



---

## CONTRIBUTION OF INDIAN WOMEN IN ENVIRONMENTAL CONSERVATION: A REVIEW ARTICLE

Dr. Nitin Manohar Valanju

Shri. S.H. Kelkar College of Arts, Commerce & Science,  
Devgad, Sindhudurg, Maharashtra.

Dr. Vijaykumar Kunure

Shri. S.H. Kelkar College of  
Arts, Commerce & Science, Devgad, Sindhudurg,



---

### ABSTRACT:

Environmental conservation has become one of the most pressing global concerns of the 21st century. In India, women have historically played a significant role in protecting and managing natural resources due to their close relationship with forests, water, biodiversity, and agriculture. From ancient traditions such as the Bishnoi movement led by Amrita Devi to modern environmental activism and scientific research by figures like Vandana Shiva and Sunita Narain, Indian women have been at the forefront of ecological protection. Their involvement ranges from grassroots movements and community forest management to wildlife conservation, environmental education, and policy advocacy. This review article studies the historical evolution, major movements, key women leaders, and socio-cultural factors influencing women's participation in environmental conservation in India. It also highlights contemporary initiatives and the challenges faced by women environmentalists. The article concludes that women's participation is important for environmental conservation and sustainable development.

**Keywords:** Environmental conservation, Indian women, Chipko movement, ecofeminism, biodiversity, grassroots activism.

### INTRODUCTION:

Environmental conservation refers to the protection, preservation, and sustainable management of natural resources such as forests, wildlife, water, soil, and biodiversity.<sup>1</sup> In India, environmental degradation has increased due to rapid industrialization, deforestation, urbanization, and climate change. As a result, environmental conservation has become a priority for both policymakers and communities.<sup>2</sup> Women play a crucial role in environmental management because they are often responsible for collecting fuelwood, water, and forest products in rural areas. Their daily interaction with natural resources gives them deep ecological knowledge and motivates them to protect the environment.<sup>3</sup> Women's involvement in environmental conservation has been visible through grassroots movements, social activism, scientific research, and community-based initiatives.<sup>4</sup> Historically, women in India have demonstrated extraordinary courage and commitment to protecting nature. For example, the sacrifice of Amrita Devi Bishnoi in 1730 to protect trees from being cut is considered one of the earliest examples of environmental activism.<sup>5</sup>

---

In the 20th century, women played a leading role in the Chipko Movement, where villagers hugged trees to prevent deforestation.<sup>6</sup> In modern times, women scientists, activists, and environmental leaders have expanded the scope of conservation through policy advocacy, research, and community engagement.<sup>7</sup>

The objective of this review article is to analyze the contribution of Indian women in environmental conservation by examining historical movements, main leaders, community initiatives, and contemporary environmental activism.

### **Historical Background of Women in Environmental Conservation**

The relationship between women and environmental conservation in India has deep cultural and historical roots. Indian traditions often associate women with nature, fertility, and sustainability. Ancient texts, religious practices, and community customs encouraged respect for nature.<sup>8</sup>

### **Traditional Ecological Practices**

Many traditional Indian communities practiced sustainable environmental management through sacred groves, water conservation systems, and biodiversity protection. Women played a central role in maintaining these practices. For example, the Bishnoi community of Rajasthan follows principles that emphasize the protection of trees and wildlife. Women in this community have historically taken leadership roles in safeguarding natural resources.<sup>9</sup>

### **Role of Women in Environmental Movements in India**

Women have been central to several environmental movements in India, especially those aimed at protecting forests, rivers, and biodiversity.

### **The Khejarli Movement (1730)**

One of the earliest recorded environmental movements in India occurred in 1730 in the Khejarli village of Rajasthan. Amrita Devi Bishnoi sacrificed her life while protecting Khejri trees from being cut down by the king's soldiers. Her act inspired 362 villagers to join the protest and sacrifice their lives.<sup>10</sup> This event later inspired modern environmental movements and became a symbol of ecological resistance.

### **The Chipko Movement**

The Chipko Movement began in the 1970s in the Himalayan region of Uttarakhand as a protest against deforestation. Women were the main participants in this movement. When contractors arrived to cut trees in Reni village in 1974, Bachni Devi and Gaura Devi mobilized a group of village women who hugged trees to prevent them from being cut. Their non-violent protest forced the government to impose restrictions on commercial logging in the region. The Chipko Movement aimed to preserve the ecological equilibrium in the vulnerable Terai or lowland region, where an ecologically balanced relationship with the environment has been historically maintained by the hill people. The Chipko movement had an effect well beyond the Himalaya's Uttarakhand area. The movement influenced similar efforts to preserve forests in other parts of the country.<sup>11</sup>

### **Appiko Movement**

Inspired by the Chipko Movement, the Appiko Movement started in Karnataka in 1983 to prevent deforestation in the Western Ghats. Women actively participated in tree-hugging protests and awareness campaigns.<sup>12</sup> The movement was led by Panduranga Hegde. Several industries, such as paper mills and plywood factories, overexploited forest resources, and a chain of hydroelectric dams sprouted, which submerged vast forest and agricultural areas. By 1980, all these activities resulted in the shrinking of the forest to about a quarter of its original size. In light of this catastrophe, the Appiko Movement emerged, intending to protect and preserve the Western Ghats.<sup>13</sup>

### **Narmada Bachao Andolan**

Women also played a crucial role in the Narmada Bachao Andolan (Save Narmada Movement), which protested against large dams that displaced communities and damaged ecosystems. Activists like Medha Patkar mobilized thousands of villagers, particularly women, to protect rivers and forests.<sup>14</sup> Several species of ethnobotanical significance were predicted to become extinct as a result of the area being submerged due to the construction of the dam, according to an environmental impact assessment report on the Narmada Sagar Project conducted by the Wildlife Institute of India, Dehradun. The project was opposed by tribal organizations and villagers who had been uprooted by the reservoir's flooding. To stop the project from destroying local ecosystems and displacing roughly a million people, there were several large demonstrations.<sup>15</sup>

### **The Silent Valley Movement**

opposed the Kerala government's decision to construct a dam in the Silent Valley Forest for a hydroelectric project (1975-1984). An important figure in this movement was the environmentalist and Malayalam poet Sugatha Kumari. Residents, particularly women, were against the hydroelectric project despite the potential for employment and development in the region. Silent Valley became a national park in 1984 after the project was scrapped in 1980 due to direct intervention by the country's then-prime minister, Indira Gandhi.<sup>16</sup>

### **Jungle Bachao Aandolan**

A protest started in 1982 by the tribal people from the Singhbhum district in Bihar, to oppose the decision of the politicians and government officials to replace the Sal trees in the forests with the plantation of commercially profitable teak. The movement to swap out the Sal forests for economically viable teak became popular as "Greed Game Political Populism". The movement, which was born out of a fight to restore the forest rights of the tribal people, later moved to Orissa and Jharkhand. The tribal people realized that the best way to safeguard their forests was to assert their ownership rights over them. Suryamani Bhagat helped organize resistance and talks with the government, which led to the Forest Rights Act being passed in 2006.<sup>17</sup>

### **Contribution of Prominent Indian Women Environmentalists**

Several women environmentalists have made remarkable contributions to environmental conservation in India.

#### **Amrita Devi Bishnoi**

Amrita Devi is considered one of the earliest environmental martyrs and India's first documented female environmental activist. Around 300 years ago, Amrita Devi led a protest in Rajasthan, India, against the felling of trees to make way for a palace for the Maharaja of Jodhpur. Her sacrifice in the Khejarli movement symbolized the deep cultural connection between people and nature. Her legacy continues through the Amrita Devi Bishnoi Wildlife Protection Award, which honors individuals who protect wildlife and forests.<sup>18,19</sup>

#### **Gaura Devi**

Gaura Devi was a leader of the Chipko movement who mobilized rural women to protect forests in Uttarakhand. Her leadership demonstrated the power of grassroots activism. In the Reni village, where she served as the Mahila Mangal Dal's leader, she led 27 women to oppose the lumbermen on the day they were scheduled to cut the trees. The movement was based on the Gandhian philosophy of peaceful resistance to oppose the destruction of ecological balance. Taking its cue from Gandhi's advocacy of nonviolent resistance, the core of the movement was an effort to peacefully stop the

destruction of the planet's delicate ecological harmony. The government's decision in January 1974 to auction 2,500 trees overlooking the Alaknanda River, because the forest property was being given to a manufacturer of sporting goods, served as the impetus for the Chipko Movement, when the women from Uttarakhand's Chamoli village started hugging trees to prevent them from being cut, despite being threatened. They stayed up all night watching the trees until the lumbermen gave up and left. As soon as word of the movement reached nearby villages, more residents joined in. In other parts of Uttarakhand, a similar mode of protest was used, indicating that women were campaigning for the environment.<sup>20</sup>

### **Vandana Shiva**

Vandana Shiva is a globally recognized environmental activist and ecofeminist. She advocates biodiversity conservation, sustainable agriculture, and seed sovereignty. She is opposed to genetically modified organisms, intellectual property rights, and free trade. Her efforts to use local seeds emphasize the importance of protecting biodiversity. Her organization, Navdanya, promotes organic farming and protects indigenous seeds to achieve food security in India. The group has set up a total of 124 seed banks across the country. Almost 3,000 different types of rice have been protected in India because of Navdanya.<sup>21,22</sup>

### **Medha Patkar**

Medha Patkar is a prominent environmental activist associated with the Narmada Bachao Andolan. She has worked extensively to protect rivers, forests, and the rights of displaced communities. She led Narmada Bachao Andolan to prevent the construction of dams on the Narmada River in 1985. The movement was in support of local people who were being displaced and discriminated against, totally in violation of their human and democratic rights, and also refuted laws protecting the environment. To perform a nonviolent protest, she founded the NBA in 1989 and frequently fasted, and consequently, the NBA raised public awareness.<sup>23</sup>

### **Sunita Narain**

Sunita Narain is an environmental policy expert and director of the Centre for Science and Environment (CSE). She has contributed significantly to environmental policy, climate change discussions, and sustainable development strategies. Sunita Narain plays an active role in policy formulation on issues of environment and development in India and globally. Her work on air and industrial pollution, water, and waste management resulted in an understanding that viable and sustainable technologies are needed in countries where achieving equitable and sustainable growth is challenging.<sup>24,25</sup>

### **Jamuna Tudu**

Jamuna Tudu, popularly known as the "Lady Tarzan of Jharkhand," mobilized village women to protect forests from illegal logging and restored large areas of degraded forest land.<sup>26</sup>

### **Purnima Devi Barman**

Dr. Purnima Devi Barman initiated the "Hargila Army" in Assam to protect the endangered Greater Adjutant Stork through community participation. She works for the Assam-based NGO Aaranyak as a conservation biologist. Dr. Purnima received India's highest civilian award for women, the Nari Shakti award. "Hargila army" works to protect Hargila trees and the environment. Her unwavering dedication has given the communities a voice, and by encouraging strong ownership, she has created a model for community conservation.<sup>27</sup>

### **Sugathakumari**

Sugathakumari is a poet and a well-known environmentalist. She played a key role in the Save Silent Valley Movement, one of India's first major modern environmental campaigns. It started in 1978

---

and succeeded in 1983 when Prime Minister Indira Gandhi stopped a hydroelectric project. That project would have destroyed valuable forests over 89.52 square kilometers. As an early activist for environmental protection in modern India, she was a major leader in the movement.<sup>28</sup>

### **Menaka Gandhi**

Menaka Gandhi is an environmentalist and animal rights activist. As India's Environment Minister, she took key steps to protect nature and wildlife. She created India's first Animal Welfare Ministry and led it. Under her guidance, the CPCSEA group checked labs using animals for experiments. They punished labs that treated animals cruelly. She also required labels on cosmetics and food: green for plant-based items and red for animal-based ones. She started People for Animals, India's biggest animal welfare group. In 2001, she won the Dinanath Mangeshkar Aadishakti Puraskar for her work on the environment and animals.<sup>29,30</sup>

Ecofeminism is a philosophical and social movement that links the exploitation of nature with the oppression of women. In India, ecofeminism gained prominence through the work of activists like Vandana Shiva. Ecofeminist theory argues that women are more sensitive to environmental issues because they directly depend on natural resources for their livelihood.

The Chipko Movement is often cited as an example of ecofeminism because it was led by rural women who sought to protect forests for ecological and social reasons.<sup>31</sup>

### **Women in Wildlife and Biodiversity Conservation**

Women scientists and conservationists have made major contributions to wildlife research and biodiversity protection. For example, J. Vijaya was India's first female turtle field biologist who rediscovered the forest cane turtle species believed to be extinct. Similarly, women researchers and forest officers have contributed to the protection of endangered species such as tigers, elephants, and birds.<sup>32,33</sup>

### **Community – Based Environmental Conservation by Women**

Across India, rural women have organized community groups to protect forests and water resources, for example, women's forest protection committees in Odisha, Self-help groups engaged in afforestation, and village women patrolling forests to prevent illegal logging. These initiatives demonstrate the effectiveness of grassroots environmental governance.<sup>34</sup>

### **Challenges Faced by Women Environmentalists<sup>35</sup>**

Despite their significant contributions, women environmentalists face several challenges:

These challenges stem from gender biases, structural barriers, and environmental risks.

**Marginalization in Decision-Making** - Women are often excluded from climate policy tables despite leading grassroots efforts. For instance, they must choose between speaking as environmentalists or women, with women's issues like unpaid care work and safety being overlooked in movements. Rural and Adivasi women fight for land rights against eviction policies that prioritize conservation over communities.

**Underrepresentation and Stereotyping** - Participation remains low in sectors like water management and national climate forums, even among educated women in STEM. They are positioned as victims or messengers rather than equal leaders, limiting their influence on policy. In peri-urban areas, shrinking farmlands and casual labor exacerbate vulnerabilities without gender-inclusive planning.

**Vulnerabilities and Threats** - Grassroots activists encounter dangers from illegal mining, logging, and development projects, as seen in protests by figures like Kinkri Devi and Radha Bhatt. Adivasi and waste-picker women face intersecting livelihood, pollution, and displacement issues. Climate displacement hits women hardest (80% affected), yet their voices stay sidelined.<sup>35</sup>

**Government Policies and Participation of Women in Environmental Conservation<sup>36</sup>**

India's government has implemented various policies to boost women's roles in environmental conservation, recognizing their frontline contributions in rural and community settings. The National Forest Policy of 1988 and the Joint Forest Management (JFM) program launched in the 1990s require at least 33% women in Village Forest Protection Committees (Vana Samarakshana Samitis), enabling joint state-community efforts to restore degraded forests through afforestation and sustainable harvesting. The National Policy for Women (2016) emphasizes gender integration in environmental planning, promoting women's decision-making in resource management and awareness campaigns on biodiversity and water conservation. Programs like the Environmental Gender Index (EGI) track India's progress—ranking 46th globally—while linking women's empowerment to ecological goals.<sup>36</sup>

### Future Prospectus

India's environmental conservation efforts stand to gain immensely from greater women's involvement in the coming decades. With climate change intensifying threats like floods, droughts, and biodiversity loss, women—already frontline stewards in rural areas—offer unique insights from their roles in water collection, farming, and forest management. Prospects hinge on scaling successful models like the Hargila Army in Assam, where women protect endangered storks through community patrols, into national programs backed by green skilling and policy reforms.<sup>37</sup> Government initiatives signal a promising shift toward gender-inclusive sustainability. The push for women in Joint Forest Management and rooftop solar under PM Surya Ghar schemes will empower them as entrepreneurs in renewables and circular economies, from waste management to nature-based solutions. By 2030, integrating 33%+ women's quotas in climate missions could reduce deforestation by up to 13% in key regions, as seen in female-led agricultural reforms, fostering resilient ecosystems and economic growth.<sup>38, 39</sup> Challenges like decision-making exclusion must be addressed for lasting impact. Empowering Adivasi and peri-urban women via parametric climate insurance and municipal contracts for waste-pickers will convert vulnerabilities into leadership opportunities. This women-led green transition promises inclusive growth, positioning India as a global model where ecological healing aligns with social equity.<sup>40, 41, 42</sup>

### Conclusion:

Indian women have played a vital role in environmental conservation through grassroots movements, community initiatives, scientific research, and policy advocacy. From the sacrifice of Amrita Devi Bishnoi to the leadership of Gaura Devi in the Chipko Movement, women have consistently demonstrated their commitment to protecting nature.

In modern times, environmental leaders such as Vandana Shiva, Medha Patkar, and Sunita Narain continue to influence environmental policy and global sustainability debates.

Despite facing social and institutional challenges, women remain powerful agents of environmental change. Their traditional ecological knowledge, community leadership, and activism make them essential partners in achieving sustainable development and ecological balance. Recognizing and strengthening women's participation in environmental conservation is very important for the future of India's environment.

### References:

1. Lal, V. S. (2022). The vital importance of conservation: Protecting our natural resources and biodiversity for a sustainable future. *Research & Reviews: Journal of Ecology and Environmental Sciences*, 10(2), 1–5.
2. Chopra, R. (2016). Environmental Degradation in India: Causes and Consequences. *International Journal of Applied and Environmental Sciences*, 11(6), 1593–1601.
3. Mago, P., & Gunwal, I. (2018). Role of Women in Environment Conservation. *SSRN Electronic Journal*. <https://doi.org/10.2139/ssrn.3368066>
4. Alam, E. (2026). Environmental Movements and Women's Participation In India. *International Journal of Creative Research Thoughts (IJCRT)*, 14(2), d955–d964.

5. Sharma, S., & Jain, S. (2019). Bishnoi Movement: A Historical Perspective on Environmental Activism in India. *Journal of Environmental Studies and Sciences*, 9(3), 245–256.
6. Jain, S. (1984). Women and People's Ecological Movement: A Case Study of Women's Role in the Chipko Movement, Uttar Pradesh. *Economic and Political Weekly*, 19(31), 1233–1236.
7. Sharma, A., & Das, P. (2023). Women Leaders in Contemporary Indian Environmentalism: Policy, Science, and Grassroots Impact. *Environmental Science & Policy*, 142, 112–125.
8. Nagar, N. (2011). Women and Environment: Linkages and Concerns in India. *Journal of Social Sciences*, 28(1), 45–56.
9. Bishnoi, S. (2025). Ecofeminism and Environmental Protection: Bishnoi Women's Activism in Rajasthan. *International Journal For Multidisciplinary Research*, 7(4), 1-5.
10. Sharma, K. (2020). The Khejarli Massacre: India's First Environmental Martyrdom. *Environment and History*, 26(4), 567–589.
11. Guha, R. (1989). *The Chipko Movement: A People's History*. Oxford University Press, Chapter 7.
12. Mathur R, Kalyan R, Bhalla V, Tanwar L, Mago P, Gunwal I. (2023) Women at the Forefront of Environmental Conservation *Curr. World Environ.*, Vol. 18(2) 706-721.
13. Nagavar, M. (1985). The Appiko Movement: Forest Conservation in Southern India. *Cultural Survival Quarterly*, 9(1), 20–23.
14. James, G. A. (1995). The Appiko Movement: Forest Conservation in Southern India. *Cultural Survival Quarterly*, 19(1), 46–50.
15. Basu, P. (2017). A Case Study of the Narmada Bachao Andolan. *International Journal of Liberal Arts and Social Science*, 5(2), 97–104.
16. Wildlife Institute of India. (1991). *Impact Assessment Studies of Narmada Sagar and Omkareshwar Projects on Flora and Fauna with Attendant Human Aspects*. Wildlife Institute of India, Dehradun.
17. Gadgil, M., & Guha, R. (1995). *Ecology and Equity: The Use and Abuse of Nature in Contemporary India*. Penguin Books India, Chapter 5: "Silent Valley: The Making of a National Park," pp. 78–92.
18. Kumar, R., & Singh, A. (2018). Tribal Resistance and Forest Rights: The Jungle Bachao Andolan in Singhbhum. *Journal of Indian Anthropology*, 48(2), 201–215.
19. Sharma, K. (2020). The Khejarli Massacre: India's First Environmental Martyrdom. *Environment and History*, 26(4), 567–589.
20. Mathur et al, Biodiversity Conservation of Plants: The Role of Ethnic and Indigenous Populations. *Annals of Forest Research* (2022) 65(1):5613-5656.
21. Weber, A. S. (2017). Gaura Devi and the Chipko Movement: Women's Grassroots Environmentalism in Uttarakhand. *Environmental History Review*, 41(2), 112–130.
22. Doerr E. Dr. Vandana Shiva's Decades- Long Environmental Activism is Rooted in Health of All Beings. University of California Global Health Institute (2022). <https://ucghi.universityofcalifornia.edu/news/dr-vandana-shivas-decades-long-environmental-activism-rooted-health-of-all-beings> [Accessed on November 4, 2022]
23. Shiva, V. (2005). *Earth Democracy: Justice, Sustainability, and Peace*. South End Press.
24. Khagram, S. (2004). *Dams, Displacement, and the Delusion of Development: Bhopal to Sardar Sarovar*. Cambridge University Press.
25. Narain, S. (2012). *Excreta Matters: How Urban India Is on the Road to an Excreta Crisis—and What Can Be Done About It*. Centre for Science and Environment (State of India's Environment 2012).
26. Adlakha N. There are no 10 ways to save the planet': Sunita Narain (2020). <https://www.thehindu.com/society/there-are-no-10-ways-to-save-the-planet-sunita-narain/article33362773.ece> [Accessed on December 12, 2022]
27. Tudu, J., & Singh, R. (2021). Grassroots Forest Protection in Jharkhand: The Role of Women-Led Vigilante Groups. *Journal of Environmental Management and Sustainability*, 5(2), 78–92.
28. Barman, P. D. (2019). Community-driven conservation of the Greater Adjutant Stork in Assam: The Hargila Army model. *Journal of Threatened Taxa*, 11(11), 14567–14575.
29. Gadgil, M., & Guha, R. (1995). *Ecology and Equity: The Use and Abuse of Nature in Contemporary India*. Oxford University Press.

30. Gandhi, M. (1993). Environmental Leadership and Animal Welfare Reforms in India. *Journal of Environmental Law and Policy*, 5(2), 89–104.
31. Shah, A. (2015). Women Leaders in Indian Environmentalism: Menaka Gandhi's Contributions to Animal Welfare Policy. *Journal of South Asian Studies*, 38(2), 312–329.
32. Shiva, V. (1988). *Staying Alive: Women, Ecology, and Development*. Zed Books, London.
33. Vijaya, J. (1982). Rediscovery of the forest cane turtle (*Heosemys silvatica*) of Kerala. *Hamadryad*, 7(2), 2–3.
34. Whitaker, N., & Vijaya, J. (2009). Biology of the Cochin forest cane turtle (*Vijayachelys silvatica*). In *Freshwater Turtles and Tortoises of India* (pp. 95–104).
35. Singh, R., & Mishra, P. (2013). Women's Initiative towards Conserving Local Bio-diversity through Community Conserved Initiatives (CCIs) in Odisha. *Odisha Review*, February-March, 54–62.
36. Mathur R, Katyal R, Bhalla V, Tanwar L, Mago P, Gunwal I. Women at the Forefront of Environmental Conservation. *Curr World Environ* 2023;18(2).
37. Agarwal, B. (1992). The Gender and Environment Debate: Lessons from India. *Feminist Studies*, 18(1), 119–158.
38. Mathur R, Katyal R, Bhalla V, Tanwar L, Mago P, Gunwal I. Women at the Forefront of Environmental Conservation. *Curr World Environ* 2023;18(2).
39. Kumar, A., & Singh, R. (2021). Gender Integration in India's Forest Policies: Impacts of JFM and Renewable Energy Schemes. *Journal of Environmental Management*, 298, 113456.
40. Gupta, S. (2025). Projecting Women's Roles in India's Climate Missions to 2030. *Ecological Economics*, 210, 108–120.
41. Sharma, L., Chaudhuri, S., Singh, S., Yadav, S., Singhal, P.B. & Singh, N. (2026) Impact of women's empowerment on environmental sustainability. *Academy of Marketing Studies Journal*, 30(1), 1-13.
42. Kumar, R., & Singh, P. (2025). Gender Barriers in India's Climate Governance: Pathways to Inclusion. *Journal of Environmental Policy & Planning*, 27(3), 210–228.