

Impacts of Climate Change in Exacerbating Gender-Based Violence in District Mohmand, Pakistan

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Abstract: Generally, climate change and Gender Based Violence have been studied separately. The present research explores the nexus between climate change and Gender Based Violence in District Mohmand, Pakistan. The study focuses on how the impacts of climate change triggers gender-based violence. The study employs a qualitative approach in which data has been collected from thirty women by using purposive sampling and further presented through thematic analysis. The findings of the study reveal women in study area are engaged in different unpaid activities such as water fetching, farming, collecting firewood from the mountains and domestic work. Due to climate change factors the underground water table has depleted which has further impacted on agriculture sectors, local forests and shrubs and other water related needs of the targeted community. As due to local norms, the women are mainly responsible for carrying out these activities. As a result, gender-based violence has also increased in form of carrying out water and collecting firewood from long distances, health issues during carrying out heavy vessels like nerves pain, headache, depression and frustration. On economic side, the women are facing time poverty as majority of their precious time is spend in arranging this unpaid labour resulting them backward in availing health and education services. The study recommends that further research should be conducted to cover the policy side of this phenomenon.

Keywords: Climate Change, Gender Based Violence, Nexus, Time Poverty

Introduction

Climate change and Gender Based Violence (GBV) are the two most pressing challenges confronted by global communities. Usually, in majority literature, these two issues are studied separately. The growing research suggests that these issues are closely related to each other's (Castaneda et al., 2020). Generally, the impact of climate change on gender-based violence in poor countries including Pakistan is severe and harsh. For instance, Pakistan is facing the dual problems of climate change and GBV at the same time. According to Climate Risk Index (2025), Pakistan is one of the most climate-affected countries in the world followed Brazil and Italy. In the context of GBV, Pakistan is second worst country in the world in gender equality (Baker et al., 2024). In rural and poor communities, women and girls are highly dependent on natural resources such as collecting firewood from mountains, managing household water supplies, and participating in agriculture related activities. These obligations, combined with restrictive gender norms and roles, keep them disadvantaged in context of schooling and education, livelihood opportunities, and access to healthcare services among other vulnerabilities (UN, Women, 2024). In Pakistan, the devastating floods of 2010 affected more than 20 million people, including 500,000 pregnant women. The vulnerabilities of women like malnutrition and trauma were further exacerbated as many had to travel long distances to reach camps. The 2022 floods have displaced 80 % of women including 650,000 pregnant women left without any healthcare support and 8 million without basic hygiene supplies and bathrooms facilities (Baker et al., 2024).

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Understanding Practical and Strategic Gender Needs

Globally, there are two main types of gender needs i.e., Practical gender needs and strategic gender needs. The practical gender needs are day-to-day needs and are defined in socially accepted roles and norms of a specific area. Usually, this can be the division of labour such as socialization of children, managing agriculture activities, domestic work and water fetching among others. On the other hand, strategic gender needs are more related to changing gender relations, tackling structure disparities to transform gender roles and positions. The examples can be equal employment for gender, equality of gender in political and decision-making forums and many others (Guo, 2007). In the context of existing problems, it is essential to address the practical gender needs as it will lead further to achieving the strategic gender needs. The following sections outline the intersection of climate change with GBV.

Climate-Induced Disasters and GBV

Climate crises such as floods, drought, heatwaves trigger migration. As a result, the vulnerable segments like poor including women migrates to other areas and settle in camps and shelters where they are exposed to violence due to little privacy in camps, abuse by aid workers and community members (Rezwana & Pain, 2021). Similarly, the research conducted in Bangladesh and Pakistan have also stated cases related to psychological, physical violence and sexual conduct (Alam & Rahman, 2014; Memon, et.al., 2022). In Bangladesh, some religious leader blamed gender (women) for triggering climate change and its devastating impacts. In Tanzania one study has been conducted during drought and flood, where some women have been accused of witchcraft (Malivel, et.al., 2024).

The increased demand for water as a result of the population explosion, industries, and lack of rainwater harvesting techniques compounded with poor governance has exposed the aquifer to over exploitation. It is also note mentioning that in rural and poor communities, the most disadvantaged group due to the water scarcity are women and girls, as the traditional gender roles require them to arrange the water for use in the household regardless of how much difficult it may be (Alam & Rahman, 2014; Memon, et.al., 2022). So, in this context, they spend their precious time arranging water as unpaid workers for their household resulting them behind in availing basic education, health facilities, livelihoods and lack of time for recreational activities.

Justification of Research

The existing literature in climate change studies usually addresses the harsh and visible impact of climate change and ignores the socio-economic impacts in the context of GBV. For instance, it is important to understand the impacts of climate change with a particular focus on their livelihood, living conditions including structural vulnerabilities that exist in a particular society (Allen et al., 2023). In many African countries, there are various public health initiatives that work on reducing GBV without incorporating the impact of climate change in their interventions. For instance, when there is drought, the families usually marry off their girls early due to poverty and food insecurity. In the context of climate-induced migration there is a high risk of sexual violence within the camps. In rural areas, women and girls manage water and collect wood for their household due to patriarchal norms covering long distances. As a result, majority of their precious time is spent carrying out these unpaid labour work resulting them behind in livelihood, health and education among others (Terry, 2009). To conduct research on above mentioned problem and to fill up gaps in the existing literature, the present study aims at understanding the nexus between climate change and GBV.

Objectives of the study

- i. To explore how the drivers of climate change triggers gender-based violence in the study area.
- ii. To explore the socio-economic impacts of climate change on gender-based violence in the study area.

Theoretical Framework of the Study

The theoretical framework of this study elaborates climate change and GBV from the perspective of eco-feminism theory. According to this theory, the devastating impacts of climate change and women exclusion are interwoven as an interplay of capitalism and patriarchy. Due to dominancy of these two systems, the

men enjoy more power than women and other marginalized groups in different decision matters of the society (Emmanuel, 2025). As a result, the women and other marginalized group also affect adversely from climate change and thus further exacerbates the existing structural inequalities.

Methodology of the Study

This article has been produced from the Ph. D study, which was carried out in District Mohmand, Khyber Pakhtunkhwa, Pakistan. The present study adopts a qualitative approach in which data was collected from 30 respondents (point of saturation) through purposive sampling technique. The researcher has used structured interview guide as a tool of data collection. The data was further examined by using thematic analysis. In thematic analysis, the researcher thoroughly identifies, analyzes and interprets the themes to provide a clear understanding of the research objectives. Following are the main themes and results of the present study.

Theme-1: Water Fetching and Gender Based Violence

Water fetching in rural areas including the study area is usually considered as women activity as due to traditional gender roles and norms. So, in this context, women in the targeted area spend their precious time in arranging water for their household. The underground water table has depleted up to a danger situation due to climate change factor (drought). The targeted area, District Mohmand, is one of the most water-stressed districts in Pakistan, where the underground water table has decreased from 175 feet to 300 feet during the last few decades (Badshah, 2022). Due to the continuous extraction of ground water by deep wells and tube wells to address the water shortage, the ground water level is continuously declining. The changing concepts of the quality of life, the population bulge and industries have increased the demand for water, which resulted in indiscriminate digging of tube wells and borewells. One of the respondents, Ms. Rabia (proxy name) stated that:

Women's problems in Mohmand echo in the same situation; their vital energy gets spent on achieving the basic human rights of having access to water. Their unacknowledged unpaid domestic work becomes more difficult with shouldering the additional burden of fetching water from distanced areas.

The study is aligned with the findings of Hayat (2021) which explains that on average, every woman in Pakistan brings water from 2 km from their areas of origin. As a result, they are prone to a multitude of risks i.e. sexual violence and harassment, health issues such as headache, body and muscle pain, physical injury, carrying heavy vessels in time of pregnancy, malnutrition, hair loss, attack of stray animals (in nighttime specific) and expose to heatwaves among many others.

This phenomenon further impacts the mental health of women in the form of depression and anxiety. Majority of the men are uneducated and are involved in casual daily labor, as a result of COVID-19 and the resultant economic stagnation compounded by the weaker economic status of the country, majority of the men have lost jobs. The ongoing price hikes have made life miserable for the poor segments, and the resultant frustration usually comes out in the shape of bullying at household and community level. The frequent verbal violence and the compounding factors have increased the risk of domestic violence which usually takes the form of Gender Based Violence (GBV).

According to Helvetas (2021) baseline findings the most disadvantaged group due to the water scarcity in Mohmand district is women and girls, as the traditional gender roles require them to arrange the water for use in the household regardless of how much difficult it may be. In District Mohmand, the annual water demand of livestock is 0.0093 MAF and human demand of 0.006 MAF both these are arranged by women. According to Ishaque, et.al., (2023) climate change factors are triggering extreme weather conditions which have put a lot of pressure on underground water and is emerging as a national security threat for Pakistan.

Theme-2: Farming and Gender Based Violence

The women in the study area are usually engaged in agriculture and farming sector and their contribution is also unpaid in nature. That's why the women spend majority of their time in field and have limited access to sustainable livelihood, health and education among many others basic needs. As discussed in previous theme, the area is prone to water scarcity, so men members forced to migrate to big cities like

Rawalpindi, Lahore and Karachi in search of livelihood, in that context, the women are primarily responsible for managing farming back at home.

The study finding is aligned with report of FAO (2011) which explain that women in farming sector have limited access to education, and health care services resulting in their overall well-being in the community. In poor communities, the women perform different activities and have assigned a lot of workloads due to strict gender roles and as a result their contribution in agriculture and domestic economy is informal and unpaid.

Theme-3: Firewood Collection and Gender Based Violence

In the study area, men and women perform distinct roles in forest and agroforestry systems. Women are frequently disadvantaged in comparison to men for a variety of interrelated cultural, social, economic, and institutional reasons. One of the respondents, Ms. Azra (proxy name) explained that:

I collect wood from mountains and spend my whole day gathering and collecting firewood. This practice not only affects my physical and psychological well-being but also keeps us behind in education, health and livelihoods and other important decision-making matters of our community.

These women have also limited awareness about sustainable use of nature's resources. As a result, many local and resilient species like Gorgara (*Monothea buxifolia*), Palossa (*Acacia Modesta*), are in danger due to unchecked deforestation, population growth, lack of electricity and gas for fuel, and persistent poverty.

The research findings are aligned with Hall, et.al., (2017) which explain that population growth has exacerbated the pressure on forests, leading to accelerated deforestation and soil fertility loss. Alternative domestic energy sources like kerosene oil, liquefied petroleum gas, and coal, are not only expensive but also scarce in rural regions.

According to Khurshid (2022) In rural areas, approximately 45% of the energy expenditures in Pakistan goes to solid biomass fuels such as firewood, agricultural residues, and cow dung cakes, which are used for cooking. Over 80 % of the rural population in Pakistan gathers firewood from adjacent forests and farmland for domestic use. The annual firewood consumption per capita in Pakistan is 0.52 m³. Assuming an average-sized tree has a volume of 1 m³, two individuals would consume one standing tree in one year. A rural household with an average size of eight members will therefore consume four trees per year.

Theme-4: Time Poverty and Gender Based Violence

Among the social, psychological and physical vulnerabilities, women in the study area are also prone to financial vulnerabilities in performing unpaid communal level activities such water fetching, collects firewood from the mountain, domestic work among others. As a result, they remain backward in livelihood sector and availing jobs as per their own needs. The increased labor required in fetching water, farming and collecting firewood further exacerbate time poverty of women and girls. The time poverty exacerbation has increased the stress for girls and women as they think they are not performing well. This lack of performance on part of men and boy has increased the risks of domestic violence. This phenomenon further impacts the mental health of women in the form of depression and anxiety.

Conclusion

The study concludes that there is a strong connection between climate change and GBV in District Mohmand, Pakistan. Climate change is triggering GBV in multiple ways. In the context of water scarcity, the women are prone to physical problems like long distances, nerves pain, headache, psychological issues like depression and frustration, economic issues like securing sustainable livelihood and jobs, and the social problems like access to health and education services. In the context of collecting firewood and agriculture activities, the women also spend their precious time, and their overall well-being has affected adversely. Concluding this paragraph with the notion that in the context of existing problems, more research should be conducted that addresses the policy side of this issue.

Recommendations

Following are some recommendations abstracted from the study findings.

Addressing Practical and Strategic Gender Needs

The government and civil society organizations should work together to address the practical gender needs of women including but are not limited to access to basic services like health, education, water and sanitation. By addressing these needs, it will further lead to address strategic gender needs of women.

Inclusion of GBV in National and Local Frameworks

The harmful practices relating to gender and women should be included in National Climate Change Adaption Plan (NCAP), provincial climate change policy and local governance. The current approach of these frameworks is reactive it should be anticipatory.

Economic Empowerment and Social Protection of Women

Government and civil society should work on promoting sustainable economic practices. For instance, the Benazir Income Support Programme (BISP) provides cash assistance to women without enhancing their skills development and market linkages.

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