



Exacerbating Gender Inequalities amidst Climate Change: A Comprehensive Exploration of Vulnerabilities, Coping Strategies, and Resource Dynamics

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KEYWORDS	ABSTRACT
Climate change, gender inequality, women's empowerment, decision-making processes	The convergence of climate change and gender inequality in contemporary world is significant and thought-provoking issue. This article analyzes the gender-specific impacts of environmental change and recognizes that gender differences persist despite efforts to achieve equality. Climate change exacerbates gender inequality and particularly affecting women in certain scenarios. Climate-related issues are intensifying gender inequality in agriculture, affecting women's roles and their ability to access resources. Insecurity resulting from migration leads to gender inequality, as women are more vulnerable when they are forced to leave their homes. Additionally, health hazards, educational inequality, and limited access to resources exacerbate the gender impact of climate change. It is significant to recognize and address specific gender-related issues to develop integration policies and plans. Suggested strategies include promoting women's empowerment, integrating gender-appropriate strategies into climate change processes, and lobbying women to ensure fairness for resources and decision-making processes.
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Introduction

The inverse link between climate change and gender inequality is an important issue today. The interaction between environmental change and gender change in the 21st century highlights the need to understand the differences between men and women (Djouidi et al. 2016). The impacts of climate change are causing a regression in the progress made towards achieving gender equality. The climate catastrophe has a disproportionate effect on women and girls, exacerbating pre-existing inequities and reinforcing cultural norms on gender roles. They face more formidable obstacles in adapting to climate change, have substantial economic consequences, bear an increased burden of unpaid care and household duties, and face a heightened danger of violence as a result of the compounding effects of the dilemma (Pearse 2017).

Women are more susceptible to the impacts of climate change in various situations. This is because they make up the majority of the global impoverished population and rely more heavily on natural resources for their livelihood, which are at risk due to climate change (Eastin 2018). In addition, they encounter social, economic, and political obstacles that restrict their ability to cope. The people residing in rural regions of developing nations, particularly women and men, have heightened susceptibility when they rely heavily on local natural resources for their sustenance. The individuals entrusted with the task of ensuring the provision of water, food, and fuel for cooking and heating encounter the most formidable challenges (Andrijevic et al. 2020). Environmental changes are increasing the pressures women face in managing their homes and communities. Women, who often assume the primary care role, face special challenges during the migration process due to climate change. These challenges include the increased risk of exploitation and abuse. Migration due to climate change is causing stress online, highlighting gender-specific impacts on women's livelihoods and health. Policies must recognize that climate change makes women more vulnerable to gender inequality. Ensuring women's access to air conditioning, education and healthcare. Encourage women's participation in decision-making processes and recognize their traditional expertise. Strengthening gender equality has the potential to strengthen the fight against climate change. Comprehensive policies are needed to ensure adaptation to climate change, sustainability and justice (Alston 2014)

Climate change is not gender neutral

Some of the most vulnerable groups in many countries are the economically disadvantaged and the poor, such as women, the elderly, immigrants, indigenous communities and more. Gender differences in the relative abilities, status and roles of men and women in families and communities are one of the main reasons why climate change affects men and women differently (Huyer et al. 2020). In general, women are required to take on many responsibilities, including caring for children, the sick, and the elderly. For example, 70% of those who died in the 2004 Asian tsunami were women. Meanwhile, many women and children

were in their homes, while most men were locked outside. Additionally, cultural and religious norms regarding gender roles sometimes inhibit women's ability to make quick decisions in emergency situations. Additionally, in some cases, women's clothing and childcare responsibilities may prevent them from acting in emergency situations (Djouidi and Brockhaus 2011).

Differences in economic capabilities and access to productive resources also make women more vulnerable to climate change. This is because women tend to be poorer, less educated, and less likely to participate in decision-making processes that affect their political, social, and family lives. As a result, women generally own less property than men and are more dependent on natural resources as a means of survival. Most of the time, this difference is supported by laws. According to a recent study by the World Bank, 155 of the 173 countries surveyed have at least one program affecting women's work. For example, women may not have the same rights as men regarding land, which is an important resource for poverty alleviation, food security and development in rural areas (MISHRA and MOHAPATRA 2017). Although women make up more than 40 percent of agricultural workers in developing countries (from 20 percent in Latin America to 50 percent or more in parts of Africa and Asia), they hold only 10 percent of the workforce Agricultural labor. Twenty percent of the land when it comes to responding to the negative impacts of climate change, women are already in a precarious situation due to a combination of poverty, socioeconomic marginalization, and political marginalization (Dankelman 2010).

Aims and Objectives

1. Exploring climate change's nuanced impact on gender disparities.
2. Examining entrenched gender inequalities amid environmental shifts.
3. Investigating the amplifying impact of climate change on women's difficulties.
4. Analyzing the distinct susceptibilities that women encounter as main caregivers.
5. Suggesting legislative actions to reduce gender disparities in climate change

2.0 Literature Review

2.1 Background

Climate change acts as an aggravating factor, amplifying social, political, and economic pressures in vulnerable and conflict-prone areas. Due to climate change, women and girls are more susceptible to many kinds of gender-based violence, such as conflict-related sexual violence, human trafficking, child marriage, and other types of abuse (Terry 2009). Although women and girls are disproportionately affected by climate change on a global scale, the repercussions are not consistent across all regions. Analyzing climate change from an intersectional feminist perspective reveals that different types of inequality frequently intersect and intensify one another. This framework highlights that indigenous and Afro-descendent women and girls, older women, LGBTIQ+ individuals, women and girls with disabilities, migrant women, and those residing in rural, remote, conflict-ridden, and disaster-prone regions

face particularly severe climate change risks. Moreover, the difference between history in education and history in economics can highlight the interaction between climate changes and gender inequality, making conflict between the sexes harmful. This literature review demonstrates the connection between gender history and environmental change that is important for understanding complex interactions in the modern environment (MacGregor 2009).

2.2 Climate change is accentuating gender inequalities

Climate change has the potential to exacerbate gender conflicts through conflicts affecting women's roles and responsibilities. In many societies, women often work as resource managers and caregivers. Women may have additional responsibilities due to the effects of climate change, such as bad weather and environmental degradation. Women's health and economic expectations are especially affected by weather conditions in sectors where they constitute the majority of workers, such as agriculture. One must acknowledge and address gender perspectives as part of climate change to foster strong and equitable societies (MacGregor 2010). Additionally, the impact of climate change may further exacerbate existing cultural barriers and inequalities, limiting women's ability to adapt. Women's participation in climate change strategies may be hindered by factors such as limited education and lack of participation in decision-making processes in many communities. As gender-based violence increases, the frequency and severity of extreme weather events may pose a threat to women's safety. Recognizing the gender dimension of climate change is critical to developing policies and activities that empower and empower women and reduce gender inequality (MacGregor 2010).

2.2.1 Climate change is affecting gender roles and time differences in agriculture

Climate change is causing gender differences in agriculture farm. As global temperatures increase and the climate order deteriorates, the difficulties faced by women who play an important role in agriculture also increase. Inequitable distribution of resources is a major concern, as women mostly do water management-related work. Water scarcity caused by climate change increases workloads and reduces opportunities for education and income (Musinguzi et al. 2018). Climate change patterns also affect crop production and diversity; this affects women's role in agricultural management and crop selection. Climate-related risks impacting agro-food systems and the differing exposure and susceptibility based on gender are not separate entities. Moreover, they often interact and engage with one another in intricate ways that are unique to the particular local environment and circumstances. Women over 40 percent of the agricultural workforce in developing countries (ranging from 20 percent in Latin America to 50 percent or more in other areas), women only own between 10 and 20 percent of the land area (Nelson et al. 2002).

Moreover, women's ability to adjust to the impacts of climate change is hindered by their limited access to technology and information. Women in several rural areas may lack the

requisite expertise and resources to effectively use climate-resilient technologies or adopt innovative agricultural practices (Afridi, Mahajan, and Sangwan 2021). It is crucial to tackle these gender disparities in the agricultural industry in order to implement equitable and sustainable adaptation strategies as climate change progresses. In addition, the agricultural business is subject to social and cultural norms that sometimes impose penalties on women, and these norms are altered by the impacts of climate change. The capability of women to use flexible strategies may be impeded by conventional gender standards, so restricting their autonomy in decision-making. As climate change challenges continue to escalate, these cultures need to be dismantled to build resilience (Goh 2012).

2.2.2 Climate-induced migration and gender inequality

Climate change has become a major force that differentiates genders when considering the field of migration. Women often bear the brunt of the complex consequences of climate change, such as rising sea levels, extreme weather and changing agricultural practices. As women play an important role in food production, water collection and household chores in many countries, they are more vulnerable to environmental damage (Chindarkar 2012).

Climate change is major stimulant of intensifying migration patterns especially for women. As countries grapple with the emergence of security challenges, migration has become a way of survival. Nevertheless, sometimes migration makes things difficult for women. Immigrant women face greater abuse, trafficking, exploitation and other dangers. Moreover, in some countries, long-standing gender norms have led to inequality and restrictions on women's rights to make decisions regarding migration (Bhatta et al. 2015). As per 2022 United Nations Development Program report, 80% of people displaced due to climate change are women. The impact of security-related migration on gender-based conflicts is significant, with implications beyond the immediate issue of migration. Gender inequality may worsen in regions where women face barriers to accessing resources, education, and job opportunities. Further, women's isolation and disadvantage may be more affected by the effects of post-migration social support (Braham 2018).

2.2.3 Gendered Health Vulnerabilities amidst Climate Shifts

The effect of climate change on human health is a growing concern, especially as it affects men and women differently and leads to different outcomes in each gender. The intensity and severity of extreme weather events, which are the main cause of climate change, are increasing and threaten global health. In this dynamic environment, women are more vulnerable and negatively affected by challenging health conditions (Vinyeta, Whyte, and Lynn 2016). One of the biggest concerns is vulnerability to waterborne and vector-borne diseases, which are often exacerbated by climate change. Because women are involved in the care and maintenance of public health, they are more likely to spread these diseases when infected and proliferating. Women bear the burden of caring for family members affected by the health impacts of climate change, placing additional pressure on the healthcare system. Four women and children die

prematurely every minute (a total of 2 million people every year) from diseases caused by indoor air pollution, especially cooking oil. Most (more than 70 percent) of those who died during the 2004 Asian tsunami were women. Similarly, Hurricane Katrina, which hit New Orleans in the United States in 2005, had the greatest impact on poor Americans, especially women (Desai and Mandal 2021). Another important element of women's health that is under threat is maternal health. Extreme weather events such as storms and floods have the potential to disrupt critical healthcare services and therefore increase the risk of pregnancy and childbirth. Women in low-poverty areas are at greater risk during this period and have limited access to quality maternal care (Priebe 2023).

Moreover, the psychological implication of climate change is greater for women than men. Women, as leading caregivers, often suffer psychological harm from climate disasters and see the impact these events have on families and communities. Health issues caused by climate change have gender differences at the economic level. The impacts of climate change can reduce women's incomes and livelihoods, especially in poor countries. As there is lack of available jobs, women face more problems accessing healthcare and providing adequate food for their families. Climate induced migration patterns increases health inequalities, and women face particular challenges. Migrant women often face limited access to healthcare, increased risk of infectious diseases due to overcrowding, and increased risk of gender-based violence (GBV) (Belsey Priebe 2022).

2.2.4 Climate-Induced Gender Inequality in Education

Climate change is not only about environmental problems, it also affects education, especially gender differences, including women, bear heavy burdens. Same connection emerging between educational interventions and climate change suggest interactions occurring at multiple levels. Moreover, the increasing frequency and severity of climate-related disasters also has an impact on education. Sometimes bad weather conditions can affect the classroom environment, making it difficult for boys and girls to attend school regularly. Nevertheless, it may be more difficult for women to continue education during this transition period due to their roles and responsibilities (Archibong and Annan 2023). Additionally, the financial impact of climate change may increase gender inequality in schools. Climate disasters can increase the financial pressures women face, making it harder for them to work and maintain financial security. The financial burden will affect women's enrollment and retention in school, resulting in less money spent on education (Barua, Rahman, and Eslamian 2021).

Another constituent that tends to create inequalities in education today is gender stereotypes and the effects of climate change. In regions where traditional gender norms emphasize the role of the family in self-government and limit women's access to higher education, an unfavorable climate will affect women's ability to pursue education. Moreover, there is also an increase in health hazards as climate change causes educational problems affecting women. Women who want to pursue higher education may face problems due to

increased water-borne diseases, maternal health problems and mental health problems. Such issues could lead to loss of employment or women taking on additional responsibility for understanding the impacts of climate change (Archibong and Annan 2020).

2.2.5 Limited access to resources and decision making

In certain regions, discrimination and gender empowerment prevent women from equal access to resources such as land, money and education. This difference affects their ability to adapt to changes in their environment. Derath of these resources is further exacerbated by the problems caused by climate change (Carvalho, Meier, and Wang 2016). Developing nations, especially those engaged in agriculture, soil is one of the most important resources. Women often hold key positions in the food industry, but they can face problems accessing land, which can limit their ability to use permaculture techniques or modify weather. Women confront grave challenges in participating in broader agricultural planning and are more vulnerable to climate disasters such as droughts and floods (Lynam et al. 2007).

In addition to this, one of the grave obstacles to climate change is the limited financial resources available to women. Financial resources are required to implement protective measures, such as using climate agriculture or investing in alternative livelihoods. Women entrepreneurs, especially in poor countries, may have problems getting loans due to discrimination or lack of assets to use. Such challenges hinder their ability to innovate and adapt (Batterbury and Bebbington 1999). Moreover, women are often underrepresented in decision-making bodies responsible for climate change response and adaptation. Despite of the local, national or international scale, excluding women from important discussions leads to differences of opinion and solutions. Exclusion of women from decision-making processes can lead to policies and programs that ignore women's unique needs and experiences having negative consequences or being beneficial (Ribot and Peluso 2003).

2.2.6 Climate Crisis Fuels Gender-Based Vulnerability

In Prolonged drought, women and girls are compelled to undertake more frequent and lengthier trips to get food or water, rendering them susceptible to sexual assault. Occasionally, certain food sellers, farmers, or landowners demand sexual favors from women in return for supplying food or rent (Dankelman and Naidu 2020). Even when women try to bargain offering their labor in exchange for food, these influential males persistently demand sex. Women who allocate a greater amount of time to the task of collecting water experience a reduction in the number of days they attend school and may ultimately discontinue their education. Women said that the increased allocation of time and effort towards procuring sustenance and water might potentially impede their ability to fulfill their remaining domestic and familial obligations. Alternatively, the additional workload resulted in exhaustion, leading some males to react with aggression. Many households opted to arrange marriages for their daughters as a means to better manage the limited availability of food (Jerin, Azad, and Khan

2023). When males in families departed to find work in other places, women and children were left to independently provide for themselves, leaving them susceptible to violence and sexual abuse. The combination of inadequate crop yields, animal fatalities, reduced income, and the lack of access to sufficient food has placed significant strain on men's conventional responsibility as breadwinners. They often resorted to alcohol as a means of dealing with their problems and may exhibit increased aggression, particularly during conflicts with their spouses (Braaf).

3.0 Methodology

This study used qualitative research to provide a better understanding of the complex processes that lead to gender inequality in the context of climate change. The research methodology was developed through careful study of previous research materials, including books, journals, reports and other theoretical frameworks. This approach ensured that more people from regions negatively affected by climate change are included in the research study. Scientific and technological research is often based on ethical issues derived from ethical standards defined in the relevant literature. The development of the reconciliation process was influenced by philosophical theories in social justice work that emphasize concepts of openness, personal freedom, and urgency. This concept facilitated the use of ethical research methods as a theoretical construct. The first method used to analyze the data is thematic analysis, guided by the theory and theoretical frameworks found in the data. The use of theoretical constructs throughout this study helped to identify themes and patterns and aligns with theoretical concepts already explored in the literature. The study used qualitative methods and aimed to expand the existing literature on the link between climate change and gender inequality. This study aims to provide a comprehensive analysis of vulnerabilities and solutions to reduce gender inequality resulting from climate change.

4.0 Gender-Responsive Climate Resilience: Empowering Women for Sustainable Adaptation

The recommendations address the need to enforce gender norms, develop protective technologies, and promote inclusive decision-making to address gender inequality resulting from climate change. These programs aim to reduce the obvious problems women face through economic support, education and legal protection. The institutions places emphasis on international cooperation and politics, including society. They provide comprehensive guidance for reducing gender-based risks and promoting stability.

Gender sensitive policies must recognize and address women's unique perspectives on climate change. While formulation of such regulations, it is important to take into account the differences in environmental changes between men and women. Such laws seek to ensure gender equality in access to opportunities, resources and services, while recognizing the negative impacts of climate change on women. Given the important role women play as primary caregivers, farmers, and key stakeholders in community health, these interventions

need to be tailored to each woman's unique needs. These projects go beyond gender by recognizing and addressing the impact of women in adapting to the impacts of climate change. On the whole, recipients become more motivated and more involved in sustainable and inclusive environmental solutions.

Resources ought to be allocated to strengthening technology and special education for women, in order to reduce the impact of climate change on activities such as agriculture. Manifestations of technologies that can strengthen agriculture against climate change include precision agriculture, environmentally sustainable irrigation technologies and drought-resistant crops. Moreover, facilitating women with specific training can equip them with the skills and abilities they need to manage the changing environment. Such initiatives should prioritize permaculture techniques, water management and the use of advanced technologies to help women benefit from agriculture. By integrating technological advancement and specialized training, one can help women transition into agriculture. This will help address gender inequality in the context of environmental change and encourage the development of more sustainable and sustainable food products.

Attaining sustainable development, especially in industries affected by climate change, it is necessary to promoting women's business to building strength. When women have access to credit, finance and employment, they become more sensitive to environmental issues and can succeed in such situations. Regulating financial management, women have the ability to promote economic stability in their communities, allocate resources for climate change, and increase their incomes. The most smooth way to increase women's ability to deal with security risks is to increase financial support. It can be achieved done through targeted measures, including microfinance programs and skills development.

Global collaboration is essential in tackling the gender-specific vulnerabilities that climate change worsens on an international level. Through the establishment of interstate cooperation, we may facilitate the sharing of optimal strategies and knowledge gained in mitigating the adverse effects of environmental changes on women. Communities may enhance their capacity to create resilience plans that include gender equality by sharing information, resources, and tools. This collaborative approach enhances the efficacy of therapies and fosters a shared understanding of the many obstacles encountered by women globally. In order to tackle the complex challenges posed by climate change, nations may collaborate to use their own strengths, unite their efforts, and execute comprehensive policies that promote gender equality. To promote gender equality, mitigate the unequal effects of climate change on women, and foster a resilient and sustainable future, governments, communities, and stakeholders should adopt these suggestions.

Table 1. Gender-specific effects of climate change

Climate change effects	Potential Risks	Examples	Potential effect on women
<i>Direct</i>	Increased ocean temperature	Increasing coral bleaching from thermal stress.	Damage to coral reefs can harm the tourist business, where women are large part of the workforce.
	Increased drought and water shortage	Water shortages in South-East Asia may result from climate change-induced droughts or severe rains. As sea levels rise, saltwater can enter freshwater supplies.	Water collection, usage, and management are typically the responsibility of women and girls in underdeveloped nations. Limited water supply threatens families' livelihoods, increases workload, and can lead to lower school enrollment and reduced income-generating opportunities.
	Increased extreme weather events	Frequent and intense cyclones, storms, floods, and heat waves.	Natural catastrophes kill women more often or early than males.

Increased Epidemics	Climate variability has impacted malaria outbreaks in East Africa and influenced an estimated 70% of recent cholera episodes in Bangladesh.	Women face limited medical services and increased workloads due to caring for the ill. Low-income households impacted by epidemics have limited means to adapt to climate change.
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Indirect

Decreased crop production	As rainfall increases in South-East Asia, temperature increases may jeopardize agricultural output, straining crops and diminishing yields.	Agricultural consequences mostly harm low-income rural people relying on traditional systems or marginal areas.
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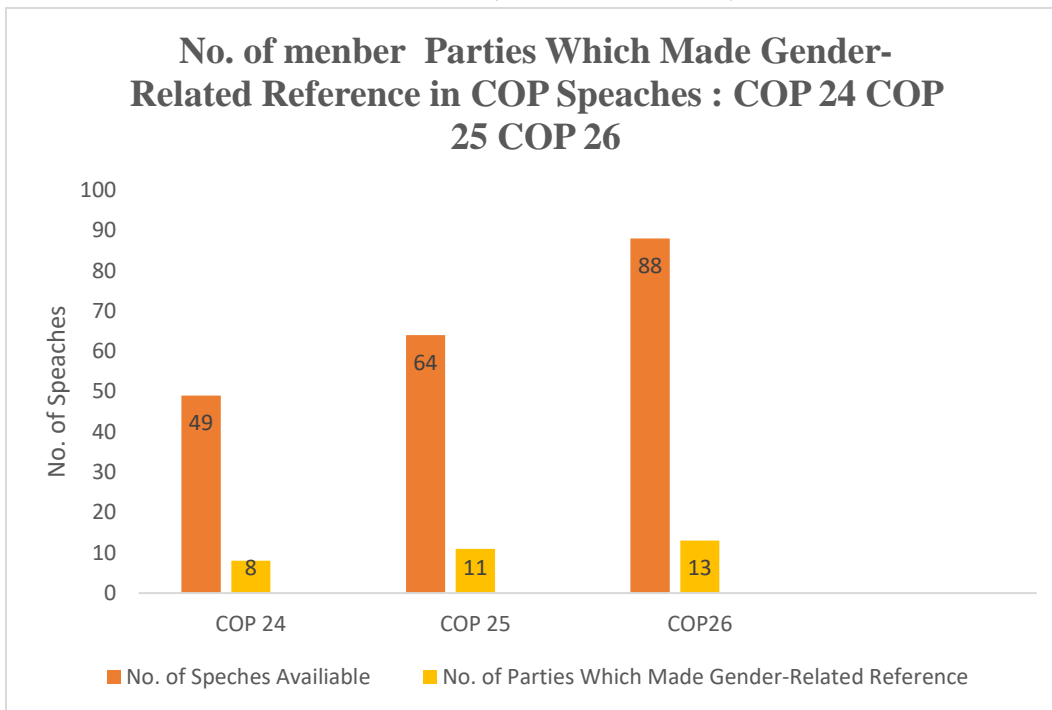
5.0 Discussion and conclusion

Earth's temperature is now rising, and if humans can't limit this rise to less than a few degrees Celsius, the climate system will likely undergo permanent changes with potentially disastrous outcomes. The worst consequences of climate change continue to place an undue burden on the most vulnerable and poor individuals, especially on destitute women. Women are more vulnerable to and less equipped to handle the negative impacts of climate change since women continue to have less economic, political, and legal influence than males. This is true even though it is becoming more widely acknowledged that men and women contribute different vulnerabilities to initiatives aimed at environmental sustainability and development, as well as that each gender has distinct experiences and capabilities to offer. Nonetheless, despite persistent obstacles that are socially and structurally based, women are powerful change agents and are making significant and growing contributions to sustainable development. As the world moves into the post-2015 development agenda's implementation phase, gender equality and women's empowerment must continue to define, influence, and propel the global community's combined climate and human development efforts. This is a result of the agenda's move by the international community to its implementation phase.

5.1 Where governments fall short

At the COP27 conference, which took place in November 2022, global leaders posed for the required group portrait. According to the Women's Environment and Development Organization (WEDO), which monitors female involvement, only seven of the 110 participants were female, making it the lowest concentration of women ever seen at a United Nations United Nations climate conference. Only two percent of the tales that were presented at COP26 that dealt with climate change had a gender perspective. From 2.2% in 2017 to 1.4% in 2021, the percentage of articles that focused on gender-related topics has become much lower. According to the findings of a research conducted by Data2X, 60 % of nations do not have data on how women are affected by climate change, and there is no data structure that is universally agreed upon to monitor that relationship between gender and climate (Aggarwal et al. 2023).

The majority of the time, women are not involved in decision-making bodies or participating in the process of formulating environmental policies by the government. Oxfam research indicates that women make up fewer than 24 percent of the world's MPs and only five percent of the world's mayors. On the other hand, the idea that women are key players in climate change is gaining prominence. Through the Gender Day event at COP27, efforts were made to incorporate the viewpoints of women into climate policy, strategies, and financial choices. It was lauded that women are the primary agents of climate change solutions. Female characters are frequently portrayed in climate stories as either victims or survivors, which is frequently the case. They are also agents of change, which is another function they play. A total of 41 gender-related mentions were found in the 32 speeches identified, with most countries including gender-related references only once. Countries making more than one mention in their speeches included: Uganda, Nepal and India in COP24; Sri Lanka, Saint Lucia, Nigeria, Nicaragua in COP25; and Iceland in COP26 (James et al. 2023).



Graph 1. Gender based analysis of climate change with reference to representation in COP24, 25, 26

Resilience, sustainability, and justice in the face of climate change's many difficulties require comprehensive approaches. A successful climate policy must recognize women as crucial stakeholders and change agents. Strategies for climate adaptation and mitigation must include women in decision-making, not only acknowledge their susceptibility. Education empowers women in disadvantaged places to adapt and improves their socioeconomic status. Facilitating the development and deployment of resilient technology can help women adapt to climate change by boosting self-sufficiency and reducing dependency on gender-biased

systems. Building a resilient and equitable future requires addressing gender inequality's fundamental causes and including women in climate action.

6.0 Implication of study

This research demonstrated a comprehensive investigation of the compounding effects of climate change on gender disparities is carried out. Susceptibilities that are encountered by different gender identities are dissected in great detail. One of implication of this study is to investigate the complex relationship that exists between changes in the environment and the structures of society, with the objective of clarifying the ways in which different elements contribute to distinct consequences. This research seeks to decode the many layers that underpin gender-specific vulnerabilities in the context of climate change by examining socio-economic, cultural, and institutional elements. This is done in an effort to better understand the situation. Furthermore, the scope of the study include the investigation of coping techniques utilized by various societies, with a particular emphasis on the role that gender plays in the formation of adaptive responses. Moreover, the research investigates the dynamics of resource allocation, with the objective of determining how access to essential resources impacts and maybe perpetuates gender disparities in the context of a changing climatic landscape. This comprehensive analysis, the study is subjected to provide significant insights for policymakers, practitioners, and academics who are engaged in the process of developing solutions that are gender-responsive and inclusive in order to address the intersectionality of climate change and socioeconomic disparities.

7.0 Limitations of the study

Several limitations should be considered in this investigation. First, using existing datasets may prejudice and skew analysis. Due to its regional and temporal focus, the research is not generalizable. The multidimensional nature of gender dynamics and climate change implies the study may miss certain elements. Self-reported data, response bias, and the lack of individual experience exploration may restrict our knowledge. The macro-level focus on coping techniques and resource dynamics may ignore cultural and environmental differences. The study did not thoroughly investigate policy implications, leaving potential for further research on gender-responsive programs' efficacy. These limitations emphasize the need for more study to understand the complex interaction between gender inequality and climate change.

Contributions

Muhammad Usman Arshad: Problem Identification and Model Devolvment

Shahzeb Hassan: Literature search, Methodology

Sibtain Yasir: Drafting and data analysis, proofreading and editing

Conflict of Interests/Disclosures

The authors declared no potential conflicts of interest w.r.t this article's research, authorship, and/or publication.

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