

Research Article

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Climate Change: A Gendered Experience

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Abstract: Climate change focuses on long-term weather patterns, not the daily fluctuations of weather. Concern over the burning of fossil fuels to undermine weather stability by warming the earth’s atmosphere, is longstanding. Eunice Foote first raised the issue in 1853. Other scientists followed – John Tyndall, and Svante Arrhenius, who was awarded the 1908 Nobel prize for chemistry for his work on the climate. These brilliant scientists did not differentiate the experiences of the impacts of climate change on different groups in the population, and thus the gendered experiences of climate events were not examined by them. In this article, I want to consider gender relations or the differentiated impact of climate change on men and women, while acknowledging that these also differ for those with other social attributes, including disabilities. These differences are significant, if under-researched, as is addressing climate change, urgently. How can communities be facilitated by climate change activists and experts to reduce gendered health and livelihood inequalities currently associated with the climate crisis in contemporary societies.


Keywords: gender relations; men; women; climate crisis; climate change; differentiated experiences

1 Introduction

Climate change is concerned with long-term weather patterns and not the daily fluctuations of weather. Concern over the potential of burning fossil fuels to undermine weather stability by warming the earth’s atmosphere, is longstanding. Eunice Foote first raised the issue among scientists in the USA in 1853. She was followed by John Tyndall soon after, and ultimately Svante Arrhenius, who was awarded the Nobel prize for chemistry for his work on the climate in 1908. These brilliant scientists did not differentiate the experiences of the impacts of climate change on different groups in the population, and thus the gendered experiences of

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climate events were not considered by them. In this chapter, I want to focus on gender relations or the differentiated impact of climate change on men and women, while acknowledging that these also differ for those with other social attributes including disabilities that impact their lived experiences on a daily basis. In this chapter, I argue these differences are significant, if under-researched, and that ensuring that climate change is addressed as a global social issue is a matter of urgency. I also suggest how communities can be facilitated by climate change activists and experts to reduce the gendered health and livelihood inequalities that are associated with the climate crisis currently facing contemporary societies.

2 What Is Climate Change?

Meteorologists define climate change as the long-term shifts in temperatures and weather patterns that people observe and record. These shifts are not only (hu)man-made but can also be triggered by solar activity and large volcanic eruptions if they spew large volumes of ash and gases into the atmosphere. Human populations that are structurally vulnerable to climate change include: women, older people, immigrants, and indigenous groups. People's perceptions of climatic changes vary, depending on their geographic location, their lived experiences of extreme weather events, the information they have available to make sense of and give meaning to what they are observing, and the resources that they have to respond to them. In this paper, I also argue that the lived experiences of climate events are also filtered through gender relations which are usually culturally and locality specific. Thus, I will also highlight the key dimensions of a gendered analysis of climate change.

The differentiated impact of climate change varies according to type of hazard, geography and social vulnerabilities. Human health is one of the crucial dimensions of daily life affected by climate change. These impacts are usually the products of hazards such as heatwaves, floods and storms, and newly emerging complex pathways of diverse infectious diseases, disrupted agricultural and various supportive ecosystems, displaced populations and conflict over scarce resources including water, fertile land and fisheries (Bernstein et al. 2007). Responding to health needs imposes a high burden of care on women. Moreover, the interaction between these impacts and social vulnerabilities makes addressing gender parity a complex, compound issue throughout the world.

Additionally, around 350 million poor people living in or near forests that provide their livelihoods through these resources would result in the imposition of further climatic stress on forests, and this could potentially harm poor people, the

majority of whom are women. Alongside these inhabitants, a further 1.3 billion people who inhabit fragile ecological areas (e.g. arid zones, on slopes, in areas with poor soils or in forest ecosystems) continue to experience the destruction of their livelihoods resulting from climate-induced biodiversity loss. Poor and various marginalized populations have become increasingly vulnerable to climate change degraded livelihoods based on natural resource availability sensitive to climate variability. Women are amongst those most heavily impacted by climate-induced impacts.

3 United Nations Engagement on Climate Change

Women farmers are responsible for 45–80 % of food production. About two-thirds of them live in the Global South, and perform agricultural labour. Extreme weather events can undermine all their plans for agricultural activities and food security for their families. Market volatility can make their lives worse as they seek to adapt to rapidly changing circumstances. Additionally, women engage in planting drought resistant crops in Africa and planting mangrove plantations to reduce coastal erosion and flooding, especially in countries like Bangladesh. Women try to respond to the climactic challenges they face in a contextualised and culturally specific manner. This includes being aware of the impact of geography on their community's capacity to respond to the climate crisis.

Women's involvement in agricultural production (including small subsistence plots), and the requirement to fetch water and firewood at substantial distances from their rural villages mean that they carry an inordinate burden of encountering climate-induced effects in conducting their daily routines. Additionally, women are socially more vulnerable as a result of their restricted access to financial assets, land and mechanical resources. Moreover, caring for children and sick and/or disabled adults impinge on their time and other responsibilities and can adversely affect women's health (UNWomenWatch, n.d.). Poverty, which impacts on 80 % of women, especially those residing in rural areas, reduces their capacity to cope as they cannot purchase mitigating devices and seeds that could enhance their capacity to cope better with extreme weather events such as drought. These realities exacerbate the culturally determined social vulnerabilities that women face. Such vulnerabilities also mean that women living in rural areas are more susceptible to climate change than those living in urban areas where richer communities can provide mitigation resources for everyone living in a particular location.

4 Women's Limited Participation in Climate Change Governance Structures, Especially in International Negotiations

At the international level, climate change negotiations occur under the auspices of the United Nations (UN), especially the United Nations Framework Conference on Climate Change (UNFCCC) in its Conference of the Parties (COP) meetings. The UNFCCC is a treaty that determines issues connected with climate change through its COP meetings. So far, 28 of these meetings have been had, and the next one, COP29 will be held in Azerbaijan, another oil extracting country. The COP itself is constituted by government delegates, and their presence is supplemented by civil society organizations that have been recognized by the UNFCCC. During these meetings, 1 day is specifically dedicated to gender. However, COP meetings on gender parity have to be pursued more comprehensively and affirmatively to achieve gender parity. Women's Environment and Development Organisation (WEDO) has been tracking gender representation at UNFCCC COPs since 2008. Yet, during the intervening period, the percentage of women delegates in attendance has grown from 31 % to 34 % – hardly a substantial improvement. Moreover, the presentation of the data in the men–women binary excludes other representations of gender.

Various UN mechanisms and frameworks have commenced to address matters relating to climate change and technology. Among these, the Clean Development Mechanism (CDM) which emerged from the Kyoto Protocol enables industrialised countries to invest in reducing greenhouse gas emissions in developing countries as an alternative to more expensive emission reductions in the West. Yet, such incentives have not led to massive sums being invested in the small island developing states (SIDS) which are suffering the deleterious impacts of climate change most heavily, e.g. Kiribati, sinking into the sea already. Women living in these states carry a heavier burden in ensuring family survival, having to clean, cook, and care for children, and people who are disabled, sick and/or old and care for the planet. Another worrying development is that major ice sheets are disappearing much faster than previously anticipated. The UN Secretary-General recently reported that the cost of mainly climate-related disasters between 2003 and 2013 cost between \$250 billion and \$300 billion yearly, and caused around \$1.5 trillion in economic losses. These hazards are likely to increase in intensity and frequency in future, and thus cause much more damages and loss.

The United Nations Framework Convention on Climate Change (UNFCCC) is the United Nations Treaty that is responsible for deliberating on the issues of climate change through yearly meetings called COPs which are comprised of government

delegates. NGOs with accreditation to the UNFCCC can also attend COP meetings once individual delegates are registered according to a specified quota for each COP. By 2024, there have been 28 COPs. The UNFCCC deems climate change as: “a change of climate which is attributed directly or indirectly to human activity that alters the composition of the global atmosphere and which is in addition to natural climate variability observed over comparable time periods”. This places human behaviour, particularly that associated with burning fossil fuels, at the centre of climate change. However, the UNFCCC deliberations, like those of others, treat gender relations as a monolithic entity, if they mention these at all in their key documents. Yet, WEDO, the (Women’s Environment and Development Organisation) has highlighted the different social status, access to governance structures and resources for women since it was founded in 1991. Consequently, gender parity remains a goal to be achieved across the world.

Progress or reducing the exclusion of women from climate change deliberations can occur through the inclusion of gender dimensions in Intended Nationally Determined Contributions (INDCs), submitted under the United Nations Framework Convention on Climate Change (UNFCCC), as agreed in Paris in 2015 (COP 21). However, there are no sanctions for non-compliance, and monitoring of the outcomes has been ineffective. Adding sanctions to non-compliance could have been linked to these endeavours through the National Adaptation Plans (NAPs) and thereby facilitated opportunities for mainstreaming gender issues in adaptation and development planning.

Delegations attending the UNFCCC COP meetings are consistently growing. For example, COP28 had 20,188 Party (i.e. official government) delegates. This compares to 11,955 at COP27, and 9,731 at COP26. Yet, this growth has not been accompanied by a commensurate rise in women’s representation, despite endeavours aimed at achieving gender parity. Surprisingly, women constituted 34 % of COP28’s delegates. This marked a decline of 1 % over COP27. In 2008, at COP14, the first year during which WEDO collected data, women constituted 31 % of participants. As this increase is not large, WEDO anticipates that at this rate, gender parity will not be reached until 2043, at the earliest.

Social workers, in a profession dominated by women, have been recognized by UNFCCC through the International Association of Schools of Social Work (IASSW) of which I have been Head of the Climate Change Committee since 2010. I have attended COP meetings in person or recently online and participated in the deliberations to ensure that social work perspectives are represented. In several COPS, I have also organized side events and exhibitions to showcase social work activities on climate change from across the world. Given that social work is a women’s profession, these exhibits portray many local projects on climate change that are headed by women. This also holds for other NGOs that are dominated by women. Most are aimed at

supporting initiatives in their communities, including, for example, constructing wells in a village, improving crop yields. Such acts may reduce the burden on women having to fetch water from far away locations to water their plants as well as have enough for household consumption. Women remain responsible for these tasks due to the division of labour that defines fetching water and firewood as ‘women’s work’.

Moreover, women are known to be asset poor and ‘time’ poor (Balbo 1987). A key element is fiscal poverty, acknowledged as an important factor in acquiring assets, especially financial ones, to mitigate climate risk. However, the time poverty that women experience is seldom discussed. Yet, performing domestic labour including fetching water and collecting firewood eat into women’s time availability every day as these tasks have to be continuously performed. Women are the dominant gender in the poverty stakes, and usually associated with low income and material assets. Waseem Ahmed, Chief Executive of Islamic Relief Worldwide claims that: “As climate-related catastrophes increase, it is the poorest and most vulnerable people who bear the brunt of the suffering. They are the ones most likely to live in fragile homes and least likely to have savings to fall back on, or assets to sell, or any kind of ‘Plan B’ when floods hit and crops and livestock are wiped out” (British Red Cross 2023).

Although this statement uses ungendered language, other research shows that 80 % of women are poor, a phenomenon which led to the concept of the ‘feminisation of poverty’. Nonetheless, the enhanced Lima Work Programme on Gender and its Gender Action Plan (GAP) has sought to examine the progress made in this area and aims to finalise its deliberations at its Subsidiary Body for Implementation (SBI) in November 2024. However, feminist analyses since the 1980s have also shown that women need to be recognised as time poor because they devote their time to unpaid daily labour. If this work were not to be done, it would have deleterious effects on the quality of life in the household and communities.

5 Patriarchal Gender Relations Disadvantage Women

Climate change impacts all aspects of human life and its daily routines alongside the ecosystem and its biodiversity. These impacts vary according to geography, economic activity whether in agriculture or industry, transportation and individual attributes including gender, ability, and age. Research over many years has indicated that small island developing states (SIDS), e.g. Kiribati, are enduring the worst impacts of climate change because rising sea levels undermine territorial integrity as various parts of a country succumb to coastal erosion as higher waves cover previously

exposed land. It also drives biodiversity and the biosphere's capacity to retain its current extensive range. Consequently, reducing greenhouse gas emissions (GHGs) is an unavoidable imperative for all of humanity. It is an example of where people must act together at all levels to survive as a human species with diverse civilisations and affirm the right of the planet to support diverse ecosystems and plant and animal life without hindrance from human behaviours. While many climate activists recognise this imperative, policymakers lag behind their populations. A good example of young people taking action, is the Fridays for Future Movement which built on Greta Thunberg's messages to policymakers in Sweden to take climate change seriously. She is an active young woman who has energised and inspired others to act, spoke at UN meetings and various parliaments, including those in the UK to urge them to declare a climate emergency, which they did. Thunberg also wrote her own book, *The Climate Book* (2022) to get her message across: We must all care for our precious planet.

A society's social organization underpins gendered vulnerability, especially within patriarchal capitalist relations of production and consumption. Feminists have been highlighting gender disparities between men and women for centuries, beginning with Mary Wolsencroft's, *A Vindication of the Rights of Women* (1792), in which she highlighted the social disadvantages that women faced daily. This differentiation relied on biological differences associated with giving birth and rearing children and the cultural expression of the appropriate division of labour that men and women had to adhere to both within the family, and when they entered it, in the labour market or other (limited) arenas of public life. Both the family and the labour market were sources of gender differentiations which disadvantaged women, usually by restricting their involvement in the paid labour market, paying them lower wages than men and limiting women to performing less desirable jobs often linked to caring labour, and when outside this, to provide unpaid care to children, disabled people, sick people and older people, often within the confines of the family home and their community. These relations were often linked.

Women earn 24 % less than men, hold only 25 % of administrative and managerial posts, with 32 % of businesses having no women in senior managerial positions. Women are also poorly represented politically, holding only 22 % of seats in the lower houses of national parliament. Labour laws restrict economic opportunities for women, e.g. being barred from factory jobs, working at night, or obtaining a job without their husband's permission.

Women are often excluded from education. Yet, a study of 219 countries examining the years between 1970 and 2009 revealed that for every additional year of education for women of reproductive age, child mortality decreased significantly (9.5 %). Other sources of mortality include air pollution. Currently, two million women and children (a staggering four per minute) die prematurely from indoor air

pollution, caused by cooking with solid fuels. Other sources of early deaths among women include the clothing they usually wear. For example, 70 % of people who died during the 2004 Indian Ocean Tsunami were women (and children). They died because they could not swim. And their clothing and hair often got tangled in trees and they could not escape the rising waters. In 2005, Hurricane Katrina affected mainly poor African American women in New Orleans. Women's predicament is exacerbated through their inadequate access to funds for weather-related losses or adaptation technologies. These intensify existing inequalities such as discrimination in accessing land, financial services, social capital and various digital and other technologies. Promoting gender equality holds a huge benefit for humanity because if all countries practiced gender parity, an additional \$12 trillion could be added to annual global GDP growth by 2025, according to the UN.

Valeria Nelson et al. (2002) emphasized the significance of different hazards in shaping the context specific gendered impacts that occurred from drought and other extreme weather events. Additionally, they highlighted how drought hazards are shaped by normative expectations and practices regarding women's and men's social positions. In the context of climate change, gendered analyses contribute to understanding how:

- climate change impacts on social vulnerability;
- adaptations must be context specific;
- responsibility for greenhouse gas emissions must be assigned to those responsible for creating them;
- to highlight inequalities in climate governance; and
- to recognise women's knowledges about and social action on climate change.

Fatima Denton (2002) argued that while climate change poses a general threat to humanity, gender inequality is among the various 'layers' of vulnerability that differentiate its impacts on men and women. Terry Cannon (2002) also highlighted how vulnerability to climate-related hazards 'involves a complex interaction between poverty and gender relations.' Such insights are consistent with feminist analyses of patriarchy.

Gender inequality can be expressed in lack of access to social and physical goods; gender gaps in education, income, time use and leisure; and gender-differentiated roles and responsibilities in the household, community and labour markets. These gendered realities undermine the effective channelling of financing to women. This results in women's health and well-being being compromised, and their control over economic resources and access to economic and financial assets being restricted. Additionally, women lack sufficient access to funds aimed at covering weather-related losses, including access to and the servicing of adaptation and mitigation technologies which can include seeds and land as well as digital instruments (Bernstein et al. 2007).

The pre-existing socio-economic vulnerabilities that women and girl children face create disparities in experiences between men and women, and girls and boys. The inequalities these foster also encompass climate disasters which disproportionately adversely impact women and girls owing to their pre-existing socio-economic vulnerabilities. Women's access to land, financial capital, mechanised agricultural implements and seeds, and training to deal with climate change variations is more limited than men's, but impacts women's livelihoods more heavily. A significant group of women whose knowledge about environmental issues, sustainability and climate change are often undervalued is that of indigenous women. Their knowledge and contributions, especially those linked to knowledge and use of wild herbs and plants for medicinal and culinary purposes, are linked to 'women's work', and subsequently undervalued due to that association. and their socially prescribed low class or low social status ascribed to such skills (McKinley, Liddell, and Lilly 2021).

Alongside these social vulnerabilities are expectations about the roles women will undertake in their households and communities. Crucial among the tasks that women will undertake is to manage water consumption at household level and work to ensure that water is used sparingly and effectively so that daily needs are covered. This can also mean that if the water collected is contaminated, women may find their health disproportionately affected, especially if the water contains the toxic element, arsenic. This is particularly worrying in countries like Bangladesh where arsenic is present in the groundwater, and even wells can be contaminated by it. This will impact adversely on family health, especially that of women and children, alongside the health of livestock (Denton 2002). Water quality can be critical to the burden that women carry in caring and nursing people during illness (including controlling the spread of infectious diseases) to ensure family survival.

According to the Intergovernmental Panel on Climate Change (IPCC), unequal development processes can disadvantage women. They claim:

Differences in vulnerability and exposure arise from non-climatic factors and from multi-dimensional inequalities often produced by uneven development processes (very high confidence). These differences shape differential risks from climate change. (. . .) People who are socially, economically, culturally, politically, institutionally, or otherwise marginalized are especially vulnerable to climate change and also to some adaptation and mitigation responses (medium evidence, high agreement). This heightened vulnerability is rarely due to a single cause. Rather, it is the product of intersecting social processes that result in inequalities in socioeconomic status and income, as well as in exposure. Such social processes include, for example, discrimination on the basis of gender, class, ethnicity, age, and (dis)ability (IPCC 2014: Part A, p. 6).

Extreme weather events linked to floods and heatwaves can displace people and compel them to migrate to areas they consider less risky. Most people migrate within

their own country or to adjacent ones, instead of travelling overseas. Nonetheless, their numbers are substantial, and they continue to rise due to climate change extracting higher and higher tolls on communities and family livelihoods. The IOM (International Organization for Migration) estimated that by 2024 there would be around 281 million migrants. Their numbers have risen significantly from the 84 million deemed to have migrated in 1970. Moreover, 80 % of people displaced by climate change are women.

By displacing people from their homes and livelihoods, climate change can have calamitous consequences for people's human rights. And, global warming contributes substantially to global hunger, malnutrition, exposure to disease, declining access to water and adequate housing. Such changes can initiate migratory movements in which the loss of livelihoods can produce permanent displacement. Consequently, climate change affects the economic and social rights of millions of people by decreasing access to food, health and shelter. The challenges these hurdles impose on women and children place specific hardships for them.

Migrants, often deemed a drain on receiving countries, serve useful roles in caring for their families and relatives overseas by sending substantial remittances to their home countries to enable family members there to raise their standards of living. In 2022, India, Mexico, China, the Philippines, and Egypt received the most of these funds. India had over \$111 billion sent back during that year alone. Women often form the majority of such migrants, and they leave their children at home with family members. Thus, migration can substantially alter relationships between parents, especially mothers, and their children. Moreover, the life of a migrant working to send money back home can be rough, replete with isolation and skimping to give the lion's share of their earnings to their families of origins. Women tend to fill the ranks of domestic workers in North America, while men work in the construction industry, especially in the Middle East. So even as migrant workers, these people perform gendered roles.

Migration can also exacerbate environmental degradation when populations flow into areas that cannot sustain the numbers seeking refuge. Here, they may compete with other people and/or plants and animals already in the same location. The degradation of the environment around the Dadaab Refugee Camp occurred because a site created for 90,000 people had to cope with 500,000. The ensuing environmental degradation diminishes the quality of life for the original inhabitants of such camps alongside that of the newcomers. Women and children are often adversely affected by such conditions because they have to walk longer distances to access toilets, and these often provide unsafe places for them as predatory men often lie in wait.

Women tend to organise collectively if they need to engage in social action, using their existing networks and connections. Strengthening women's groups and

networks which form the repositories of the social capital they hold, extend and/or can create, is crucial in supporting their endeavours on climate change to strengthen family survival rates (Dominelli 2012). Thus, facilitating women's use of their social capital, especially linking social capital by drawing upon their bonding and bridging elements, serves as a successful risk mitigation strategy. Countless successful projects in Latin America, sub-Saharan Africa and Southeast Asia have been formulated on such insights, which are often discussed in meetings run by UNWomen and the UNDP.

6 The Gendered Impacts of Climate Change Impact Women's Bodily Integrity

The gendered impacts of climate change are shaped by both biological realities, socio-cultural expectations, and economic possibilities. Women's capacity to give birth is often challenged by climactic events. The UN estimates that 80 % of the populations displaced by climate change is composed of women. For example, in Pakistan, the devastating 2022 floods alone left almost 650,000 pregnant Pakistani women deprived of access to healthcare. They were compelled to give birth under the open sky. These relentless floods also left eight million girls and women without access to basic menstrual hygiene products and toilets to manage their menstrual periods. Moreover, there were limited opportunities to discuss such needs openly due to the shame and stigma associated with these normal bodily functions for women and girl children. Additionally, some social customs disadvantaged young girls. Many were married to much older men to reduce the risk of family starvation. However, for the young girl, such marriages can often result in difficult births and possible deaths because their bodies are not ready for procreation.

Women are agentic people entitled to organise to inhibit such incursions into their right to bodily integrity and live without fear. However, these rights are context specific and cannot be exercised freely everywhere. For example, in France, women-led marches protested against gender-based violence in 2019, but this continues to be a key social issue. Climate-induced disasters also result in considerable rises in intimate partner violence, especially those in which men attack women close to them. Gender-based violence intensifies in the wake of climate crises. In many countries, girls are increasingly being compelled to accept being married as a child in return for food for their families amidst climate-induced starvation. Climate change, then, is not only an environmental phenomenon. It is also part of a social injustice crisis that aggravates already existing injustices in many communities. In Argentina, women engage in struggles to affirm their reproductive rights. And, in Iran, women recently organised the "Women, Life, Freedom" Movement. Many faced the consequences including death and

imprisonment. The courage of such women must be celebrated. Women also led climate marches in diverse countries. Climate change, then, is not just an environmental phenomenon, it is a social injustice crisis that aggravates already existing injustices in communities that place women at the sharp end of discrimination and violence.

Additionally, mental health is also affected by climate change. Cunsolo and Ellis (2018) have coined the term, ‘ecogrief’ to describe the emotional reaction arising through the need to lament the loss of the ecosystems and the deleterious environmental situations that have become evident since the 1960s (Carson 1964), but which were subsequently destroyed, especially by the consumerist push of the 1980s. Young people today are particularly affected by ecogrief as they foresee a bleak future given that older decision makers, especially those men in charge of large multinational corporations are not making environmentally friendly decisions, while excluding young people from governance structures. We need research to unpack exactly what is happening among this group of the population which fears that its future has been blighted by current inaction on avoiding further environmental degradation.

7 Women Fight Back Against Climate Inaction and Exclusion from Key Governance Structures

Gender is rarely considered in devising energy policies, and women are generally excluded from such deliberations alongside others considering climate change. Adding women’s perspectives into a country’s national policies, action plans and other measures on sustainable development and climate change, can substantially enhance family and community well-being as women are firmly rooted in both, regardless of country. Such initiatives can include “soft” technologies based on insurance schemes, crop rotation patterns or traditional knowledge. It can also focus on “hard” technologies including irrigation systems, drought resistant seeds or sea defences. These latter options require funding, so they are unlikely to be readily available to women farmers, especially those tending smallholdings.

Women have resisted their social exclusion from key governance structures and policy making fora. From their mass demonstrations against gender-based violence in France in 2019, to the ongoing fight for reproductive rights in Argentina; from the recent “Women, Life, Freedom” movement in Iran, to their leadership of climate marches, women have proven that they possess the potential to organize masses, lead organisations and speak truth to power. Climate change impacts worse on women and girls than it does on men and boys. Resentment at such climate injustice has prompted women into climate activism. One woman, speaking from Pakistan, states,

Today, I teach girls from local Madrassas (informal Islamic schools in Pakistan) about climate change to help them become significant agents in rallying for climate action. As a climate journalist, I bring to Pakistan's grassroots the women-centric climate discourse that has long been missing from its public consciousness. I have also represented Pakistan at multiple international climate conferences, and in my dialogues with government officials and global climate experts, I highlight the importance of meaningful inclusion of women in climate policymaking.

In this extract, Zainab Waheed, a young climate change activist, insists that she expects that by dedicating her energy and efforts to climate initiatives, she will contribute to transforming women's understanding of and responses to climate change (Waheed 2024). Like other women and girls, this young climate change activist is revealing that women are agents who take action for themselves.

Climate change impacts men and women differently, depending on their gender-differentiated relative powers, roles and responsibilities at the household and community levels, the spaces where the bulk of women's unpaid labour occurs. The lack of pay and recognition for such work marginalises women in situations of low status and low pay. Moreover, women in performing the bulk of this unpaid work become excessively burdened with caring for children, sick people and older people alongside doing the housework. Being in such positions can also endanger the lives of women and children. For example, during the 2004 Indian Ocean tsunami, women and children died because significant numbers of them remained in their houses while the men were working in the fields. Moreover, cultural and religious norms on respective gender roles can restrict women's abilities to formulate quick decisions in disaster situations, for example being unable to swim and, in other situations, the clothes that women are required to wear can impede their safety during a disaster. Caring for children can also reduce their mobility during such times.

Climate change is also responsible for the missed opportunities that millions of women face in their communities because they are compelled to consume much of their time fetching water and firewood, rather than being able to devote such time to their own personal and/or community education, growth and development.

Women, as change agents, can also make important contributions to disaster risk reduction. Currently, they do this largely informally by participating in disaster management and acting as agents of social change in their communities.

Addressing the structural causes of vulnerability including poverty, lack of empowerment, and weaknesses in health care, education, social safety nets and gender equity could enhance women's well-being and tackle some of the most important social determinants of ill health and health inequities. Gender-sensitive research, including collection, analysis and reporting of sex-disaggregated data, could provide the evidence base to substantiate such calls for action.

For example, the McKinsey Global Institute (MGI) finds that if women and men enjoyed equal participation rates in the economy, this would add as much as \$28 trillion or 26 % to annual global GDP by 2025 (roughly the combined size of the current US and Chinese economies). Additionally, research has highlighted that countries with higher representation rates for women in national decision-making structures (e.g. Congress or Parliament), are more likely to set aside protected land areas and to ratify multilateral environmental agreements that include women. Moreover, increasing the participation of women is fundamental in tackling climate change. This is due to women playing key roles in mobilizing communities throughout the disaster-management cycle to reduce disaster risk. Women also appreciate the importance of a holistic overview of disasters. For example, women reveal that droughts are linked to water shortages, food insecurity, increased fire risk, reduced fuel availability, conflicts, migration, limited access to health care and increased poverty.

Zainab Waheed says:

Delay in this climate action, lack of accountability for climate criminals, and the gradual conversion of annual climate conferences into networking opportunities for fossil fuels lobbyists and major carbon emitters, all contribute to climate anxiety and pessimism. However, past evidence of strong leadership and activism from women serves as a reminder of the future they can build, with apt investments into their education and capacity building to do so (British Red Cross 2023).

Such initiatives can also draw upon agreements reached through the UN. The Paris Agreement brings the world together in a common effort to combat climate change, adapt to its effects and mobilize climate finance. These include:

- The Sendai Framework for Disaster Risk Reduction guides the multi-hazard management of disaster risk in development.
- The Convention on Biological Diversity promotes conservation, sustainable use and fair benefit-sharing of biological diversity.
- The Basel, Stockholm and Rotterdam conventions, amongst others, addresses different hazardous chemicals, waste and the protection of human health.
- Resolution 76/300, through which the United Nations General Assembly recognized that there is a basic human right to a clean, healthy and sustainable environment.
- In 2023, the Committee on the Rights of the Child (CRC) affirmed the obligations of government signatories to safeguard this right for children.
- The General Comment No. 26 on Children's Rights and the Environment with a Special Focus on Climate Change affirms children's right to a clean, healthy and sustainable environment and issues interpretation of states' obligations under the United Nations Convention on the Rights of the Child.

Thus, the Paris Agreement, countries' Nationally Determined Contributions (NDCs), and other related national adaptation and mitigation instruments, and the CRC provide important opportunities for embedding gender transformative and responsive initiatives.

UNICEF forms partnerships with a range of organisations – governments, United Nations agencies, private firms and civil society organisations – to ensure that children's rights are integrated into all responses to the climate crisis. It also advocates for appropriate resourcing and implementation to the crisis, including in financing and on-the-ground implementation. Its documents are also gender blind. UNICEF's Sustainability and Climate Change Action Plan presents its road map on climate action to be undertaken with its partners. However, UNICEF does not differentiate between the experiences of girls and boys in conducting its work.

UNICEF, deeply embedded in identifying climate risks to Children (Connon and Dominelli 2022) has also identified a larger agenda for action. This workplan can focus on:

1. Work that actively engages policymakers with children and young people during climate change deliberations;
2. Providing resources and funding to enable children to act in such deliberations and the decisions associated with them;
3. Promoting the use of green, renewable energies as suggested by young people; and
4. Promoting child-centred practices among practitioners working with young people to increase climate health.

8 Conclusions

Climate activists, practitioners and policymakers should collaborate in developing environmental and social safeguards that will protect and empower women and facilitate access to resources to enable them to care for the environment. These measures should be implemented holistically to ensure that women are at the centre of all environmental initiatives and decision-making structures. This would facilitate their activities in their families and communities, especially in supporting children, older people, sick people, and disabled people in caring for the environment. To reach these objectives, gender perspectives must be integrated into mitigation and adaptation actions that are comprehensive and holistic in their approaches. Such concerns could facilitate adaptive actions that can help women create their asset base and ensure that mitigation and adaptation endeavours tackle the diverse factors that underpin gender-based vulnerability, gender inequality and poverty among women and children. Such efforts must be evidence-based and involve women in

their formulation. By promoting the inclusion of women in governance structures at all levels of society, humanity can benefit from the wide pool of talent and knowledges that women possess. Finally, researchers should be encouraged to carry out in-depth and evidence-informed analyses of women's and men's roles in the sectors impacted by climate change, and their strategies for coping with this issue.

Research ethics: Not applicable.

Informed consent: Not applicable.

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