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Women Entrepreneurs in Green Businesses: Breaking Barriers in Sustainability

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Abstract

Today's women leaders are performing tremendously in the business world. Even with their tremendously performance their valuable offering in the field of green business is highly unrecognised. An attempt has been made to explore the contribution of female handle and empowering business concerning mainly ecological and social context. Their strategy and problems have also been pointed in the study. The objective of this study to examine case studies of successful women entrepreneurs in green enterprises also examine how they deal with major problems such as lack of finance, limited access to markets and social discrimination.

This research has adopted qualitative exploratory approach, where cases of two Indian social ventures (Eco Femme and Phool). Co has been selected. Eco Femme women manage enterprise situated in Tamil Nadu producing washable cloth pads made with GOTS certified organic cotton. Its main objective is to promotes better menstrual health in an eco-positive and comfortable way while developing a favourable lifestyle and livelihood for underprivileged women. Based in Uttar Pradesh, India, Phool.co is a pioneering start-up that turns tons of discarded temple flowers once destined to pollute the Ganges into eco-friendly incense and "Fleather", a sustainable, vegan leather alternative.

The study is purely based on secondary data. Mainly organization websites, social enterprise reports, media interviews, academic literature and impact evaluations has been used to collect required information. To interpret the data, this paper used thematic analysis centred on three main objectives: (a) entrepreneurial experience and sustainable business model, (b) challenges encountered and strategies utilised and (c) impacts and learning for potential female entrepreneurs in the future.

The study reports that Eco Femme and Phool.co have succeeded in providing green alternatives to popular products. Furthermore, they have changed the dialogue regarding women and our role in the sustainability conversation.

By venturing into the overlooked sectors of menstrual hygiene and floral waste, Kishore and Ankit transformed stigmatized industries into leading examples of sustainable

entrepreneurship. In spite of many challenges these entrepreneurs have learned to overcome the challenges through a variety of means including cross-subsidies, provider engagement, digital marketing, skill building and community-based mobilization.

As per the research a more holistic strategy is required to improve women empowerment within the green business environment. Financial aids for women-led innovation, vocational training in environment sectors; developing market linkages, support for sustainability certificates, and encouraging community based decentralized green enterprises is much needed. Also, to get more women leading in sustainability, we need to focus on education, storytelling, digital technology, and supportive policies. At the end, this research highlights that women empowerment in green entrepreneurship is not only gender equity imperative; it is also a strategic route towards environmental and social sustainability.

Keywords: Women Entrepreneurs, Green Business, Sustainable Development, Economic Empowerment

Introduction:

Women entrepreneurs are growingly being recognized as key players in improving sustainable development, especially in developing countries. Their businesses not only contribute to economic growth but also handle critical environmental issues by developing eco-friendly solutions. Most of the women are focusing on green businesses, but they are not fully aware about the factors which can lead their business success. In the field of emerging economies how women entrepreneurs work in eco-friendly sectors, the study was undertaken. It also highlights different opportunities that women entrepreneur found and the challenges they faced while running their business in this sector.

Women are taking a great part in forming eco-friendly businesses all over the world, especially in Sub-Saharan Africa. Converting waste material into useable product they have designed innovative products which are eco-friendly. Their innovative offering in the market has minimised environmental pollution also. These days, creative approaches have been adopted to solve the problems like plastic waste and deforestation. Instead of throwing waste material, they convert it in to useful products which people can use on regular basis. Their green business initiatives have shown favorable impact to the environment as well as to the society. Eco-friendly transportation project has also undertaken which reduce environmental problems and at the same time it works local community development also. These efforts showed how women entrepreneurs are using sustainable business models to deal crucial environmental issues.

In many times women faced difficult period in terms of funding requirements, technological inefficiency also faced gender-based discrimination. Women's active participation in the workforce becomes questionable due to some societal and political limitation. Many of them faced challenges to convert their green business idea into sustainable business due to lack of financial, technical and other institutional support. Cooperative approach is much needed to support women in green entrepreneurship.

This study highlighted the challenges faced by women entrepreneur by understanding the success stories of many women led green business. It has also pointed out the measures they adopted to overcome these challenges. The findings of this study will give valuable insights to policy maker, Government and other related organization showing in order to

women in the world of green business. This study focused the importance to develop a comprehensive and encouraging surrounding for women entrepreneurs.

Literature review:

Most of the researchers have viewed at how women become entrepreneurs and what helps or holds them back; particularly when it comes to running businesses that are environment and society friendly. Earlier study reported support from the government, access to money and equal opportunities are very important for women to succeed in business. In this section what past research says about the challenges women face, the support they need, and how their businesses can grow in a sustainable way is discussed?

Alzamel (2024) assessed how e-entrepreneurship can contribute to sustainable economic growth, focusing on Saudi women entrepreneurs. The study examines how the uses of digital tools have benefited women in Saudi Arabia overcome traditional obstacles to business by using e-commerce platforms to create green and sustainable businesses. The findings show that e-entrepreneurship is an important driver of women's economic and business growth.

Al-Qahtani et al. (2022) studied how women entrepreneurs contribute to sustainable development and help diversify the economy in countries rich in natural resources, with a focus on Qatar as an example. With the help of a systems-thinking approach and a validated conceptual framework, they explore key barriers cultural constraints, skill gaps, limited funding, and procedural hurdles and propose five integrated policy solutions.

Barrachina Fernández, García-Centeno, and Calderón Patier (2021) undertaken a systematic review of 28 peer-reviewed articles from 1980 to 2021 to examine the link between women's entrepreneurship and sustainability. The study explored four main areas i.e. gender differences, entrepreneurial impact, sustainable tourism and emerging perspectives. It also found that women entrepreneurs are more willing to socially and environmentally responsible ventures, especially in areas like tourism and community development.

Celestin and Vanitha (2018) studied how eco-entrepreneurs are developing businesses that balance both profit motive and environmental protection. To examine the factors, they have conducted many interviews in renewable energy sector, sustainable farming and waste management.

Gochhayat and Rout (2025) undertaken a study to examine the success of government initiatives to develop women entrepreneurs in manufacturing sector. The study found government support initiatives has formed a favourable impact of women-based businesses. It has reflected in their sales turnover.

Kimuli, Sendawula and Nagujja (2022) took a closer look at how women-owned microenterprises in Uganda's Owino market are actually tackling sustainable business. Rather than just looking at numbers, they sat down for in-depth interviews with ten different business owners to get the real story. By filtering these conversations through the lenses of Triple Bottom Line and Bricolage theories, the researchers highlighted how these women are making sustainability work on the ground focusing on everything from waste recycling and energy efficiency to keeping their employees motivated despite the hurdles they face.

Pérez-Morón, Thoene, and García Alonso (2023) examined how micro franchises can support women's entrepreneurship and sustainability in post-conflict Colombia. The study focuses on TechOil, a business run by women who have survived violence. It shows that starting this business out of necessity helps these women become independent.

Rahayu (2024) studied what motivates women in Indonesia to start eco-friendly businesses after COVID-19 pandemic. The results show that the pandemic increased women's awareness of environmental issues and boosted their confidence in starting green businesses. It highlights how both personal beliefs and the environment influence women's decisions to start sustainable ventures.

Mwesigwa et al. (2024) studied how institutional support like financial support, government policies and programs affect the sustainability of female-owned businesses in Uganda. The study found that all three dimensions of institutional support are significantly and positively associated with female business sustainability across economic, social, and environmental indicators. The research also focuses the importance of an enabling ecosystem including accessible finance, favourable regulations and targeted programs for enhancing the long-term viability of women-led enterprises.

Mahajan and Bandyopadhyay (2021) studied how women entrepreneurs help promote sustainability through their work in the energy sector. After reviewing existing literature, the authors analyze eight women-led enterprises across Asia, Africa, and the US.

Naguib and Barbar (2025) in their study used a three-level framework individual (micro), organizational (meso), and societal (macro) to examine the factors that support or restrict women's entrepreneurial participation. These factors were further interpreted through cognitive, normative, and regulative dimensions.

Objectives of the study:

The study is based on the following objectives:

1. To examine the success stories of female founders who are leading the way in the green economy.
2. To explore how these founders actually passed through the barriers of limited capital and gender-based biases to sustain in the market
3. To identify meaningful insights from the success stories to help bridge the gap for future female entrepreneurs in the green economy.

Research Methodology:

Through a qualitative and exploratory study, this research studied the important role played by women in the field of green business. Through these approaches comprehensive understandings of how these women entrepreneurs are actively participating and contributing sustainability goals of the nation. The main aim of this study is to analyse real life experiences of women driving enterprises as they face some common problems in the sustainability sector. By looking closely at how these entrepreneurs face and handle financial gaps, limited access to market and gender-based biases. The research also examined the prominent strategies and lessons that can inform future efforts to empower women in sustainable entrepreneurship.

This study adopted case study method to investigate the real-life difficulties of sustainable business. Taking the base of **Eco Femme** and **Phool.co**, the study furnishes a detailed observation at how women-led enterprises manage growth while maintaining an

environmental mission. These two cases form as the heart of our discussion into the 'how' and 'why' of green entrepreneurship

The information for the case studies has been collected through the websites of organizations reports on how they are doing with sustainability, briefs for investors groups that work with social enterprises, media and articles from academic people. The study also looked at what other researcher have written about women who start their businesses.

The case study analysis was divided by three thematic areas as per the objectives of the study:

1. **Entrepreneurial Journey and Business Model**– This aspect looks at how the enterprise began the ideas and innovations that shaped its development, and the ways in which sustainability has been integrated into its business operations.
2. **Barriers and Strategies**– This part examines the major difficulties faced by the enterprise, particularly in obtaining finance, reaching markets, and gaining social acceptance, and explains the practical steps taken to address these challenges.
3. **Impact and Lessons Learned**– This section evaluates the social, environmental, and economic contributions of the enterprise, with special attention to its role in promoting women's empowerment and demonstrating leadership in sustainable practices.

The study undertook **athematic analysis** approach was used to analyse and interpret observed data. Happening themes were studied to find out patterns and insights that sound across both case studies. This method allowed for the creation of a inclusive understanding of the actual realities of women entrepreneurs in the green business and the impacting factors behind their success.

Case Study on Eco Femme:

Eco Femme is women founded social enterprise, based in Tamil Nadu, India. This is sustainable entrepreneurship in menstrual health with re-useable cloth pads that are environmentally friendly and socially responsible. Eco Femme preserves the environment, while also providing avenues for social and economic empowerment. Their pads are made from GOTS-certified organic cotton. They are intended to last about 75 washes, or nearly four years of use. These products are naturally clean and sustainable; they have offered a wide range of products to meet their customer's needs. Eco Femme operates a cross-financing model in which sales volume from the upscale and foreign market helps subsidize the cost of production for women to make the product affordable and sustainable. The company earns revenue through several channels including sales on its website, partnerships with NGOs and retail channel participation.

The effective and ethical Eco Femme model contains various elements of sustainability, such as materials and certification, as well as the principles, for instance, transparency and equality. Eco Femme used numerous elements of sustainability, for instance, natural cotton to represent comfort, durability and gentleness. The initiative contains several repeating practices from the moral collection and the ethical business guidelines. The pads comprise layers of cotton that are slightly thick, contributing to the waste-minimizing appearance of the organization's reach. Eco Femme's circulation has a structured reach as the organization applied ethical principles to deliver an excellent result. The initiative also contains a sense of depth since it is angled on sustainability and ethical practices.

Giving education to the people is also one part of Eco Femme's mission. Eco Femme applied the principles of education while operating, for instance, awareness campaigns and training programs. The scale and proportion of Eco Femme can be explained using traditional programs, which possess a similar distribution. The latter results in distortion of the outreach since it has a massive head to body ratio presenting a child-like figure. The Eco Femme sensitization lies in a well-structured space and is scaled to a reasonable degree. It is a large-scale outreach of more than 110,000 women and girls from schools to NGO collaborations. Eco Femme's mission by the organization implies the elements and principles of health such as education and adoption. The initiative has training programs to indicate knowledge and awareness and a reasonable amount of collaboration for sensitization. It comprises three pillars with the organization occupying the most prominent space and two NGO and school backgrounds, both being at the top. The positioning of the mission is community-centered, exerting weight on one side, thus making it have organizational balance.

Eco Femme's main challenge revolves around the perception of reusable menstrual products by people. Satisfaction as well as habitual behaviour along with certain beliefs makes it quite difficult for many women to switch from disposable pads to reusable ones. Hygiene is also not well understood and accepted, making acceptance more difficult. Keeping this in mind, Eco Femme has invested a lot into education and brand awareness. The organization conducts community-based campaigns to eradicate misconceptions. These initiatives make women understand the importance of reusable cloth pads in long run.

Financial sustainability is another issue that Eco Femme needs to cope with. Eco Femme has to find the right balance between sustaining the cross-subsidy model and realising its long-term financial objectives. Their business relies on selling in foreign markets to be able to offer its products at a pauper rate for lower income generating Women in India. Income from the international market is crucial for financial stability. Eco Femme also requires consistent funding for product / design, marketing & outreach programs. In order to meet these demands, the enterprise has engaged in crowd funding and strategic partnerships to keep their business afloat whilst creating more opportunities for growth.

Case Study on Phool.co:

Phool. Co – is an Indian green start-up from Kanpur that empowered & enhanced women to transform the floral waste ecosystem in India. Founded in 2017, Ankit Agarwal is its founder. One such company is Phool, an upcycling company that repurposes old flowers from temples and makes handmade Incenses along with Compost and "Fleather", a 100% compostable vegan alternative to cow leather. What started off as a protest against the fallout of hundreds of tons worth of temple waste being released into our water bodies is now becoming an enterprise which not only talks about sustainability but also social empowerment by way of environmental development and societal upliftment.

Phool's co is based on circular economy principles which are one of its major strengths. The company collects raw materials locally; used flowers from temples; and processes them using its own methods. It sells its sustainable products in both domestic and international wholesale markets, e-commerce markets as well as through collaborations with sustainable fashion and wellness lifestyle brands. It has fair for Life - Fair-trade and Ecocert Organic & Natural certifications which increase credibility in the global market for

eco-friendly consumers. Importantly, Phool's co is being developed by women. The initiative has provided a decent livelihood to more than 100 Dalit women who used to engage in Manual Scavenging earlier. The women are trained in flower picking, the manufacturing of products and packaging so that they can become financially independent as well as socially empowered.

Phool. Co faced multiple challenges – mainly funding, market access and stigma. In the beginning, a lot of investor money took time to come in because people were hard-pressed to invest in such an unconventional business-like flower recycling. But, Phool increasing dual environmental and social return on investment by proving them. Co to raised high-profile constituents including IAN Fund, Social Alpha and Alia Bhatt. This also meant that Phool.co could speed up and scale up its R&D operations for products like Fleather. Market entry for Phool was through the unorganized incense and fragrance market with a strategy based on quality, branding and certification. Certifications from Fair-trade and Ecocert provided access to premium markets, both domestically in India and internationally. Initially, recruitment of women from below-the-line castes faced opposition to doing so in the localities. Phool. Co mitigated this by holding monthly community dialogues and preparing a case for how to empower these women. With these women's financial independence and visibility, society started to change. To address these challenges, Phool. Co staying to this tune for those who do educations and research partnerships such as international Partnership such as with IIT Kanpur to promote innovation and credibility. Storytelling through digital media was also very effectively used in communicating the why of the brand which helped pull customers as well as collaborators toward it.

Discussion:

Case studies of Eco Femme and Phool. Ownership in the "Green" Economy business practices of women-led or women-enabling green businesses will have a cascading impact without violating the balance between ecology, economy, and society. They belong to different fields (menstrual health and floral waste management), yet both share examples on how sustainability could be embedded at the core of a business model to yield ecological as well as social returns. But one measure of success all these ventures share is that they have established new standards for the convergence of innovative practice with deep social mission. Eco Femme pioneered in an arena, menstrual health, that has for too long been relegated to the shadows by making reusable organic cotton pads and funnelling menstrual education into its outreach. Phool. Co, in contrast, made what was considered a back seat problem – temple flower waste – into a globally met need through the innovation of "Fleather" and other biodegradable products. These innovations not only help the environment; they also redefine how some consumers think about eco-living.

Both start-ups managed to break financing, market access, and social mores on their way there. Eco Femme accessed a cross-subsidy model and with some effort in education campaigns succeeded in breaking resistance to reusable for menstruating women and girls. Phool.co gathered high-profile support by underscoring the double-edged impact of its environmental and social mission by tackling caste-based prejudices head-on through employment and empowerment of marginalized women. These approaches are indicative of a more general pattern in which socially directed green ventures leverage their stories of impact to establish brand legitimacy and attract external support. These results support

that when we provide women with the right levers, such as educations, financial resources, markets, and networks, they can create businesses that not only do financial well, but also are making real contributions to their societies reaching development goals. Furthermore, the twin emphasis on social inclusion and ecological restoration render such enterprises as replicable models in other cases.

Conclusion:

Eco Femme and Phool. Co are examples of how women-led or women enabling green and socially inclusive business can truly contribute to Sustainable Development Goal 13 by merging ecological restoration with social empowerment. Both succeeded against tremendous headwinds— market resistance, financial scarcity and social stigma— by intertwining their innovative operations with a deep social mission. Offering fair pay, training and sustainable employment for women is not just a concrete step towards improving their lives— it serves to strengthen community resilience. They were further scaled by strategic alliances, CSR certification and education campaigns. These cases make it clear that backing women with access to education resources will allow climate smart businesses to grow into a model scalable inclusive sustainable development.

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