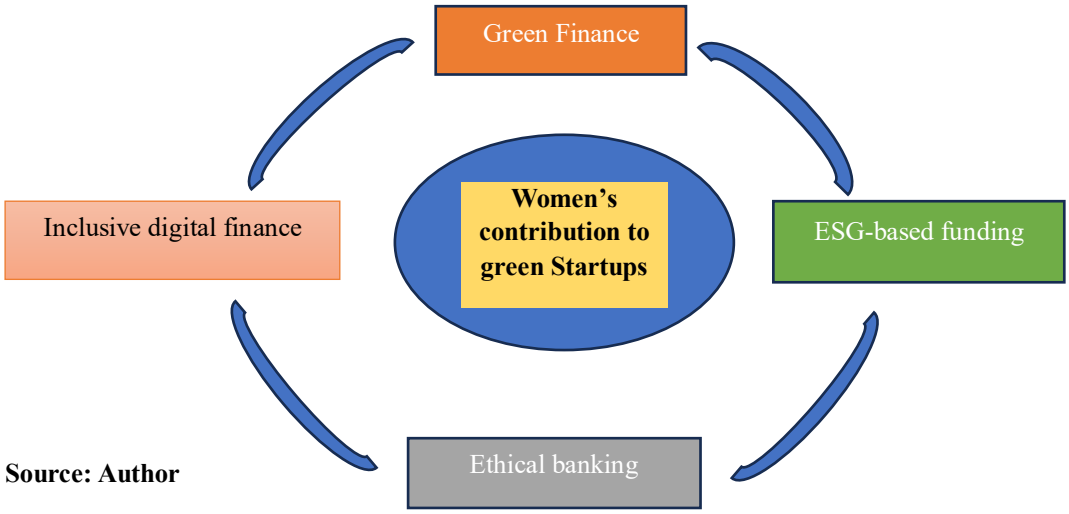
This research investigates the connection between sustainable financial practices and the role of women in green startups in India. It draws from sustainable finance, gendered entrepreneurship, and institutional theory. The study highlights important concepts and explains their theoretical relationships.

Sustainable financial practices (SFP) are financial frameworks that include environmental, social, and governance (ESG) factors in decisions about lending, investment, and capital distribution. In India, this includes green bonds, sustainability-linked loans, venture capital aimed at ESG, ethical banking, and inclusive digital financial services.

The role of women in green startups extends well beyond founding businesses, as they drive environmentally friendly innovations, develop sustainable products, and design operations that reduce environmental impact. Their ventures frequently adopt business models that emphasize social and community benefits while embedding a strong commitment to long-term sustainability. In many cases, women entrepreneurs display heightened attention to social responsibility and ethical practices, which aligns closely with the core objectives and values of green startups.

Dependent Variable: Women's Contribution to Green Startups (Startup creation, eco-innovation, sustainability performance)

Independent Variable: Sustainable Financial Practices (Green finance, ESG-based funding, ethical banking and inclusive digital finance)



Source: Author

7. DATA ANALYSIS

7.1 Examine instruments like green finance, ESG-based funding, ethical banking, and inclusive digital finance, and how they change access, cost, and terms of capital for women.

Sustainable finance helps women entrepreneurs by promoting innovation and tackling societal challenges. By 2024, women-led micro, small, and medium enterprises (MSMEs) make up 20.5% of registered MSMEs in India. These businesses are gaining recognition for their ability to drive economic growth and sustainability. Programs like the Greening of Finance by Women (GroW) and the Women Entrepreneurship Platform (WEP) provide financial support and mentorship, enabling women to launch businesses in green sectors and develop eco-friendly products, such as biodegradable packaging. Financial tools that share risks, including blended finance, along with initiatives like MUDRA Yojana which has given out over 300 million loans to women since 2015 encourage innovation and growth in fields traditionally dominated by men. This financial support helps women entrepreneurs tackle social and environmental challenges while significantly contributing to job creation and economic development.

7.2 Women's roles in startup creation, eco-innovation, and social–environmental performance of their ventures.

This study shows that India is connecting green growth with women's entrepreneurship. It highlights women's essential role in reaching net-zero targets and Viksit Bharat 2047. The text emphasizes key facts: 20% of MSMEs are women-owned, 300 million MUDRA loans have been issued to women, and 88% of 12 million SHGs are led by women. It also points out increasing capabilities, such as a 28% rise in female higher education and 43% of women in

STEM. This indicates the strong potential for innovation from women in the green sector. Organizations like SEWA and GAME demonstrate how networks focused on women can turn this potential into real climate action. They use micro-enterprises, clean technologies, and community-based methods to provide economic, social, and environmental benefits.

7.3 Theorise pathways from sustainable financial practices to women's green startup outcomes, possibly via mediators like financial empowerment and inclusion.

Digital financial inclusion uses technology to improve access to financial services for women entrepreneurs. By implementing a gender-focused strategy, financial institutions can create digital platforms tailored to the needs of women-led MSMEs. This includes mobile banking services, online loan platforms, and digital payment systems that lower transaction costs and improve security. The Better Than Cash Alliance acts as a model by helping businesses transition from cash to digital payments, which enhances access and transparency for women entrepreneurs.

7.4 Suggest ideas for further empirical research

Future research can improve the suggested framework using different methods and contexts. Quantitative studies that use Structural Equation Modeling (SEM) could explore the direct, mediating, and moderating effects of sustainable financial practices on women's financial empowerment and their roles in green startups in India. Comparative studies across regions, such as urban and semi-urban areas, and within green sectors like renewable energy, waste management, sustainable agriculture, and clean mobility, can reveal differences in access to sustainable finance and entrepreneurial results. Longitudinal research designs would help explore how ongoing engagement with sustainable financial practices impacts women entrepreneurs' ability to innovate, grow, and achieve long-term sustainability. Mixed-methods strategies that combine surveys with in-depth interviews or case studies can offer deeper insights into financial experiences and institutional challenges.

8.FINDINGS

Sustainable financial instruments, such as green finance, ESG-based funding, ethical banking, and inclusive digital finance, are making capital more accessible for women entrepreneurs in India. This is changing the MSME financing landscape. By 2024, MSMEs led by women accounted for 20.5% of registered enterprises. This shows their important role in driving economic growth and sustainability. These financial tools help lower capital costs; for example,

green bonds can reduce rates by 1-2%. They also offer flexible terms, like longer repayment periods, and help manage risks through blended finance strategies. Initiatives like MUDRA Yojana, which has granted over 300 million loans to women since 2015, and the Women Entrepreneurship Platform (WEP) illustrate this influence. They support the creation of businesses in green sectors, including biodegradable packaging and clean technologies.

Women are making notable progress in starting their own businesses, promoting eco-friendly innovations, and improving social and environmental outcomes. This aligns with India's goals for net-zero emissions and the Viksit Bharat 2047 initiative. Their potential is clear. Eighty-eight percent of the 12 million Self-Help Groups (SHGs) are led by women, and female representation in STEM is at 43%. This is an increase from previous figures, along with a 28% rise in higher education achievements.

Organizations like SEWA and GAME are turning this potential into reality through micro-enterprises focused on waste management and sustainable agriculture. These efforts create jobs, reduce emissions, and strengthen community resilience. Financial empowerment and digital inclusion play a key role. Mobile banking and UPI help lower transaction costs by 30-50% and improve transparency, as shown by the Better Than Cash Alliance. Sustainable practices connect to innovation both directly and indirectly through empowerment, making women important contributors to green economic growth.

9. SUGGESTIONS

Policymakers should focus on expanding gender-specific digital platforms, such as loan applications aimed at women, and using blended finance to tackle the gaps between urban and rural areas. Financial institutions need to include ESG scoring with a gender perspective, speeding up approvals for significant projects led by women. Researchers should use Structural Equation Modeling (SEM) for causal analysis. They should also apply mixed methods, such as surveys, interviews, and case studies, along with longitudinal approaches in fields like renewable energy and clean transportation. Comparative studies in urban and semi-urban areas will reveal hidden barriers, helping to direct targeted efforts.

10. CONCLUSION

Integrating sustainable finance creates opportunities for women entrepreneurs and supports India's green transition along with the vision of Viksit Bharat 2047. This happens through inclusive action, innovation, and climate efforts. Green initiatives like ESG funding and digital

platforms reduce capital barriers and boost their 20.5% share in MSMEs. They also encourage eco-innovations in renewable energy and waste management. By using 88% of women-led self-help groups and with 43% participation in STEM, ongoing policies, including expanded MUDRA loans and blended finance, along with SEM-focused research, will promote fair and strong growth, converting potential into a positive impact on the environment.

REFERENCES

1. Alhadhrami, A., & Nobanee, H. (2019). Sustainability practices and sustainable financial growth. *Available at SSRN 3472413*.
2. Sharma, K. R. S., & Vidyashree, D. P. B. (2025). The Impact of Financial Literacy on Women's Economic Empowerment in India.
3. Gupta, R. (2025). Women-Led Green Entrepreneurship: Motivators and Challenges. *Available at SSRN 5517519*.
4. Serin Peter, Geetha Elangovan & Anju Gupta (2025) Digital engagement in financial inclusion for bridging the gendered entrepreneurial financial gap: evidence from India, Cogent Business & Management, 12:1, 2518492, DOI: 10.1080/23311975.2025.2518492
5. Kumar, J. S., & Shobana, D. (2023). Evolution and significance of women entrepreneurs in India. *World Journal of Advanced Research and Reviews*, *19*(2), 1445-1458.
6. VOHRA, A. Fostering Inclusive Green Economies: Women's Role in Entrepreneurship and Environmental Innovation. https://doi-ds.org/doilink/07.2025-27561294/IJASS/12.5&6/416-421
7. CRISIL & DBS Bank. (2024, September 30). *52% of women entrepreneurs adopt sustainability practices, only 14% access green finance: Report*. BFSI Economic Times.https://tarutium.com/blogs/sustainable-finance-as-a-driver-for-gender-equality-in-indias-msmes/.indiatimes
8. Tarutium Global Consulting. (2025, May 28). *Sustainable finance as a driver for gender equality in India's MSMEs*. https://tarutium.com/blogs/sustainable-finance-as-a-driver-for-gender-equality-in-indias-msmes/

9. Press Information Bureau, Government of India. (2024, October 30). *India's women entrepreneurs* https://www.pib.gov.in/PressReleasePage.aspx?PRID=2082821
10. *NITI Aayog. (2025). From borrowers to builders: Women's role in India's financial growth.* https://www.niti.gov.in/sites/default/files/2025-03/From-Borrowers-to-Builders-Women%E2%80%99s-role-in-India's-financial-growth-story.pdf
11. Women Entrepreneurs Finance Initiative (We-Fi). (2024). *Women climate entrepreneurs*. https://we-fi.org/wp-content/uploads/2024/06/Womens-Climate_6-28-2.pdf
12. PMF IAS. (2025, June 22). Empowering women in green business. https://www.pmfias.com/empowering-women-in-green-business/
13. Startup India. (2022, November 10). *Women entrepreneurship*. https://www.startupindia.gov.in/content/sih/en/women_entrepreneurs.html
14. Press Information Bureau. (2024). *India's women entrepreneurs* (PDF report). https://static.pib.gov.in/WriteReadData/specificdocs/documents/2024/dec/doc20241210469201.pdf
15. Dun & Bradstreet. (2025, March 20). *Standard Chartered and D&B launch Women Entrepreneurship Optimism Index*. https://www.dnb.co.in/media/press-release-details/3123