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**Research Article** 

## NCC Girls as Climate Leaders: Gender Sensitization through Environmental Activities in Mumbai

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### **Abstract**

This research paper examines the pressing global challenges of climate change and environmental degradation, emphasizing the need for proactive involvement from all sectors of society. The National Cadet Corps (NCC) plays a crucial role in advocating for environmental sustainability while cultivating leadership skills among youth. Specifically, this study highlights the evolving role of NCC girl cadets in Mumbai as climate leaders, exploring how their participation in environmental initiatives fosters both gender sensitization and empowerment. Through initiatives such as tree plantation drives, coastal clean-ups, waste management campaigns, and climate awareness programs, NCC girls actively contribute to ecological conservation while challenging traditional gender norms. Their involvement in these activities enhances leadership skills, builds confidence, and promotes civic responsibility. However, despite their contributions, they encounter societal biases, resource limitations, and safety concerns, which hinder their full participation in environmental activism. This paper examines the intersectionality of gender and climate leadership by highlighting the transformative impact of environmental engagement on NCC girls. It underscores the need for policy interventions, including structured environmental training, increased funding, safety measures, and institutional recognition, to optimize their contributions. By addressing these challenges, NCC cadets can be further empowered to take on leadership roles in sustainability efforts, ensuring a more inclusive approach to climate action. The study concludes that

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integrating gender-sensitive policies within NCC's environmental initiatives can bridge the gap between youth engagement and climate governance. Recognizing NCC girls as key stakeholders in environmental leadership not only strengthens India's commitment to sustainable development goals but also fosters a more equitable and resilient future. Their participation serves as a model for empowering young women in environmental conservation, ultimately reinforcing the crucial link between gender equality and climate action.

**Keywords-** NCC, Climate Leadership, Gender Sensitization, Environmental Activities, Women Empowerment, Youth Engagement.

#### Introduction

Climate change has emerged as one of the most pressing global challenges of the 21st century, necessitating urgent and collective action from all sections of society. Women, especially young girls, are increasingly being recognized as crucial stakeholders in climate leadership due to their unique perspectives, resilience, and ability to drive community-based solutions. In urban centres like Mumbai, where environmental degradation, pollution, and climate vulnerabilities are escalating, the role of young leaders in climate action is critical. The National Cadet Corps (NCC), a premier youth organization in India, provides an excellent platform for young girls to engage in climate initiatives while simultaneously fostering gender sensitization. The NCC's structured training program instills discipline, teamwork, and leadership qualities among cadets, equipping them with the necessary skills to become climate advocates. The integration of gender sensitization with environmental activities within the NCC framework presents a novel approach to climate leadership. Through diverse eco-conscious initiatives, such as afforestation drives, waste management programs, water conservation efforts, and disaster preparedness drills, NCC girls are emerging as pivotal change-makers in Mumbai's environmental landscape. These activities not only contribute to ecological sustainability but also challenge traditional gender roles by empowering young women to lead in domains often dominated by men. Gender sensitization within the NCC enables cadets to develop a holistic understanding of environmental justice, ensuring that climate solutions are inclusive and equitable. The NCC, a youth development organisation under the Ministry of Defence, plays a significant role in fostering discipline, leadership, and a sense of duty among young cadets. With over 1.3 million cadets across the country, the NCC represents a vast reservoir of trained and motivated individuals who are committed to serving the nation. Traditionally, the NCC has contributed to national security through its involvement in disaster management, community development, and aid to civil authorities during crises.

Mumbai, a coastal metropolis with a high population density, faces numerous environmental challenges, including rising sea levels, urban flooding, air pollution, and loss of biodiversity. The city's vulnerability to climate change underscores the need for proactive interventions led by the youth. NCC girls, through their structured training and engagement in environmental activities, are playing a transformative role in mitigating these challenges. Their participation in awareness campaigns, community outreach, and eco-friendly projects not only

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fosters a sense of responsibility but also encourages societal shifts towards gender equality in leadership and decision-making. One of the key aspects of NCC's environmental engagement is its alignment with the Sustainable Development Goals (SDGs), particularly Goal 5 (Gender Equality) and Goal 13 (Climate Action). The participation of girls in climate initiatives within NCC dismantles stereotypes associated with leadership and environmental activism, paving the way for greater female representation in decision-making spaces. In Mumbai, where urban environmental activism is gaining momentum, NCC girls serve as exemplars of grassroots climate leadership. By engaging in fieldwork, conducting research on climate trends, and implementing sustainable practices within their communities, they contribute to a greener and more gender-inclusive society.

Beyond military training, the NCC curriculum places significant emphasis on leadership development, personality enhancement, social awareness, community engagement, disaster preparedness, adventure activities, health and hygiene, and environmental sustainability. This dynamic youth organization nurtures leadership qualities, instills social responsibility, and fosters patriotism among young individuals. Since its establishment, NCC has consistently encouraged the participation of girl cadets, resulting in a steady increase in female enrolment. Through camps, debates, symposiums, and a variety of activities at different levels, NCC actively involves cadets, providing them with valuable exposure and hands-on experience. Institutional training familiarizes cadets with a "regimental way of life," while camp training allows them to apply theoretical knowledge in real-world scenarios. By offering equal opportunities, strengthening physical and mental resilience, and promoting discipline and integrity, NCC plays a crucial role in shaping the women leaders of the future.

Moreover, gender sensitization in NCC extends beyond climate action. The rigorous training provided by the organization cultivates confidence, resilience, and adaptability in young girls, enabling them to challenge patriarchal norms and take up leadership roles in environmental governance. Activities such as trekking, survival training, and eco-patrolling not only enhance their physical endurance but also instill a deep-seated commitment to conservation. By participating in such programs, NCC girls develop a nuanced understanding of how gender intersects with environmental challenges, allowing them to advocate for policies and interventions that cater to the needs of all social groups. The role of NCC girls in climate leadership also has significant implications for policy and governance in Mumbai. Their engagement in local civic initiatives, collaborations with municipal bodies, and interactions with environmental policymakers amplify their voices in decision-making processes. This not only enhances their leadership potential but also ensures that youth-led climate action is recognized and integrated into broader sustainability frameworks. The mentorship and training provided within NCC further prepare these young cadets for careers in environmental science, public administration, and social activism, thereby reinforcing the long-term impact of their contributions.

Furthermore, NCC's emphasis on community service fosters a spirit of environmental stewardship among its cadets. Girls involved in NCC-led climate projects often extend their

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learning to schools, neighbourhoods, and social groups, effectively multiplying the impact of their initiatives. The ripple effect created by their active participation encourages more youth, especially young women, to engage in environmental conservation efforts. This democratization of climate action ensures that sustainability efforts are not confined to governmental or institutional frameworks but are deeply embedded in the fabric of society

Despite these promising developments, challenges remain in fully integrating gender sensitization with environmental activism within NCC. Societal attitudes towards women in leadership, limited access to resources, and structural barriers within the organization sometimes hinder the full realization of girls' potential as climate leaders. Addressing these challenges requires targeted policy interventions, enhanced funding for NCC's environmental programs, and greater representation of women in NCC's decision-making bodies. Additionally, fostering partnerships with NGOs, academic institutions, and corporate entities can further strengthen the impact of NCC girls' contributions to climate leadership in Mumbai. The intersection of gender sensitization and environmental activities within NCC presents a powerful model for sustainable development in Mumbai. By equipping young girls with leadership skills, environmental awareness, and a sense of social responsibility, NCC is nurturing a generation of climate-conscious citizens. As these cadets continue to engage in meaningful environmental initiatives, they not only combat climate change but also redefine gender roles in leadership and community engagement. The role of NCC girls as climate leaders, therefore, extends beyond immediate ecological benefits—it represents a paradigm shift towards a more inclusive, equitable, and sustainable future.

## Historical Evolution of Women in NCC and Climate Leadership

The National Cadet Corps (NCC) in India was established in 1948, primarily as a youth organization aimed at instilling discipline, leadership, and a sense of national service among students. However, it was not until 1952 that girls were officially inducted into NCC, marking a significant step towards gender inclusivity. Initially, their participation was limited, but over the decades, their numbers have grown, and their roles have expanded beyond traditional areas to include leadership in environmental and social initiatives. Today, NCC girls play a crucial role in various domains, including disaster management, afforestation, and climate resilience efforts, demonstrating their capability as future leaders. The involvement of women in climate leadership is not limited to NCC alone. Globally, women have been at the forefront of environmental conservation. One of the most prominent examples is Wangari Maathai, the Kenyan environmentalist and Nobel Laureate, who founded the Green Belt Movement, mobilizing women to plant millions of trees to combat deforestation. In India, women-led movements such as the Chipko Movement (1970s) saw women in Uttarakhand hug trees to prevent deforestation, highlighting the deep-rooted connection between women and environmental activism. Today, NCC girls cadets in Mumbai and across India are taking up climate leadership roles through urban greening projects, plastic-free campaigns, and water conservation efforts. Their participation not only contributes to environmental sustainability but also challenges societal norms that often limit women's leadership in public spaces. By

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integrating gender sensitization with environmental initiatives, NCC is shaping a new generation of women climate leaders who can drive sustainable change at both local and national levels.

### Overview of Mumbai's Environmental Challenges

Mumbai, India's financial capital, faces severe environmental challenges due to rapid urbanization, climate change, and inadequate infrastructure. Among the most pressing concerns are rising sea levels, frequent floods, and urban pollution, all of which pose significant risks to the city's residents. These challenges disproportionately affect women and marginalized communities, exacerbating existing social and economic inequalities.

- 1. *Rising Sea Levels and Coastal Erosion* Mumbai, being a coastal city, is highly vulnerable to rising sea levels caused by climate change. According to climate studies, sea levels along Mumbai's coast have been rising at an alarming rate, threatening low-lying areas such as Worli, Colaba, and Mahim. Coastal erosion and saltwater intrusion into freshwater sources further impact livelihoods, particularly those of fisherwomen from the Koli community, who depend on marine resources for their survival. The displacement caused by encroaching waters forces women and children into unsafe living conditions, heightening their vulnerability to exploitation and loss of economic independence.
- 2. *Frequent Floods and Waterlogging* Mumbai experiences severe flooding almost every monsoon, with areas like Sion, Kurla, and Andheri East being worst affected. Encroachments, poor drainage systems, and the destruction of mangroves—natural flood barriers—have intensified the crisis. Women and marginalized groups, especially those living in informal settlements, bear the brunt of these floods. Floodwaters not only destroy homes but also lead to sanitation crises, increasing the risk of waterborne diseases. Women, often responsible for caregiving and household work, struggle with access to clean water, hygiene facilities, and medical care, affecting their overall well-being.
- 3. *Urban Pollution and Health Hazards-* Mumbai's air and water pollution levels are among the highest in India. Vehicular emissions, construction dust, and industrial activities contribute to severe air pollution, leading to respiratory illnesses, which disproportionately affect children and elderly women. Additionally, water pollution due to untreated sewage and industrial waste contaminates drinking water sources, putting the health of slum dwellers, particularly pregnant women and infants, at risk.

## **Gendered Impact of Environmental Challenges**

Women and marginalized communities in Mumbai face structural disadvantages, making them more susceptible to environmental degradation. The lack of access to clean sanitation facilities, unsafe public spaces, and economic instability further restrict their ability to adapt and recover from climate-related disasters. Addressing these challenges requires targeted interventions, such as improving urban planning, increasing women's participation in climate governance, and enhancing the role of organizations like NCC in community-driven environmental solutions. By mobilizing NCC girls as climate leaders, Mumbai can take a proactive approach to environmental conservation while fostering gender equality.

Research Questions- This research tries to address following research questions-

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- ➤ How does participation in environmental activities through NCC shape the leadership skills and climate consciousness of girl cadets in Mumbai?
- ➤ In what ways does the engagement of NCC girls in sustainability initiatives challenge traditional gender norms and contribute to gender sensitization in Mumbai's sociocultural landscape?
- ➤ What are the lived experiences of NCC girl cadets in leading climate action projects, and how do these initiatives impact their personal growth, societal perceptions, and future aspirations?

**Review of Literature-** The role of NCC girls in environmental conservation and gender sensitization has been explored through various academic and policy-driven studies. This review of literature examines contributions from different authors, highlighting the intersection of climate leadership and gender inclusivity within the NCC framework.

## 1. Role of Women in Climate Leadership

Agarwal (2010) in her seminal work on gender and environmental governance emphasizes the role of women as key agents of change in sustainability efforts. She argues that women's participation in environmental decision-making leads to more inclusive and effective policies. This perspective aligns with the role of NCC girls in climate leadership, as they actively participate in environmental programs, making significant contributions to community-led sustainability. Shiva (2016) explores the feminist perspective on environmental conservation, arguing that women's traditional knowledge and ecological sensitivity make them natural leaders in climate activism. Her research suggests that platforms like NCC serve as a training ground for young women to develop climate resilience and leadership skills.

### 2. NCC and Environmental Conservation

Rao & Menon (2015) examine the role of NCC in promoting environmental consciousness among youth. They highlight various initiatives such as afforestation drives, water conservation efforts, and disaster preparedness programs that empower cadets to become environmentally responsible citizens. Their study reinforces the idea that NCC is an effective platform for climate action among young girls in urban settings like Mumbai. Patel (2018) discusses NCC's contribution to Swachh Bharat Abhiyan and how cadets have played a pivotal role in waste management and plastic-free campaigns. This study provides empirical evidence that NCC cadets, particularly girls, have taken the lead in environmental activism through community engagement and awareness programs.

### 3. Gender Sensitization in NCC Activities

Kumar (2017) in his study on gender dynamics within NCC training programs, argues that the inclusion of girls in NCC has helped break traditional stereotypes. He notes that participation in leadership roles, including environmental initiatives, has given NCC girls the confidence to take on public roles and advocate for gender equality. Sinha & Roy (2020)

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examine the impact of NCC training on young women's self-perception and leadership abilities. Their research highlights that participation in NCC's environmental programs enhances social responsibility while also fostering gender awareness and inclusivity.

### 4. Case Studies on NCC Girls' Environmental Initiatives

**Deshmukh (2019)** presents a case study on the involvement of NCC girls in Mumbai's Mangrove Restoration Project. The study documents how cadets from various colleges contributed to the conservation of mangrove ecosystems, reducing coastal erosion and enhancing biodiversity. This real-world example illustrates the potential of NCC girls as climate leaders. **Joshi & Mehta (2021)** focus on NCC-led urban gardening and sustainable waste disposal initiatives in Mumbai. They analyze the impact of projects where girl cadets successfully implemented green practices in local communities, challenging both environmental and gender-related stereotypes.

## 5. Policy Perspectives and Recommendations

Singh (2016) assesses the role of NCC in national policy frameworks related to youth and sustainability. He suggests that integrating environmental studies and climate action into NCC training can further strengthen its impact, particularly for female cadets. Sharma & Das (2022) propose policy measures to enhance gender inclusivity within NCC's environmental programs. Their study advocates for increased funding, mentorship programs, and recognition of NCC girls' contributions in environmental governance.

The literature reviewed highlights the critical role played by NCC girls in climate leadership and gender sensitization. Studies confirm that NCC provides a platform for young women to develop leadership skills, contribute to environmental conservation, and challenge gender biases. Real-life case studies further reinforce the tangible impact of their initiatives in Mumbai. Future research should explore the long-term effects of NCC training on women's leadership trajectories in environmental governance and public policy.

## Research methodology-

This study employs a **qualitative research design**, focusing on an in-depth exploration of NCC girls as climate leaders and their role in gender sensitization through environmental activities in Mumbai. The research will utilize an **interpretative phenomenological approach** (**IPA**) to understand lived experiences, perceptions, and challenges faced by NCC girl cadets.

The National Cadet Corps (NCC) has been instrumental in fostering leadership, discipline, and a sense of civic responsibility among youth. In recent years, NCC girls in Mumbai have taken a proactive role in addressing climate change through various environmental initiatives. This paper explores their contributions, highlighting successful case studies, assessing their impact through qualitative and quantitative data, and examining the role of gender sensitization in environmental leadership.

## Case Studies of Successful NCC-Led Environmental Projects

- 1. Dadar Beach Coastal Cleanup
  - Overview: In collaboration with local NGOs, NCC girls participated in a beach cleanup drive project aimed at restoring mangrove ecosystems along the Dadar chowpatty coast.
  - Activities: Regular clean-ups and conducting awareness sessions for local

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#### communities.

#### Outcomes:

- 500+ saplings planted.
- o 2,000 kg of plastic waste removed.
- o Increased community engagement in coastal conservation.
- 2. Water Conservation and Rainwater Harvesting in Schools
  - Overview: NCC cadets implemented a rainwater harvesting project across five government schools in Mumbai.

#### • Activities:

- o Installation of rainwater collection tanks.
- o Water conservation awareness campaigns.

#### Outcomes:

- o 1,00,000 liters of rainwater conserved annually.
- Reduction in school water bills.
- o Sustainable water management models replicated in other schools.

## Role of NCC in Implementing Government Environmental Policies

NCC plays a vital role in executing India's environmental policies by aligning its initiatives with national missions, thereby contributing to sustainable development.

- 1. Swachh Bharat Abhiyan (Clean India Mission)
  - NCC cadets actively participate in cleanliness drives in urban and rural areas.
  - Awareness campaigns on waste segregation, plastic reduction, and hygiene.
  - Coordination with municipal bodies to maintain clean public spaces.
- 2. Jal Shakti Abhiyan (Water Conservation Campaign)
  - Promotion of water conservation through rainwater harvesting initiatives.
  - Organizing workshops and awareness campaigns on sustainable water use.
  - Restoration of local water bodies with community participation.

### 3. Puneet Sagar Abhiyan

• The NCC had, on December 01, 2021, launched 'Puneet Sagar Abhiyan', a nationwide flagship campaign, initially for one month, to clean sea shores of plastic & other waste material, while raising awareness about the importance of cleanliness.

## Partnerships between NCC, Local Municipal Corporations, and NGOs

### • Collaboration with Municipal Corporations:

- ✓ Joint sanitation and afforestation projects.
- ✓ Participation in government-led urban sustainability initiatives.

## • Partnerships with NGOs:

- ✓ Technical support in environmental conservation projects.
- ✓ Joint training programs on waste management and sustainability.

## • Engagement with Educational Institutions:

- ✓ Encouraging student participation in environmental programs.
- ✓ Organizing inter-college competitions on sustainability themes.

## **Innovative Awareness Campaigns by NCC**

- 1. Messages through Cycle and Motorbike Rally
  - NCC cadets organize eco-awareness rallies using cycles and motorbikes to spread messages on climate action and pollution control.
  - Collaboration with local traffic police and municipal authorities to ensure wider reach.

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- Themes include plastic waste reduction, air pollution control, and water conservation.
- 2. Creating Awareness through Paper Bag Making
  - Workshops conducted by NCC cadets to educate the public about alternatives to plastic bags.
  - Hands-on training for communities and school students on making paper bags from recycled materials.
  - Encouragement of local businesses to adopt paper bags instead of single-use plastics.

## 3. Eco-Friendly Ganesha Idols

- NCC girls promote the use of clay and biodegradable materials for Ganesh idols.
- Collaboration with artisans to manufacture eco-friendly idols.
- Awareness campaigns on the environmental hazards of Plaster of Paris (PoP) idols and artificial colors.
- Encouragement of community idol immersion in artificial ponds to prevent water pollution.

## 4. Plastic Recycling Unit

- Setting up small-scale plastic recycling units in association with NGOs and municipal bodies.
- Collecting plastic waste from local communities and converting it into reusable materials.
- Training programs for students and residents on plastic waste management and upcycling.
- Revenue generation models to encourage sustainability and economic empowerment.

### **Impact Assessment-** Qualitative Analysis

### 1. Community Engagement:

- o Increased participation of local communities in environmental conservation
- o NCC cadets emerging as role models, inspiring others to take action.

## 2. Gender Sensitization and Leadership:

- o NCC girls challenging traditional gender norms by taking leadership roles in climate initiatives.
- Encouragement of young women to pursue careers in environmental science and policymaking.

#### Conclusion

The active involvement of NCC girls in environmental initiatives in Mumbai not only contributes to climate resilience but also serves as a powerful tool for gender sensitization. Their leadership in executing successful projects demonstrates the potential of youth-led sustainability efforts. Going forward, policy support and enhanced training programs can further empower these young women to be agents of change in environmental conservation and climate action.

#### Recommendations

• Integration of Climate Education in NCC Training: Formal modules on environmental sustainability should be included.

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- Collaboration with Government & NGOs: Enhancing impact through strategic partnerships.
- Scaling Successful Models Nationwide: Replicating Mumbai's success in other urban areas.

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