

NCC's Potential Role in Women's Empowerment through Green Business

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Abstract: *Today world is facing new challenges regarding environmental change, Green business practices is one of the innovations which refer to strategies and operations that minimize environmental impact while promoting sustainability and ethical responsibility. As global awareness of climate change, resource depletion, and environmental degradation increases, businesses are increasingly adopting eco-friendly approaches across their supply chains, production methods, and corporate policies. By integrating these as energy efficiency, waste reduction, sustainable supply sourcing, eco-design, and responsible recycling. Implementing green practices not only helps protect the environment but also enhances brand reputation, fosters customer loyalty, and often leads to long-term and medium-term cost savings.*

NCC can organize training programs and workshops focusing on green entrepreneurship skills targeted at young women cadets, helping them become eco-entrepreneurs or green leaders. Women cadets can be groomed as change agents who mentor community women in sustainable business practices and innovation. NCC can partner with governmental and non-governmental organizations to create platforms where women entrepreneurs get access to resources, markets, and mentorship additionally through NCC's extensive institutional reach. Support for women's green startups can be enhanced through NCC's network and mobilization capabilities. NCC can integrate modules on environmental sustainability and women empowerment in its curriculum, nurturing eco-conscious, empowered women leaders from the cadet level. Special projects can be launched such as "One Cadet, One Tree" with a focus on empowering young women cadets in environmental stewardship and entrepreneurial green business models. NCC units can conduct awareness campaigns on sustainability and women's economic empowerment in schools and local communities, encouraging participation in green business activities. Campaigns like tree planting, waste management, and plastic-free drives led by NCC women cadets can inspire and involve women from their neighborhoods.

NCC trained Women's with all the possibilities which can help the economic empowerment to the society. This paper going to explore the challenges and innovates ideas to be skilled in different areas without distributing environment.

Keywords: National Cadet Corps (NCC), Women empowerment and Environmental sustainability

I. INTRODUCTION

Women's empowerment and environmental sustainability are two critical pillars of inclusive national development. As nations strive to align growth with ecological responsibility, the convergence of gender equity and green entrepreneurship is emerging as a transformative pathway. Green business, with its emphasis on renewable resources, sustainable production, and eco-friendly innovation, not only addresses urgent environmental concerns but also creates new opportunities for women to participate meaningfully in the economy. Within this context, the National Cadet Corps (NCC), as one of the largest uniformed youth organizations in India, holds immense potential to act as a catalyst. The NCC, with its focus on discipline, leadership, and nation-building, has historically contributed to shaping confident and socially responsible youth. By integrating green business initiatives into its training and outreach programs, it can provide young women cadets with the knowledge, skills, and platforms to channel their leadership into sustainable



entrepreneurship. This dual focus—on environmental stewardship and gender empowerment—positions the NCC as a unique institution capable of fostering changemakers who can drive both ecological balance and social equity.

This paper explores the potential role of the NCC in advancing women's empowerment through green business, highlighting how targeted initiatives, training modules, and community engagement can enable women cadets to become champions of sustainability while strengthening their own economic and leadership capacities.

II. LITERATURE REVIEW

The article authored by Pranjali Madhur, Sneha Gupta, Harsha Satramani, and Sumeet Gupta investigates the intersection of technology and sustainable business practices. According to the authors, environmentally conscious businesses extend their focus beyond profit generation, embracing their responsibilities toward societal and environmental well-being. Such enterprises strive for sustainability and actively contribute to the health of their operating ecosystem, thereby fostering an environment that supports their long-term success. The advancement of green technologies aims to facilitate sustainable development by offering economic, environmental, and social benefits, conserving resources and energy, and reducing pollution and environmental degradation. Technology is highlighted as a key driver in addressing the core pillars of sustainability—people, planet, and profit. The article observes a growing trend where businesses employ sustainable practices by integrating technology into their operations, adopting policies and principles that enhance societal welfare and environmental stewardship. This collective shift is promoting a more eco-friendly and sustainable economic landscape. The empirical component of the research involved data collection from 289 business sector professionals, identifying critical variables such as resource management, green product development, environmental monitoring, and renewable energy integration in relation to the role of technology.

Najmaei and Sadeghinejad (2023) present a comprehensive bibliometric review of green and sustainable business models (GnSBMs), examining scholarly progress and identifying future research directions. Drawing from 851 publications sourced from the Scopus database, the authors explore the historical origins, developmental phases, conceptual frameworks, and emerging themes within GnSBMs research. Their study reveals that research on GnSBMs has transitioned from a multidisciplinary foundation—rooted in business strategy (1950s), environmental science (1960s), and stakeholder theory (1980s)—toward an interdisciplinary field integrating these perspectives. Lifecycle analysis indicates that the field experienced an initial growth phase from 2002 to 2013, followed by rapid expansion beginning in 2014, with forecasts predicting sustained growth until around 2040. Conceptual mapping highlights key thematic areas, including circular business models, sharing economy models, and social business models, reflecting the diversification and maturation of the field. The authors advocate for future research that deepens the integration of sustainability principles, technological innovations, and robust measurement frameworks to advance the development and practical application of GnSBMs. This work underscores the critical importance of evolutionary theoretical frameworks and solid empirical bases to address complex sustainability challenges through innovative business models. The bibliometric methodology facilitates a systematic understanding of past trends and sets an agenda to guide scholars and practitioners toward impactful research in sustainability-oriented business modeling.

Dr. A. Jayarani conducted a study on green business practices in India, highlighting that every enterprise, organization, and public company is increasingly adopting green business practices to enhance environmental quality. Over the past decade, these practices have significantly improved and play a crucial role in protecting the environment from natural disasters, pollution, and diseases. The study focuses on the concept of green business practices, exploring their impacts, benefits, and challenges. It also suggests various green business practices that can be implemented universally across different sectors to contribute to environmental sustainability. The research underscores the growing recognition among Indian businesses of their responsibility toward environmental stewardship while balancing economic goals. Overall, green business practices are shown to offer valuable contributions to creating healthier ecosystems and sustainable development.

Entrepreneurs, motivated by a heightened awareness of global environmental challenges, increasingly adopt eco-friendly practices to mitigate negative impacts on the planet. The paper explores various green business models such as circular economy approaches, eco-innovation, and sustainable supply chain management as key enablers of sustainable



entrepreneurship. The environmental impact of sustainable entrepreneurship is assessed through case studies and empirical evidence, demonstrating positive outcomes including reduced carbon footprints, enhanced resource efficiency, and waste reduction.

The review also addresses significant challenges faced by sustainable entrepreneurs, including market acceptance, regulatory constraints, and financial implications, highlighting the importance of a supportive ecosystem for sustainable ventures. Furthermore, the role of technology and innovation—including renewable energy, advanced materials, and data analytics—is examined as a catalyst driving sustainable entrepreneurship forward. The authors emphasize the need for continuous research and development to improve the effectiveness and scalability of green solutions.

This paper contributes to the growing body of knowledge on sustainable entrepreneurship by offering a thorough overview of green business practices and their environmental impact. Its insights serve as a valuable resource for entrepreneurs, policymakers, and researchers navigating the intersection of economic growth and environmental responsibility. Publication history: Received on 29 December 2023; revised on 03 February 2024; accepted on 06 February 2024

Main Hypothesis

Null Hypothesis (H0): The active participation of women cadets in NCC-facilitated green business initiatives has no significant effect on their empowerment, including leadership skills, economic independence, and awareness of sustainable practices.

Alternate Hypothesis (H1): The active participation of women cadets in NCC-facilitated green business initiatives leads to a significant improvement in their empowerment, including enhanced leadership skills, economic independence, and awareness of sustainable practices.

Supporting Sub-Hypotheses

Null Hypothesis (H01): NCC training and mentorship do not increase the propensity of women cadets to pursue green entrepreneurship compared to their peers without NCC experience.

Alternate Hypothesis (H11): NCC training and mentorship increase the propensity of women cadets to pursue green entrepreneurship compared to their peers without NCC experience.

Null Hypothesis (H02): Engagement in green business activities via NCC does not have a positive impact on women's skill development, financial access, and self-confidence.

Alternate Hypothesis (H12): Engagement in green business activities via NCC positively impacts women's skill development, financial access, and self-confidence.

Null Hypothesis (H03): NCC-supported networking and support structures do not help women overcome barriers in green sectors, and do not lead to higher rates of women-led sustainable business success.

Alternate Hypothesis (H13): NCC-supported networking and support structures help women overcome barriers in green sectors, fostering higher rates of women-led sustainable business success.

Research Objectives

Examine the link between NCC training and women's development of leadership and decision-making skills.

Assess the effectiveness of NCC programs in boosting women's participation in eco-friendly business activities.

Identify the challenges women face in NCC-led green business efforts and propose practical solutions.

Analyze the role of NCC's support systems in helping women create and sustain green businesses.

Provide recommendations for integrating women's empowerment and environmental sustainability into NCC strategies.

III. RESEARCH METHODOLOGY

The research will employ a **mixed-methods approach** to gather both quantitative and qualitative data. This will provide a comprehensive understanding of the topic, allowing for statistical analysis of empowerment metrics and a nuanced exploration of the experiences of women cadets.



Research Design

This study will use a **quasi-experimental design** with a **pre-test and post-test** structure. A **control group** of non-NCC women will be included for comparison to isolate the impact of the NCC's initiatives.

Sample and Sampling Strategy

Targeted Sample size: **The sample collected of NCC cadets are 156 in numbers and non-NCC students 256 in numbers of age group 15 to 30 years.**

Target Population: Women cadets aged 18-24 from various NCC directorates across India, specifically those participating in or exposed to green business-related activities. A control group of non-NCC women from similar educational backgrounds and age groups will also be sampled.

Sampling Method: A **stratified random sampling** approach will be used to select cadets from different colleges of Mumbai. For the control group, a **convenience sampling** or **matched-pair sampling** method will be used to select individuals with similar demographic characteristics to the cadets.

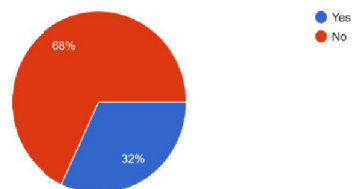
Data Collection Methods

Surveys: A structured questionnaire will be administered to both the NCC and Non NCC control groups at two points in time.

IV. DATA ANALYSES AND INTERPRETATION

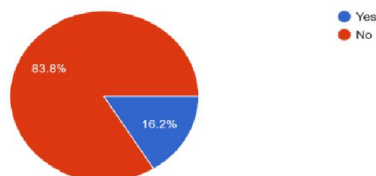
Non- NCC Students.

4. Have you heard about green business practice?
247 responses



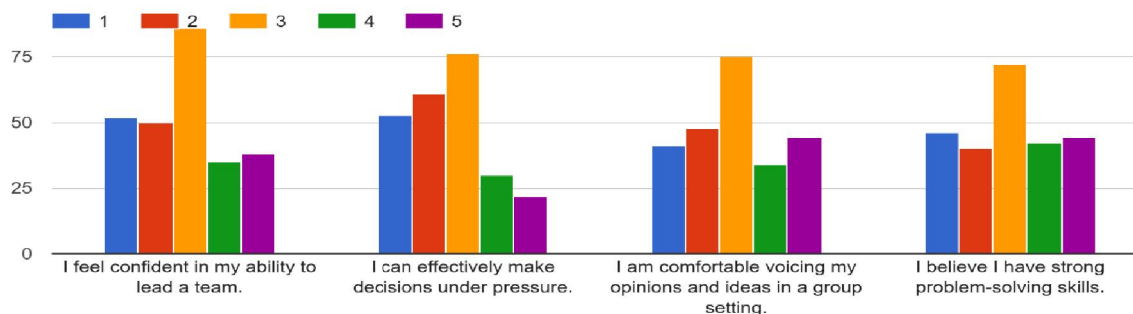
The pie chart represents survey responses from 247 participants. 68% are not aware about the green business where only, 32% are aware of green business practices.

5. Have you participated in any green business-related training or activities?
247 responses



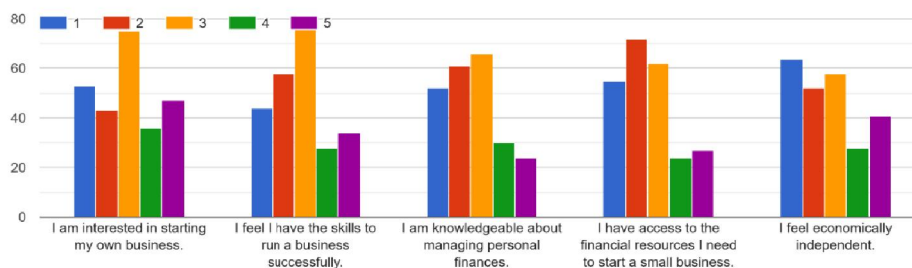
The participation in any green business activities only 16.2% and 83.8%, have not participated, among 247 participants.

6. Please rate your agreement with the following statements on a scale of 1 to 5, where 1 = Strongly Disagree and 5 = Strongly Agree.



This chart provides a nuanced understanding of participants' confidence levels and perceived competencies in critical soft skills that are essential for effective leadership and teamwork. But in Non -NCC students this is lacking.

7. Please rate your agreement with the following statements on a scale of 1 to 5, where 1 = Strongly Disagree and 5 = Strongly Agree.



"I am interested in starting my own business."

A lack of exposure to business concepts, the group is not monolithic in its business aspirations.

"I feel I have the skills to run a business successfully."

lack confidence in their own business skills.

"I am knowledgeable about managing personal finances."

This indicates a general lack of confidence or knowledge in personal finance management.

"I have access to the financial resources I need to start a small business."

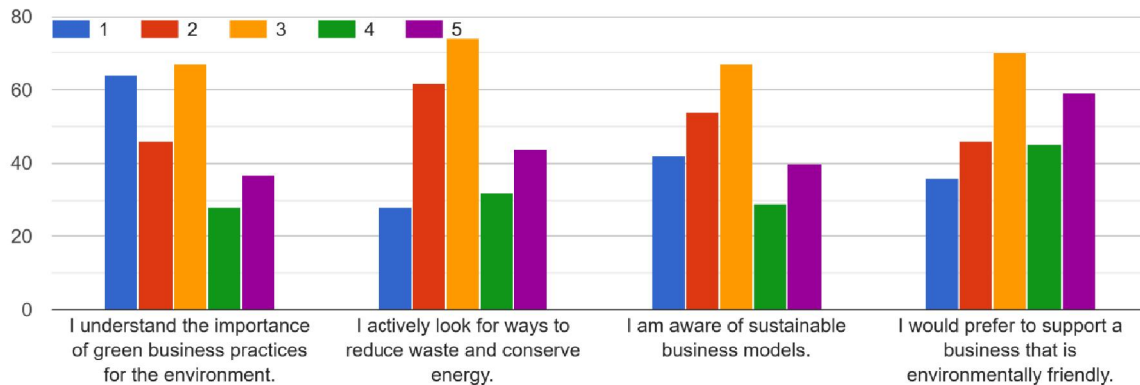
Most participants do not believe they have the financial means to start a business.

"I feel economically independent."

This lack of independence is a key driver for the perceived barriers.



8. Please rate your agreement with the following statements on a scale of 1 to 5, where 1 = Strongly Disagree and 5 = Strongly Agree.



1. "I understand the importance of green business practices for the environment."

A large portion of respondents either do not understand or do not value green business practices, environmental awareness in business is lacking.

2. "I actively look for ways to reduce waste and conserve energy."

A significant portion are environmentally conscious in their behavior, many are not yet committed to action.

3. "I am aware of sustainable business models."

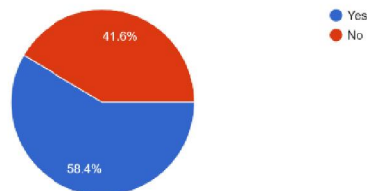
Moderate level of awareness, people are somewhat informed but not deeply knowledgeable.

4. "I would prefer to support a business that is environmentally friendly."

Most respondents are willing to support green businesses, and adopting eco-friendly practices.

NCC Cadets

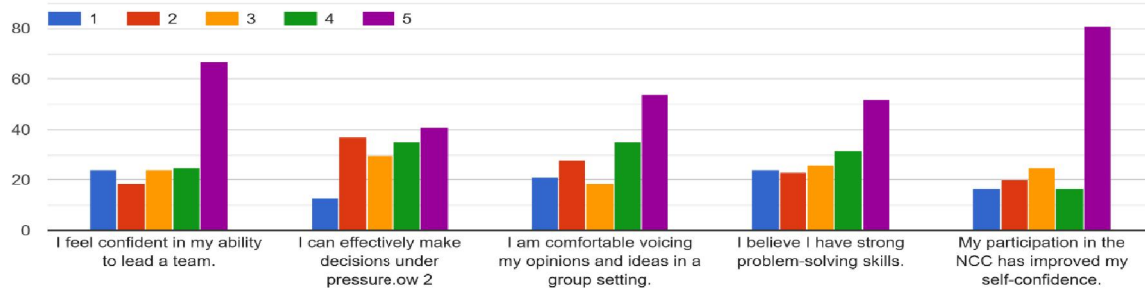
5. Have you participated in any green business-related training or activities with the NCC?
154 responses



Out of 154 total responses, a majority of respondents have participated 58.4% and 41.6% not participated. The data reflects a strong foundation of engagement with green business training through the NCC, but also reveals a significant gap in participation.



6. Please rate your agreement with the following statements on a scale of 1 to 5, where 1 = Strongly Disagree and 5 = Strongly Agree.



1. "I feel confident in my ability to lead a team."

There is a strong consensus on high self-assessed leadership ability, with 'Strongly Agree' dominating.

2. "I can effectively make decisions under pressure."

While positive, the agreement is slightly less polarized than the first statement,

3. "I am comfortable voicing my opinions and ideas in a group setting."

Most respondents feel comfortable participating in group discussions.

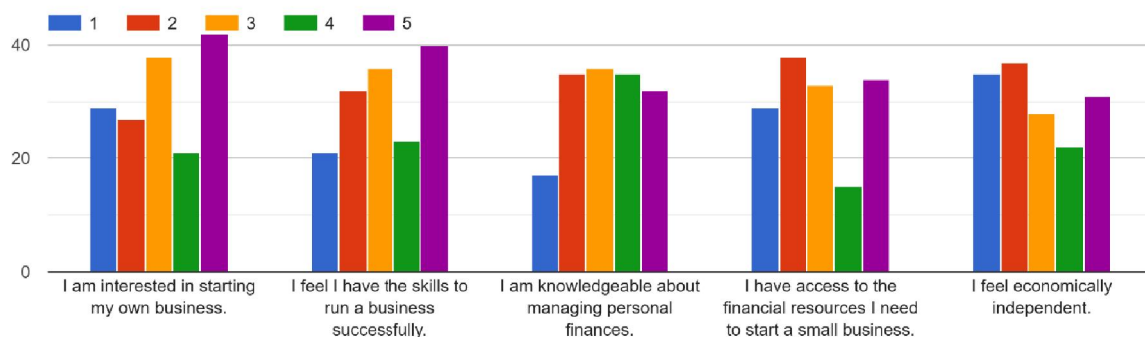
4. "I believe I have strong problem-solving skills."

Respondents generally feel confident in their problem-solving abilities.

5. "My participation in the NCC has improved my self-confidence."

The survey provides strong evidence that participation in the NCC, is highly successful in boosting participants' self-confidence.

7. Please rate your agreement with the following statements on a scale of 1 to 5, where 1 = Strongly Disagree and 5 = Strongly Agree.



1. "I am interested in starting my own business."

The majority expresses an interest in starting a business, but a notable segment strongly disagrees.

2. "I feel I have the skills to run a business successfully."

There is strong self-belief regarding the necessary skills for successful business operation.

3. "I am knowledgeable about managing personal finances."



Respondents generally feel knowledgeable about personal finance, with a slightly more cautious (Neutral/Agree) self-assessment compared to business skills.

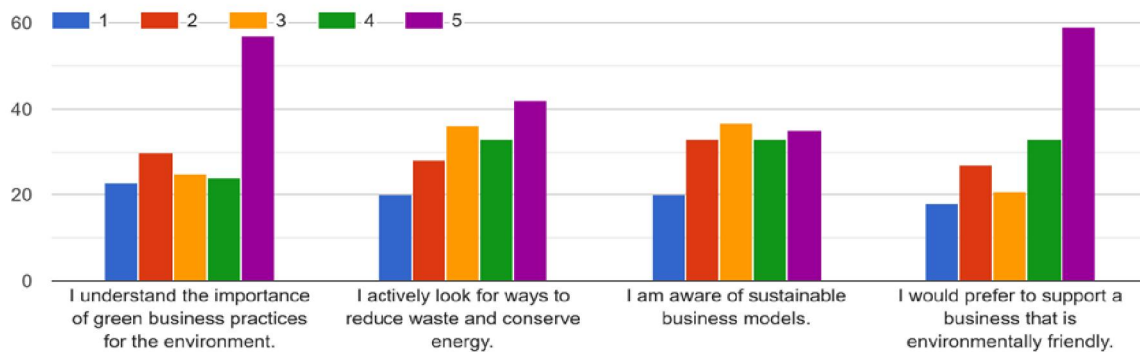
4. "I have access to the financial resources I need to start a small business."

A majority of respondents feel they lack the necessary financial resources to start a small business, despite expressing high interest and perceived skill.

5. "I feel economically independent."

The perception of economic independence is quite divided, with a slight majority leaning towards not feeling independent.

8. Please rate your agreement with the following statements on a scale of 1 to 5, where 1 = Strongly Disagree and 5 = Strongly Agree.



1. "I understand the importance of green business practices for the environment."

There is a very strong consensus that respondents understand the environmental importance of green business practices.

2. "I actively look for ways to reduce waste and conserve energy."

A large portion of respondents actively engages in personal efforts to conserve resources, although 'Strongly Agree' is not as dominant as in the first statement.

3. "I am aware of sustainable business models."

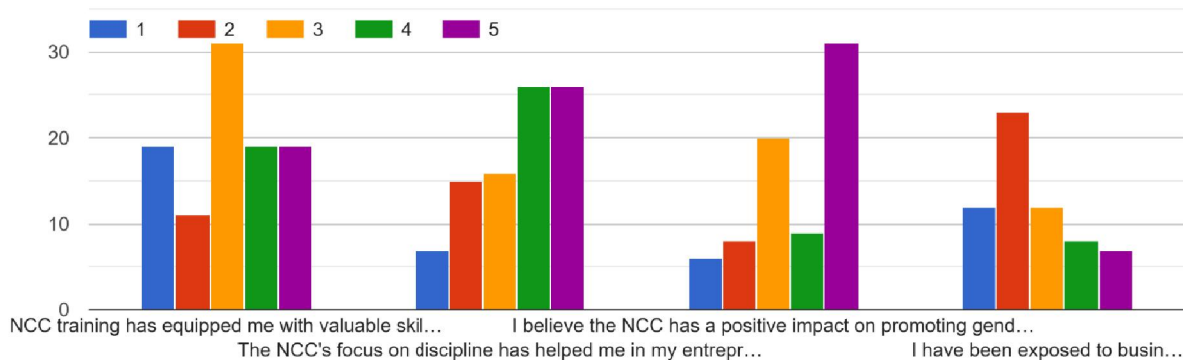
While most are aware, the high count for 'Neutral' suggests that awareness may not be as strong or confident as their understanding of the *importance* of these practices.

4. "I would prefer to support a business that is environmentally friendly."

There is a very strong market preference among respondents to support businesses that demonstrate environmental responsibility.



9. Please rate your agreement with the following statements on a scale of 1 to 5, where 1 = Strongly Disagree and 5 = Strongly Agree.



1. "NCC training has equipped me with valuable skills..." (First statement)

While a significant portion agrees the training was valuable, the single most common response is neutral, suggesting that a large group neither strongly agrees nor strongly disagrees that the skills gained are "valuable." Disagreement is also notable.

2. "The NCC's focus on discipline has helped me in my entrepreneurship."

Respondents generally believe the discipline learned through NCC has been beneficial for their entrepreneurial development.

3. "I believe the NCC has a positive impact on promoting gender equality)"

There is a strong perception that the NCC has a positive effect on promoting gender equality.

4. "I have been exposed to business/entrepreneurial exposure."

A significant portion of respondents, particularly those who Disagree, indicate that they have *not* been exposed to business or entrepreneurial opportunities through the program.

V. CONCLUSION

NCC Builds Core Leadership Skills: The NCC provides structured experiences that enhance **confidence, self-reliance, and interpersonal skills** in women. This environment helps break gender stereotypes and prepares women for leadership roles in both civic life and entrepreneurship.

Encourages Green Business Engagement: NCC cadets, especially women, show **significantly higher awareness and active participation** in green business and sustainability initiatives compared to non-NCC students. This is a direct result of the program's emphasis on environmental training and practical activities.

Challenges Still Remain: Despite the positive impact of NCC training, women-led green businesses still face major obstacles. These include **limited access to finance and mentorship**, along with systemic issues like complex regulations and deep-seated social norms.

Need for Stronger Support Systems: The support systems within the NCC—such as peer networks and mentorship—are helpful but need to be **further strengthened**. To truly empower women entrepreneurs, more targeted support is needed, including dedicated funding, specialized business incubators, and easier access to government resources.

Shaping Leadership and Decision-Making: NCC training is crucial for developing women's leadership and decision-making skills. It provides structured experiences that build **confidence, self-reliance, and interpersonal skills**, which are vital for both civic leadership and entrepreneurship.



Breaking Gender Stereotypes: The NCC's discipline-focused environment and exposure to leadership roles help to **break gender stereotypes**. This enables women to challenge social barriers and become empowered, capable leaders.

Fostering Environmental Awareness: NCC cadets demonstrate a much higher awareness and participation in **green business and environmental sustainability** initiatives compared to their non-NCC peers. A large majority of non-NCC students (83%) were unaware of such programs.

Encouraging Green Entrepreneurship: NCC programs are effective in increasing women's participation in eco-friendly business initiatives. Female cadets develop a greater awareness of sustainable practices and are more likely to **initiate or support green businesses**.

Addressing Challenges for Women Entrepreneurs: While NCC training builds confidence, women still face significant challenges when starting green businesses. These include:

- Limited access to finance and mentorship.
- Complex regulatory requirements.
- Deep-seated social norms and gender bias.
- Digital divides.

The Need for Stronger Support Systems: The text highlights that existing support systems within the NCC, such as peer networks and mentorship, are helpful but need to be **strengthened**. To better support women entrepreneurs, there should be more targeted policy support, dedicated funding, specialized incubators, and streamlined access to government resources.

Recommendation

- Introduce dedicated green business modules within NCC curricula, with a focus on real-world entrepreneurship, regulatory awareness, and digital skills.
- Develop mentorship and leadership programs for women cadets, paired with successful female entrepreneurs and environmental leaders.
- Advocate for inclusive and gender-sensitive policies, simplifying access to credit, grants, and incubation services tailored for women-led green startups.
- Organize nationwide awareness and capacity-building campaigns addressing gender biases and demonstrating success stories of NCC women in green businesses.
- Expand networking forums and digital platforms under NCC's aegis to help women access market information, digital commerce, and professional connections.
- Encourage the integration of women's empowerment and environmental goals in all NCC outreach and program evaluation metrics.

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