



Addressing Climate Change as a Threat Multiplier for Women and Children in India

Executive Summary

Climate change is a profound and growing crisis that disproportionately affects women and children in India, exacerbating existing social, economic, and health vulnerabilities. As extreme weather events—such as heatwaves, floods, and droughts—become more frequent and severe, women and children are facing significant livelihood, security, and health risks. These challenges are further intensified by socio-economic inequalities that limit their access to resources, decision-making, and adaptive technologies.

Women, who make up nearly 80% of India's agrarian workforce, are particularly vulnerable due to limited land ownership, restricted access to credit, and a lack of climate-resilient technologies. Climate-induced disruptions, such as crop failures and water scarcity, have a direct impact on food security and household income, placing additional burdens on women. Case studies from Odisha and Sikkim highlight the importance of community-led climate adaptation initiatives that empower women to take an active role in climate resilience efforts.

Beyond economic impacts, climate change has also been linked to an increase in gender-based violence and child marriage. Droughts, heat stress, and resource shortages heighten domestic tensions, leading to increased rates of intimate partner violence. Additionally, economic instability driven by climate disasters often results in families resorting to early marriages for their daughters as a coping mechanism. These social consequences further entrench cycles of poverty and limit opportunities for women and girls.



Recognizing the urgency of this issue, Partnerships for Impact (P4i) recently hosted a panel discussion as part of the launch of its 'Voices for Impact' platform, titled 'Climate Change as a Threat Multiplier for Women and Children.' The event spotlighted the disproportionate burden climate change places on women and children, particularly in low- and middle-income countries like India. Experts highlighted that 80% of those displaced by climate disasters are women and discussed systemic barriers such as patriarchal structures, lack of property rights, and limited access to financial resources that further exacerbate vulnerabilities.



The discussions underscored the need for gender-responsive and climate-resilient policies, alongside integrating data and AI with local knowledge to predict and mitigate risks. Localized solutions—such as women's self-help groups implementing resilience measures and climate-focused adaptations within MGNREGA—were showcased as vital strategies. Additionally, the event called for "trust-based" philanthropy models to foster long-term capacity building and collaborative grant-making to address local needs effectively.

Building on the insights and recommendations from this convening, this policy paper serves as a next step in advancing actionable solutions to address these pressing challenges. While India has developed national and state-level climate policies, including the National Action Plan on Climate Change (NAPCC) and State Action Plans on Climate Change (SAPCCs), these frameworks often lack gender-sensitive approaches. Most climate policies focus on broad environmental goals without addressing the intersection of gender, health, and social protection.

India's climate crisis is not just an environmental challenge, it is a gendered crisis that requires urgent, systemic intervention. Delaying action will further widen the gaps in health, economic security, and social well-being, making it harder to build climate resilience. A transformative, multi-sectoral approach that integrates gender-sensitive policies, technology-driven solutions, and community-led initiatives is essential to ensuring an equitable and sustainable future for all.

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Introduction

Climate change results in significant shifts in rainfall patterns, temperatures, and weather systems, affecting ecosystems, human populations, and economies at local, regional, and global levels (UN, 2024). Since the 1800s, human activities, particularly the burning of fossil fuels, have been the primary driver of climate change. This has increased the concentration of heat-trapping greenhouse gases in the atmosphere, raising the planet's average surface temperature (The Climate Change Knowledge Portal, n.d.).

The impacts of climate change are evident today, manifesting in rising global temperatures, extreme weather events such as hurricanes, heatwaves, wildfires, droughts, and floods, as well as changes in the Earth's cloud and vegetation cover. The Earth has already warmed by about 1°C, since the 19th century and we are well on our way toward 1.5°C by 2030 (Environmental Defense Fund, n.d.). In 2024, for the first time in recorded history, global temperatures crossed the 1.5°C threshold in a single year, reaching 1.6°C above pre-industrial levels (Vallangi, 2025). Even a half-degree rise in global temperatures amplifies risks by increasing evaporation rates, intensifying water scarcity, threatening agriculture, public health and water supplies (Environmental Defense Fund, n.d.).

The future trajectory of climate change will largely depend on two critical factors: the global volume of greenhouse gas emissions and Earth's climate sensitivity to these emissions. Addressing the challenges posed by rising greenhouse gas emissions and Earth's sensitivity to these emissions is essential to mitigating the far-reaching consequences of a warming planet (NASA Science, 2024). However, political decisions may jeopardize global efforts. The United States' withdrawal from the Paris Agreement under Donald Trump, coupled with planned record fossil fuel expansions, threatens to accelerate global emissions, pushing temperatures even higher (Vallangi, 2025).

India is experiencing some of the most severe consequences of climate change, with profound impacts across its economy, society, and environment. Frequent and intense extreme weather events are affecting public health, agriculture, and water resources nationwide. For instance, by 2022, 15 Indian states faced the devastating effects of heatwaves on agricultural productivity, water availability, and health outcomes. Floods alone have caused \$26.3 billion in damages, amounting to nearly 0.5% of India's GDP (Choudhary, 2022). While India is adept at responding to these disasters in crisis mode, long-term systemic solutions are needed for sustainable impact.

Climate change as a threat multiplier

Climate change is a "threat multiplier," exacerbating the vulnerabilities faced by women and children not only during disasters but also in their everyday lives due to global warming and environmental degradation. These impacts intersect with socio-economic inequalities, leaving these groups particularly exposed to risks such as compromised health, loss of livelihoods, and reduced social security. Women, who make up nearly 80% of India's agrarian workforce, face compounded challenges due to limited access to resources like land, financing, and new technologies. Climate-induced disruptions magnify gender-based disparities, with severe consequences for their well-being. For instance, exposure to drought events has been linked to a 35% increase in the likelihood of women being underweight, a 37% rise in child marriages, a 17% increase in teenage pregnancies, and a 50% surge in intimate partner violence (Pandit, 2024).

Children, too, bear a disproportionate burden, with increased risks of malnutrition, stunting, and early pregnancies, as highlighted in findings from the MS Swaminathan Research Foundation (MSSRF). Globally, one billion children are highly vulnerable to the effects of the climate crisis, which threatens to reverse their

developmental gains (UNICEF, 2021). The political, social, and economic inequities faced by adolescent girls, women, and children due to their gender and age amplify their susceptibility to climate change impacts. Girls are disproportionately affected by barriers to healthcare and education, higher rates of violence, child, early, and forced marriages and unions (CEFMU), limited economic opportunities, and heightened health risks (Chacko, 2023).

Climate-induced livelihood crises for women

In agriculture, where women form much of the workforce in India, the effects of climate change are particularly severe. Prolonged outdoor heat exposure has been linked to health issues such as kidney injury and chronic kidney disease. Poor women often lack basic cooling options such as shaded areas or ventilated workspaces, leaving them more vulnerable to heat-related illnesses. These health challenges also exacerbate livelihood vulnerabilities. For example, women who face barriers to accessing critical resources like credit, technology, and land find it harder to adopt sustainable farming practices or adapt to changing conditions. Without these resources, their capacity to maintain or improve agricultural yields diminishes, threatening household income and food security. Targeted interventions, such as protective worker regulations, are essential but must address gender-specific challenges (GAVI, 2024).

Women are also less likely than men to own property or have access to climate-adaptive tools such as advanced farming techniques or resilient seed varieties. When crops fail due to droughts or floods, women bear the brunt of the losses, struggling to stretch scarce food resources to feed their families. This strain negatively impacts their health, well-being, and economic stability (Mishra, 2024). As climate change deepens economic instability and food insecurity, especially for rural women, addressing the intersecting burdens of gender inequality and environmental challenges is critical for fostering equitable opportunities for adaptation and survival (GAVI, 2024).

Box 1: Case study- Odisha's women taking charge of climate action

In Odisha's coastal districts, women are emerging as Climate Action Ambassadors, driving impactful solutions to local climate challenges. Their leadership demonstrates the power of empowered communities to build resilience against climate threats.

With support from the Regional Centre for Development Cooperation, women and marginalized groups are now integral to community-based decision-making. Local committees, inclusive of men and women, strengthen disaster preparedness with task forces trained in early warning systems, search and rescue, first aid, and shelter coordination (UNEP, 2019).

Innovations like "floating gardens" enable women-headed and landless households to grow food and earn income, ensuring food security and economic stability during lean periods. Fuel-efficient cooking stoves have also reduced firewood reliance and indoor air pollution, improving health outcomes (UNEP, 2019).

Women also lead disaster response plans, minimizing losses during extreme weather events, and training in climate risk assessment has empowered them to spearhead climate action (UNEP, 2019). Odisha's women are showing that equipped with knowledge and tools, communities can tackle pressing climate challenges, fostering sustainability and inspiring others to follow their lead.

Key policy takeaways:

Gender-Sensitive Climate Policies: Odisha's Climate Change Action Plan emphasizes integrating gender perspectives and building women's capacity in climate adaptation.

Community-Based Disaster Preparedness: Local committees with trained task forces improve disaster resilience.

Support from Regional Organizations: Groups like the Regional Centre for Development Cooperation enable marginalized participation.

Learnings:

- Gender-inclusive policies and capacity building enhance resilience.
- Sustainable livelihood options mitigate vulnerabilities.
- Active community engagement drives equitable climate action.

Box 2: Case study- From water scarcity to self-sufficiency: The Kitam story of collective action

In Kitam, a picturesque village in Sikkim, water scarcity had disrupted daily life as springs dried up due to erratic rainfall and deforestation. Women, bearing the burden of securing water, faced immense hardships. Savitri Chettri, elected panchayat president in 2014, took charge, rallying the community to address the crisis (Rai, 2022).

Savitri leveraged the state's Dhara Vikas Programme and funds from the Mahatma Gandhi National Rural Employment Guarantee Act (MGNERGA) to rejuvenate its springs. In 2015, villagers worked tirelessly in Solophok forest, 12 kilometers away, digging 581 trenches to capture rainwater and recharge groundwater. Women led from the front, contributing both labor and organizational skills (Rai, 2022).

By 2017, Kitam's springs were flowing again, ensuring water security even during dry months. This initiative not only solved the water crisis but also empowered women, positioning them as key agents of change (Rai, 2022).

Key policy takeaways:

Leveraging State and National Programs: The Dhara Vikas Programme and MGNERGA funds supported innovative solutions like groundwater recharge, emphasizing the importance of utilizing existing schemes effectively.

Community-Led Water Management: Inclusive approaches, with women leading labour and organization, ensured sustainable outcomes for water security.

Learnings:

- Utilizing existing programs effectively can drive impactful solutions.
- Women's leadership and participation are critical in resource management.
- Community-led, inclusive approaches build resilience against climate-induced challenges.

Climate change and gender-based violence

A 2024 study by the United Nations Population Fund (UNFPA) highlights that intimate partner violence (IPV) is rising in sub-Saharan Africa due to global warming, with tens of millions of women and girls expected to face domestic violence. If no action is taken, this number could triple by 2060 (UNFPA, 2024). Similar trends are evident in India, where violence against women has been exacerbated by the economic and social stresses brought on by climate-related disasters such as floods, droughts, and heatwaves. These incidents not only increase the likelihood of trafficking and exploitation but also decrease women's access to education, employment, and other opportunities, further perpetuating cycles of abuse (Dehingia et al., 2023).

For example, frequent flooding in eastern India has led to higher instances of IPV, with financial hardships and social injustice leaving women trapped in abusive relationships. Shilpi Singh, director of Bhoomika Vihar, a grassroots organization working in Bihar, notes a clear link between flooding and violence, emphasizing how economic pressures, such as food scarcity, drive men to vent their frustrations on women (Ondieki et al., 2023). Similarly, studies show that droughts contribute to increased rates of dowry-related violence. Lower rainfall levels have been strongly correlated with higher dowry fatalities—murders or suicides linked to dowry disputes—indicating the profound societal impact of climate stress (Sekhri & Storeygard, 2014).

Climate change and its role in escalating child marriages

A 2023 Save the Children report reveals that nearly 9 million girls face high risks of both child marriage and climate-related disasters each year, with regions severely impacted by climate hazards accounting for nearly two-thirds of these child marriages. By 2050, this number is expected to rise by 33%, with approximately 40 million girls facing these combined risks (Broraha et al., 2023). The connection between climate change and child marriage is becoming more apparent, particularly in areas already burdened by environmental challenges and economic hardships. Climate disasters often leave communities unable to recover, leading to poverty, food insecurity, housing instability, and limited access to healthcare. In these conditions, families may turn to child marriage as a coping strategy, reducing the number of dependents to support. In India, where approximately 223 million women were married before the age of 18, climate change exacerbates this challenge. Economic instability, food insecurity, and displacement drive families to early marriage to mitigate financial burdens. Drought-prone and flood-affected areas in India experience higher rates of child marriage due to agricultural losses and poverty, with climate change amplifying these existing pressures (Chacko, 2023, Broraha et al., 2023). Addressing these risks requires a comprehensive approach that not only mitigates climate impacts but also strengthens policy responses to safeguard vulnerable populations, particularly women and children.

India's policy response to climate change

India's policy response to climate change is guided by a combination of international commitments and national initiatives. As a signatory to the Paris Agreement, India has pledged to reduce the emissions intensity of its GDP by 45% from 2005 levels by 2030 and achieve net-zero emissions by 2070 (Ray Chowdhuri, 2024). National initiatives such as the National Solar Mission and the Perform, Achieve, and Trade (PAT) scheme aim to promote renewable energy and enhance energy efficiency. State-level strategies, operationalized through SAPCCs, tailor responses to regional vulnerabilities such as water scarcity and extreme weather events. However, these frameworks often lack gender-sensitive measures, with a review revealing that 12 out of 28 SAPCCs failed to mention gender entirely, while others framed women primarily as victims rather than active participants in adaptation and mitigation efforts (Singh, 2023).

"The impacts of climate change could prove particularly severe for women. With climate change, there would be increasing scarcity of water, reduction in yields of forest biomass, and increased risks to human health with children, women and the elderly in a household becoming the most vulnerable. With the possibility of decline in availability of food grains, the threat of malnutrition may also increase. All these would add to deprivations that women already encounter and so in each of the adaptation programmes, special attention should be paid to the aspects of gender."
- India's NAPCC, 2008

Programs such as the National Adaptation Fund on Climate Change (NAFCC) and the National Programme on Climate Change and Human Health (NPCCHH) represent steps toward incorporating gender-sensitive measures. The NAFCC supports projects addressing clean water, sanitation, and healthcare access for women and children affected by climate impacts. Meanwhile, the NPCCHH focuses on strengthening healthcare systems to address climate-sensitive health issues, such as vector-borne diseases and malnutrition (NCDC, 2024). However, the scale and scope of these programs remain limited, necessitating more comprehensive approaches.

Non-governmental organizations (NGOs) and international frameworks play a significant role in bridging policy gaps. Organizations like UN Women, The Energy and Resources Institute (TERI), and the Council on Energy, Environment, and Water (CEEW) lead initiatives aimed at building resilience among vulnerable groups. The Gender Into Urban Climate Change Initiative (GUCCI), in collaboration with the Women Indian Association, works to enhance policymakers' ability to integrate gender considerations into climate policies through stakeholder meetings, workshops, and policy analyses (Rahman, 2022).

Despite these efforts, the lack of gender-disaggregated data poses a significant barrier to designing effective interventions. The absence of such data limits the ability of policymakers to assess vulnerabilities, design targeted programs, and measure outcomes. A 2022 report by the Intergovernmental Panel on Climate Change (IPCC) highlights the limited integration of gender and social justice considerations in climate policies globally. In India, while the NAPCC acknowledges women's disproportionate vulnerabilities, it falls short of providing actionable measures to empower them as agents of change (Singh, 2023).

Addressing these gaps requires a shift in the policy discourse. By recognizing women and children as key stakeholders in climate action, India can enhance adaptive capacities and address systemic inequities. Integrating gender-sensitive approaches into existing frameworks, such as the NAPCC and SAPCCs, can improve their inclusivity and effectiveness. Collaboration between government agencies, NGOs, and international organizations is essential to fostering a holistic response to the interconnected challenges of climate change, gender inequality, and public health. To further understand how India's climate policies address these challenges, we now examine key initiatives, their objectives, and the extent to which they integrate gender, health, and climate considerations.

"Women's knowledge and participation have been critical in the survival of entire communities in disaster situations; therefore, the government should recognize their specialized skills in livelihood management in mitigation and adaptation measures."

- Jyoti Parikh, Director of IRADe

A detailed look at Indian policies on climate change

This section presents an analysis of key policy initiatives in India, evaluating their objectives, target regions, and their alignment with gender, health, and climate change considerations. A comprehensive review of these policies was conducted to identify existing provisions and gaps in addressing this intersection. While many policies offer indirect benefits to women and children by tackling broader environmental and societal challenges, there is scope to incorporate more gender-sensitive measures and health-focused provisions for these vulnerable groups. Notable exceptions, such as the Pradhan Mantri Ujjwala Yojana, demonstrate how well-designed interventions can effectively integrate gender and health priorities. However, there remains a critical need to embed gender-responsive strategies across all climate-related policies to better address the unique vulnerabilities and health risks faced by women and children in the context of climate change.

Policy	Objective	Target geography	Provisions to address gender and health intersectionality	Gaps
National Action Plan on Climate Change (NAPCC)	To outline India's strategy to tackle climate change through eight national missions.	Nationwide	Recognizes the importance of inclusive growth.	There is an opportunity to strengthen the gender lens, particularly in addressing the unique vulnerabilities of women and children to climate change impacts.
State Action Plans on Climate Change (SAPCCs)	To implement climate strategies at the state level, tailored to local contexts.	State-specific	Some SAPCCs acknowledge gender as a driver of vulnerability.	Many SAPCCs have the scope to further integrate gender-sensitive measures, ensuring better protection for women and children from climate-related hazards.
National Clean Air Programme (NCAP)	To reduce particulate matter (PM) concentrations by 20-30% by 2024 and improve air quality in non-attainment cities.	131 non-attainment cities	Recognizes the vulnerability of women and children to air pollution-related health impacts.	While vulnerabilities are acknowledged, specific provisions targeting women and children could be further developed to ensure comprehensive support.
National Adaptation Fund for Climate Change	To assist states and union territories in implementing climate adaptation projects for agriculture, water resources, forestry and more.	Regions vulnerable to climate change	Provides funding for community-based projects that can indirectly benefit women by improving livelihoods and resilience.	Gender considerations could be more explicitly incorporated to ensure a more inclusive approach.
Perform, Achieve, Trade (PAT) Scheme	To improve energy efficiency in industries and reduce greenhouse gas emissions.	Industrial sectors	Focuses on energy efficiency and reducing GHG emissions.	The policy could be further enhanced by including direct provisions that address both gender and health-related vulnerabilities.
Unnat Jyoti by Affordable LEDs for All (UJAJA)	To promote the use of energy-efficient lighting to reduce electricity consumption.	Nationwide	Focuses on reducing energy costs for households, indirectly benefiting women and children in low-income families.	There is potential to include more direct provisions that address gender and health

				impacts, especially those affecting women and children.
National Electric Mobility Mission Plan (NEMMP)	To promote electric and hybrid vehicles to reduce dependency on fossil fuel and improve air quality.	Urban and semi-urban areas	Focuses on reducing emissions and improving urban air quality.	There is an opportunity to introduce more gender-focused measures that support women's mobility and specific health benefits for vulnerable groups like women and children.
National Policy on Biofuels	To promote the production of biofuels for energy security and environmental sustainability.	Nationwide	Focuses on rural economies and sustainable practices.	Strengthening the recognition of women's roles in biofuel supply chains and highlighting associated health benefits could enhance inclusivity.
National Solar Mission (NSM)	To promote solar energy use and achieve 280 GW of solar power capacity by 2030.	Nationwide	Solar power projects indirectly improve health by reducing reliance on polluting fuels.	Expanding provisions to more explicitly address the needs of women and children would contribute to more equitable climate action.
National Mission on Sustainable Agriculture	To promote sustainable agricultural practices and enhance food security amidst climate challenges.	Rural agricultural areas	Encourages women's participation in agriculture.	Additional health-related measures could help better recognize and address the specific vulnerabilities of women and children.
National Water Mission (NWM)	To ensure integrated water resources management and improve water use efficiency.	Water-stressed regions	Recognizes the gendered burden of water scarcity on women.	Implementing stronger gender-sensitive measures and incorporating explicit health-related provisions could help address water-related vulnerabilities for women and children more effectively.
National Forest Policy (NFP)	To conserve forests and biodiversity while promoting sustainable livelihoods.	Forest regions	Aims to involve women in afforestation programs.	Afforestation policies could further consider the health impacts on women and children while integrating gender considerations into sustainable forest management.
Energy Conservation Building Code (ECBC)	To promote energy efficiency in buildings.	Urban areas	Improves indoor air quality, indirectly benefiting women and children.	Building design and urban planning strategies could more effectively incorporate gender and health intersectionality to meet the specific needs of women and children for better indoor environmental quality.
Pradhan Mantri Ujjwala Yojana (PMUY)	To provide clean cooking fuel (LPG) to women from Below Poverty Line households.	Nationwide	Reduces indoor air pollution and associated health risks for women, making it a strong example of gender-sensitive climate action.	Beyond clean cooking initiatives, policies could take a broader approach to addressing climate and health challenges faced by women in rural and underserved areas.



National Mission	Health	To provide accessible, affordable and quality health services to all.	Nationwide	Enhances resilience to climate-sensitive diseases, indirectly benefiting women and children.	Integrating climate change considerations into health programs more explicitly could help address gendered health impacts, particularly for climate-sensitive diseases.
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Gender and climate matrix: Bridging gaps in India's policies





India's climate policies have made significant strides in addressing environmental challenges and promoting sustainable development. However, the intersection of gender, health, and climate change often remains underexplored, leaving women and children largely unaddressed in the policy framework.

This matrix evaluates the status of gender integration across climate policies, highlighting current inclusions, identifying critical gaps, and proposing actionable recommendations. It underscores the importance of adopting a gender-responsive approach to policy design, implementation, and monitoring to ensure equitable outcomes. By focusing on health, participation, data, and resource access, this matrix offers a comprehensive analysis of how Indian climate policies can be transformed to better serve vulnerable groups and foster resilience against climate change.

The recommendations presented here are the result of secondary research, drawing insights from an extensive review of policy documents, academic papers, and global best practices. By consulting multiple sources, we have synthesized evidence-based strategies to bridge the existing gaps and drive inclusive, effective climate action.¹

Aspect	Current Status	Gaps	Recommendations
 Gender integration & intersectionality	Most policies indirectly benefit women and children but lack explicit gender-sensitive measures. Few policies recognize how gender intersects with poverty, caste, and geography in climate adaptation.	There is an opportunity to enhance gender-sensitive provisions to better address the unique vulnerabilities of women and children to climate impacts.	Mainstream gender-responsive frameworks for all climate policies ensuring intersectional approaches that address gender, poverty, caste, and geography.
 Health & socioeconomic resilience	Some policies recognize the vulnerability of women and children to health impacts, particularly from air pollution and indoor pollution. Economic benefits (e.g., reduced water scarcity) are indirect.	A stronger focus on the health impacts of climate change, such as heat stress, vector-borne diseases, and malnutrition, could help ensure better support for women and children. Expanding economic opportunities for women in climate-related sectors could also strengthen resilience and inclusion.	Incorporate health-focused measures addressing climate-sensitive diseases. Train community health workers on the intersection of gender, health, and climate change. Expand economic opportunities for women in renewable energy, sustainable agriculture, and conservation.

¹ Papers consulted: https://www.undp.org/sites/g/files/zskgke326/files/migration/in/gnder_cc.pdf, <https://kuberneininitiative.com/wp-content/uploads/2023/11/Gender-and-Climate-change-Report.pdf>, https://cdkn.org/sites/default/files/files/CDKN_India-Gender_report_WEB.pdf, <https://www.tandfonline.com/doi/full/10.1080/14693062.2021.1953434?src=>, https://unfccc.int/sites/default/files/resource/202310_adaptation_gender.pdf

 Participation, & capacity building	<p>Women are encouraged to participate in community projects, but their leadership in decision-making remains limited. Some capacity-building initiatives include women, mainly in agriculture and conservation.</p>	<p>Encouraging greater representation of women in leadership roles and expanding skill-building programs could empower them to adapt to climate risks and contribute more actively to resilience efforts.</p>	<p>Promote women's equal representation in climate policy and planning. Expand capacity-building programs in climate adaptation, resilience strategies, and sustainable livelihoods.</p>
 Data, research & monitoring	<p>Limited research on how climate change uniquely impacts women and children. Few policies track gender-specific climate vulnerabilities.</p>	<p>Strengthening the collection and use of gender-disaggregated data could help design more targeted and effective interventions, while enhancing monitoring and evaluation systems could improve the impact of gender-sensitive initiatives.</p>	<p>Conduct research on gender-climate-health linkages. Strengthen monitoring with gender-disaggregated data and clear accountability frameworks.</p>
 Education, awareness & community engagement	<p>Awareness programs indirectly target women through community-level initiatives.</p>	<p>Increasing access to targeted education on climate resilience, sustainable practices, and health adaptation could better equip communities, especially women and children, to respond to climate challenges.</p>	<p>Develop campaigns to educate women on climate risks and resilience. Train community health workers on the gender-climate-health nexus to enhance outreach.</p>
 Access to resources & financial support	<p>Policies aim to improve access to clean energy, water, and sustainable livelihoods, indirectly benefiting women and children. Funding for community projects rarely includes gender-specific initiatives.</p>	<p>Women in marginalized communities could benefit from improved access to climate adaptation resources, and making gender-sensitive budgeting a more consistent practice in climate policies could help ensure more equitable resource allocation.</p>	<p>Guarantee women's access to clean energy, water, and climate adaptation tools. Implement gender-responsive budgeting in climate financing with dedicated funds for women-centred initiatives.</p>

Integrated Roadmap for Gender-Responsive Climate Action in India

This roadmap outlines a phased strategy to address the intersection of gender and climate resilience in India. It identifies actionable steps across **Initial Steps (0–2 years)**, **Intermediate Measures (2–5 years)**, and **Long-Term Goals (5+ years)**, ensuring practical, scalable, and inclusive approaches. By leveraging existing policies, schemes, and insights from key discussions, the roadmap focuses on empowering women, localizing solutions, integrating technology, and fostering collaborative partnerships to build sustainable and gender-sensitive climate resilience. The table below categorizes these actions across critical areas, offering a structured plan for implementation and long-term impact.

Action Area	Initial Steps (0–2 Years)	Intermediate Measures (2–5 Years)	Long-Term Goals (5+ Years)
Implement gender-responsive policy discourse and frameworks	Advocate for gender-sensitive provisions in NAPCC and SAPCCs.	Promote the institutionalization of gender audits in all climate policies.	Mandate gender mainstreaming in all climate programs.
	Develop guidelines for integrating gender considerations into climate policies.	Develop tools and training modules for policy implementation and monitoring.	Institutionalize periodic gender-sensitive policy reviews and monitoring mechanisms in climate reporting systems.
	Convene multi-stakeholder panels to discuss systemic barriers (e.g., property rights, financial inclusion).	Integrate gender-sensitive recommendations into key national policies and programs (e.g., SAPCCs, MGNREGA).	Ensure all national and state-level climate policies are gender-responsive and climate-resilient.
Accelerate role of data and technology	Develop systems for collecting gender-disaggregated data and identifying vulnerable groups.	Leverage AI and mobile data to develop real-time, predictive tools addressing food insecurity and climate shocks.	Institutionalize gender-inclusive AI-based climate risk assessment platforms.
	Establish partnerships with research organizations for AI-driven climate data analysis tailored for women.	Integrate local knowledge into technology solutions to create balanced approaches to climate adaptation.	Ensure inclusive technology systems that cater to women and marginalized communities.
Institutionalize gender-responsive budgeting	Advocate for gender-responsive budgeting in pilot programs for climate policies.	Formalize gender-responsive budgeting for all climate-related sectors and programs.	Ensure sustained budgetary allocation for gender-sensitive climate action.
Enforce capacity building programs for community health workers	Train ASHAs and ANMs on climate-related health risks (e.g. heat stress, vector-borne diseases)	Scale community health worker training programs to include intersectional vulnerabilities (e.g. caste, poverty)	Institutionalize health-climate training modules in national healthcare education systems.

Promote women's leadership	Develop skill-building programs in renewable energy, agriculture, and climate governance.	Create mentorship networks to elevate women leaders in climate-related sectors.	Scale women leadership roles in all state and national-level climate policy bodies.
Institutionalize awareness campaigns	Launch campaigns educating women about climate resilience and sustainable practices.	Integrate campaigns into rural outreach programs (e.g., through local self-help groups and NGOs).	Institutionalize gender-focused climate awareness campaigns as part of state and national adaptation frameworks.
Localize climate solutions	Promote community-driven climate initiatives through SHGs and grassroots organizations.	Expand programs like MGNREGA to integrate climate adaptation measures at the community level.	Mainstream community-led solutions as a core component of state and national climate adaptation frameworks.
	Establish platforms for sharing local knowledge on climate resilience.	Develop capacity-building programs for local leaders, with a focus on empowering women in climate adaptation roles.	Institutionalize community leadership as a key driver in national climate adaptation efforts.
Ensure collaborative grant making	Encourage philanthropic organizations to adopt trust-based grant-making models for women-led initiatives.	Build partnerships between NGOs, civil society, and philanthropic organizations to create long-term capacity programs.	Institutionalize collaborative grant-making frameworks for inclusive and sustainable climate adaptation.
Ensure equitable access to resources	Design programs prioritizing access to clean energy, water, and sustainable livelihoods for women.	Expand existing resource access programs (e.g., Jal Jeevan Mission, PM Ujjwala Yojana) to underserved regions.	Institutionalize gender-focused resource allocation policies.
Expand livelihood opportunities	Launch initiatives for women entrepreneurs in renewable energy, conservation, and agriculture.	Scale these programs under Start-Up India and PM-KUSUM to foster large-scale participation.	Establish women-led enterprises as critical contributors to climate-related sectors.
Strengthen global and local partnerships	Initiate partnerships with stakeholders (e.g., UN Women, COP events) to amplify gender-sensitive frameworks.	Develop multi-stakeholder partnerships with local governments, NGOs, and international organizations for scaling up.	Institutionalize collaborative models for gender and climate innovation.

Conclusion

The climate crisis is no longer a distant threat. It is a looming reality that disproportionately endangers women and children, particularly in countries like India, which ranks as the seventh-most vulnerable nation to climate change (India Today Environment Desk, 2025). Every delay in action deepens the existing inequalities, further entrenching vulnerabilities in health, economic security, and social well-being. The time for incremental change is over; we need urgent, systemic action that integrates climate resilience into every facet of governance, economy, and social protection. Addressing the intersection of gender, health, and climate change in India requires a comprehensive and inclusive approach. The evidence highlights the disproportionate impact of climate change on women and children, exacerbated by existing socio-economic and gender-based inequalities (Kubarnein Initiatives & WISCOMP, 2023). These challenges present an opportunity to drive transformative change by integrating gender-sensitive measures into climate policies and fostering collaboration among stakeholders.

Policies that bridge these sectors can drive sustainable progress while strengthening resilience to climate risks. The promotion of clean cooking fuels like LPG and electric stoves must be expanded, as millions of women continue to suffer from indoor air pollution-related diseases due to the continued reliance on biomass and traditional fuels. Programs like the Pradhan Mantri Ujjwala Yojana must receive sustained investment to ensure widespread adoption and long-term behavioural change. Similarly, ensuring access to safe drinking water is critical, as climate change-induced water scarcity is increasing the burden on women and children. Integrating rainwater harvesting and wastewater recycling and improving water conservation technologies must be a national priority. At the same time, climate-resilient infrastructure is urgently needed to protect vulnerable populations from extreme weather events. Flood-proof housing, heat-resistant urban planning, and resilient transport systems must be prioritized, with a special focus on rural and low-income communities that bear a major brunt of climate disasters (PTI, 2024).

A gendered approach must be at the core of all climate policies. Women are not just victims of climate change; they are key agents of adaptation and resilience. Policies must address the gender gap in land and financial rights by expanding access to land ownership, credit, and insurance mechanisms to enhance women's economic security in the face of climate shocks. Supporting women-led energy transitions is also crucial. Strengthening self-help groups (SHGs) and women's cooperatives in renewable energy and sustainable agriculture can foster inclusive, scalable solutions. Policies like the NAPCC and SAPCCs should incorporate gender audits and intersectional approaches, ensuring that the unique vulnerabilities of women and children are adequately addressed (Parikh, 2007). Equally important is the empowerment of women as leaders in climate-sensitive sectors. Expanding their roles in renewable energy, sustainable agriculture, and climate governance will not only enhance adaptive capacities but also promote community-driven solutions.

Data and technology will play a pivotal role in this transformation. Real-time gender-disaggregated data and AI-driven predictive tools can enable targeted interventions, improving the efficacy of climate adaptation efforts (Sogani, 2016). AI-driven monitoring of food security using mobile data can help detect areas at risk of hunger, enabling targeted interventions. By integrating AI and predictive analytics into decision-making, India can move from reactive crisis management to proactive climate resilience.

Collaborative partnerships with research organizations can foster inclusive technologies that prioritize the needs of women and children. Localization of solutions is another critical priority. Empowering grassroots organizations and self-help groups to lead climate adaptation projects will ensure that solutions are context-specific and community-driven, fostering greater ownership and sustainability. Continuous financial

support through gender-responsive budgeting is essential for creating long-term impact. Dedicated financial allocations for gender-sensitive initiatives will strengthen investments in education, healthcare, and sustainable livelihoods. This commitment will not only address immediate challenges but also pave the way for a resilient and equitable future.

India can no longer afford to treat climate change as an isolated issue. It is a threat multiplier—worsening health outcomes, deepening gender disparities, and stalling economic progress. Delaying interventions will only escalate the crisis, leading to irreversible consequences. India must aim to build a society where women and children are not only safeguarded against the adverse effects of climate change but are also empowered as agents of transformative change. A multi-stakeholder approach involving government agencies, NGOs, international organizations, and local communities is vital to achieving this vision. By integrating traditional knowledge with advanced technologies, India can foster a culture of awareness, innovation, and inclusivity. This comprehensive approach will ensure that the country is not only prepared to address the challenges of climate change but also leads the way in creating a just and sustainable world.

References

- Broraha, T., Islam, F., Mohammed, R., & Szabo, G. (2023). *Global Girlhood Report 2023: Girls at the Centre of the Storm – Her planet, her future, her solutions*. Save the Children's Resource Centre. https://resource-centre.savethechildren.net/pdf/STC_Global_Girlhood_Report_2023.pdf/
- Chacko, S. (2023, September 3). *Extreme weather events lead to increase in child marriages: Study*. Down To Earth. <https://www.downtoearth.org.in/climate-change/extreme-weather-events-lead-to-increase-in-child-marriages-study-91520>
- Choudhary, K. (2022, November 2). *How is India tackling climate change?* Grantham Research Institute on Climate Change and the Environment. <https://www.lse.ac.uk/granthaminstitute/explainers/how-is-india-tackling-climate-change/>
- Dehingia, N., McDougal, L., Silverman, J. G., Reed, E., Urada, L., McAuley, J., Singh, A., & Raj, A. (2023). Climate and Gender: Association Between Droughts and Intimate Partner Violence in India. *American Journal of Epidemiology*, 193(4), 636–645. <https://doi.org/10.1093/aje/kwad222>
- Environmental Defense Fund. (n.d.). *This is why fighting climate change is so urgent* | *Environmental Defense Fund*. Retrieved February 6, 2025, from <https://www.edf.org/climate/why-fighting-climate-change-so-urgent>
- GAVI. (2024, November 20). *Climate change is hitting women the hardest. What to do about it – economists*. The Conversations. <https://www.gavi.org/vaccineswork/climate-change-hitting-women-hardest-what-do-about-it-economists>
- India Today Environment Desk. (2025, January 31). *India 7th most vulnerable country to climate change: Economic Survey*. India Today. <https://www.indiatoday.in/environment/story/india-7th-most-vulnerable-country-to-climate-change-economic-survey-2672890-2025-01-31>
- Kirkegaard, D. (2021, July 12). *Marriage in the Forecast: The Link between Climate Change and Child Marriage*. USA for UNFPA. <https://www.usaforunfpa.org/marriage-in-the-forecast-the-link-between-climate-change-and-child-marriage/>
- Kubarnein Initiatives, & WISCOMP. (2023). *Integrating Gender and Climate Change Conversations*. Kubarnein Initiatives. <https://kubarneininitiative.com/wp-content/uploads/2023/11/Gender-and-Climate-change-Report.pdf>
- Mishra, C. (2024, November 4). *India's climate crisis: High cost of leaving women and children behind*. Hindustan Times. <https://www.hindustantimes.com/ht-insight/climate-change/indias-climate-crisis-high-cost-of-leaving-women-and-children-behind-101730704163366.html>
- NASA Science. (2024, October). *What Is Climate Change?* NASA. <https://science.nasa.gov/climate-change/what-is-climate-change/>
- NCDC. (2024, November). *National Programme on Climate Change & Human Health* [National Centre for Disease Control]. <https://ncdc.mohfw.gov.in/national-programme-on-climate-change-human-health/>
- Norton, A., & Huq, S. (2021, October 30). *Climate-induced migration illustrates loss and damage already being felt by communities*. <https://www.iied.org/climate-induced-migration-illustrates-loss-damage-already-being-felt-communities>

- Ondieki, G., Shetty, D., & See, A. B. (2023, January 3). *Climate change puts more women at risk for domestic violence*. The Fuller Project. <https://fullerproject.org/story/climate-domestic-violence/>
- Pandit, A. (2024, August 4). *Govt acknowledges climate change's disproportionate impact on women and children, highlights lack of comprehensive audit*. Times of India. <https://timesofindia.indiatimes.com/india/govt-acknowledges-climate-changes-disproportionate-impact-on-women-and-children-highlights-lack-of-comprehensive-audit/articleshow/112269648.cms>
- Parikh, D. J. (2007). *Gender and Climate Change: Framework for Analysis, Policy & Action*. https://www.undp.org/sites/g/files/zskgke326/files/migration/in/gnder_cc.pdf
- PTI. (2024, November 15). Almost everyone in India vulnerable to climate change impacts; need for concerted efforts: Dr. Swaminathan at COP29. *The Hindu*. <https://www.thehindu.com/sci-tech/energy-and-environment/almost-everyone-in-india-vulnerable-to-climate-change-impacts-need-for-concerted-efforts-dr-swaminathan-at-cop29/article68871116.ece>
- Rahman, A. P. (2022, March 1). *India's women and children highly vulnerable to climate change yet missing in climate policies*. Mongabay-India. <https://india.mongabay.com/2022/03/indias-women-and-children-highly-vulnerable-to-climate-change-yet-missing-in-climate-policies/>
- Rai, P. (2022, January 28). *FROM WATER SCARCITY TO SELF-SUFFICIENCY: KITAM STORY — Sikkim Project*. <https://www.sikkimproject.org/from-water-scarcity-to-self-sufficiency-kitam-story/>
- Ray Chowdhuri, A. (2024, October 30). *India's 2030 Emission Targets are in Sight but the Road Beyond is Bumpy*. Outlook Business. <https://www.outlookbusiness.com/planet/sustainability/indias-2030-emission-targets-are-in-sight-but-the-road-beyond-is-bumpy>
- Sekhri, S., & Storeygard, A. (2014). Dowry deaths: Response to weather variability in India. *Journal of Development Economics*, 111, 212–223. <https://doi.org/10.1016/j.jdeveco.2014.09.001>
- Singh, C. (2023, September 8). *How is India mainstreaming gender in Climate Change adaptation? - Question of Cities*. <https://questionofcities.org/how-is-india-mainstreaming-gender-in-climate-change-adaptation/>
- Sogani, R. (2016, May). *CDKN_India-Gender_report_WEB.pdf*. Climate and Development Knowledge Network. https://cdkn.org/sites/default/files/files/CDKN_India-Gender_report_WEB.pdf
- The Climate Change Knowledge Portal. (n.d.). *What is Climate Change?* World Bank. Retrieved November 25, 2024, from <https://climateknowledgeportal.worldbank.org/>
- UN. (2024). *What Is Climate Change?* United Nations- Climate Action; United Nations. <https://www.un.org/en/climatechange/what-is-climate-change>
- UNEP. (2019, June 7). *Women as climate action ambassadors in coastal districts of India's Odisha State*. UN Environment Programme. <https://www.unep.org/news-and-stories/story/women-climate-action-ambassadors-coastal-districts-indias-odisha-state>
- UNFPA. (2024, September 5). *Domestic violence in sub-Saharan Africa will triple by 2060 due to extreme heat epidemic and stalling development, new UNFPA research finds*. United Nations Population Fund. <https://www.unfpa.org/press/domestic-violence-sub-saharan-africa-will-triple-2060-due-extreme-heat-epidemic-and-stalling>
- UNICEF. (2021, August). *One billion children at 'extremely high risk' of the impacts of the climate crisis—UNICEF*. <https://www.unicef.org/press-releases/one-billion-children-extremely-high-risk-impacts-climate-crisis-unicef>

- Vallangi, N. (2025, January 31). 1.5 degrees of aberration | Is India prepared to deal with the fallout of increasing emissions and long-term warming in the near future? *The Hindu*.
<https://www.thehindu.com/sci-tech/energy-and-environment/climate-change-global-warming-paris-agreement-united-states-emissions-challenges-india/article69153842.ece>
- World Bank. (2024, June 5). *Catalyzing Clean Air in India*. World Bank.
<https://www.worldbank.org/en/country/india/publication/catalyzing-clean-air-in-india>