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## Women and Climate Change Vulnerability: The Indian Scenario

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## Women and Climate Change Vulnerability: The Indian Scenario

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### Abstract

*Climate change is a significant challenge that affects the existence of people all around the world. India is one of the countries which is highly vulnerable to climate change and experiences the impacts of climate change at different levels. It is a fact that the effects of climate change are more on women and children than on men. Women's inadequate access to natural resources, lack of financial and technological resources, less mobility and restrained freedom, make them more vulnerable to climate disasters. Women who are from socially and economically deprived backgrounds are doubly disadvantaged in comparison to men who belong to the same category. Though the National Action Plan on Climate Change was framed in 2008 in India to address the climate change problem, the aspect of gender had not been given any focus in the plan. Women's basic rights and agency had been sidelined in climate change policy framework. This Article attempts to look at the impacts of climate change on women and the root causes behind their marginalisation in climate policy making. The methodology adopted for this study is purely qualitative. The study is descriptive and analytical in nature based on the socio-cultural setting of the country. The study concludes that unless and until the climate policy in the country becomes inclusive in nature, acknowledging the norms of equity and justice, finding a reasonable solution to this problem would be extremely difficult. It is important that women's capacity and capability to combat climate change is strengthened when looking at the issue of climate change more holistically.*

*Keywords: climate change, India, NAPCC, vulnerability of women*

**Introduction**

Climate change is posing new challenges to human security and livelihood. Impacts of climate change are pervasive, and it is affecting almost all sectors, including agriculture, economy, fisheries, and food security. Increasing of sea levels, melting of glaciers, environmental degradation, unpredictable weather patterns, extreme variations in temperature, depletion of groundwater resources etc. are evidence of the impacts of climate change. Climate change disproportionately affects different sectors of the population. Women and children are the regular victims of the impacts of climate change. Hence, the main research questions that are posed in this study are: How does climate change affect men and women differently? What are the factors that intensify Indian women's vulnerability to climate change? and why is it important to look at the climate change issue from a perspective of gender? This study would explain why it is imperative to accommodate gender as an analytical category in climate change debates when framing policies to address the issue.

This study is based on three hypotheses. The first hypothesis is that women are more vulnerable to climate change than men due to the specific gender roles that they perform in society. The second hypothesis is that women's lack of access to financial and technological resources makes them less adaptable to the effects of climate change than men. The third hypothesis is that women who are from socially and economically deprived backgrounds are more vulnerable to climate change impacts than women from socially and economically privileged backgrounds.

**Research methodology**

With the objective of explaining the gender dimensions of climate change, a purely qualitative methodology has been used for this research. The nature of the study is descriptive, analytical, and explanatory. This article has an interdisciplinary character as it attempts to view environmental issues from the perspective of gender. Primary and secondary source materials have been used to explain how climate change becomes a question concerning gender. Primary sources such as the Intergovernmental Panel on Climate Change IPCC reports, the National Action Plan for Climate Change (NAPCC) documents, the United Nations Framework Convention on Climate Change (UNFCCC) agreements and secondary sources such as books, articles and policy documents have been

used for the study. Reports that are available in the websites of various think tanks have also been used for the study.

Various IPCC reports point out that climate change is a reality which no one can ignore (IPCC, 2014). The South Asian region is one of the worst affected areas by climate change (Islam, Sultan & Afroz; 2009). The fourth assessment report of the Intergovernmental Panel on Climate Change (hereafter IPCC) noted that “India will be one among the countries that is likely to be worst affected by climate change.” The devastating effects of climate change have already resulted in a steep fall in agricultural production, the submergence of coastal areas and the increased occurrence of extreme weather events such as floods and cyclones. So far, there is no consensus among world nations, especially among India, China, and the United States, on how to address the climate change crisis, who should take the responsibility for it, what measures should be adopted or on how to implement them. Harris (2013) terms this self-centered behaviour of the states ‘the Westphalia cancer’.

Climate change is a relatively modern phenomenon. The history of debates on environment and development in international platforms goes back to the 1970s. The Stockholm Conference held in 1972 was one of the first global platforms that generated intense discussions about various environmental threats that were emerging at the time. The 1992 Rio Conference and the subsequent framing of the UNFCCC was one of the landmarks in the efforts by the international community to combat climate change. In 1997, the UNFCCC conferences framed the Kyoto Protocol, an international emission reduction treaty. However, the Kyoto Protocol did not become successful in effectively combating the climate crisis as it had failed miserably to ensure the compliance of major developed countries such as the U.S. with the provisions of the Protocol. The U.S. rejected the Kyoto Protocol and declared that it is a dead treaty for them in 2001 as the Protocol exempted major developing countries like India and China from reducing greenhouse gas emissions. However, when the Paris Agreement came into form in 2015, irrespective of differences, all countries, including the developing countries submitted their voluntary emission reduction targets considering the growing emissions from all quarters. Though many states submitted their emission reduction targets under the Paris Agreement, the implementation of the Agreement became uncertain as the U.S. withdrew from it in 2017. Now, under the Biden administration, the U.S. has re-joined the Paris Agreement. The successful implementation of the Agreement largely depends on the cooperation of the U.S. Without having

international cooperation and collaboration, the climate problem is likely to remain unsolved.

The impacts of climate change are distributed variedly across different sections in society. It is a fact that the worst sufferers of climate change are women and children who live in developing and least developed countries. Along with the socio-economic vulnerabilities that they already experience, newer climate threats are pushing them to further marginality. Though climate change affects the livelihood of everyone, it is high time for different countries to devise policies that focus on the most vulnerable sections in society. In India, women are the first victims of climate change. This paper will analyse how women are disproportionately impacted by climate change and how climate disasters affect their day-to-day existence and livelihood.

### **Climate change vulnerability**

Vulnerability means being pushed to the margins of society as a result of suffering deprivation at different levels. The three most important questions to be considered under this section are: Who is vulnerable? What are the factors that exacerbate vulnerability and how do the state institutions respond to people's vulnerability? The lack of socio-economic and political privileges, disability, gender, age, poverty etc. could be the factors that influence susceptibility and subordination. The UN World Conference on Disasters defines vulnerability as "a set of conditions determined by physical, socio-economic and environmental factors or processes which increase the susceptibility of a community to the impact of hazards" (UNISDR, 2012).

It has been proven that climate change can worsen existing forms of inequality and marginalisation among different groups of people. Climate change can reduce one's capacity to pay and the ability to cope with different situations. In a world where resources are unequally distributed, newer challenges like air pollution, environmental degradation and food and water scarcity will have severe ramifications on the poor who live in the peripheries. In the development discourses, subaltern women who are at the bottom of power structures always get marginalised and neglected. The UNDP Human Development Report (2007-08) states that "all development is ultimately about expanding the human potential and enlarging human freedom. Climate change threatens to erode human freedoms and limit the choice." While elite, privileged sections of society who have contributed the most to climate change face relatively lesser impacts of climate change, marginalised people

who probably had no share in escalating the climate crisis are being forced to bear the burden of the problem due to their socio-economic marginality. Bidwai (2009) analyses that “a citizen from the highest income group in India, comprising just 1% of the population, emits four and a half times more CO<sub>2</sub> than a citizen from the lowest income strata. Hence in reality, in India, elites are hiding behind the poor.” Various studies conducted in India to understand the impact of climate change on different groups of people revealed that those who belong to the lower income strata are more susceptible to the effects of climate change than people who belong to the higher income cap. Apart from that, women who belong to rural households, children, scheduled caste, and scheduled tribe people are often victims of the effects of climate change.

State institutions can play a significant role in reducing the vulnerability of marginalised sections of society and can frame policies that can be more inclusive. Nevertheless, at least in some parts of the world, poor people are becoming weaker and more vulnerable due to biased state actions and policies. In ensuring equity and justice in the distribution of natural resources, the state can act as a powerful force. In enhancing the adaptive capacity of people to the impacts of climate change and mitigating the effects of climate change, state and non-state agencies have an essential role to play. In India, launching the National Action Plan on Climate Change (hereafter NAPCC) in 2008 was an important initiative taken by the state to address climate vulnerability. Following that, state-wide climate change action plans have been given form in many states. However, one of the lacunas in all these initiatives is that none of the action plans focus on how less privileged social groups in society, especially the rural women, Dalits, Adivasis etc. can be empowered to fight climate change.

### **Impacts of climate change on Indian women**

How climate change affects gender is a crucial area of investigation in global climate change studies. Thomas (8 March 2020) argues that “it is the power structures over gender [that] make women more vulnerable to climate change.” Women who are already conditioned by the patriarchal notions of society and who have less access to resources undergo more suffering compared to men. Women are the primary managers of households. Almost all household chores ranging from collecting water to cooking are entrusted upon women. Therefore, even the scarcity of water due to climate change would have more consequences on the women in the family. It is a routine for women in India to walk to faraway places to collect water and wood. The depletion of groundwater and polluted river bodies are forcing

women to walk extra miles to fulfil their responsibilities. In India, women who live in the rural areas of Mumbai and Ahmedabad already face more difficulties due to climate-induced water scarcity. Reports reveal that "on average, a rural woman walks more than 14,000 km a year just to fetch water" (Shiva, 2017). In rural areas of Rajasthan and U.P, one can find these 'water women'. Reports say that "in low and middle-income countries, 8 out of 10 women are responsible for collecting water for their household. Women are responsible for over 70% of water-related chores and management globally" (Rao & Raj, 1<sup>st</sup> July 2019). In this scenario, ensuring women's access to primary natural resources must be a priority in the climate action initiatives of the state. After all, the right to water is a fundamental right of every human being.

The agricultural sector is another significant area wherein women are directly impacted by climate change. It is reported that "in India alone, women make up over 65% of the total agricultural workforce. Women play a crucial role in the agricultural sector, performing different jobs from sowing seeds to harvesting crops. In watering the plants and nurturing them, women's role is inevitable" (Rao & Raj, 1<sup>st</sup> July 2019). Therefore, any decline in agricultural production due to extreme droughts, floods or other natural calamities would have a direct impact on women, causing them to lose their jobs and livelihood. Food security is an essential component of human existence. The agricultural sector has a significant role to play in ensuring food security. Climate-induced natural disasters can have ramifications on food security worldwide. Climate disasters may affect women and children more as they are generally devoid of their due share in the agricultural market. Apart from this, women's limited access to weather forecast systems, lack of knowledge on diverse agricultural patterns coupled with their household responsibilities discourage them from addressing these problems caused by climate change. Many women who have invested in the farming sector by borrowing from microfinance institutions are in debt due to the unpredictable weather patterns. Hence, the state and central government need to announce special packages for women agricultural workers to recover from this crisis. A report published by the FAO (2013) states that "climate change can exacerbate existing gender inequalities in agriculture and beyond. However, if the important role women play in agriculture is recognised, and they are provided with equal access to resources and services, climate change can also offer significant opportunities for women to become agents of change."

The fisheries sector is another domain that is vulnerable to climate change. Climate change has severely affected the fish availability and has endangered marine resources. This directly affects men who spend their livelihood by catching fish and women who are engaged in fish processing and selling. Many fish processing centres which had employed women in large numbers earlier face the danger of being shut down. Moreover, many women who live in the coastal areas are losing their houses and property due to climate-induced sea erosion. In the state of Kerala, according to official statistics, “110 families had lost their houses in Valiyathura in Trivandrum district alone because of climate-induced coastal erosion and rough seas. Another 100 homes had been damaged in the nearby fishing villages of Poonthura, Panathura and Bimapalli, all over the last five years in the state” (John, 25 June 2018). When Cyclone Ockhi hit Kerala in 2017, many women lost their husbands, sons or fathers who were at sea.

As the majority of women in India are financially dependent on men and have less mobility outside their homes, they are more prone to the impacts of natural disasters. Women’s household circumstances have severely restricted their capacity to combat climate change. Subhasis Bhadra argues that “women's vulnerability is connected to their generally lower social-economic status. Women usually do not hold property or land rights, have a less political voice, have fewer educational opportunities and experience less mobility due to cultural restrictions” (Bhadra, 2017). Bhadra (2017) continues to argue that in India, cultural practices like the *purdah* system (the seclusion of women) which does not allow girls to go to school, marrying girls at an early age, the dowry system and patriarchal practices limit the opportunities for girls and women. It is a fact that women are not trained on how to save their lives during natural disasters. Reports point out that “catastrophic events are lowering the life expectancy of women more than men. More women are being killed in disasters. However, in countries where women have greater socio-economic and political capital, this gap is not that wide” (Halton, 8 March 2018). In the case of India, the number of women who die in various natural disasters is relatively high in comparison to men. As men have more mobility and training in different skills, they can survive to a certain extent during emergencies. According to reports, in “the 2004 Indian Ocean Tsunami, 70% of the 25,000 fatalities were women” (MacDonald, 2005). Hence, the need of the hour is to develop a gender-sensitive strategy for disaster mitigation.



The climate change problem could induce tension within communities and lead to the outbreak of violent conflicts. The scarcity and unequal distribution of resources can create climate refugees. As per the UN records “80% of people who are displaced by climate change are women” (Halton, 8<sup>th</sup> March 2018). The massive inflow of climate refugees poses new challenges to India's internal security and stability. Thomas (2020, 8 March) points out that “in the aftermath of disasters, women are more likely than men to be displaced, to be sexually assaulted, to be victims of violence and to face other human rights violations.”

The impacts of climate change are never gender-neutral (Gender and Climate Change, Word Press). Women are biologically and culturally more vulnerable to the effects of climate change than men (UN Chronicle). Pregnant and breast-feeding women may experience more climate-induced health risks compared to men. Study reports point out that "cultural vulnerabilities including the poor access to healthcare and cooling facilities, lack of access to personal transportation, culturally prescribed heavy clothing garments that limit evaporative cooling etc. add to women's vulnerability" (Sorensen et.al, 2018). Moosa and Tuana (2014) argue that " the combination of social inequalities in terms of access to basic social goods, culturally prescribed roles and biological vulnerabilities explain the disparity between men and women in experiencing climate health risks.”

Mainstreaming a gender perspective in climate planning is imperative in the years to come. As of now, women are left out of the climate change planning and decision-making process. No concrete efforts have been taken so far by the government machinery to ensure a gender-centered climate change action programme. A report reveals that "[w]hile gender equality is widely recognised as a prerequisite for sustainable development and as central to the global initiatives such as the Millennium Development Goals (MDGs), a gender perspective is so far missing from the climate change policy" (Gender and Climate Change, Word Press). One of the reasons for this is the embedded patriarchal values in Indian society about gender roles and the reluctance to view climate change as an issue of gender.

### **Challenges ahead in adapting to climate change**

India's National Action Plan on Climate Change (NAPCC) has acknowledged the gender aspect in climate change. The NAPCC (2008) states that "the impacts of climate change could prove particularly severe for women. It has been noted that women are at a high risk of facing the negative effects of climate change due to biological, political, and cultural factors. With climate change, there could be an increasing scarcity of water, reduction of

yields in forest biomass, and increased risks to human health, causing the children, women, and the elderly in a household to be the most vulnerable. Women's lack of access to technology and finances are furthering their climate change vulnerability. As women are conditioned by society, inequality of access to warning systems and their reduced purchasing power weaken their adaptability to face the effects of climate change. The concept of gender budgeting has not got due attention in India's climate change planning. The existing climate finance mechanisms are inadequate in combating the current challenges. Though the idea of gender-responsive budgeting has been prevalent in India since 2004-05, it has not gained currency in climate change debates. The central and state governments need to spend more money on women's capacity building programmes. Fiscal federalism and decentralisation can lead to gender-responsive budget-making.

The right to a clean environment is a fundamental right of every citizen. It is a basic human right that should be guaranteed by the state. However, women in India are prone to be more disproportionately exposed to air and water pollution that cause health risks. Women are more dependent on traditional energy sources such as biomass and coal for cooking and other household activities. Their increased dependence on biomass and coal causes more health risks for them. Women are not a homogenous category. Women who lack socio-economic privileges due to poverty are more vulnerable compared to financially independent women who enjoy power positions in society. Tribal women, women from low caste groups, disabled women, older women, and rural women may be doubly disadvantaged, and their experiences are different from the elite women in society. It is high time for India to initiate gender vulnerability mapping studies to understand women's diverse experiences with climate change. When gender-specific policies are framed, women must be consulted and taken into confidence. Non-inclusion of women in the climate decision making bodies and their invisibility from climate platforms would only lead to biased policy formulation. The IUCN (2015) notes that "restricted land rights, lack of access to financial resources, training and technology and limited access to political decision-making spheres often prevent women from playing a full role in tackling climate change and other environmental challenges." Women are important agents of social change. To tap into their indigenous knowledge and networks, inclusion of more women in climate change decision making bodies is imperative.

The strategies used to make women adapt to the impacts of climate change are different in Western societies. While India stresses more on women's technological and financial inclusivity, Western nations look up to the structural and psychological barriers that constrain human behaviour in adapting to climate change. The need of the hour is to develop a holistic perspective that can address these concerns. Climate change is not only an environmental security risk but is also an issue with political, economic, social and gender aspects. Climate change leads to psychological trauma. Various studies prove that the psychological impacts of climate change are more on women than men (Starr, 2019). It is vital to enhance the resilience of women to combat these challenges. Women's advocacy, activism and participation are essential for the success of any climate change action programme. For that, the climate change governance structure needs to be more holistic and accommodative of the aspirations of women.

Noted economist and Nobel Prize winner Prof. Amartya Sen's capability approach is relevant in the context of climate change debates. According to Sen (1999), individual freedom is the center of the capability approach. Sen (1999) argues that a person's capability is measured based on the substantive freedoms that he enjoys. In that respect, climate change and its impacts such as displacement, loss of livelihood, migration, and poverty reduce one's capability to function and constrain one's freedoms. Compared to men, women in society, especially those who are from socially and economically marginalised backgrounds, are more deprived of fundamental freedoms. Sen (1999) states that "while improving women's well-being is important, enhancing their agency is just as critical." Martha Nussbaum, who tried to expand Sen's capability approach, situates this problem in the realm of social justice (Nussbaum, 2003). Sen (1999) and Nussbaum (2003) argue that justice is not about the equal distribution of resources but is about how these goods contribute to the full development of an individual and communities. Sen (1999) calls this 'development as freedom'.

### **Conclusion**

Equity and justice are central to the climate change debate. Equitable distribution of resources alone will not enhance women's capability. A holistic approach to climate change that keeps women at the center of the sustainable development paradigm is needed. A change in perceptions and attitudes is required in government programmes when addressing the issue of gender in climate change. The concept of development needs to be redefined.

Climate change adaptation and mitigation models will not work if they ignore women and children. Mainstreaming and prioritising the gender perspective in climate change is central to equitable, inclusive resource management and conservation. Local self-governments can play a decisive role in these efforts. Developing localised solutions to ensure women's participation is an essential tool in addressing climate change.

A robust policy and legislative framework that considers the concerns of women in the face of natural disasters needs to be developed. A gender-sensitive climate change policy would pay more attention to women's issues, their capacity building and training. To enable women to cope with the challenges of climate change, more climate finances need to be transferred to local self-bodies. Also, it is crucial to identify the gaps in the efforts made to combat climate change. The existing gaps in knowledge, governance, finances, law, and policy need to be bridged. Above all, a humanitarian approach to the sufferings of women and joint efforts by the central and state governments, NGO's, women's organizations and the civil society need to emerge to tackle this challenge effectively. Gender sensitivity must be the core of climate change planning in India.

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