

Extreme Weather and Women: Exploring Impacts and Responses

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Abstract. Extreme weather caused by climate change is increasingly attracting public attention, and the shortage of food, water and many other resources caused by extreme weather has put women, as a vulnerable group, to an even more severe test, substantially affecting their everyday life, physical and mental health. In the context of the present-day climate change, issues affecting women demand an enormous amount of attention since, while being at an unfair disadvantage in the fight against climate change, they are a force to be reckoned with. This paper based on accumulating and assessing the existing literature and investigates the effects of climate change-induced extreme weather conditions on women and offers suggestions and tactics for minimizing the negative impact that weather extremes cause. The concept of "gender equality" should be considered in climate action and decision-making, it is argued, in order to support the equal and healthy development of society.

Keywords: Climate change; women; extreme weather.

1. Introduction

Climate change poses the most serious risk to the health of humans in the 21st century [1], with weather extremes caused on by climate change, such as hurricanes, floods, and droughts, can be a huge threat to people's food and water security, and have therefore become a growing concern to the public.

Women, as a vulnerable group, will be more severely tested due to socio-cultural and physiological differences from men. The majority of the negative effects of climate change, such as gender-based violence, poor mental health, disruptions in educational attainment as well as employment, and economic loss, are more likely to affect women. Moreover, women are unable to effectively participate in climate governance and decision-making, and their capacity to address climate change is highly underestimated and overlooked. Women will eventually be unable to adapt to warming temperatures as a result of the aforementioned negative effects, which will intensify gender inequality and discrimination in the response to climate change. Existing gender disparities will be made worse by climate change, which will have a direct and indirect impact on women's opportunities for employment, their availability for free time, and their expectations for their futures. Yet much of the current research on the human impacts of climate change has not yet paid attention to these gender-differentiated impacts. While some researchers have started looking into the effects of weather extremes brought on by climate change on women, the majority of these studies have focused on physical health. There are still significant gaps in the literature looking into the implications of the weather extremes on femininity's mental wellness, education, economy.

Indeed, women are key to contributing to climate change solutions. This paper collates and analyzes the existing research literature to explore more specifically the adverse impacts of extreme weather on women in terms of physical health, mental health, education and work, and economic losses, noting the reality that women have been seriously underestimated as a powerful force in addressing climate change, and making targeted recommendations.

The paper concludes that there is a need to actively investigate ways to minimize women's exposure to extreme weather and to strengthen women's position in climate change, to enhance women's voice on climate change, to assure their participation in sustainable development policies, actions, and duties, to offer women greater power in preventing catastrophes and recovery, to avert

the potentially devastating repercussions of climate change, and to encourage sustainable development.

2. Impacts

Climate change is the greatest danger to the wellness of humans in the present day [1], and women are particularly exposed to the effects of harsh weather brought on by climate change.

Extreme weather phenomena including high temperatures, hurricanes, floods, and droughts, among others, are, in accordance with study, can directly or indirectly affect women, and can cause harm to women's physiology, such as encountering aggression, kidnapping or even death; it may negatively affect their mental health and cause symptoms like melancholy, depression, and other bad emotions. Additionally, they may negatively affect women's mental health and cause feelings of melancholy and depression [2].

2.1. Physical Health

2.1.1 Intimate partner violence

Intimate partner violence substantially impairs women's human rights and is a significant public health issue. According to studies, up to 30% of women who have had a partner have experienced all kinds of violence in their lifetimes, with percentages being noticeably higher in low- and middle-income nations. While there are multiple factors that can lead to intimate partner violence, extreme weather is recognized as a possible trigger for violence. Worldwide, intimate partner violence experienced by women during and after disasters caused by extreme weather is commonplace. From Bangladesh to Australia, gender-based violence increases significantly after extreme weather events. Females are more likely to experience domestic and sexual abuse, and adolescent females indicate especially high levels of sexual violence and invasion of privacy.

High temperature heat waves, one of the classic extremes of weather, are becoming more prevalent around the world, and the health impacts of extreme heat are intensifying. High temperatures are positively correlated with human mortality and morbidity, and the number of fatalities is on the increase; these impacts are anticipated to intensify as global temperatures stay elevated and their dangers continuously rise.

The impact of high temperatures is dramatic for women, who are more susceptible to the effects of high temperatures and who consistently suffer more heat-related deaths than men [3]. Of the more than 61,000 deaths in Europe last summer, the majority were women, and older women in Europe are the group most affected by extreme heat because the most vulnerable age group is this one.

In addition, the prevalence of intimate partner violence increases with higher average annual temperatures, this means that women are exposed to more and more severe intimate partner violence and their physical health is more difficult to ensure. In some countries which in low and middle income, due to a lack of resources and cultural constraints, women are dependent on the male members of the family for their livelihoods and are therefore more vulnerable to inequality and more likely to face violence from an intimate partner [4].

Climate change is causing changes in extreme weather and climatic occurrences' severity, incidence, duration, temporal range, and spatial extent. The risk of women being harmed also increases.

Physical violence against women in the context of drought is mainly characterized by intimate partner violence including, but not limited to, slapping and physical assault, with the correlation being higher among adolescent girls and unemployed women [5]. In addition to this, forced sexual intercourse, forced and threatened early marriages and even murders of elderly women and female genital mutilation have also been observed, which negatively impacts on women's physical health.

There are differences in the impact of floods on males and females, with females being generally more vulnerable. The impact of floods on women is similar to that of droughts, and studies have shown that women experience physical violence, such as beatings and humiliation by intimate

partners, and are significantly more likely to be raped and sexually harassed, as well as being trafficked due to a lack of resources [6].

Hurricanes, storms, and tsunamis are typical weather extremes that need to be considered, and the drivers of violence, and violence itself, increase significantly during and after storms. In these three types of extreme weather, women suffered direct injuries such as sexual violence, assault, robbery, rape, and sexual harassment. The survey revealed that the prevalence of violence based on gender, particularly violence between intimate partners, considerably rose among internally displaced populations in Mississippi, USA, in the year after Hurricane Katrina [7].

In fact, in addition to the negative effects of the disaster itself on women following an extreme weather event, women may also suffer in the period following the disaster because they are still expected to carry out domestic duties, such as caring for children and family members, due to traditional socially assigned domestic role positions. However, due to the lack of resources and damage to their houses brought about by the disaster, they cook and look after their children in temporary accommodation when their houses are flooded. Such living situations could affect the physical health of women and increase the risk of sexual assault against them. They are more likely to experience sexual misconduct while waiting in line for provisions and food at the same time.

When taken as a whole, extreme weather raises women's danger of intimate partner violence, which can have detrimental effects on their health, including physical harm and even death.

2.1.2 Diseases and female-specific physiological processes

Heat exposure is an important determinant of population health [8]. The risk is greater for women in pregnancy, where extreme heat and increased heat exposure are significantly associated with the risk of preterm labor, which for pregnant women bears the double burden of pregnancy and the possible onset of other heat-induced illnesses (e.g., cardiovascular disease) [9]. According to studies, a significant potential factor that could encourage HIV transmission among poor and vulnerable women is drought. Some women are forced to participate in dangerous sexual behaviors like transactional sex, in order to earn necessary survival resources when disasters limit their access to social and health resources. This makes them more susceptible to HIV [10].

In the case of floods, hurricanes, storms and tsunamis, water shortages due to contaminated water can further burden women's lives, not only by increasing the likelihood of harm due to their vulnerability in accessing water resources, but also by the fact that sewage has long been recognized as a potential pathway for the transmission of human pathogens, and that access to water resources is not guaranteed to be of potable water quality, thus increasing the risk of disease transmission. This increases the risk of disease transmission. Water contaminated by these extreme weather events increases the risk of viral transmission, which is a double jeopardy for women, who not only face the risk of infection, but also gender discrimination, lack of access to hospitals for checkups during pregnancy, and unavailability of menstrual supplies. The risk is exacerbated for women in poorer areas and for women who are older and in the delivery phase of pregnancy.

2.2. Mental Health

Women's mental health cannot be ignored, in the context of rising global temperatures, women's risk of major depression is age-related. Women aged 20 to 64 have a much greater risk of developing serious depression within the setting of increasing temperatures worldwide [11].

Drought can lead to mental health problems and affects women as they age, especially at menopause and retirement age. Therefore, the effects of drought cannot be disconnected from social realities on the basis of gender, while further direct evidence and links are needed to continue to be explored.

In the aftermath of a flood disaster, women are more affected by the disaster due to their higher responsibilities for the family than their partners during the disaster (e.g., finding food, caring for family members). Women's physical and mental health problems are also exacerbated by social stereotypes and misogyny, as well as by increased discrimination from family and society. During and after floods, women's depression and anxiety levels increase.

The special needs of women are easily overlooked, and they often face mental and psychological challenges. In addition to the psychological problems mentioned above, women often choose to sacrifice their own emotional needs because of the need to provide emotional support to family members, as well as a loss of self-confidence and self-esteem as a result of intimate partner violence, and even a lack of resources and an inability to realize their own sense of family responsibility as a result of the disaster. Based on self-responsibility of the family, they feel more worried and guilt.

Migration due to extreme weather will have a greater impact on women. The negative effects of rising temperatures and environmental issues on women may potentially be made worse by their strong links to the land, culture, and traditions. The deprivation of the positive meaning that women derive from the land as a result of land migration due to extreme weather can be a severe emotional blow to women, and psychological stress can rise significantly [12].

2.3. Economic Losses

The economic losses caused by extreme weather cannot be ignored. For women in poor areas, the collapse of houses and damage to land caused by extreme weather have resulted in a great loss of their property, which further leads to a great reduction in their access to public services and other necessary resources for survival, and they may need to spend more time and energy to obtain the relevant resources, resulting in a great increase in their labor time and costs, which aggravates time poverty and increases the situation of women's abuse and disempowerment. They may need to spend more time and energy to obtain the relevant resources, resulting in a significant increase in their labor time and costs, which increases time poverty and increases women's vulnerability to abuse and disempowerment. In addition, women are not allowed to go out on their own due to the restrictions imposed by traditional cultures in some regions, which puts women's lives and health at risk. Women are also indirectly affected by weather extremes, which can cause men, who are the main source of income for their families, to suffer financial losses through damage to property, loss of property, or loss of income, and women's situation can be even worse, as they spend long hours as caregivers and unpaid laborers, and are more vulnerable to blame, resentment, and gender-based violence by their partners because of their lack of financial independence. As most women are unable to achieve economic independence, they have no choice but to be more firmly contained within the family in the face of the existential threat posed by extreme weather conditions, and as family conflicts increase in tandem with growing environmental problems, it is more difficult for women to escape from the increasingly high incidence of domestic violence.

2.4. Education and Occupation

Extreme weather events such as house collapses and loss of signaling can lead to the suspension of women's education and work.

In the short term, this may result in women being unable to cope with disasters caused by extreme weather, their survival is threatened, and they may temporarily lose their economic resources, which will bring greater inconvenience to their lives and increase their potential risk of being harmed; in the long term, education can to a certain extent reduce women's vulnerability to the impacts of climate change, and the forced discontinuation of education may permanently deprive some women of their educational opportunities, and may lead to the weakening and extinction of women's sense of self, and gender inequality will be aggravated by social pressure, physiological structure and other reasons. In the long run, education can reduce women's vulnerability to the impacts of climate change to a certain extent, but the forced suspension of education may permanently deprive some women of the opportunity to receive education, which may lead to the weakening and demise of women's sense of self, and the gender inequality will become more serious as women have to rely on men in their families due to various reasons such as social pressures and physiological structures, etc. Moreover, the level of women's education may also affect women's future career choices as well as the quality of their future reproduction, and the low-quality reproduction may bring about irrational and rapid growth of the population as well as fast consumption of resources, thus exposing the environment to

greater risks. Low-quality childbearing may lead to irrationally rapid population growth and rapid resource depletion, which will put greater pressure on the environment and make it more prone to extreme weather. Critical education issues may also make it more difficult for women to face disasters and other dangerous situations in the future due to their lack of knowledge and experience, making it difficult for them to ensure their basic survival. The fact that women already have fewer educational and work opportunities than men greatly reduce their chances of improving their adaptability, which makes them more vulnerable to abuse and other losses. After the suspension of the work, in the already unequal employment situation between men and women, companies may eventually choose male workers for safety and economic considerations, and women will be hindered in their career advancement or career choices; this will also lead to fewer female decision makers, thus indirectly exacerbating the gender inequality and infringement of women's rights, and, at the same time, weakening the collective resilience of human beings against extreme weather conditions.

3. Suggestions

Climate change poses enormous challenges to women. Undoubtedly, women are in a disadvantaged position in addressing climate change, and as a vulnerable group, they deserve the attention of society at large, as well as that of the relevant governments and international organizations; at the same time, the government and society should not ignore the efforts made by women in addressing climate change, as they are also a force to be reckoned with in addressing climate change [13].

3.1. Guarantees of the Right to Life and Health

Extreme weather brought on by climate change damages infrastructure, roads, and homes while contaminating food and water supplies, making it challenging for some women to achieve their fundamental needs. Additionally, women's rights to life and health are further undermined by the difficulty in accessing resources and services for survival as well as by their increased vulnerability to violence and aggression from intimate partners.

3.1.1 Guarantee of survival and physical health

In extreme weather events such as climate-driven droughts and floods, governments should prepare for disasters in advance, such as adopting early warnings, organizing educational programs to teach self-help methods, and preparing post-disaster response programs, as well as safeguarding women's livelihoods, health, and safety, identifying and responding to the risks of gender-based violence, and stepping up regulation, and also ensuring that gender-differentiated statistics are used, that women's voices are consulted on an equal basis, and that Gender considerations should be integrated into climate and environmental programming throughout the process, with attention to individual differences, taking into account cultural, economic, regional and other factors, e.g. women with low incomes and at the bottom of the social ladder are often considered to be particularly susceptible to the effects of worldwide warming, and full consideration should be given to the fact that they are constrained by their levels of knowledge, economic capacity, and multiple and intersecting social identities, and that the biological differences between men and women need to be acknowledged. In this context, it is necessary to recognize the biological differences between men and women, acknowledge and support men's efforts and strengthen family cooperation to ensure the survival of low-income and underprivileged women, and the government can also set up an official fund-raising channel to help disadvantaged women to overcome their difficulties. Research and data collection on gender disparities should be conducted to better comprehend the varied effects of the changing climate between men and women and to work towards eliminating gender inequalities in all areas. The relevant authorities need to further improve the health system, increase service capacity, enhance the sharing and timely updating of information during and after disasters, and endeavor to promote women's equality with men in terms of medical coverage and better safeguard women's physical health.

3.1.2 Attention to mental health and spiritual needs

Women also face special challenges in terms of mental health, and society should pay attention to and strengthen psychosocial support to ensure women's mental health by providing psychological counseling services. The Government should also try to meet women's needs for education and work by, for example, opening temporary schools or educational programs to ensure women's spiritual needs.

3.2. Participation in Decision-making and Leadership Enhancement

The main factor contributing to women's vulnerability in the face of climate change, natural disasters, and environmental pollution is gender inequality. Therefore, in order to combat environmental degradation, decision-makers and politicians should take gender equality into account.

It has been demonstrated that women are crucial in fostering technological advancements in the fight against climate change, and that greater female participation in climate-related scientific research can further enhance the continued understanding of climate change and lead to more effective technological innovations and higher productivity, and that more women on boards of directors of large corporations and institutions can help improve climate change policies [14], and in the political arena, women's representation can lead to more stringent national policies. Women's political representation should be further investigated in the future to better support women's leadership advancement and empowerment in climate and environment. Countries with more women in politics have harsher climate change regulations, and as a result of their impact on the severity of these regulations, countries with more women in parliaments have less carbon dioxide released into the atmosphere [15]. Existing structural inequalities further hinder women's effective participation, and only women's equal participation can make climate interventions more effective, which, combined with stricter climate policies, will ultimately lead to more effective responses to extreme weather and climate change.

In order to promote women's participation in environmental policy, it is necessary to empower more women in all spheres of life, including business and society. Public spending on education, as well as effective education and governance, are also effective ways to reduce vulnerability, so women should be provided with the tools and training that will allow them to better lead in environmental problem solving and better respond to climate change risks [16].

4. Conclusion

Women face numerous kinds of challenges as a result of extreme weather that is a direct or indirect result of climate change. Women confront more financial hardships and dangers to their health, security, and safety as a result of the threat caused by worldwide warming. On the other hand, women's contributions to the fight against climate change are frequently undervalued, and their lack of access to decision-making processes and forums results in long-term disregard for their needs and interests.

In order to address women's climate vulnerability, effective measures should be taken to protect women's legal rights. Emphasize the role of education so that women have sufficient knowledge and capacity to protect themselves and respond to disasters and support women's increased participation in higher levels of climate decision-making. In addition, the active role of women in environmental policy and climate change response should be emphasized, and women should be allowed to play a leading role in climate action, taking into account the concept of "gender equality" in climate action and decision-making.

Although studies have shown a link between gender and the changing climate, future research should pay more attention on the more specific effects of the changing climate on women. For example, it should look at how climate change affects women in urban and rural areas, how it differs for women in developed and developing nations, and why. Also, it needs to focus more on how global warming influences the emotional wellness of women. Furthermore, it is essential to take into account

the differences between younger, married, and older women, as well as to combine the realization of gender equality with climate change adaptation through research and the participation of more academics and institutions. It's additionally essential to acknowledge the disadvantages that women experience in severe weather and take precautions to protect them. Inequalities experienced by women in severe weather must also be addressed, and protective measures must be taken.

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