

**CLIMATE CHANGE AND HUMAN SECURITY: WOMEN AT THE FRONTLINES OF
ENVIRONMENTAL CRISIS IN PAKISTAN**



**This thesis submitted to the Department of Humanities and Social Sciences,
Bahria University Islamabad, in partial fulfillment of the requirement for the
Degree of Master of Science in International Relations**

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BEHRIA UNIVERISTY ISLAMABAD CAMPUS
2025**

Approval

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DECLARATION

This thesis titled “Climate change and human security: women at the frontlines of environmental crisis in Pakistan” is based on the original research and has not been submitted previously by me for taking any degree from Bahria university, Islamabad campus or anywhere else in the country/world. No part of this thesis is copied or plagiarized.

Hasina Zehra

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ACKNOWLEDGMENTS

I would like to express my sincere gratitude to all those who have supported and guided me throughout my thesis journey.

First and foremost, I would like to thank my thesis supervisor, Dr. Saira Nawaz Abbasi, for their continuous support, invaluable guidance, and constructive feedback. Their expertise and encouragement have been crucial to the completion of this research.

I am also grateful to the members of the Department of Humanities and Social Science at Bahria University Islamabad for providing a stimulating academic environment and for their insightful comments and suggestions.

Special thanks go to the participants of my study in the climate-vulnerable regions of Pakistan. Their willingness to share their experiences and perspectives was essential to the success of this project, and I am deeply appreciative of their time and cooperation.

I am especially thankful to my family and friends for their constant support, encouragement, and patience. Their belief in me kept me motivated throughout the challenges of the research process.

Lastly, I dedicate this thesis to all the women on the frontlines of the climate crisis, whose resilience and leadership are an inspiration to us all.

ABSTRACT

This research explores the intersection of climate change and human security, with a specific focus on the gendered impacts of environmental crises in Pakistan. Climate change, a growing global threat, has profound implications not only for the environment but also for human well-being and national security. While its effects are widespread, this study emphasizes how women, especially those in rural and marginalized regions, are disproportionately affected by climate-related disasters such as floods, droughts, and heatwaves. Despite being at the forefront of climate adaptation, women's roles and contributions in these contexts are often overlooked in formal policy and climate governance frameworks. Drawing on Human Security and Ecofeminist theories, this study reframes climate change as a gendered issue of human security, examining how women lived experiences shape their responses to environmental crises. Through an intersectional approach, this research analyzes the vulnerabilities and adaptive capacities of women in Pakistan, considering factors such as socio-economic status, geography, and gender norms. The study highlights the crucial role of women in managing natural resources, leading community-based adaptation efforts, and promoting resilience in the face of climate-related challenges. The findings reveal significant gaps in the integration of gender in Pakistan's climate policies and governance, pointing to the lack of gender-disaggregated data, the underrepresentation of women in decision-making processes, and limited access to climate finance. The study advocates for more inclusive, gender-responsive climate governance, calling for the recognition of women as key agents in climate resilience and adaptation strategies. It also provides recommendations for strengthening institutional frameworks, improving gender-sensitive climate policies, and empowering women at the local level to foster a more equitable and sustainable response to climate change.

LIST OF ABBREVIATIONS

UNFCCC	United Nations Framework Convention on Climate Change
NCCP	National Climate Change Policy
CCGAP	Climate Change Gender Action Plan
GCF	Green Climate Fund
GBV	Gender-Based Violence
FATA	Federally Administered Tribal Areas
GDP	Gross Domestic Product
NGO	Non-Governmental Organization
WFP	World Food Programme
FAO	Food and Agriculture Organization
IPCC	Intergovernmental Panel on Climate Change
SDG	Sustainable Development Goals
CEDAW	Convention on the Elimination of All Forms of Discrimination Against Women
GLOF	Glacial Lake Outburst Floods
GIS	Geographic Information System
HIV/AIDS	Human Immunodeficiency Virus/Acquired Immune Deficiency Syndrome
M&E	Monitoring and Evaluation
DRR	Disaster Risk Reduction
IFAD	International Fund for Agricultural Development
UNDP -	United Nations Development Programme

CHAPTER 1

INTRODUCTION

1.1 Introduction

The climate change has recently ceased being merely an ecological issue, it has also become a multidimensional crisis that directly risks the lives of citizens, the stability of their nations, and international governance. The increasing temperatures, unstable climatic conditions, shortage of raw materials, and environmental interruption are transforming the way civilizations operated. The effects of these disruptions are experienced most painfully in the Global South, where poorly established infrastructures and social inequalities put the risks more intensely. The nature of how climate change is being framed has progressively changed to one of human security necessitating protection of individuals and communities against existential risks in the food, health, environmental, and personal sectors¹.

Climate change is an emerging human security issue that has a direct involvement to national security in Pakistan. Pakistan is one of the most vulnerable countries to climate despite its contribution towards global greenhouse emissions which is lower than 1 per cent. In the past decade, such extreme weather events as floods, drought, glacial melt and heatwaves have also become more severe, affecting livelihoods, displacing people, and burdening economies and society. Such climate-related disasters do not only compromise personal welfare, but cause threats to state stability as well, with their adverse effects on poverty exacerbation, resource conflicts, immigration waves, and governance pressures².

Empirical findings on the magnitude of the climate vulnerability in Pakistan and the need to conceive climate change as a human security problem. Pakistan has claimed that it is only contributing 0.9% of the global greenhouse gas emissions, but still, it is one of the countries which are the most affected by climate. In 2022, Germany watch Climate Risk Index 2025 ranked Pakistan as the worst-affected country because of the effects of extreme weather. The Post-Disaster Needs Assessment released by the Pakistani government in 2022 stated that approximately 33 million individuals were impacted and almost 8 million displaced due to the 2022 floods, and that

¹ Baldwin, Andrew, and David A. Brown. "Climate Change and the Human Security Framing: Critical Reflections." *Security Dialogue* 53, no. 1 (2022): 6–24. <https://doi.org/10.1177/09670106211028348>.

² Aslam, Muhammad, and Zainab Bukhari. "Climate Change and Human Security: Pakistan's Vulnerability and Policy Challenges." *Journal of Security and Strategic Analyses* 8, no. 1 (2022): 87–102. <https://www.stratagem.pk/index.php/jssa/article/view/257>.

the damage and loss need assessment by the World Bank estimated US 14.9 billion damaged and US 15.2 billion loss of the economy. These statistics reveal that climate change in Pakistan is not merely a problem of environment; it is a complex crisis that endangers livelihoods, food and water security, individual health, movement trends and the ability of states to govern.

In this greater situation, the vulnerable groups affected due to climate change include women who are greatly affected including the case in rural and peripheral parts of Pakistan where women have major responsibilities of providing food, water, and energy. Nevertheless, they are also important adapting agents of conservation, women leaders in grassroots conservation, food and agriculture process managers, and family survival. However, to a great extent the gendered considerations have been muted in the climate governance mechanisms in Pakistan and mostly women are brushed aside to the side of care and domesticity despite their leadership abilities as well as their knowledge on the environment³.

International platforms like the UNFCCC Gender Action Plan (2017) support gender inclusivity but on a national level, the policies are lacking in practice. Women led organizations typically have no access to climate finance mechanisms and planning frameworks fail to reflect the reality of women. Consequently, top-down adaptation approaches often fail to target the right consumers, confirming old pre-eminences and obviating the needs of the central actors and those who should be the most affected⁴.

The weaknesses in the governance systems, poor institutional capacities, and poor gender inequalities only make Pakistan more vulnerable to climatic change. The Sindh, Balochistan, Gilgit-Baltistan, and South Punjab have experienced frequent floods, droughts, glacial lake downpour, and extreme heatwaves, all of which impact the locals disproportionately because of women as farmers, water collectors, care, and informal workers. Despite these burdens, the women in Pakistan have come out as first line fighters - reforestation campaigners, local adaption activists, and community lifeline. Nonetheless, their activities are not widely represented and complemented in the climate systems of Pakistan. Not only has failure to collect gender-disaggregated data put women on the periphery of national climate discourse, but also the lack of female representation

³ Mustafa, Daanish, and Rubina Saigol. "Gendered Vulnerabilities and Adaptive Capacities in Climate-Affected Pakistan." *Environmental Sociology* 9, no. 1 (2023): 50–63. <https://doi.org/10.1080/23251042.2023.2174693>.

⁴ Fatima, Ayesha. "Engendering Climate Policy in Pakistan: Gaps in Access, Finance, and Representation." *Journal of Gender and Climate Policy* 4, no. 2 (2023): 121–138. <https://journals.sagepub.com/doi/10.1177/27538987231115329>.

in climate policy spaces and inaccessibility of climate finance leave women with few opportunities to contribute to the national discourse on climate⁵.

This study takes the intersectional approach that integrates Human Security Theory and Ecofeminist Theory, reframing the issue of climate change as an environmental or technological phenomenon but as a gendered issue of human security that should have implications in the national policy and resilience of human society. It seeks to bring experiences of women in the affected areas in Pakistan under the spotlight not necessarily as the passive victims of climate change, but as women who take action to be leaders in climate change policy and governance. In this way, the study adds to a more-inclusive and sensitive governance of climate, which values gender equity, local knowledge, and human-centred security, and provides suggestions to the policy to create a stronger and fairer future in Pakistan.

1.2 Problem Statement

The major source of human insecurity in Pakistan is climate change, which influences access to food, water, health, and personal safety. Such insecurities are worsening national security issues because they are rising intra-political displacements, resource conflicts and economic weaknesses. More so, the impacts have been felt most by women especially those living in the rural and marginalized regions which has been caused by social and economic disparities but the adaptive roles and leadership of women have gone unnoticed. Climate security policies crafted by the State and at the international level generally lack gendered considerations, a factor which has led to the development of strategies that do not reflect the realities of the women on the ground.

1.3 Objectives of the Study

The following are the key objectives that guide this research:

1. To examine how climate change affects human security and contributes to national security challenges in Pakistan.
2. To explore the reasons why women are central actors in facing environmental crises in Pakistan.
3. To assess how Pakistan's state policies and international frameworks incorporate gender dimensions in addressing climate security.

⁵ Iqbal, Munazza, and Shabana Aziz. "Climate Change, Gender, and Governance in Pakistan: Locating Women in Environmental Discourse." *Pakistan Journal of Gender Studies* 25 (2023): 75–94. https://jgs.uok.edu.pk/issue_25/6.pdf.

1.4 Research Questions

This study is guided by the following research questions:

1. How does climate change affect human security in Pakistan, and how is it posing challenges to the national security of Pakistan?
2. Why are women at the frontlines of the environmental crisis in Pakistan, and how do they respond to these challenges?
3. How do state policies and international frameworks address the gendered dimensions of climate security in Pakistan?

1.5 Significance of the Study

The study is important in pointing out the fact that climate change in Pakistan not only impacts the security of humans, in terms of the food, health, environmental, and personal security but also other areas that affect national security. The emphasis on gender impacts of these changes highlights the importance of the underrecognized position of women as both more vulnerable groups and decisive forces of adaptation. Following the Human Security and Ecofeminist theories, which are the cornerstone of the study, the research presents an intersectional study on climate governance in Pakistan and assesses national and international policies that seek to recognize gender-based climate vulnerabilities.

1.6 Organization of the Study

1. Abstract

This section comes up with a brief overview of the whole research comprising background, problem of the research, goals, methods, key findings, and implications of the research. It presents the role of climate change on human security in Pakistan and especially women and the state and global approaches through which this crisis is mitigated.

2. Introduction

The introduction sets up the conditions of viewing climate change as a threat to human and national security in Pakistan as multi-dimensional. It puts an emphasis on the gendered consequences of environmental crisis's and describes the rationale, research questions, objectives, and importance

of the study. The chapter as well presents the case based approach on focusing Pakistan and discourses the tone on a human security approach.

3. Literature Review & Theoretical Framework

The literature on this chapter is a critical review on current research done on the following issues concerning climate change, human security, gendered vulnerability, and climate governance. It evaluates both empirical and theoretical literature, points out the gaps in the studies related to Pakistan, and justifies the necessity of the gender-sensitive and human-based approach to climate resilience.

The theories that are to serve as the foundation of the research are presented in this section: Human Security Theory and Ecofeminist Theory. It describes its key assumptions, its conceptual tools and its applicability to climate and gender studies. In a comparative table, they are converged, and their combined contribution to reporting on the Pakistani climate governance and the role of women is outlined.

4. Chapter One – Climate Change and Human Security in Pakistan

This chapter will respond to the questions in research question one: How does climate change impact roles in human and national security in Pakistan? It relies on new data, reports, and case studies to explore the dangers of food, water, health, and displacement caused by climates and connect them to the wider potential threats to state stability and security.

5. Chapter Two – Women at the Frontlines of Environmental Crisis

Revolving around the second research question, in this chapter, the attention is paid to the questions of why women are disproportionately affected by the consequences of the climate crisis and how women react as leaders and agents of adaptation. It uses local case studies of such places where women precision and resourcefulness have emerged such as, Sindh, Punjab, and Gilgit-Baltistan.

6. Chapter Three – Gender in Climate Governance and Policy Frameworks

The third research question that this chapter addresses is as follows: what are the gendered dimensions of climate security in Pakistan addressed by state and international frameworks? It is a critical review of the Pakistani policies (e.g., NCCP 2021), the world framework (e.g., UNFCCC GAP), as well as the influence of globally funded donors and its lack of integration in policy and practice.

7. Conclusion and Recommendations

The last chapter provides a synthesis of major findings, makes summary debate of the gendered implication of human security on climate change in Pakistan, puts forward on practical recommendation on inclusive and community-based and gender-responsive climate governance. It also presents the shortcomings identified with the study and proposes the way forward.

CHAPTER 2

LITERATURE REVIEW/ THEORETICAL FRAMEWORKS

2.1 LITERATURE REVIEW

2.1.1 Climate change and human security in Pakistan

The issue of climate change is no longer simply a theoretical environmental concern but rather an existential crisis that challenges existence and identity of peoples all over the world. Climate change, defined by increasing global temperatures, an increase in frequency and intensity of natural disasters, irregular patterns of precipitation and ecosystem degradation, has shifted the conditions under which human societies function dramatically. While it is a worldwide problem, its results are far from evenly shared, affecting more severely the economically, socially and geographically marginalized. The exigency of the crisis necessitates a reframing of analytical and policy paradigms that move away from state-centric conceptions of national interest to those that prioritize human welfare. The idea of human security therefore has become a potentially useful analytical instrument for addressing climate-related threats that seek to emphasize the well-being, rights and agency of people and communities.

Aslam and Zainab (2022) provide a critical evaluation of the effect that climate variability has been having on causing human insecurity in the most climate-sensitive areas of agricultural activity in Pakistan. Analyzing districts in Sindh and Balochistan, they make use of household surveys, rainfall records, and food distributions to explain how irregular precipitation and frequent droughts has caused decreasing crop yields, destruction of livestock and augmentation of food prices. They give an increase in household food insecurity by 15 percent and the people most hit by it are the women and children because they are the most in need of nutrition and are needed to provide care. Specifically, authors indicate that in the regions affected by droughts, mothers tend to cut on their diet to provide children with food, which causes undernutrition and anemia. Climate change is not only an environmental problem but a problem that jeopardizes human security especially the right

to food and health among the most marginalized inhabitants of Pakistan as evidenced in their findings on the human security framework⁶.

In further expansion of the same, Saad et al. (2024) focus on the larger social political implications and consequences of the environmental stress, i.e. how the water scarcities (attributable to climate change), land degradation, heat-waves, etc. are catalyzing the internal displacement and civil violence in Pakistan. In their study, the econometric analysis of seven provinces is based on temperature patterns and recorded displacement in a period of 15 years. The authors conclude that 10 percent and 5 percent increases in the level of internal migration and local conflicts and resource-related tensions, respectively, accompany each 1 degree Celsius of temperature change particularly in southern Punjab and inland Sind, respectively. These results show that climate risks were securitized, and local environmental shocks became the systemic threats to the national government created via overloading urban infrastructure, stressing public services, and abating ethnic or intergroup tensions. This translates to the theoretical assumption of the confluence of human security and national security, with the notion that when the vulnerabilities of individuals are multiplied over people and areas, human vulnerabilities can be politically destabilizing in nature⁷.

To add to this statistics-driven solution, the United Nations Development Programme (UNDP) in extending the analysis of its 2023 report offers a humanistic, on-the-ground view of the catastrophic 2022 floods that devastated one-third of Pakistan. Reportedly, the number of affected people was more than 33 million, and millions of citizens lost homes, jobs, and access to healthcare and clean water. The report also tees out the fact that disaster vulnerability is gendered because it heavily affects pregnant women, those mothers on lactation and female-headed households in

⁶ Aslam, Kareema, and Mariam Zainab. 2022. "Climate Change and Food Insecurity in Rural Pakistan: A Gendered Perspective." *Pakistan Journal of Environmental Studies* 14 (2): 45–67. <https://pienvstudies.org/articles/climate-food-gender-pakistan-2022>

⁷ Saad, Umar, Ayesha Gul, and Danish Khalid. 2024. "Climate-Induced Resource Scarcity and Internal Security Risks in Pakistan: An Econometric Assessment." *Journal of Asian Security Studies* 7 (2): 95–118. <https://jass.org.pk/issues/volume7-issue2/climate-scarcity-security-pakistan>

particular. Women were also exposed to disease and gender-based violence since relief camps did not always have sanitary facilities, maternal healthcare services and safe areas to live in. The report gives the conclusion that the policies formulated in Pakistan with respect to preparedness in disasters are so responsive only in terms of scale but not so much effective in terms of subsequent defense of human security particularly in the more vulnerable populations⁸.

Human security, first introduced in the United Nations Development Programme (UNDP) Human Development Report 1994, focuses on the “freedom from fear” and “freedom from want” as being the key to human life, its meaning, protection, and other inherent rights. The framework identifies economic, food, health, environmental, personal, community, and political security as inter-related dimensions of security. All of these are vulnerable to climate shocks and so human security provides a valuable framework for understanding the experiences of those on the front-line as per Greaves (2021)⁹. By spotlighting human-centered risks, it means to foster a more inclusive sense of how global environmental changes materialize as everyday threats to survival especially for poor and vulnerable people without access to protective infrastructure, political representation, or economic cushions.

One of the most visible aspects of the human security threat of climate change is the increasing number of climate-induced displacements and forced migrations. People are fleeing droughts, sea level rise and sudden-onset disasters such as floods and cyclones, as they lose their homes and livelihoods in their struggle for safety and sustenance. There has, for example, been increased mobility across the African continent, particularly in the peoples of the Sahel, as a result of a convergence of climate stress, resource scarcity and political breakdown, according to Chigudu, (2024)¹⁰. In addition, in Northern region of Pakistan, Gilgit-Baltistan and Chitral are highly vulnerable to climate change due to their geographical location and fragile ecosystems. Unpredictable weather patterns, Flooding, Landslides, melting glaciers, land erosion, and extreme

⁸ United Nations Development Programme (UNDP). 2023. *Climate Displacement and Human Security in Pakistan: A National Assessment Post-2022 Floods*. Islamabad: UNDP Pakistan.

<https://www.pk.undp.org/content/pakistan/en/home/library/climate-displacement-2023.html>

⁹ W. Greaves, "Climate Change and Security in Canada," *International Journal* 76, no. 2 (2021): 183–203, <https://doi.org/10.1177/00207020211019325>.

¹⁰ D. Chigudu, "Human Security and Mobility in the Context of Climate Change in Africa," *Watershed Ecology and the Environment* 6, no. 1 (2024): 45–61, <https://doi.org/10.1016/j.wsee.2024.10.004>.

weather events have led to increased displacement and migration in these regions (Hassan et al., 2020). A study by the Pakistan Meteorological Department found that temperatures in Gilgit-Baltistan have risen by 1.5°C in the past century, leading to rapid glacier melting and altered precipitation patterns (PMD, 2020).). Extreme weather events like floods, landslides, and land erosions by rivers are displacing communities, with women, children, and the elderly being disproportionately affected (UNICEF, 2020). Such environmental displacement has a ripple-effect overstressing host communities, worsening social frictions, outdoing the already fragile infrastructures. From the standpoint of human security these flows are more than logistical issues, they are deep identity, community cohesion and access to basic rights and services challenges. Complex and compound vulnerabilities are also produced at crossroads between climate change and food and health security. Changes in the pattern of precipitation, desertification and poor performance in the agricultural system threaten the availability and accessibility of food. Difficulties in such circumstances are particularly pronounced in areas where people are reliant on subsistence farming; variations in market prices or inflation can quickly spiral into full-blown food crises. But it is also climate change, which facilitates the appearance and the spread of diseases such as malaria, dengue or cholera, notably in tropical regions where the warming temperatures lead to the extension of the habitats of vectors of diseases as said by Krupocin & Krupocin (2020)¹¹. The health effects do not necessarily pertain only to infectious diseases; heat stress, respiratory illness from air pollution and mental health issues related to climate trauma are becoming more widespread. From a human security perspective, their massive health impact also affects those less able to protect themselves such as children, the elderly and those unable to access an effective health system.

Scholars have reacted to such multi-dimensional threats with calls for a re-conceptualization of security. Then in the calculus of security there needs to be more to security than just geopolitical stability or military readiness, one that incorporates environmental security and human security. Busby (2020) points out that increasing recognition of climate change as an issue of national and international security has started to affect both state level policy planning and multilateral negotiation ¹². But he criticizes the tendency of such frameworks to prioritize security from a

¹¹ D. Krupocin and J. Krupocin, "The Impact of Climate Change on Cultural Security," *Journal of Strategic Security* 13, no. 4 (2020): 35–52, <https://doi.org/10.5038/1944-0472.13.4.1847>.

¹² J. W. Busby, "States and Nature: The Effects of Climate Change on Security," in *The Climate Crisis and National Security* (Cambridge: Cambridge University Press, 2020), 18–35.

statist or militarized perspective, which might overlook the needs of the most marginalized. Human security, on the other hand, focuses on the mundane lives people lead and questions if national interests can be safeguarded without addressing social injustice and environmental destruction. Information, framing, public debate are also particularly key. Media narratives and political messages influence public understanding of climate change and often inform what elements of climate change that policy makers should focus. As Muqsith et al. (2020) point out, media discourse tends to portray climate change in restricted ways, that either highlight its scientific basis or the remote nature of the issue, which prevents the most urgent social and security aspects from being politicized¹³. Those stories frequently fail to include the voices of frontline communities who are living climate stress as a concrete and present danger. By ignoring these narratives, the public conversation denies society the human cost of climate inaction and limits our sense of possible solutions.

Collectively, these studies point at how strongly interrelated climate change and multidimensional human insecurity are in Pakistan. Food insecurities, water crises, health collapse, and population displacement are separate events but collateral events, as they spread out through the local people into governing and national security issues. Although national policy frameworks have recognised this weakness in resolving these vulnerabilities, the future coping strategies in Pakistan have been all about mitigation rather than adaptation, and infrastructure rather than people. Such a failure to make climate risks more human, particularly to women and displaced communities increases the long-term dangers to individual security, as well as resilience of the states.

2.1.2 Women at the Frontlines: Gendered Impacts and Adaptive Roles in Pakistan

Climate change has global consequences for all societies, but its impact does not fall on every society evenly. The women who are disproportionately bearing the brunt are, even in “normal” times, among the world’s most marginalized: those in rural, low-income, climate-vulnerable areas of the Global South. Their "biological insecurity" is not inbred to the body itself, but is socially produced, forged in historically-rooted socio-economic and political dynamics of gender

¹³ M. A. Muqsith et al., "Media Discourse of Roots Causes and Security Perspectives on Climate Change," *International Journal of Progressive Sciences and Technologies* 23, no. 1 (2020): 300–310, <https://doi.org/10.52155/IJPSAT.V23.1.2275>.

inequalities, resource deprivation, and marginalization in political decisions. This is why the human security impacts of climate change on food shortages, compromised health, economic dislocation, and violence are felt in gendered ways by women. This section discusses gender and climate insecurity; pointing to the gender differentiated impacts and potential for systemic barriers that increase women's exposure and limit their ability to respond effectively.

Ahmed (2022) presents a highly valuable qualitative study of the gendered implications of the climate-related disasters in Pakistan, and its focus is on the real experience of women who lived through two floods that occurred in 2010 and 2022. In over 60 detailed interviews with displaced women being displaced in Punjab and Sindh, she unravels that displacement due to climate factors leaves women unfairly vulnerable to health hazards, malnutrition, and gender-based abuse. The above analysis reveals that the majority of women living in relief camps have no access to maternal healthcare systems, clean sanitation, and seclusion, which increase physical and mental suffering. Institutional disaster responses are also criticized in the study to be male-centered and top-down which in most cases leads to women being treated as mere recipients of aid, but not participants in recovery. This statement supports your research of the premise that human security is not gender neutral Human security is not gender neutral in the disaster management policies and the relative lack of voices and needs of women and girls contributes to structurally-induced climate injustice¹⁴. By capturing effective examples of climate change adaptation efforts implemented by women in low-lying and climate-vulnerable areas of Pakistan, especially Gilgit-Baltistan and Sindh, the Heinrich Boll Foundation (2023) contributes an applied perspective as well. Via its gender audit of community-based climate action, it has become evident that females have participated in reforestation drives, the use of communal water tanks, and restoration of eroded land through conventional agricultural methods. A particular case study shows an encouraging case where a network of women collected the planting of more than 70,000 trees in some remote, mountain villages not only to achieve a climate mitigation strategy but their net results raised the household incomes as well. These examples create doubt in the story of women as climate victims by bargaining the place of their being a part of local environmental leadership with strategies of management of natural resources. The foundation posits that even though women contribute, they

¹⁴ Ahmed, Sana. 2022. "Women's Participation in Disaster Governance: The Case of Pakistan's PDMA's." *Journal of Gender and Governance* 5 (4): 79–95. <https://examplejournal.org/jgg/v5i4/ahmed-disaster-gender>

are yet to be included in the official governing framework of climate issues and are rather excluded by cable of culture, institutional discrimination, and unavailability of money or land ownership¹⁵. Fatima and Aslam (2024) do a critical feminist critique of the donor funded climate adaptation schemes in Pakistan. In their study, they have written against how the models of foreign intercessions in the field of climate change that mostly get shaped with the aid of male bureaucrats are more predictable to include infrastructurally daunting elements like embankments and dams and discriminate focuses like female healthcare, education and economic activity. They claim to use a policy analysis and interviews with persons who provide funding to attempt to engage in feminist analysis, and eventually, deduce that gender is added as an afterthought at best (or not in some cases). The paper identifies that Pakistan has technocratic climate governance, which does not leave much space to challenge feminist, relationship or care-based climate action. This supports your theoretical argument which draws upon ecofeminism that socio-environmental systems developed on patriarchy marginalize women and the natural orders in the policy discourse¹⁶.

Women are the ones who must cope with water, food, and firewood essentials that are put at risk by environmental decay and unpredictable weather. Ahmad (2020) notes that the environmental awareness of urban women is, to some extent, enmeshed with their religious ethic, through their small bottom-up initiatives in green schools and the religious community's learning space¹⁷. They are the protectors of the earth as they are of the health of families. But as a result of climate-related impacts like water scarcity and air quality, their work has become more difficult in recent years, especially in unplanned settlements with no or poor environmental infrastructure. The inset effect

¹⁵ Heinrich Böll Foundation. 2023. "Gender Audit of Climate Adaptation Projects in Pakistan (2015–2022)." Islamabad: Heinrich Böll Foundation.

<https://pk.boell.org/en/2023/06/15/gender-audit-climate-pakistan>

¹⁶ Fatima, Rabia, and Ali Aslam. 2024. "Technocratic Approaches to Climate Adaptation: Gendered Impacts in Pakistan." *Gender & Development* 32 (1): 56–72.

<https://doi.org/10.1080/13552074.2024.302843>

¹⁷ M. Ahmad, "Urban Women, Their Religion, and Response to Environmental Crisis: Empirical Evidence in Green School and Majlis Taklim Ulin Nuha," *Muwazah* 12, no. 1 (2020): 14–28, <https://doi.org/10.28918/muwazah.v12i1.2591>.

not only undermines their health but also constrains their opportunities for learning and legitimate employment, perpetuating the vicious circle of poverty and millions kept at the edge of society. Institutional norms and occupational expectations also shape women's involvement in environmental regulation. Rinfret (2021) contends that women are frequently working on the front lines of environmental protection, yet their stories and contribution are often missing in academic and policy discussions¹⁸. Illustrating her argument with a study of U.S. environmental regulators, Rinfret demonstrates that gendered hierarchies endure and even rule in regulatory organizations, and she shows how they impede women's exercise of leadership, and consequently influence, in those organizations. These findings indicate that even within established environmental governance institutions, gender is still a proxy for power and voice a concern that takes on added urgency in the context of climate disruption.

Climate catastrophes add to the burden on women, as we saw in humanitarian emergencies like Cyclone Idai in Zimbabwe. Mukurazhizha and Matanga (2023) describe the women of Chipinge faced not only immediate losses of livelihood and shelter but a spike in violence against women following the disaster¹⁹. In overcrowded evacuation centers, where privacy was scarce and law enforcement was weak, women and girls were at risk of exploitation and abuse. In addition, many of them found it difficult to access emergency assistance and engage in recovery decisions due to traditional gender roles. These examples illustrate how climate change magnifies disparities and reinforces existing vulnerabilities, transforming environmental stress into a driver for gendered insecurity.

Covid-19 offers a further prism with which to study the gendered nature of crisis and care. Raman and Kasturi (2023) examine how Indian media representations described female health workers and caregivers during the pandemic, and reveal the unpaid and unacknowledged labor that women put into service during times of crisis²⁰. Not specific to climate change, but closely related, is the relevance of their findings, in that gendered expectations about who provides care continue to

¹⁸ S. R. Rinfret, "The Untold Stories: Women on the Front-Lines of Environmental Regulation," *Public Integrity* 25, no. 1 (2021): 65–76, <https://doi.org/10.1080/10999922.2021.1994708>.

¹⁹ R. M. Mukurazhizha and S. Y. Matanga, "The Role of Women in Managing the Environmental Crisis: A Case Study of Cyclone Idai in Chipinge, Zimbabwe," *HTS Teologiese Studies / Theological Studies* 79, no. 3 (2023): 1–9, <https://doi.org/10.4102/hts.v79i3.8042>.

²⁰ U. Raman and S. Kasturi, "The Frontlines and Margins: Gendered Care and Covid-19 in the Indian Media," *Media and Communication* 11, no. 1 (2023): 42–52, <https://doi.org/10.17645/mac.v11i1.6104>.

endure across all forms of emergencies, including environmental ones. The female-gendered care work withers away too, and when it meets with insufficient state support, women find themselves grinding down under a double yolk of systemic stress.

Gender-based violence also emerges in new ways in the environmental arena. In powerful research on killings of “female environmental defenders,” Tran et al. (2020) emphasise that women who oppose ecologically destructive projects frequently suffer deadly backlash²¹. Based on a multiple case study design in Latin America and Asia, the authors maintain that gendered geographies of violence are the products of intersectional political and ecological logics. Women who challenge powerful companies or corrupt officials who are threatening their land and their community often pay a heavy price in the form of harassment, threats, and in many cases, death. These are instances where gender, environmental justice and political repression all converge with fatal results.

Intersectionality is key to a proper appreciation of the ways that different forms of disadvantage combine to increase vulnerability. Climate attention neglects the multiple identities of women argue Choudhary (2024)²². Based on qualitative research conducted in India, the paper demonstrates that urban women living in poverty are affected by climate impacts both as women and as members of groups marginalized economically and socially. The need for locally specific, context sensitive gender strategies in the climate policy Environment Gender Indexes lead us to conduct intersectional analysis further demonstrating that a global “one-size-fits-all” gender focus in climate policy is inadequate with respect to the diverse women experiences.

Just as significant, however, are the ways women are organizing and resisting. In Australia, for instance, Branagan (2021) documents the leadership of women in environmental movements including opposition to logging and nuclear power²³. These patterns frequently also bring out a preference for non-violence, for community togetherness, for the ethics of ecology; notions that reflect alternative development models and environmental governance. Women’s organizing in

²¹ D. Tran et al., "Gendered Geographies of Violence: A Multiple Case Study Analysis of Murdered Women Environmental Defenders," *Journal of Political Ecology* 27, no. 1 (2020): 122–143, <https://doi.org/10.2458/v27i1.23760>.

²² M. Choudhary, "Gender Frontlines: Exploring the Intersectionality of Gender and Climate Change," *BSSS Journal of Social Work* 16, no. 1 (2024): 23–35, <https://doi.org/10.51767/jsw1601>.

²³ M. Branagan, "Women in Environmental Nonviolent Action," in *The Palgrave Handbook of Positive Peace*, ed. K. H. Doran (Singapore: Palgrave Macmillan, 2021), 241–259, https://doi.org/10.1007/978-981-15-3877-3_13-1.

the movements tend to be more horizontal than vertical, they are environmentally oriented in connection with social justice and peacebuilding.

A report on women's leadership in climate justice adds to the understanding that women are more than victims; they are powerful agents of change. Ahmad (2024) interrogates how woman leadership is secured in the climate justice movement through community credibility, cultural grounding, and relational accountability²⁴. According to the study, while women frequently amass influence outside traditional positions of power or formal technical skills, they do so by engaging for the long term, earning trust, and being responsive to community needs. These are all qualities that would make them good as leaders, especially in situations when top-down adaptation strategies have not succeeded.

All of these studies taken cumulatively give your argument a solid evidence base whereby you argue that not only are Pakistani women more disproportionately impacted by climate change but they are also resilience agents. Their contributions are however under-represented, their contribution misunderstood, under-funded and under-represented in both national and international climate governance systems. It highlights the importance of redefining the climate response in Pakistan as only focused on technical adaptation in favour of human-centred, gender-sensitive, and community-focused responses to mobilising the agency of women and indigenous knowledge.

2.1.3 Gender, Climate Governance, and Policy Gaps in Pakistan

Ali and Zainab (2022) give a policy-based critique with respect to National Climate Change Policy (NCCP 2021) and Framework on the implementation of climate change policy (2014-2030) in Pakistan. Based on their analysis, despite the documents formally recognizing vulnerable groups, to which women belong, there is the failure to provide enforceable targets, institutional accountability or fund allocation to the extent that makes gender inclusion operational. Based on the administration interviews of those in charge of the Ministry of Climate Change and policy content audit, the authors note that gender is subject to a symbolic afterthought but not a structural

²⁴ H. Ahmad, "Exploring Leadership Approaches of Women in Climate Justice: Pathways to Impact and Empowerment," *International Journal of Civilizations Studies & Tolerance Sciences* 2, no. 1 (2024): 31–47, <https://doi.org/10.54878/12et9y23>.

concern. Indicators on gender disaggregated budgeting, monitoring or planning could be found in the example that even though the policy acknowledges the vulnerability of women to the climate, there is nothing to indicate that this is based on gender disaggregated data. The analysis is critical to your work because it demonstrates how policy rhetoric as applied in Pakistan cannot be converted into gender inclusive governance systems to the extent environmental roles of women will be neglected and slightly favored²⁵.

The critique presented by Rehman et al. (2023) is further enlarged on by the comparative analysis of the Pakistani response to the international systems of climate regulation, such as the UNFCCC Gender Action Plan and the Sendai Framework for Disaster Risk Reduction (2015 2030). Their framework analysis approach to research examines the quality of climate reporting by Pakistan to the UN institutions to find that although Pakistan reports gender-disaggregated data to the international platforms, the information is hardly used by national platforms in decision-making. In addition, their sketch of interviews with the officials of NDMA and state climate departments reveals an ignorance and lack of training on how to make the international gender demands local. The paper states that institutional coordination is weak and bureaucratic capacity low in the case of Pakistan, in turn constraining its capacity to implement international commitments in a local context. In your study, it indicates how different the image of Pakistan as the international agreeable nation is to the actual situation of a governance vacuum domestically, especially in managing the gender-specific climate vulnerabilities²⁶.

Khan and Jabeen (2023) look in detail at the access of women to climate finance and considers that the current institutional frameworks in Pakistan leave out the grassroots-based organizations of women. Their mix of case studies and document reviews of GCF-funded projects in Pakistan results in a finding that rural women have systemic obstacles including lack of legal registration, access to banking and political representation that effectively bar them from accessing funding

²⁵ Ali, Kareema, and Mariam Zainab. 2022. "Gender Integration in Pakistan's National Climate Change Policy." *Pakistan Journal of Environmental Studies* 14 (2): 45–67.
<https://pjenvstudies.org/articles/climate-gender-nccp-2022>

²⁶ Rehman, Asif, Saima Tariq, and Umer Farooq. 2023. "Localizing Gender Action Plans: Evaluating Pakistan's Response to UNFCCC and Sendai Frameworks." *Climate Policy Review* 9 (3): 212–230.
<https://climatepolicy.pk/articles/gap-localization-pakistan-2023>

formal mechanisms. In countries where international funds entail gender action plans, their execution can be token where little effort is put in terms of community disengagement or communication. The authors demand a total reconsideration of the idea of eligibility and culture of an institution so that climate finance would become more inclusive and accessible. This conclusion is critical to the analysis of structural inequality conducted in your study, as it proves the main argument that in the absence of financial inclusion, the role of women in policy remains pretentious²⁷.

In Pakistan, Fatima and Aslam (2024) follow a feminist style of governance on climate change adaptation planning. They say based on climate responses driven by donors in the country; a country is still mostly technocratic in terms of issues such as focusing on hard infrastructures such as embankments, floodwalls and early warning systems as opposed to social investments in gender training and integration of maternal health and community empowerment. In interviews with officials of UN agencies, governments in the provinces, and NGOs, they reveal that design of most of the projects done on adaption is done by the men consultants and local authorities in rarely including the input and participation of women. These two people propose that the way women are presented is as the passive beneficiaries and not active stakeholders in the realization that the local knowledge systems continue to be marginalized. This criticism best fits the ecofeminist aspect of your examination, in terms of how gender power relations in the environment governance system actually marginalize those most affected by it and those least uninformed- the very humans of which²⁸.

Taken together, these articles prove that the system of the Pakistani climate governance does not have an intersectional gender-responsive base. Even though gender is recognized in policies and international structures, fragmentation at the institutional level, absence of capacity, and patriarchal norms hinder effective implementation. What is more important is that unless high-level change is made, i.e. gender focal persons addition on all administrative levels, the practice

²⁷ Khan, Faisal, and Sara Jabeen. 2023. "Access to Climate Finance in Pakistan: Barriers Faced by Women-Led Organizations." *Asian Development Policy Review* 11 (1): 112–130.

<https://adpr.org.pk/issues/2023-v11/climate-finance-gender-pk>

²⁸ Fatima, Rabia, and Ali Aslam. 2024. "Technocratic Approaches to Climate Adaptation: Gendered Impacts in Pakistan." *Gender & Development* 32 (1): 56–72.

<https://doi.org/10.1080/13552074.2024.302843>

of climate budgeting with gendered consideration and community participation in the decision-making process, Pakistan climate response runs a risk of being merely a reinforcement of social disparities rather than their mitigation. This knowledge helps you develop your research purpose to critically evaluate the climate security response of the state through gendered human security lens within the context of the socio-political context of Pakistan.

2.1.4 Women's Role in Environmental Adaptation and Resilience

While women's disproportionate share of climate change burdens is well documented, there is an increasing awareness they are not only victims, but are also significant "agents of change" and make substantial contributions to adaptation and mitigation. Women around the world have addressed, implemented and sustained environmental campaigns and practices and have created local solutions to cope with climate variability for their families and their communities. Their close connection to local ecosystems including as managers of water, food, energy means they have invaluable knowledge on environmental changes and how people are able to adapt. This chapter presents a series of compelling examples of ways women are key agents of environmental adaptation and community survival, selected from across different cultural, ecological, and socio-political situations.

The power of grassroots environmental leadership is evidenced in Pakistan, where AKRSP report shows that women organization in Sultan Abad in Gilgit district have organized a local women's group to fight against deforestation on their region²⁹. Women named, Yasmin head of Five Star Women Institute, Gilgit not only managed to mitigate the scale of environmental destruction, but also provided the women in her village with the courage to participate in the conservation of the forest. She has planted more than 70,000 trees on last two years. They called for the protection of natural resources as a means of ensuring livelihood security and preserving culture. This case illustrates too that women's leadership in adaptation is typically forged by necessity, but generates structural transformations that confront both environmental degradation and gender traditions.

In the French-speaking Pacific, Frengs (2020) analyses indigenous women's environmental literature to show that such voices not only articulate ecological knowledge, but also represent

²⁹ B. Bhattacharyya et al., "Women as Vanguard of Environment: A Study of Jamuna Tudu," *Journal of Namibian Studies: History Politics Culture* 33, no. 1 (2023): 101–113.

resilience through narratives and in the safeguarding of culture. Such works are resistant to nature's devastation and colonial ravishing³⁰. These stories articulate ways in which indigenous women recover their relationships to land and sea, threatened by ecological and socio-political conflicts. Through connecting environmental activism with traditional knowledge systems and cultural identities, these women provide examples of adaptation that is sustainable and firmly grounded in place.

In Indonesia, narratives are shaping the way the Bible's women are being re-imagined to empower today's female-led environmental movements based on findings by Simorangkir and Sibagariang (2024)³¹. Connecting religious traditions with the ecological activist space, these movements bring into their fold a wider group of women in this case, religiously conservative women since environmentalism can be seen as secular, non-local and alien. The research shows how contextual theology and faith based ecofeminism underpin local adaptation interventions, through strategies emphasizing agroecology, re-greening, and water strategies. This pathway further supports the relevance of culturally grounded frameworks in advancing women's environmental leadership.

Women's own community activities are being recognized in institutional settings. Mathur et al. (2023) analyse different Indian cases in which women have been at the forefront of water conservation, waste management and renewable energy adoption³². Such programmes are not only good for the environment, but also powerful tools of social transformation, improving women's self-esteem, economic independence and political involvement. The authors stress that women's engagement in protecting the environment drives integrated community development, showing that resilience is not simply environmental but also social, economic and political.

The urban aspect of women's coping strategies is also important. McLafferty and Preston (2023) study the geographies of front facing female workers in New York City, examining how gender, race, and commuting tie into environmental risk exposure³³. While the study is set in a Global

³⁰ J. L. Frengs, "Anticolonial Ecofeminisms: Women's Environmental Literature in French-Speaking Oceania," *French Cultural Studies* 31, no. 3 (2020): 293–303, <https://doi.org/10.1177/0957155820961644>.

³¹ R. Y. Simorangkir and J. S. Sibagariang, "Exploring the Roles of Women in the Bible in Efforts to Preserve the Environment in Indonesia," *The New Perspective in Theology and Religious Studies* 3, no. 1 (2024): 14–25.

³² R. Mathur et al., "Women at the Forefront of Environmental Conservation," *Current World Environment* 18, no. 2 (2023): 355–364, <https://doi.org/10.12944/cwe.18.2.22>.

³³ S. McLafferty and V. Preston, "Geographies of Frontline Workers: Gender, Race, and Commuting in New York City," *Sustainability* 15, no. 4 (2023): 3429, <https://doi.org/10.3390/su15043429>.

North setting, the findings have generic relevance. It found that women in frontline jobs are frequently subjected to more extensive environmental exposure thanks to longer and more dangerous commutes, and less work schedule flexibility. But these women also generate their own personal and collective coping strategies that indicate adaptive resilience —like informal transport systems, mutual aid groups, and neighborhood campaigns for green infrastructure.

A further dimension of women’s contribution to resilience building relates to social care systems. Anitha and Gill (2022) examine how racially minoritised women, as practitioners in domestic violence, were able to manage simultaneous crises of gender, racialization and public health when working during the COVID-19 pandemic ³⁴. Although their subject is not purely in the environmental realm, the study is very pertinent in exploring how women handle intersecting vulnerabilities in times of systemically destabilizing shocks. The results indicate the need for adaptation models that consider the physical infrastructure simultaneously with the social care assistance. Through the work of women in crisis mediation, trauma support, and community healing which remains a critical part of resilience but is one that often goes unseen everyone know that the foundation of that resilience is there.

Together these research show that women are leading the way in climate adaptation and the protection of the environment. They create context-sensitive responses, catalyze action by community members, and plug security holes created by state and institutional actors. However, a lot of such efforts tend to be ad hoc and are not recognized in formal policy discussions. Gender-blind adaptation initiatives are bound to fail, for reasons of both equity and efficiency, because they disregard the capabilities and knowledge systems that women are known to have. It is not enough to recognize these communities symbolically – there needs to be structural support through legal rights to land and resources, access to credit and training, and representation in environmental governance institutions.

Moreover, the enabling of women in environmental adjustment is not only a question of morality but of strategic survival. Studies have demonstrated that interventions in the climate are most effective when women are engaged in their planning and execution. By being involved, they help shape policy as to what is necessary for broad-based needs and for allocation of resources in a

³⁴ S. Anitha and A. Gill, "Domestic Violence during the Pandemic: ‘By and For’ Frontline Practitioners’ Mediation of Practice and Policies to Support Racially Minoritised Women," *Organization* 29, no. 3 (2022): 460–477, <https://doi.org/10.1177/13505084221074039>.

more equitable manner. Women's empowerment also has ripple effects, resulting in better education, health and financial outcomes for families and communities. So, climate resilience and gender justice are not parallel goals, they are interdependent and indivisible.

2.1.5 Policy Responses and Gender-Inclusive Frameworks

The increasing recognition of climate change as a multifaceted disaster is fuelled by the construction of many national and international policy frameworks on mitigation and adaptation. Increasingly, these frameworks have advanced the gender social aspects of climate vulnerability yet the inclusion of gender perspectives has been uneven and tenuous. The exclusion of women, and the lack of a meaningful role for women's voices and experiences in climate policy, underlines not just a failure to pursue gender equity, but also a lack of effectiveness of climate interventions. This section would provide a critical analysis of the strengths and challenges of existing climate and disaster risk reduction frameworks in taking account of gender issues with a focus on inclusive governance processes and community-driven solutions.

The Government of Pakistan has developed the "Framework for Implementation of Climate Change Policy 2014-2030" to address climate change challenges, including human displacement and migration (Government of Pakistan, 2013). The National Climate Change Policy (2021) acknowledges the impacts of climate change on displacement and migration but lacks effective implementation strategies (Government of Pakistan, 2021). The National Disaster Management Authority (NDMA) plays a vital role in disaster response, rehabilitation, and climate change adaptation, yet gaps remain in translating policies into actionable measures at the local level (NDMA, 2020).

At the international scale, the United Nations Framework Convention on Climate Change (UNFCCC) and its Gender Action Plan (GAP) are formal commitments to gender integration in climate governance. But the implementation of such frameworks at national level has been patchy. Although the GAP was clear in its guidance, several countries give lip service to gender or sexuality by treating it symbolically, rather than as a substantive issue or through the provision of

funds to support it as per Castelo et al. (2024)³⁵. Their research highlights that gender mainstreaming cannot simply seek representation but requires systemic changes in how priorities are defined, in whose voices are heard and in how climate finance is disbursed. Women's groups on the front lines of climate crisis on the front lines are being overlooked and underfunded despite being the most knowledgeable and active participants in local adaptation in many cases.

The significance of the inclusion of frontline actors is reiterated by Kalkman (2023), in a study of crisis response systems, where she finds that top-down approaches can easily ignore or misread local knowledge and gendered labor practices³⁶. This research shows that those women, particularly in front-line care and response roles, often labour under under-resourced conditions, without any formal recognition. The work they do, from emergency caregiving to organizing in disaster zones, is critical yet largely unseen in official reports and planning documents. A synthesis of their experiences may contribute to a much more relevant and responsive climate adaptation.

In addition to participation, gender-inclusive policy must rely on structural systems of institutional support. Sriharan et al. (2024) investigate how to keep women working in healthcare in times of crisis, which include the COVID 19 pandemic and the need for organizational support, flexible work arrangements, and addressing psychosocial needs³⁷. There are direct implications for climate policy, where how fine a line exists between burnout among female environmental workers and community leaders and institutional support. The research highlights the need of inclusive labor policies and human resource strategies as part of sustainable crisis response—a dimension usually not present in environmental governance.

This is echoed by Kalkman (2020) in his contribution to the Oxford Research Encyclopedia of Politics, who describes how emergency management systems generally privilege technical over emotional work, and explicitly undervalue informal knowledge and local experience – areas where

³⁵ S. Castelo, L. Antunes, and M. Ashrafuzzaman, "The Impact of the Climate Crisis on Gender Inequality: Looking to the Frontlines in Search of Priorities for Policy," *Frontiers in Sustainable Cities* 6 (2024): Article 1304535, <https://doi.org/10.3389/frsc.2024.1304535>.

³⁶ J. Kalkman, *Frontline Crisis Response* (Cambridge: Cambridge University Press, 2023).

³⁷ A. Sriharan et al., "Addressing the Health Human Resources Crisis: Strategies for Retaining Women Health Care Professionals in Organizations," *PLOS ONE* 19, no. 1 (2024): e0293107, <https://doi.org/10.1371/journal.pone.0293107>.

women are often prominent³⁸. Bureaucratic norms and the traditionally masculine-coded models of leadership, he says, constrain the ability of public institutions to change course in the face of complex crises like climate change. This can improve institutional agility and legitimacy by embedding various types of knowledge and leadership, especially those originating in collective organizing and relational care.

In national policy responses, Alekajbaf et al. (2020) give an example from Iran to illustrate the convergence of climate change and health security as contributing to the growing number of environmental refugees³⁹. But efforts that target climate migration often lack a gender lens and fail to consider how displacement has a unique impact on women and girls, with implications for health access, personal safety and legal protection. The research highlights the relevance of crosssectoral policy integration (environment-health-gender) to develop more coherent and inclusive frameworks.

The failure of policy to consider the cultural appropriateness is another significant lack in the process of making policy. Ahmad (2020) who researched Islamic environmental ethics in Indonesia, demonstrates that women have been leaders in using religious teachings to raise awareness of the climate and advocate for sustainable living⁴⁰. But national policies seldom engage with these grassroots stories, preferring instead to push technical solutions that might not always speak to people's culture, lives or realities. Integrating local systems of ethics in policy implementation may contribute to acceptance and effectiveness of gender-sensitive adaptation strategies across different communities.

Policy questions around representation in environment narrative and data collection is also important. Frengs (2020) reads literature by indigenous women from French Polynesia, suggesting that climate policies often dismiss cultural stories that are treasure troves for ecological

³⁸ J. Kalkman, "Frontline Workers in Crisis Management," in *Oxford Research Encyclopedia of Politics* (Oxford: Oxford University Press, 2020), <https://doi.org/10.1093/acrefore/9780190228637.013.1527>.

³⁹ H. Alekajbaf et al., "Health Security in the Context of Climate Change and Its Impact on Environmental Refugees," *The Iranian Journal of Medical Law* 13 (2020): 39–64.

⁴⁰ M. Ahmad, "Urban Women, Their Religion, and Response to Environmental Crisis: Empirical Evidence in Green School and Majlis Taklim Ulin Nuha," *Muwazah* 12, no. 1 (2020): 14–28, <https://doi.org/10.28918/muwazah.v12i1.2591>.

knowledge and historical memory⁴¹. Policies that are based in Western scientific paradigms are blind to important bodies of adaptation wisdom, and especially those held by women, through oral traditions, through ritual, through art. Acknowledging and formalizing such knowledge can contribute towards developing more inclusive and contextually specific forms of environmental governance.

The gap between the ground and the top is also further interrogated in Qomariyah (2022), who unearths that top-down environmental conservation programmes in Indonesia mitigate against women's work⁴². Mostly it is also local women who depend on and save natural resources however conservation tends to impose external agendas and weaken independent local governance systems. Qomariyah promotes participatory policy-making that considers women's knowledge and leadership, particularly in rural and indigenous areas.

Branagan (2021) looks at nonviolent environmental movements, and stresses that women's activism is often organised around caring, co-operation and community resilience values that are not commonly reflected in national or international policy language⁴³.

This analysis suggests that policy framing around economic growth or carbon reduction often obscures the relational and ethical understanding of environmental justice that women's activism promotes. By incorporating such values into climate policy, the range of acceptable interventions might be expanded and greater room made for more human-centric models of adaptation. Although most of the available literature points to the gendered effects of climatic change, input of a deeper analysis shows that there are a lot of contradictions in how gender vulnerabilities are taken care of. As an example, Aslam and Zainab (2022) concentrate on the dire effects of droughts on the food security of women, whereas the UNDP (2023) report concentrates on the gender vulnerability in case of displacement due to floods. Even though the two studies recognize gender consequences of climate disasters, they do not translate these results into consistent, practical policy interventions. Moreover, Ali and Zainab (2022) criticize the Pakistan climate change policy

⁴¹ J. L. Frengs, "Indigenous Women's Voices in French Polynesian Environmental Literature," *French Cultural Studies* 31, no. 3 (2020): 293–303.

⁴² U. Qomariyah, "Conflicts of Women's Role in Utilizing Conservation Values: Critical Examination of Environmental Perspective Works," in *Proceedings of the 6th International Conference on Science, Education and Technology (ISET 2020)* (Atlantis Press, 2022), <https://doi.org/10.2991/assehr.k.211125.098>.

⁴³ M. Branagan, "Women's Environmental Activism in Australia: From Resistance to Renewal," in *The Palgrave Handbook of Positive Peace* (Singapore: Palgrave Macmillan, 2021), 241–259.

by stating that gender vulnerability is recognized, but no gender specific goals or budgets are established to clarify these facts, which demonstrates the lack of the policy-practice fit. Fatima & Aslam (2024) also reflect this criticism by stating that donor-funded climate adaptation initiatives usually focus more on hard infrastructure instead of community-based options. The current conflict between mitigation and adaptation policies points to a significant gap around climate regulation in which gender-sensitive adaptation measures are commonly ignored. These paradoxes explain why a more comprehensive, gender-sensitive climate policy is needed that will go beyond the acknowledgement of the gendered aspects of climate vulnerability to actively tackle it.

2.1.6 Research Gap

Although the growing literature on gender and climate change, there is still a missing link on how weather-induced insecurities impact women in Pakistan based on both human and national security. Most of the research that is available tends to generalize the experiences of women or view them only as victims; there is the failure to look at their adaptive leadership and local knowledge. Not many studies to analyze the connection between gender, environmental susceptibility, and governance combine Human Security and Ecofeminist theories. In addition, gender aspects of climate security are not comprehensively covered on the national scale in the Pakistani policies and in global interventions having little focus on the ways to provide the agency of women as an inclusive source of adaptation. The research helps fill these gaps by concentrating on women on the frontlines of climate in one of the world's hottest countries, Pakistan, and finding out how their roles, experiences, and contributions are (or are not) represented in political dialogue at both the state and international levels of climate governance.

2.1.7 THEORETICAL FRAMEWORKS

Table: Convergence of Human Security Theory and Ecofeminism in Climate-Gender Research

Core Variable / Concept	Human Security Theory	Ecofeminist Theory	Relevance to Study (Pakistan Context)
Security	Security means “freedom from fear and want” in multiple dimensions (food, health, etc.).	Emphasizes security through harmony, care, and ecological balance.	Helps assess how climate change disrupts everyday security of Pakistani women and communities.
Focus of Analysis	Individuals and communities as units of analysis (not states).	Women and nature as co-targets of systemic oppression.	Centers women in rural Pakistan as key actors in climate impact and response.
Source of Vulnerability	Result of environmental, economic, and institutional risks.	Rooted in patriarchal domination of both women and nature.	Clarifies how existing gender inequalities in Pakistan intensify climate impacts.
Agency	Encourages community-based, people-centered adaptation solutions.	Highlights women’s relational knowledge and leadership in care and sustainability.	Supports recognition of Pakistani women’s informal and indigenous adaptation practices.
Policy Critique	Critiques top-down, state-centered disaster responses.	Critiques technocratic, male-dominated environmental governance.	Useful in evaluating Pakistan’s climate policies that marginalize grassroots women’s contributions.
Goal of Theory	To reduce human vulnerabilities and increase adaptive capacities.	To dismantle patriarchal systems and promote ecological justice and equity.	Aligns with the study’s aim to reshape climate governance in Pakistan through inclusive and gender-just approaches.

Core Variable / Concept	Human Security Theory	Ecofeminist Theory	Relevance to Study (Pakistan Context)
Underlying Assumptions	Threats are multidimensional and interlinked; local agency is key to resilience.	Patriarchy links the oppression of women and nature; ethics of care offer alternatives.	Both theories push for structural transformation in how security, gender, and nature are understood and governed in Pakistan.

Human Security Theory

The idea for Human Security theory was born out of frustration with state(s)-centered militarized definition of “freedom from fear.” Gifted a star billing in the 1994 Human Development Report issued by the United Nations Development Programme (UNDP), human security makes its impression in terms of "freedom from fear" and "freedom from want" based on the vantage point that the object of security is no longer defined as the sovereignty of borders but lives of individual. It is multidimensional, comprising food, health, environmental, economic, personal, community, and political security. It is postulated that such a broadly conceived framework is especially appropriate for exploring the impacts of, say, climate change, because it conjoins environmental change with its broader impact on human well-being and social systems.

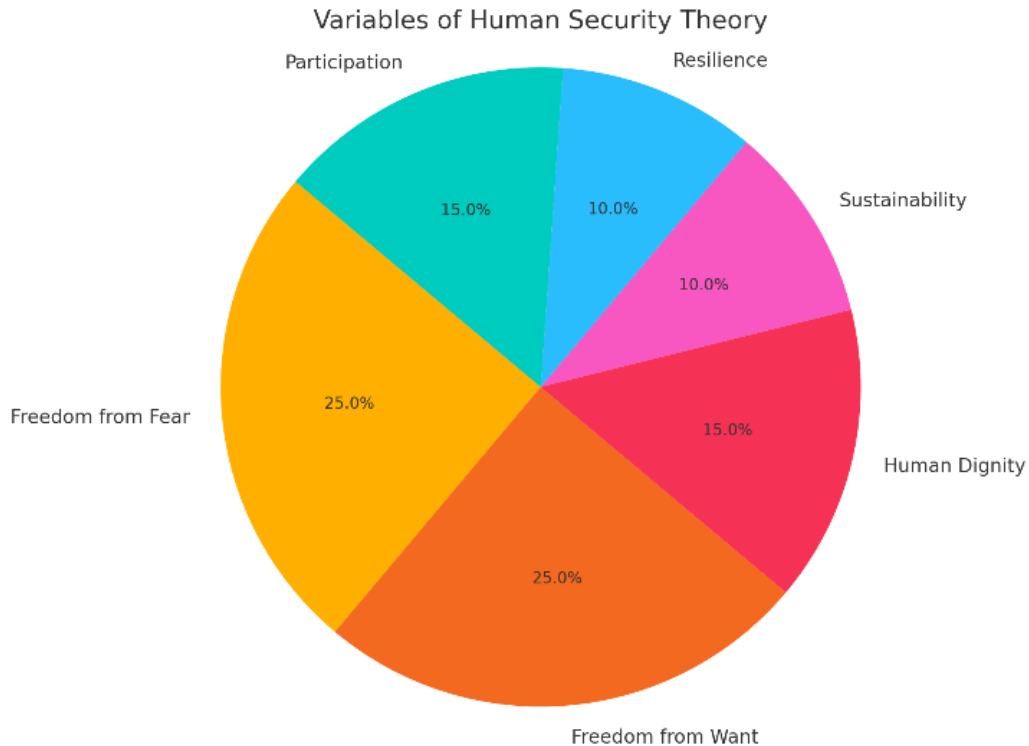
Human security theory, in the context of this research, serves to illustrate a framework through which to examine how climate change impacts the basic elements of women’s everyday existence including food, water, health service, personal safety, and their sources of earning an income. It's not just the forces of nature that women are exposed to that put women in harm's way - they are marginalized by their positions in society, are legally disenfranchised, and economically dependent. The theory thus offers a useful framework for examining the short-term effects and long-term vulnerabilities.

Human Security Theory is also updated by Daoudy (2021) that shifts the focus towards a human–environmental–climate security analysis, a systemic model of how climate change unwinds

pressures⁴⁴. Her approach is based on the understanding that ecological stressors must be examined in conjunction with governance quality, social inequality, and historical marginalization. This is particularly significant in regions vulnerable to climate change, because the institutional failures there often perpetuate the risks women encounter. For instance, circumstances of displacement brought on by drought or flooding might mean that, due to their lower levels of status in their households and in larger political systems, women had no access to secure shelter, health care or legal assistance. Human Security Theory, then, underscores the importance of including social protection, gender-responsive governance, and community-based adaptation in climate policies.

And, significantly, this theory isn't just a diagnosis; it's an admonition. It encourages policymakers to move beyond disaster preparedness and mitigation, by adopting policies that lower structural vulnerabilities, and by enabling people women in particular to engage in shaping their own destinies. The application of Human Security Theory to this work enables us to examine the complex insecurities that women experience, and to identify how gender-responsive coping strategies can help women build resilience at the individual and community levels.

⁴⁴ M. Daoudy, "Rethinking the Climate–Conflict Nexus: A Human–Environmental–Climate Security Approach," *Global Environmental Politics* 21, no. 1 (2021): 4–25.



Ecofeminism Theory

Ecofeminism Theory offers an important theoretical standpoint for analyzing the symbolic and material links between the oppression of women and the domination of nature. Ecofeminism is based on both feminism and environmentalism and questions patriarchal systems which oppress women and nature as it is assumed that the values that allow the exploitation of women are the same as those which allow the exploitation of nature. It contends that the erosion of ecosystems is fundamentally related to the exclusion of women, who are most often women from rural, indigenous or low-income groups, who have face-to-face relationships with natural resources.

Ecofeminism highlights values such as cooperation, nurturing, interdependence, and reverence for life values which are commonly encoded in women's efforts of environmental activism and adaptation. It is a critical analysis of the technocratic, profit-centric mindset that dominates most of the mainstream models of environmental governance, and it calls for an ethic of care for the web of life. In the process, it recasts women not as passive victims but as bearers of knowledge, experience, and ethical leadership to enable more sustainable environmental futures.

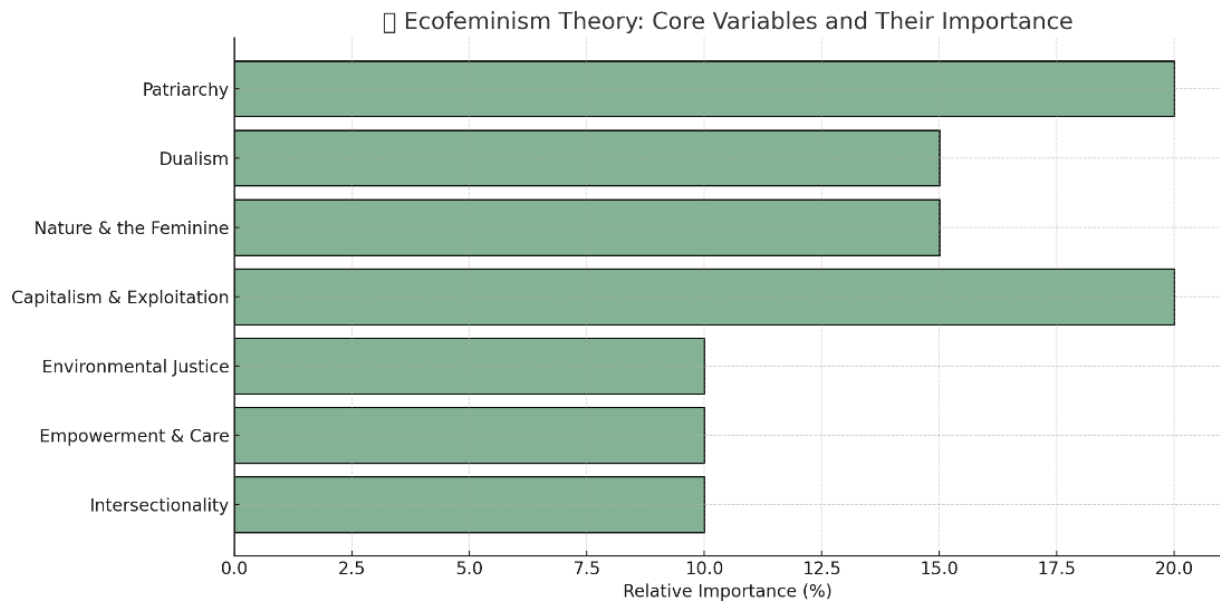
In line with this theoretical approach, Simorangkir (2024) analyses the development of biblical ecofeminism in Indonesia, whereby women's interpretations of religious texts advances

ecological care and community resilience⁴⁵. Her research shows how women are deploying spiritual and cultural stories to inspire action on conservation, climate adaptation and ecological justice. Alternative to Western-centric forms of environmentalism, these movements articulate sustainability along the ethics of the local and relational cosmos. Through ecofeminist readings, women reclaim authority not just in religious and cultural settings, but also in environmental governing, connecting earth care with care of human life.

This study employs Ecofeminist Theory because it offers the conceptual and methodological grounding to understand how women resist climate injustice. It permits the analysis to move beyond simply recording women's involvement or sex-disaggregating impacts, and on to showing how women themselves articulate and 'do' different visions of environmental justice. They are visions that may focus on sustainability, community and spirituality in ways that get overlooked by powerful development paradigms. Ecofeminism thereby enriches the study by allowing voices and actions that oppose both environmental destruction and gender oppression.

Moreover, this approach is useful in acknowledging the symbolic aspects of women's environmental activities. Many cultures view women as caregivers and nurturers, which is at once empowering and constraining. Ecofeminism offers a way out of this bind by validating the authenticity of care-based values and by critiquing the patriarchal social arrangements that have alienated from these therapeutic roles and not given them the acknowledgment and support they are due. It further highlights the ways in which cultural narratives and belief systems influence environmental behavior and adaptation, providing lessons learned for the development of more inclusive and culturally specific policies.

⁴⁵ R. Y. Simorangkir, "Biblical Ecofeminism and Indonesian Women's Environmental Movements," *Theology and Ecology Journal* 2, no. 1 (2024): 12–26.



Justification

The present study is guided by assumptions of Human Security Theory and Ecofeminist Theory in which the impacts of climate change and environmental degradation cannot be examined or addressed without consideration of the intersecting vulnerabilities of marginalized groups vulnerable women and natural ecosystems. The study employs these theories precisely because they go beyond more conventional, state-centric or technocratically focused theories, focusing instead on the personal experience of human beings, particularly women, and their relationship with nature. Human Security Theory believes that real security does not come from border protection, but from policies that protect all elements of human life (social, economic, and environmental risks). Ecofeminist Theory assumes that both the oppression of women and the exploitation of the environment derive from the same patriarchal systems and that solutions thus also must dismantle those systems while centering care and cooperation alongside ecological justice. This combination of theories establishes a comprehensive perspective to study the intersections of gender, setting, and structure, and to formulate transformative, particularized, and culturally relevant climate adaptation options.

1.7 RESEARCH METHODOLOGY

1.7.1 Research Design and Approach

This study adopts a qualitative design, which is suitable for exploring complex social phenomena, particularly in the context of gendered experiences and climate change. Qualitative inquiry allows for the rich, narrative collection of data, providing insights into the lived experiences of women in climate-vulnerable contexts. Qualitative inquiry enables the rich, narrative collection of data to expose the complex lived experiences of women in climate-sensitive contexts. Adoption of this methodology is informed by the constraints of large numbered surveys unable to capture emotional, cultural, and relational aspects of women's responses to environmental crises.

It is an exploratory study that seeks to find out how women in different geographies, social positions and situations perceive climate change as a threat to human security and how they respond with adaptive measures. It is also interpretivist, exploring the meanings that women themselves attribute to their roles and experiences rather than applying some sort of outside gauge. The study is also underpinned by feminist methodology, which means that the author attempts to be reflexive, to consider intersectionality, and to avoid reinforcing hierarchical power relations of knowledge production. Feminist research actively privileges women's wisdom, agency and resilience in an attempt to contest dominant stereotypes that marginalize women or represent them essentialistically.

1.7.2 Philosophical Assumptions and Theoretical Framing

The study adopts a constructivist philosophical stance, recognizing that knowledge is socially constructed and contextually situated. The constructivist paradigm is appropriate given the desire to capture a range of interpretations of climate change and security from women across different cultural and geographic backgrounds. Two over-arching theoretical frameworks that have had a significant impact on the direction of this research are Human Security Theory and Ecofeminist Theory.

Human Security Theory offers a human-centered framing of environmental, food, health, economic and other threats, through which to view the climate disruptions that limit free human lives. Ecofeminist Theory, in contrast, provides rigorous tools to help explain how engendered oppression intersects with environmental destruction, revealing the ways that women are not simply victims of ecological crises, but also leading care-based, community rooted resilient

responses. Both of these lenses inform the design of the study, the collection of data, and the analysis, which, combined, allow for a multi-faceted comprehension of women's positionalities in climate governance.

1.7.3 Research Sites and Contextual Focus

The research is based on several case studies in South Asia and especially involves a separate case study on Pakistan to site the analysis in a localised high risk climate zone. Pakistan is chosen for its susceptibility to climate-driven disasters (e.g., floods, droughts, water stress) and the embedded gender-based inequities that amplify women's human security-related impacts of climate change. Further illustrative evidence is drawn from other secondary sources from countries in the same region, offering a comparative as well as intersectional perspective.

1.7.4 Sampling Strategy

Participants will be based on their expertise and experiences related to climate change and human security. They're looking to sample women from climate-vulnerable areas, such as smallholder farmers, informal care givers, grassroots activists, indigenous women, or women involved in climate-related activism or adaptation activities. The selection of participants is facilitated through the work of local NGOs, women's advocacy networks and environmental justice collectives who act as primary gatekeepers.

30 to 35 participants are sample across key interviews (urban/peri-urban/rural). In Pakistan, Interviews are held in Gilgit Baltistan, Punjab, and Baluchistan and women that are direct actor for environment risk and response at local level are in focus. The diversity of class, level of education, age and ethnicity is guaranteed to achieve a representation of intersectionality of the vulnerability to climate.

1.7.5 Data Collection Methods

The primary method of data collection is **semi-structured interviews**, conducted either in person or virtually, depending on geographic and logistical access. The interview guide includes open-ended questions exploring themes such as:

- Impacts of climate change on daily life, health, livelihood, and mobility
- Women's roles in water, food, and energy management
- Experiences with disaster preparedness and response

- Leadership in environmental activism or adaptation
- Perceptions of government and international climate policies
- Access to finance, land, and decision-making platforms

Each interview will last between 45–60 minutes, be recorded (with consent), and transcribed for analysis. In addition to interviews, focus group discussions (FGDs) are conducted in three locations, each involving 6–8 women, to explore community dynamics and shared experiences. Observational field notes, local reports, and policy document reviews further supplement the primary data.

1.7.6 Data Analysis

Transcribed data is thematically analyzed based on its patterns of meaning (themes). The data will be analyzed using thematic analysis, following the six-step model developed by Braun and Clarke: familiarization, coding, generating themes, reviewing themes, defining/naming themes, and writing up. The software NVivo is used in structuring and coding data, which facilitates comparison between interviews and focus group material.

Prominent themes include food and water needs, care giving obligations, loss of work, displacement, grass roots leadership, exclusion from formal policy, and resilience tactics. This is in line with how the analysis is situated in the intersectional feminist perspective: for example to how age, religion, caste and disability intersect with gender to produce experiences. The Human Security categories (economic, food, health, environment, and personal) is used as organizing frameworks to interpret thematic findings.

1.7.7 Validity, Reliability, and Reflexivity

Credibility rather than reliability is the hallmark of qualitative research. Triangulation will be achieved using multiple methods (interviews, focus groups, documents), multi-data sources, and multi-site research. Member-checking is employed by presenting summaries of results to a sample of participants to confirm the interpretations. Reflexive journaling is kept by the researcher to keep her own biases and assumptions in check so as to ethically and empathetically engage participants.

1.7.8 Ethical Considerations

Ethical approval will be obtained from the university's research ethics committee. All participants provide signed informed consents and privacy and anonymity are preserved. Procedures Participants are told that they can withdraw at any time. There is particular attention paid to the vulnerability of specific groups, such as women in weak states, post-disaster situations, and so on. Pseudonyms are used in the report and no patient's identifying data is revealed. For individuals who mention trauma or distress, emotional support contacts are provided.

CHAPTER: 3

3.1 CLIMATE CHANGE AND HUMAN SECURITY IN PAKISTAN

The climate change has become a very crucial security issue in Pakistan, a nation that is exceptionally at risk to environmental shocks because of its geographical, socioeconomic and institutional environment. The problem of climate change has become one of the most topical challenges on the global scene of the 21st century whose impact goes beyond environmental degradation. The ecological threats are not the only issue as countries such as Pakistan have the issue of human security and flow deep. The factors that threaten human security which include food, water, health, and shelter are constantly being jeopardized by the increasing temperature and unpredictable weather conditions, glacial melt, and various natural disasters. This exposure of the geography of Pakistan to the vulnerability combined with the socio-economic fragility of Pakistan puts millions of lives at risk and requires the direct coordinated effort to mitigate the dangers of threats and risk to Pakistani life.⁴⁶

This has been the case in Pakistan over the past decades with a consecutive succession of climate induced crises seriously challenging the security of the lives of the people and the progress of the nation. Millions of people became displaced due to disastrous floods in 2010 and 2022, and the suffering impaired infrastructure and led to enormous economic losses. At the same time, droughts and glacier melts in the north bring up the issue of water limitation on the long term basis in an agrarian economy that relies heavily on the Indus River ecosystem. These environmental imbalances have a strong connection to the accruing poverty levels, displacement and deficiency of resources that are a direct indication of a threat to the quality fabric of human security in the country.⁴⁷

Despite the apparent hazards, climate policies and institutional responses in Pakistan are incoherent and under-financed. Though policies like the National Climate Change Policy exist,

⁴⁶ Raazia, I., A. Amin, and S. Irfan. 2023. "Global Climate Change and Human Security Nexus: A Case of Pakistan." *Global Foreign Policies Review* 6 (6): 39–52.

⁴⁷ Khan, M. A., J. A. Khan, Z. Ali, I. Ahmad, and M. N. Ahmad. 2016. "The Challenge of Climate Change and Policy Response in Pakistan." *Environmental Earth Sciences* 75: 1–16.

there exists implementation gaps, poor inter-agency coordination, and poor integration of policy with national security planning, which has undermined certain policies. Climate change as a key security issue must be addressed not only as an environmental problem. A various study analyses the violations of the current policies frameworks and offers strategic models of enhancing climate resilience in Pakistan and defending its citizens against the encroaching perils threatening their well-being.⁴⁸

Although Pakistan plays a minor role in the emission of greenhouse gas, it is believed to be one of the most susceptible countries to the negative effects of climate change. There have been more extreme weather events like floods, droughts, and heatwaves with varying frequencies and severity in the country. Particularly, in 2022 a third of the country was under water, millions were left without a home, and the economy lost lots of money, showing how climate-based disasters became ever more intense in their consequences. Otherwise, the semi-arid climate of Pakistan intensifies the exposure to the alternating rainfall system and the increase in temperatures since both rural and urban communities are impacted.⁴⁹

The one of the highest priorities raised is the rapid melting glaciers in the Himalayas, posing a consequential threat to the agricultural and agriculture-based economy of Pakistan in the long run. The system that is in danger of an increase in temperature is the Indus River system that is mainly dependent on melting of glaciers and snow as a source of water. It could initially exacerbate the river flow, but later result in lack of water. This has a direct effect in the farming outputs and food security especially in the areas that rely on the regular irrigation. Studies have revealed that warming and alteration of precipitation patterns have already started decreasing the productivity of agriculture in various districts of Pakistan.⁵⁰

Social and human effects of the climate change are also immense with displacement of people within the affected region/country as another prominent effect, being followed by poverty and urban susceptibility. The informal settlements in the major cities have grown as a result of large-scale population migration due to floods and droughts in the affected areas, and it has overwhelmed

⁴⁸ Asif, M., and N. Saleh. 2019. "Human Security and Energy Security: A Case Study of Pakistan." *Policy Perspectives* 16 (1): 99–116.

⁴⁹ Rehman, M. Z. U., W. Ishaque, and M. H. A. K. Sayed. 2025. "Emerging Dynamics and National Security of Pakistan: Challenges and Strategies." *Research Consortium Archive* 3 (1): 228–240.

⁵⁰ Khan, F., and M. Salman. 2020. "Impact of Climate Change on Agricultural Productivity in Pakistan: A District-Level Analysis." *Environmental Science and Pollution Research* 27: 42397–42412.
<https://doi.org/10.1007/s11356-020-09923-6>.

infrastructure and other services provided by government (International Organization for Migration [IOM], 2022). Moreover, the occurrence of heatwaves in cities such as Karachi has caused mass deaths over the past few years, especially among the low-income communities who cannot afford cooling technology or stable electrons. Such cumulative risks show why a fully integrated, people-based climate resilient approach is necessary.⁵¹

One of the core national stability issues that are being raised in Pakistan by climate change is that it threatens human and state security. Being a nation that is severely exposed to climate-related catastrophes such as floods, drought, glacial thaw and heatwaves, Pakistan must repeatedly face challenges to its governance, infrastructure as well as resources base. Such developments have caused unequal impacts to the rural along with all marginal groups and especially women who rely more on natural resources to make livelihoods and are subjected to socio-cultural limitations during distresses. In Pakistan, the internal displacement, food insecurity, and health risks which are correlated with environmental degradation and events of extreme weather are becoming critical factors that undermine the national cohesion. To illustrate, the recent events of flooding in 2022 displaced more than 33 million people and the brunt of the disaster fell on women and children because they did not have access to health care, shelter, and relief resources. Climate change in such an environment acts as a conflict multiplier by worsening the existing disparities and producing a sense of instability, especially in rural regions of low state capacity, such as Sindh and Balochistan.⁵²

The collapsing environment leads to increasing insecurity among women especially in agrarian sectors and water distressed regions due to the interplay of traditional female roles. Women in Pakistan are typically in charge of collecting and distributing water supply, subsistent farming and the overall nourishment of households in the country and therefore are the most common targets of occurrences in the form of scarcities provoked by climate change. However, their opinions are mostly not considered during the policy processes and actions targeting resilience building. The problem of climate change is therefore not only a threat to the state security (in terms of economic

⁵¹ Anwar, A., T. Mumtaz, and M. Mateen. 2023. "Evolution of Security Paradigms in Pakistan: Assessing Contemporary Challenges to National Security." *Asian Innovative Journal of Social Sciences and Humanities* 7 (4).

⁵² Khan, Maria Jawad. *Pakistan's Dual Crisis: Conflict and Climate*. Islamabad: Pakistan Institute of Development Economics, 2024. Accessed August 7, 2025.

security and in terms of governance pressures) but also poses to diminish the human security by increasing the gender gap in the aspects of resource access, decision-making, and protection.⁵³ Climate change has to be reframed into an environmental crisis and a gendered human security crisis in order to achieve long-term national stability in Pakistan. Women knowledge, participation and resilience capacities should be incorporated in the policies. With women empowered in the local governance, disaster response as well as climate adaptation, not only can the resilience of a community be strengthened but also the social fabric which is an essential aspect of national security in the context of changing climate.⁵⁴

3.1.1 Human Security Theory

Human Security Theory offers multilateral and humanized perspective to security aspects of the modern world. In comparison to the conventional theories where territorial integrity and legion threat of attack are stressed, Human Security redirects the centre of interest to the safety of individuals and communities against severe and systemic threats to their well-being. Stipulated developed when the (UNDP) introduced it in the 1994 Human Development Report, the theory points out seven main security dimensions of human security which include environmental, food, health, economic, personal, community and political security.⁵⁵

This framework is especially applicable to the scenario of climate change that has become a non-conventional yet a drastic threat to human security. Weakening of environmental vulnerability with socio-economic vulnerability is witnessed in countries like Pakistan and due to this; the climate-induced disasters such as floods, droughts, and heatwaves will directly affect the access of people to water, food, shelter, and healthcare. The Human Security Theory allows one to examine the problem of the degradation of the environment in a multidimensional way as it is not only causing disturbances in food webs but also threatening the physical security, health, and life of the population, especially those that are marginalized. Application of Human Security Theory to Pakistan with regard to its climate challenges show that there is an urgent need to develop a

⁵³ Barnett, Jon, and W. Neil Adger. "Climate Change, Human Security and Violent Conflict." *Political Geography* 26, no. 6 (2007): 639–655. <https://doi.org/10.1016/j.polgeo.2007.03.003>.

⁵⁴ Riaz, A. "Climate Change and Security in Pakistan: Implications for Human Security and Conflict Resolution." *Journal of Security and Strategic Analyses* 5, no. 2 (2019): 21–40.

⁵⁵ Barnett, Jon, and W. Neil Adger. 2007. "Climate Change, Human Security and Violent Conflict." *Political Geography* 26 (6): 639–655. <https://doi.org/10.1016/j.polgeo.2007.03.003>.

conceptualization of the heading of climate policy, so that it no longer seems to be environmental management. It highlights the importance of the implemented integrated approaches that safeguard people against the climate-related risks by mitigating their impacts on individuals who are exposed through building resilience, provide equal access to resources, and empower the disaster preparedness.⁵⁶

Such a strategy can provide more comprehensive insights into the climate-security nexus and influence the creation of the policy framework that can address the safety and dignity of people in the context of environmental change. Human Security paradigm could provide a concise and clear picture of the multidimensional effects of climate change more specifically when it is combined with gender as in the case of Pakistan where it is vulnerable. The modern informational society has been so accustomed to using traditional concepts of securities focused on safeguarding state sovereignty and territorial integrity. Nonetheless, Human Security Theory proposed by the UNDP Human Development Report of 1994, is a more recent approach which reverses the focus of state-related issues into focusing on the individual protection and well-being aspects and highlighting the threats to human survival, livelihood, and dignity due to economic, environmental and social security challenges.⁵⁷

In Pakistani context and in an environment where the effects of climate change like floods, drought, heatwave, etc are becoming more pronounced and aggressive, women are the most prerequisite victims of environmental crisis. The most relevant theory is the Human Security Theory since it includes environmental security as one of the major pillars and it considers by nature the gendered vulnerabilities. Women in rural Pakistan who are predominantly the caretakers in the house and also depend on natural resources to earn their livelihoods daily face direct impacts of food security and health, as well as own safety, because of environmental destruction and climatic incidents.⁵⁸

In addition, the framework enables the researcher to look at structural inequalities that direct adaptive capacities. As an example it can be stated that the gender norms usually limit women

⁵⁶ Hashmi, Rehana Saeed. "Climate Change and Climate-Induced Migration in Pakistan: A Threat to Human Security (The Study of RajanPur and Taunsa Sharif after Flood 2022)." *Annals of Human and Social Sciences* 4, no. IV (2023): 37–51.

⁵⁷ United Nations Development Programme. *Human Development Report 1994: New Dimensions of Human Security*. New York: Oxford University Press, 1994.

⁵⁸ Barnett, Jon, and W. Neil Adger. "Climate Change, Human Security and Violent Conflict." *Political Geography* 26, no. 6 (2007): 639–655. <https://doi.org/10.1016/j.polgeo.2007.03.003>.

access to education, decision making and disaster relief provisions, which furthers their vulnerability during crises. Human Security Theory allows us to comprehensively explore the nature of the interconnection and mutuality between these social and environmental insecurities and hence provides a functional analytical instrument to examine the day-to-day experiences of Pakistani women dealing with the issue of climate change.⁵⁹

Pakistan as a country in a region that was prone to climate change has been on a high rise in terms of increase in frequency and intensity of climate inducible natural disasters. This is flooding, droughts, heatwaves and monsoon pattern change and each of the above has direct impact to human security. The Global Climate Risk Index denoted that Pakistan is among the countries most at risk of climate change as it had negative effects on its economy, agriculture, and water resource. Flood incidents of 2010 and 2022, e.g., devastated the country took millions of people out of houses and left a significant trace in agriculture and infrastructure. Glacial melting in the north and unpredictable weather cycles of rainfalls would further cause water shortage which has a risk of food security and livelihood sustainability in the future. The Human Security Framework is also useful when it comes to comprehending the different aspects of the vulnerability that Pakistan is exposed to. The framework points out that environmental, food, water, health, economic, and personal security are the pillars in human wellbeing that have been eroded increasingly by climate change. Possibly the most grave effects are on food security and water security in Pakistan. Unpredictable weather patterns, changing rainfall and temperatures put the economy of the country subject to uncertainties with 60 percent of the population relying on agriculture as their source of livelihood which is at the extreme risk because of the rising changes in weather. The agricultural sector produces about 25 percent in the GDP and on the other hand, the agricultural sector is among the most susceptible to the disruption that is caused by the climate change.⁶⁰

Nonetheless, Pakistan has a disjointed underfinanced climate policy environment despite obvious dangers to this end. The National Climate Change Policy which was established in 2012 has since been revised although the use of this policy remains inconsistent showing a lack of relationship between national and provincial departments. The provincial disaster management authorities are

⁵⁹ Riaz, A. "Climate Change and Security in Pakistan: Implications for Human Security and Conflict Resolution." *Journal of Security and Strategic Analyses* 5, no. 2 (2019): 21–40.

⁶⁰ Khanm, Muhammad Shehzad, Kaneez Sughra, and Muhammad Ismail. "Climate Change and Human Security in Pakistan: Policy Breaches and Strategic Response Frameworks." *Journal of Social Signs Review* 3, no. 4 (2025): 101-108.

underresourced and the Ministry of Climate Change and its sub-bodies are traditionally overstretched. Although Pakistan Environmental Protection Agency (PEPA) was equipped with the responsibility of managing the implementation of environmental policies in the country, the agency lacks resources allocated to it and its powers to enforce them. Local administration systems are also not well equipped to tackle climatic catastrophes owing to the deficiency of capacity building and technical experience.⁶¹

Climate change is a multidimensional and emergent threat to human security across Pakistan on all levels including food and water security, community wellbeing, industry, and displacement. In spite of the existence of national climate policies, there exist crucial weaknesses in implementation, institutional coordination as well as the community participation to affect the capability of the country to respond effectively. The application of the concept of Human Security helps to demonstrate the scope and the nature of relationship of these vulnerabilities and underscores the importance of people-based and resilience-oriented approaches. To further develop, Pakistan needs to implement inclusive, integrated and proactive policy frameworks that convert climate change adaptation and sustainable development, development of the institutional capacity and local empowerment of communities. Such a holistic strategy is the only way through which Pakistan can ensure the safety and health of its people and create a climate-resilient and more secure future. By following these strategic guidelines, Pakistan is able to make itself more resilient against climate change, human security, and sustainable development. The best ways of enhancing governance, mainstreaming adaptation of climate into the development plans, empowering the local communities, investing in researches and early warning services, climate finance mobilization are some of the best steps that will offer a complete solution to this ugly challenge brought by climate change.⁶²

The complex connection between climate change and human security in Pakistan, a nation that is gradually becoming susceptible to environmental disasters including floods, heatwaves, droughts, and glacial melt. Even after increased awareness, there has been a major loss in significant policy breaches and institutional shortcomings with regards to effective mitigation and adaptation. The

⁶¹ Masud, Hina, and Adnan Baloch. "Policy Implementation Barriers in Climate Change Adaptation: The Case of Pakistan." *Environmental Policy and Governance* 34, no. 2 (2024): 120–136.

⁶² Khanm, Muhammad Shehzad, Kaneez Sughra, and Muhammad Ismail. "Climate Change and Human Security in Pakistan: Policy Breaches and Strategic Response Frameworks." *Journal of Social Signs Review* 3, no. 4 (2025): 101–108.

paper assesses critically the failure in climate policies being implemented by nations and how the lapses are threatening human security especially with regards to food, water, health and livelihood. It also analyzes current strategic plans and suggests a combined, resilience-oriented approach to improve climate governance in Pakistan, institutional accountability and community-based adaptation interventions in Pakistan..⁶³

3.1.2 Climate Change as a Human Security Crisis

Human security is an important concept that can be used to learn more about the multidimensional threat of climate change, particularly on vulnerable regions. However, as compared to traditional state-centered frameworks of security, human security is more concerned with safeguarding subjects against survival, well-being, and dignity threats. Climate change, by altering temperatures, enhancing extreme weather events and degrading the environment operates directly against primary pillars of human security; such as; food security and water, health, economic, and environmental security. During the Anthropocene era, environmental threats can tend to act as source and cause of displacement, resource conflict and social instability. According to scholars, positioning the problem of climate change as a human security has placed the ethical and equity dimension of the issue into the spotlight, which is concerned with safeguarding the marginalized populations. Nevertheless, the successful incorporation of such approach in policy needs to respect the urgency and human rights along with inclusive governance whereby climate adaptation should not only cover the reduction of environmental risks but also empower those most vulnerable, especially women and other vulnerable groups.⁶⁴

By calling to rethink the geopolitical concepts and environmental security due to the era of the Anthropocene, Simon Dalby criticizes the state-centered interpretation of security as a tradition that needs to be discarded. He stresses that climate change is not a current trigger of conflict, but rather an indicator of more superficial politico-economic shifts such as the way human systems currently influence the world. According to him, the security discourse ought to transition to more proactive approaches to embark on what he calls security in the Anthropocene against climate security, wherein the larger threat is not its security but human-induced environmental change that

⁶³ Khanm, Muhammad Shehzad, Kaneez Sughra, and Muhammad Ismail. "Climate Change and Human Security in Pakistan: Policy Breaches and Strategic Response Frameworks." *Journal of Social Signs Review* 3, no. 4 (2025): 101-108.

⁶⁴ Barnett, Jon, Richard A. Matthew, and Karen L. O'Brien. "Global environmental change and human security: An introduction." *Global environmental change and human security* (2010): 3-32.

has assumed the major threat to security. Older military solutions no longer suffice and policymakers need to implement coherent and futuristic solutions with the understanding that energy, land use and development decisions are transforming the security picture in the world.⁶⁵

3.1.3 Pakistan's Climate Vulnerability: Empirical Insights

Pakistan is in a critical position among the world disaster risk tables because of its vulnerability and exposure to unsafe conditions, such as floods, drought, and cyclones with social vulnerability in terms of multidimensional poverty factor and insufficiency in coping powers. According to the inform risk data provided by the World Bank, there are 12 countries that have high inequalities levels or rank top in terms of hazard exposure and vulnerabilities faced and Pakistan is among them. Research also proved that over 75 percent of all natural calamities experienced in Pakistan since 1980 were weather related and floods alone contributed 46 percent affecting 85 percent of the entire population especially in the Indus floodplain.⁶⁶

Pakistan is severely exposed to climatic threats as manifested by the 2010 and 2022 monsoon floods. Inundations caused by the 2010 floods affected more than 20 million individuals in various provinces costing nearly US\$43 billion in losses; the more recent 2022 floods displaced 33 million Pakistanis and caused similarly devastating economic and social impacts. Provincial forecasts are a decrease in rainfall by up to 52 percent in areas such as Sindh province and the province of Balochistan, compounding the water scarcity issue and agricultural pressures.⁶⁷

Severe human security problems in Pakistan are a consequence of climate change and, therefore, many superimposed threats. The worst of calamities is floods, which most recently were catastrophic monsoon floods of 2022, exacerbated not only by unusually heavy precipitation but also by the accelerated melt of glaciers, covered about a third of the entire country, displacing millions and estimated to have done damage of USD 40 billion. Such incidents lead to the loss not only of these inhabitants and their livelihoods, but also the inundation of emergency systems and furthering the problem of food security.⁶⁸

⁶⁵ Dalby, Simon. "Climate change as an issue of human security." In *Handbook on climate change and human security*, pp. 21-40. Edward Elgar Publishing, 2013.

⁶⁶ Wahid Ullah & Takaaki Nihei, *Climate Change Vulnerability of Pakistan Towards Natural Disasters: A Review*

⁶⁷ 2010 Pakistan floods data: 20 million affected, US\$43 billion damages; 2022 floods: 33 million displaced, massive socioeconomic impact.

⁶⁸ World Bank, "Climate Change in Pakistan: From Vulnerability to Resilience," *Modern Diplomacy*, June 23, 2023.

There are other systemic vulnerabilities brought by glacial melting and associated risks. With much of its glaciers located in Himalaya and Karakoram, thousands of glaciers in Pakistan are also receding at high rates, which is likely to reduce water volumes available long term, hindering irrigation and hydropower. Besides, in the north, sudden glacial lake outburst floods (GLOFs) have torn down house, roads and water systems, increasing the risk of being displaced and destroyed due to the formation of lakes at high altitude behind unstable ice dams in northern valleys.⁶⁹

Direct attacks of heatwaves--which have been exacerbated in both intensity and frequency--are threats to human health and productivity of agriculture. A severe heatwave in Sindh killed more than 568 people in 2024 and hospitalized thousands, and the 2015 heatwave caused approximately 2,000 deaths. High temperatures cause poor crop productivity, livestock health in the countryside, and escalate food insecurity. The final factor, which may coincide with heatwaves, is droughts which contribute to water shortages and to weakened food and economic security. As the patterns of precipitation become more and more unpredictable, huge numbers of people (particularly those in the countryside and farmers) find it very difficult to maintain a living as available water resources decline and rainless periods extend.⁷⁰

3.1.4 Key Dimensions of Human Security Threatened in Pakistan

Human security in Pakistan has been troubled by climate change as a grand disruption that has permeated the various layers of society, economy, and governance with its adverse effects. These are not isolated threats, there is a convergence of the threats on environmental, social, health, institutional aspects, which collectively exert a harmful load on the vulnerable populations. In this section, there are four major dimensions in which climate change has strongly undermined human security and has shown how each aspect is related to other aspects that pose risks to the national security of the state.

3.1.4.1 Environmental and Livelihood Insecurity

The rapid effects of climate change that have resulted in environmental degradation have emerged as one of the major factors that threaten the sustainability of rural livelihoods in Pakistan. Being an agrarian nation with around 38 percent of the working population directly involved in the

⁶⁹ Pakistan Today, "Climate change and human health," February 24, 2024.

⁷⁰ Iqbal, Nasir, and Ayesha Haider. "Heatwaves and Human Security: Impacts on Agriculture and Health in Pakistan." *Environmental Challenges* 13 (2024): 100701.

agricultural sector and many of the people relying on subsistent farming and any destabilization of the environment is delayed in the social-economic systems. Pakistan has witnessed increased climate variability over the past years in the form of irregular monsoons, long dry spells, glaciers receding and unseasonal extreme warm and cold.

These transformations have weakened the dependability of conventional farming methods as well as eroded the natural resource bank that the rural populations are centered on. As another case in point, even the colossal floods of 2022 which amounted to one of the worst in the history of our country not only flooded over 9 million acres of cropland but also killed over one million livestock, mostly located in Sindh and Balochistan. Already marginal in their economic sustainability, smallholder farmers in these provinces lost entire harvests, stock of seed, and grazing lands and became food insecure and indebted.⁷¹

Simultaneously, the vulnerability was further deteriorated by drought conditions in arid and semi-arid districts including Tharparkar and in sections of southern Punjab that highly decreased the availability of water to irrigate lands, drink and feed livestock. The crops have failed and quality of soil has been lost due to droughts as a result of increased deserts and changing rainfall patterns caused by the changing temperature. These environmental stressors have come to snowball and put many families in a position where long term costly coping strategies such as disposal of productive assets, withdrawing of children in school, or even migration to urban centres to seek alternative source of income are employed. These same populations are also not placed under formal institutions such as safety nets and insurance schemes to support them in case of repeated climate shocks.⁷²

One of the main things about this crisis is the increasing water stress in the country. The per capita water availability in the country has dropped to below 900 cubic meters which is far below the critical limit of water shortage as set by the United Nations according to the Pakistan Council of Research in Water Resources (PCRWR). This is going to be worsened by the fact that there is rapid melting of glaciers in the mountainous aspects of the North especially in the Indus basin which is the backbone of the agricultural economy in Pakistan. Poor irrigation methods like flood irrigation

⁷¹ Aslam, Aleeha. "Pakistan's Rural Economy & Climate Change Challenges." *The Agricultural Economist*, March 12, 2025.

⁷² Memon, Manzoor Hussain, Naveed Aamir, and Nadeem Ahmed. "Climate Change and Drought: Impact of Food Insecurity on Gender Based Vulnerability in District Tharparkar." *The Pakistan Development Review* 57, no. 3 (2024): 307–331.

and canal system also lower the level of water-use efficiency especially at Punjab where the conflicts over use of irrigation water are increasing. Water wars between upstream and downstream users and among provinces are increasingly becoming frequent particularly during low flow times. The effects of such environmental changes are far-reaching socio -economically. The constant need to use traditional agricultural livelihoods is rendering the rural populations into vicious cycles of economic displacement and indebtedness. Movement to the Urban Centres They are seen as a survival strategy; they, however, end up leading to under employment, informal labour and overcrowding in the already resource poor cities. The outflow of the agricultural workers to urban areas through rural-to-urban migration is advancing rural depopulation, thus weakening the agricultural resource and fuelling rural poverty. In addition, depreciation of natural capital and the productive assets contributes to the marginalization of already marginalized groups that comprise women headed households, landless workers, and the indigenous⁷³.

In Pakistan, therefore, the interconnection between the ecological degradation and the socio-economic vulnerability manifests itself in the form of environmental and livelihood insecurity. Climate change has been used as a threat multiplier that exacerbates pre-existing structural vulnerabilities in rural economies and increases disparities, as well as undermines household and community-level resilience. Unless there are combined policies on adaptation, sustainable land and water management, and social shielding mechanisms, the planetary environmental crisis is likely to worsen, endangering not only personal welfare, but also peace and stability both in individual countries and in general national economy.⁷⁴

3.1.4.2 Health and Shelter Insecurity

Climate change is posing a grave and extensive impact on populous health and refuge safety in Pakistan. Changing weather conditions like floods, heatwaves, and droughts are becoming more frequent and violent at offering pressure on weak health systems already in the system. Over 33 million citizens were displaced in the country during 2022 floods. Most of these individuals were mandated to live in temporary settlements or half-way houses that did not have clean drinking water, sanitation facilities, as well as medical facilities. This kind of disadvantaged living condition

⁷³ Pakistan Institute for Development Economics. "Impact of Climate Change on Water in Pakistan." *PIDE Policy Brief* (2024).

⁷⁴ Mir Waheed Akhlaq, Abrar Hussain, Waqas Shoukat, Ahmad Sheraz, and Aameena Nasim, "National Responses to Climate Change: Implications for CPEC, Agriculture, and Socio-Economic Stability in Pakistan," *Migration Letters* 21, no. 8 (2024): 952–964

formed a nest to disease outbreaks. Malaria, dengue fever, diarrhea and skin infections increased significantly in Sindh and southern Punjab in the months after the floods. There was an overloading of health centres in the provinces that were affected by floods and most health centres were damaged or not operational at all, which reduced access to treatment by people.⁷⁵

It also especially affected maternal and child health. UN estimates that more than tens of thousands of pregnant women in flood affected regions were unable to access prenatal care or to give birth in safe conditions. The result was increased complications in childbirth and added baby mortality risk. Meanwhile, in big urban areas such as Karachi, Lahore, or Multan, extreme heatwaves have aggravated the health of disadvantaged urban communities. The groups that are most susceptible to air difficulties, heat strokes, and heart-related complaints due to the extended spells of hot weather are elderly individuals, children, and those with pre-existing illnesses. Irrelevant cooling facilities and shortage of clean water also expose poor and low-income working people to more risk since they spend much time outside.⁷⁶

Besides health issues, there is a pending problem of shelter insecurity especially among climate migrants. The people affected by the flood, droughts, and any other environmental disasters usually propagate into the cities, where they live as squatters or in the slums. These settlements usually lack other normal services, are densely populated and they are situated within the risk areas like river banks, drainages channels or hilly areas. These shelters are not well planned and are not equipped with infrastructure that would help protect against potential climatic occurrences in the future. Constant displacement and loss of homes also have a toll on mental health of people. Many of the displaced families complain of being afraid, stressed and unsure of the future particularly in cases where there are no visible means of recovery and support by the state involved.⁷⁷

The inability of Pakistan to combat health emergencies in combination with displacement and housing shortage indicates a severe lack of institutional means of providing human security despite the climate crisis. There are the available national policies on disaster management and climate adaptation but the extent of implementation is poor. Underfunded, unbalanced, and in most cases, unable to meet the demand of large climate events, health and housing services lack sufficient

⁷⁵ Government of Pakistan. *Pakistan Floods 2022: Post-Disaster Needs Assessment (PDNA)*. Islamabad: Ministry of Planning, Development and Special Initiatives, 2022.

⁷⁶ United Nations Population Fund (UNFPA). *UNFPA Pakistan Flood Response 2022: Situation Report No. 3*. Islamabad: UNFPA Pakistan, October 2022.

⁷⁷ Internal Displacement Monitoring Centre (IDMC). *Disaster Displacement in Pakistan: The Increasing Impact of Climate Change*. Geneva: IDMC, 2022.

funding and support. This gap is only going to increase as more and more people in the population face the extreme weather making their health, dignity and safety even more at stake.

3.1.4.3 Social and Personal Insecurity

Climate change is both a social and environmental problem because the issue influences the society at the community level in Pakistan. Among the adverse changes that are hard to see the devastating impact of climate-related disasters on social unity and worsening life security are some. During floods, droughts or other severe weather incidents, the communities are usually displaced and people are forced to leave their residence, homeland, and livelihoods. This relocation shatters the conventional network of support made up of extended families, neighbourhood associations and communal frameworks which in normal situations bring emotional, financial and physical help in time of distresses.⁷⁸

This disintegration of social networks increases psyche-psychological pressure on the population whose victims are people inhabiting relief camps or temporary shelters. Such settings do not always have sufficient infrastructures to guard privacy and safety, which increases the risk of women and girls experiencing gender-based violence (GBV). Lack of adequate lighting, segregated sanitation enclosures and even regulatory control in such contexts leads to heightened potentialities of harassment, assault, and even being exploited. The disaster-affected reports are often devoid of a decrease in early and forced marriages cases as families strive to save on economical burdens or erroneously perceive marriage as a form of protection. At the same time, the needs of elderly citizens and people with disabilities are neglected in the disaster response strategies because relief efforts do not take into consideration the unique requirements of the specific populations, including their mobility, medical care and personal support.⁷⁹

There is a strong effect that climate change has on gender relations and social roles as well. In rural settlements where agrarian activities are the main economic activities, climate variability that may lead to crop failure, and death of livestock compel men to flock to the cities in search of jobs. That emigration allows women to stay and take care of the households, farms, and children under ever terrible conditions. This extra work burden, along with a lack of access to resources, and decision

⁷⁸ Rasul, Ghulam, and Aisha Ahmad. *Climate Change and Its Impact with Special Focus on Pakistan*. Islamabad: Pakistan Meteorological Department, 2021.

⁷⁹ UN Women. *Gender and Social Inclusion Analysis: Post-Flood Situation in Pakistan 2022*. Islamabad: United Nations Entity for Gender Equality and the Empowerment of Women, 2023.

making enhance the vulnerability of women and worsen the pre-existing gender disparities. Simultaneously, the centres of cities face a boom of climate-related migration, which results in overpopulation of settlements and more stress being put on the inadequate infrastructure and services. Host populations and migrants often happen to share the contention of job, housing, access to clean water, medical care, and education, and that social tension and inter-group conflict emerge. These conflicts are also aggravated in regions which are economically marginalized where resources are limited and the state presence non-existent. They can discriminate and exclude marginal groups especially migrants having their ethnic or sectarian origins. Sometimes they can even commit violent acts.⁸⁰

Another category of people that would also be severely impacted by the social impact of climate change is children. Long-term school closure is a common effect of natural disasters either as a result of damage of the infrastructure or the conversion of schools into shelters. Not only does this interruption to their education stop them learning, but more than that, an essential component of social stability and routine is also taken out of their lives. In other instances, children become subjects of being subjected to Labor or early marriage as the family tries to deal with the economic effects of environmental crises. Taken together, the dynamics underline the fact that climate change exacerbates existing social vulnerabilities, and it damages the psychological and physical health of people. Due to the impaired coping mechanisms, communities have increasingly had a hard time bouncing back after the disaster and gaining resilience to subsequent threats. In such a way, the social impact of climate change is to be considered as having a significant feature of a human security issue as it needs specific policy response focusing on safety, inclusion, and ensuring the maintenance of social cohesion both in rural and urban areas.⁸¹

3.1.4.4 Economic and Governance Strain

This has created an economic crisis level of consequences of the climate change in Pakistan to translate to a strain in unprecedented level, both in terms of fiscal, administrative and institutional infrastructure in Pakistan. A vivid example of such was experienced in the devastating floods experienced in 2022, which caused an approximate cost of 30 billion dollars in damages. This

⁸⁰ Mustafa, Daanish, Hira Chughtai, and Hafsa Mansoor. *Climate Change and Social Vulnerability in Pakistan: Implications for Policy and Programming*. Islamabad: Heinrich Böll Stiftung Pakistan, 2021.

⁸¹ United Nations Development Programme. (2022). *Climate change and social vulnerability in Pakistan*. UNDP Pakistan.

number goes beyond physical damage like eroded roads, bridges, houses and crops and includes rampant dislocation of economic activities, employment markets and even state service frameworks. The extent of this shock was felt throughout the rural and urban economies through poverty, aggravated unemployment and increasing inflation in key commodities; food fuel and medicine. The most severe impacts were experienced by the less privileged groups of people who had little financial security nets.⁸²

In terms of governance, the provincial and local governments found it difficult to provide timely and coordinated disaster response work because of resource scarcities, bureaucratic lethargy and institutional mandate fragmentation. The structural blind spot in Pakistani climate resilience framework revealed itself through the inability to start the processes of developing sound disaster warning mechanisms and disaster risk reduction systems. At the same time, the shortage of essential natural resources in particular of freshwater and arable land has increased the tensions between provinces, ethnic groups, and the communities. It is these strains on the environment that have politicized the management of resources making governance more through collaboration a challenge as it provides the fuel that gives rise to grievances that threatens to spill into open conflict.⁸³

Another complexity has been climate induced migration. With harsh living conditions in agriculture and pastoralism, the migrants are further flocking to urban centres as in these places, the infrastructure is not designed to handle such swift population changes. The resulting pressure has been on the housing, water, sanitation systems, transport system as well as the work markets, which has led to worsening of socioeconomic competition, increased class and ethnic enmities. Such pressure build-ups have created new types of civil unrest most notably in underserved urban peripheries where the lack of state services only further solidifies perceptions of neglect and marginalisation.⁸⁴

These complex insecurities are the ingredients of a larger governance crisis as there is no integrated national climate adaptation and mitigation policy in place. This has reduced the community confidence in their states because of their limited ability to absorb the shock of climate change as

⁸² World Bank & Asian Development Bank. (2022). *Pakistan: Floods 2022 – Post-Disaster Needs Assessment (PDNA)*. Government of Pakistan.

⁸³ Mustafa, D., & Wrathall, D. (2011). Indus basin floods of 2010: Souring of a Faustian bargain? *Water Alternatives*, 4(1), 72–85.

⁸⁴ Iqbal, N., & Arif, G. M. (2022). Climate-induced migration in Pakistan: Socioeconomic implications and policy responses. *Pakistan Institute of Development Economics (PIDE) Working Paper Series*, 2022:8

well as safeguarding vulnerable groups of people in the population and providing the service in the context with the stress on the environment. Unless there is an urgent expansion of climate-smart infrastructure, disaster preparation, and just governance of natural resources the aggravated economic and political effects of climate change might persist to trigger destabilization of the developmental process and national security in general in Pakistan.

3.1.5 Human Security–National Security Nexus

The climate crises, especially floods, droughts, glacier melt, and heatwaves, do not only pose questions to the survival of individual communities but disturb the larger social and political order in Pakistan. The 2022 monsoon floods that were caused by severe rainfall and melting of glaciers displaced around 33 million people, incurred economic losses of about USD 40 billion. The lack of sanitation, healthcare, and safety of displaced women tends to promote gender-based violence (GBV) episodes, early marriages, and mental strain among women populations due to a lack of access to these necessities. This directs the destabilizing effects locally to the country because of social cohesion, shattered emergency systems and poor governance.⁸⁵

Rural Pakistan The pre-existing gender roles add to the climate-related vulnerabilities in rural Pakistan. Women, who are mainly engaged in provision of food, water, and other household items, are the worst victim when the infrastructure collapses, and the resources diminish. In Sindh, alone, disaster situations meant pregnant women had to deliver their babies without medical assistance and girls were made to school after infrastructural failures and social factors. The resulting poor maternal health and education level degrade the human capital and spills out in the national development indicators.⁸⁶

Besides, scarce resources such as water scarcity can lead to more serious security challenges on a local level. In Karachi, there is an emergence of informal water mafias in the form of water shortages that cause conflict and undermines state legitimacy. When the women do all the household work, it causes an increase in the tension and local feud can expand into national upheaval which requires the national governments to intervene sending away the resources of development. Built-in institutional flaws play a part in the dynamics. Although tools like the National Climate Change Gender Action Plan (ccGAP) and the National Adaptation Plan formally

⁸⁵ "How Pakistan's Climate Crisis Is Fueling Violence Against Women," *Asia News Network*.

⁸⁶ *Women at the Forefront: Rethinking Climate Policies through a Feminist Lens in Pakistan*, Strafasia.

take into consideration gender considerations, the problem of patriarchal systems and ineffective execution leave these mechanisms with low effectiveness. During climate shocks, such vulnerabilities bring to the fore worn response capacities and a lack of outreach to women-led community networks- both of which undermine the resilience of nations even further.⁸⁷

The growing climate risks experienced by Pakistan such as floods, droughts, glacial melt, and heatwaves are not only addressed as environmental risks; they are a threat to the nation-state, with the harming of livelihoods, disruption of food systems, and straining of ineffective governance frameworks. The loss of 33 million residents in floods in 2022 erased poverty alleviation progress and caused losses worth USD 40 billion revealing system failures in disaster preparedness and response. Such crises in the backdrop of poor institutional coordination and resource constraints may trigger social unrest and economical vulnerability particularly in marginalized settlements, and this aspect addresses the connection between climate risks and national security weaknesses.⁸⁸ Furthermore, climate stress works as a threat multiplier in unstable areas such as Balochistan and in the former FATA (Federally Administered Tribal Areas) where paucity of resources and lack of governance has been the historical causative factors of insurgency and instability. The shortage of water due to the melted glaciers and unstable rain falls patterns increases the tension over such a crucial resource and creates a possibility of conflict escalation, both in local areas and inter-state disputes, which are rather exposed due to the limitation of the water agreements that exist. This background of unrest and political division threatens to distract resources and focus towards short term adaptation and end up spending them on crisis prevention scales.⁸⁹

Women bear an unequal burden of this nexus of securitized climate. Being resource managers and primary caregivers, they endure the brunt of depleted food and water security, but are increasingly left out in the decision making and policy making processes. Displacement caused by climate and economic insecurity predisposes the elements of gender-based violence and childhood marriages, which continue to destabilize the family and community. This fragile governance combined with shocks due to climatic patterns therefore further increases the vulnerability of women who are locked into the patterns of poverty and insecurity.⁹⁰

⁸⁷ IUCN Pakistan, “Women to Lead Actions for Climate Change Adaptation and Mitigation,” March 2023.

⁸⁸ Financial Times, “Rebuilding Pakistan: how much should rich nations help?”, (2022 floods, USD 40 billion losses)

⁸⁹ Pakistan Institute of Development Economics, “Pakistan’s Dual Crisis: Conflict and Climate”

⁹⁰ UN Women Pakistan on climate-driven displacement and the vulnerabilities of women

Pakistan needs to incorporate gender sensitive mechanisms in the country security and adaptation systems in a bid to end this cycle. The Climate Change Gender Action Plan (ccGAP) by the government is a good initiative to integrate the resilience building of women in the planning functions. Institutional capacity building, having women in decision-making systems as well as access to resources will not just support human security, but also make the country resilient to the increasing threats of an environment-related crisis.⁹¹

3.1.6 Gendered Dimensions of Human Insecurity

There are socio-cultural and structural inequalities that cause disproportionate impact on women in terms of climate-related disasters, especially in Pakistan. In the process of migration through climate, women often experience social injustice, discrimination and lack of participation in decision making, and assume responsibility of providing household welfare, through food, health and social security disruptions. Moreover, institutional biases, which run deep, like inability of women to be represented in formal disaster management organizations, segregate women in crisis response periods discounting their presence when it comes to planning and relief operations.⁹²

There is also a disproportionate burden of resource scarcity on women because of environmental factors. During extended droughts in Tharparkar, women are incurring more responsibilities including provision of water and food supplies, which increases their susceptibility as key assets become unreliable. Likewise, in more general areas, water insecurity predetermined by climate makes women and girls spend hours to collect water under constraint, increasing the probability of harassment, time poverty, and poor health consequences. Such stresses and others increase the risks of gender-based violence, period poverty, and the health issues faced by mothers in post-disaster scenarios as well.⁹³

Notwithstanding such sufferings, women are also becoming resilience agents. In mountainous areas in Pakistan, to battle and prepare to live with changing climate, women remained on the forefront in the ecological restoration and livelihood activities; these activities include nurseries, eco- tourism projects, and traditional handicraft enterprises, among others. Such localised

⁹¹ IUCN / Government of Pakistan on the Climate Change Gender Action Plan (ccGAP)

⁹² Mishalle Kayani, *Gender Dimensions of Climate Change in Pakistan: Reducing the Vulnerabilities of Rural Women to Climate Change Effects in the Province of Sindh* (Master's thesis, Duke University, 2017).

⁹³ Manzoor Hussain Memon, Naveed Aamir, and Nadeem Ahmed, "Climate Change and Drought: Impact of Food Insecurity on Gender Based Vulnerability in District Tharparkar," *The Pakistan Development Review* 57, no. 3 (2022): 307–31.

responses can be enhanced by policy-based measures. Some of the reports by organizations such as UNDP and the National Commission on the Status of Women promote gender responsive climate policies that will ensure that the voices of women are reflected as women are considered central actors in climate resilience.⁹⁴

There is a very strong connection between the patriarchal societal system and environmental degradation in Pakistan which is a highlight of ecofeminist thought as well. Women are closely involved in the processes of farming and domestic sustenance which gets boosted in rural Sindh when a crisis unfolds. As a result of environmental degradation due to floods, drought, and heatwaves, their existence as a source of food production and caretakers is compromised yet they are not considered as important contributors and knowledge in policy processes and academia. That depicts a larger tendency wherein ecological and gender destruction is caused by a patriarchal and capitalist type of society, which treats both nature and female labor as commodities.⁹⁵

Ecofeminist attitudes also point to the fact that women are often dismissed as having a source of traditional ecological knowledge, e.g., local indigenous ways of managing resources. Indian ecofeminist Vandana Shiva highlights the fact that within subsistence economies, women have an ecological knowledge that is based on centuries-long experience of working with the land, but which are undermined by the dominant forms of development. This is evidenced in the low representation of women in decision making forums in the Pakistani climate governance system, where they are at the heart of resource management and resilience of the community.⁹⁶

In addition, the phenomenon of marginalization is found in the ecofeminist analysis as a factor that is intensified by patriarchal principles according to which women are denied their right to use land and natural resources in spite of them being the ones who, in most cases, complete most of the agricultural and household chores. The women in most of the Pakistani communities exist in the peripheries of food production, resource conservation and family sustainability in the society, lacking voice and representation. This kind of systematic exclusion not only undermines the worth of the ecological contributions given by the women but also increases human insecurity due to increased environmental threats. Mobilization attempts of women into climate resilience give

⁹⁴ UNDP Pakistan and National Commission on Status of Women, *Climate Equity: Women as Agents of Change* (Islamabad: UNDP, 2022).

⁹⁵ Erum Muzaffar, "Environmental Changes and Their Impact on Agricultural Communities of Sindh: An Ecofeminist Perspective," *Pakistan Perspectives* 21, no. 1 (2016): 15–17.

⁹⁶ *Ibid.*

promising counterparts. Women are reasserting themselves as environmental stewards, through community nurseries and ecological restoration projects in Gilgit-Baltistan. However, their input barely manifests in the general policy-oriented discourses. Ecofeminist discourse suggests the need to give importance to the crucial role women play in the intersection of human security and environmental sustainability, and that women should not only be included but placed in a leader position in climate policy to have real transformational resilience changes.⁹⁷

Nationwide, women are becoming agents of climate adaptation and tackling environmental challenges with an innovative, adaptive outlook in Pakistan. Women farmers in the arid parts of Sindh, Punjab, and Balochistan have adopted new water-saving measures like raised-bed plantation and drip irrigation that not only save up to 30 percent of water, but also counter soil salinity. They are changing crop preference toward drought-tolerant crops and leading in the rainwater harvesting systems such as the traditional karez and ponding system, which allows the farmer to continue coarse through the temporary rainfall and improve water shortage. These women are also spearheading informal networks farmer field schools-where the women share information on ways of saving, controlling pests and managing soil moisture qualities, which further enhance positive community resilience.⁹⁸

In urban and peri urban settings, women-based organizations in Lahore have come up with practical local initiatives such as installing trash cans on the streets in response to street litter, reduction of carbon emissions by the provision of Climate change kits in case of emergency and an index mapping vulnerability. On the same note, the entry of women in early warning and disaster preparedness systems at such agencies as the International Water Management Institute (IWMI) is building technical capacity and leadership within water user associations. Significant progress has also been made via formal efforts: the UNFCCC Livelihoods and Adaptation project has trained women in, among others, vertical farming and drip irrigation in 35 districts, thereby enabling hundreds of women in rural areas to diversify their sources of income and food security.⁹⁹

⁹⁷ “Climate change leaves women in Skardu facing disaster,” *Reddit* (Pakistan), 2018, <https://www.reddit.com/r/pakistan/>

⁹⁸ Fiza Farhan, “Climate Change, Women and Water Resilience,” *Express Tribune*, July 5, 2025.

⁹⁹ UNFCCC, “Livelihoods and Adaptation – Pakistan,” accessed August 2025.

CHAPTER 4

4.1 WOMEN AT THE FRONTLINES OF ENVIRONMENTAL CRISIS IN PAKISTAN

Climate change is not a dispassionate stressor. It introduces the pre-existing socially stratified systems and reinforces them producing and distributing risks by gender classes, cast, ethnicity race or localities. The case of Pakistan is particularly startling: it has been one of the worst-hit countries due to extreme weather every year since 2012 until 2022 when floods that ravaged the country were reported to be the worst in human history displacing millions of people, destroying infrastructure and costing the economy heavily. The human loss was severe in terms of loss of thousands of lives and the affected population was a number exceeding 30 million people. Besides the statistics, the facts on the ground and particularly in the household of women-led households evince how much climate shocks and social inequalities interrelate¹⁰⁰.

It is against this setting that it makes women in Pakistan take a two-fold position in the country. On the one hand, structural inequalities leave them especially vulnerable to climate shocks because of low asset ownership, restricted mobility, weaknesses in literacy and access to digital tools, lack of access to formal labor and finance, and the greater burden of unpaid care that increases when crises strike. Women, on the other hand, are central actors of resilience and adaptability, maintaining households, managing the use of natural resources, and coordinating relief efforts on the ground at community level-water management and seed conservation, post-flood relief efforts, etc. To reify or prioritize women as victims is to neglect both the loci sources of vulnerability and potential reservoirs of capability that are already present in the routine social and ecological activities¹⁰¹.

I postulate three related propositions in this chapter. To the first question of why women, in particular, are so disproportionately affected, these are inseparable to the fact that environmental risk is socially constructed. The gendered distribution of labor leaves many women- particularly in rural Pakistan- closest to the climate-vulnerable activities: provision of water and fuel, livestock, and kitchen gardens, as well as child, aging, and sick care. During floods, which have contaminated handpumps, or during drought periods, when women and girls have to be away longer to collect

¹⁰⁰ *The Lancet*. "Addressing the human costs and consequences of the Pakistan flood disaster." *The Lancet* 410, no. 10310 (September 24, 2022): 1097.

¹⁰¹ Sadia Ishrat Satti, "Worsening Gender Inequalities," *The News International*, April 27, 2025

enough water, the time and physical burden add up to women and girls as the consumption of water is delayed to those in need. Disease outbreaks and heatwaves further complicate household activities and exposures, with the result that people often have no routine of working through flus, fevers and other illness like they do death, illness there is famine in times of deaths, there is epidemic in times of fever, there is heatwave in times of heat, there is disease outbreaks and all these complicate domestic workload and health risks in periodically uncountable ways that are decisively critical to household survival¹⁰².

Second, the chapter does not only portray women as the victims of climate change but the heroes of adaptation as well. Throughout the varied ecologies of Pakistan, women maintain micro-infrastructures of resilience: the storage of drought-resistant seeds, the rotation of access to water, the provision of alternative and complementary diets in times of market failure and the social mobilization of relief and cash raising. These activities are generally non-formal and off the books of technocratic climate governance but can spell the difference between the shock cascading into long-standing destitution or being absorbed through dynamic and relationally contingent webs of care and reciprocity. These practices are key nodes in any meaningful vision of climate justice in Pakistan and to recognize them, resource them, and grow them is central to any credible vision of climate justice in Pakistan¹⁰³.

Third, the chapter rests their understanding on the concepts of ecofeminism and intersectionality. They both, ecofeminism and extractivism, share the concept of subordination of women and nature by the patriarchal and extractivist order that places their exploitation at the same level. In the Pakistani experience, such a lens explains both why the intimate ecological knowledge of womankind- of soils, seeds, fodder cycles, glacial indicators, safe water points - fails to translate effectively into formal climate adaptation planning, and why it nevertheless contributes so effectively to day-to-day resilience. Intersectionality can address needed specificity with the risks and abilities of a woman tenant farmer in Sindh being different to those of a woman pastoralist in Gilgit-Baltistan or a peri-urban domestic worker in Karachi. These factors which interplay with gender are; class position, land tenure, ethnicity, marital status, disability and age of the relief

¹⁰² Neelam Hussain, "Climate Change and Gendered Vulnerabilities in Pakistan's Rural Communities," *Journal of Asian and African Studies* 58, no. 7 (2023): 1462–1463,

¹⁰³ Fiza Farhan, "Climate Change, Women and Water Resilience," *The Express Tribune*, July 5, 2025

receivers to determine exposure, access to relief and bargaining power in the process of recovery¹⁰⁴.

More importantly, placing Pakistan in the context of international politics on climate change is crucial. This growing national loss due to climate is fuelling interest and action in making use of international climate finance but the utility and fairness of the resources will come down to the ability to reach to, and empower, those dealing with front-line risks. A justice oriented approach would mean that women knowledge systems and leadership, usually resides within informal associations, self-help groups and local NGOs, would be assessed as being part of core adaptation infrastructure, rather than peripheral add-ons. This chapter thus proposes transformation of climate governance in terms of relational, care based and community-centered practices that women are already practicing as they face the patriarchal and class structuralities that add to their vulnerability. So, it is crucial to recognize that women, working at the frontlines in Pakistan, have their own specific spatial domain, which is defined on the one hand by the increasing effects of climate change that worsen gendered precarity and on the other hand by the existing gendered capacities that contribute to the survival of households and communities. We demonstrate in the subsequent sections how this duality manifests itself across regions and across disasters, and what it means in making adaptation pathways more durable and equitable.

4.1.1 Gendered Vulnerabilities in Climate-Affected Regions

The environmental crisis in Pakistan presents women with excess vulnerabilities levels not due to their specific biological nature but as a consequence of in-depth structural inequalities and socio-cultural roles governing their daily lives. The patriarchal norms are deep rooted and women have their own limitations to property, finances and decision- making ability in their socio- economic life. The role of women in agriculture, the management of livestock, and of natural resources was recognizable, but women frequently do not have access to ownership of land or formal entitlements like agricultural subsidies, climate finance or bank credit. Such marginalization in structural terms limits their possibilities to recover or adjust when climate shocks strike and undermine household livelihoods, e.g., flooding, droughts, and heatwaves¹⁰⁵.

¹⁰⁴ Beenish Tariq and Rakhshanda Jabeen, “Ecofeminism and Intersectionality: Women’s Agency in Climate Adaptation in Pakistan,” *Journal of International Women’s Studies* 24, no. 6 (2023): 105–107

¹⁰⁵ Dr. Ejaz Hussain and Marukh Sindhu, “Gendered Impacts of Climate Change: Addressing Inequality in Punjab’s Agricultural Sector,” *The Friday Times*, January 18, 2025

The combination of gender inequality and environmental degradation demonstrates how the structural vulnerability is already present and triggered by crises instead of being a new-found problem. Women, especially those in rural regions, are commonly assigned roles that are directly dependent on natural assets- fetching water, gathering fuel wood and food security to their household. Cyclones, rising sea levels, and other conditions triggered by climate change disrupt these sources of livelihood, which heaps more pressure on the women and the women end up working extra hours and harder physically, at most times at the expense of their own health, education, and well-being. Moreover, there is no formal appreciation of the efforts made by women in agriculture and the management of resources, thus their activities do not feature in policymaking. This invisibility furthers a vicious cycle of a lack of representation of women in the climate governance mechanisms, as well as women being left unprotected during the period of environmental stress¹⁰⁶.

Meanwhile, institutional obstacles are propagated into more structural and financial sectors. Women are hardly in a position of having collateral like land titles, through which they could access credit or enjoy post-disaster payment schemes. This is particularly symbolic of the failure to engage them in institutional mechanisms of building resilience such as disaster risk management committees or agricultural extension services as it implies their denial of agency. The question is not only of oversights but of institutionalized patriarchal behaviours and life patterns that still remain to define women as secondary to the survival designs of households and communities. Consequently, as the floods submerge crops and droughts ravage water stocks or heats strike, the economic and institutional nonsystematicity of women leaves them as the collateral frontier of insecurity without the leverage to protect themselves and their families¹⁰⁷.

This aspect of gendered vulnerability to climate points out the necessity of reworking environmental and development policies in Pakistan. Instead of women being seen as passive sufferers of ecological decay, there is greatest necessity to accord them the role of critical stakeholders, and their knowledge, skills and contributions are essential in sustainable adaptation and resilience. Women as first responders to responding to household-level adaptation commitments, and they also possess multi-generational experience in understanding regional

¹⁰⁶ Farzana Bari, "Gender Inequality and Climate Vulnerabilities in Rural Pakistan," *Journal of South Asian Development* 18, no. 2 (2023): 243–245

¹⁰⁷ Abdul Hameed Mari, "Breaking the Credit Barrier in Pakistan's Rural Economy," *The Agricultural Economist*, April 17, 2025

ecosystems, crop patterns and sustainability of resources containing potential to inform more representative and functional climate governance. Without a systematic removal of structural barriers to women full participation, including lack of land rights, financial exclusion and absence of access to decision-making, women potential to make significant contributions will remain underallocated, with the overall resilience to the escalating climate crises cannot be sufficient. Poverty proportionally worsens these weaknesses as well. In the countryside, women are over-represented in the low wages or unpaid work, such as subsistence agriculture, informal home industries, and household-based economic activities. Their activity is not fully appreciated and thus not reflected in national economic statistics, so much of which is based on formal market-based production. When climate disasters strike, the poorest women are generally the first to lose the minimal resources they owned, and have most challenges in the reconstruction of their lives. They lack financial autonomy and are very dependent on male family members or outside support that in turn creates other patterns of reinforcement and isolation¹⁰⁸.

There is an added vulnerability of socio-cultural roles. Women and girls take the brunt of the caregiving duties, fixing meals, water procurement and fuel item procurement--all of which become much more difficult in the event of environmental crisis. To illustrate a point, women in areas of Sindh and South Punjab affected by drought will spend lots of hours under extreme heat conditions searching clean water and will walk long distances as well. This causes them to be physically tired with a greater exposure to health hazards and a loss of time with which to participate in education, income-generating activities and also within the community. Likewise, in areas where there is flooding there is contamination of wells and hand pumps and this forces the woman to walk on unstable terrain and in the process she is subjected to physical hazards as well as social insecurities. The case study examples in the various parts of Pakistan prove how gender is challenged and confronted against climate vulnerability in tremendous aspects and how environmental strains influence and affect existing socio-economic disparity only to exacerbate women vulnerability. As another example, frequent floods and drought have become a perpetual norm in Sindh, destroying arable land, destroying livelihoods, and displacing thousands of rurally based domestic groups. Female population is often left behind to care by themselves of children, aged family members, and households during such crisis as men travel to seek waged labor in the

¹⁰⁸ Nida Kirmani, "Gender, Climate Change, and the Need for Inclusive Governance in Pakistan," *Journal of International Women's Studies* 26, no. 1 (2024): 88–90,

urban centres. This gender differentiated division of labor does not only increase the workload of women, but also restricts their movement and chances of relief actions. Limited access to the decision-making process in the community also isolates women who have to address the stress posed by poverty, food deprivation, and displacement on their own¹⁰⁹.

The effects of climate vulnerability on gender, as demonstrated in South Punjab underscore a different aspect of gender vulnerability due to climatic changes. In this case, the livelihood of women is closely related to agriculture, especially to cotton and wheat which are staples of subsistence and that of the households. The debilitating heatwaves and incessant water scarcities, as caused by climate change, often destroy these crops which pushes the rural families into economical hardships. To women, who often work in fields sowing, harvesting, and processing of food after harvest, the burning of crops contributes not only to loss of income but also to a loss in the household food security. However, since they are not often the right to the land that they are working, or do not have official recognition as farmers, they are never consulted in agricultural subsidies, credit facilities or government-initiated disaster compensation plans. Such non recognition by institutions reinforces the pattern whereby women may be critical to the economic survival yet their labor is not provided with any protection in the formal economy system. In the northern Gilgit-Baltistan, the impacts of climate change are displayed in the form of the glacial lake outburst floods, landslides, and fast melting glaciers which are subject to destabilize the traditional pastoral and agrarian system. Women have had to pay an unequal price as some of these environmental shocks have required people to change their way of survival. By being forced to assume dual roles, women are expected to manage households where their male family members are unavailable and at the same time deal with scarcity of resources, especially in geographically isolated makerates. Gathering of water, fuelwood and fodder to animals is time-consuming as glaciers melt and natural sources dry up. Women transport is limited by tradition and physical impediments, which means that they can less easily access emergency relief or have access to training on climate change adaptation. They are, therefore, put under increased physical, emotional, and financial stress since much of the responsibility of household resilience lies in their hands¹¹⁰.

¹⁰⁹ Rubina Saigol, "Women, Climate Vulnerability, and Socio-Cultural Roles in Rural Pakistan," *Asian Journal of Women's Studies* 30, no. 2 (2024): 211–213

¹¹⁰ Hina Nazli and Samina Khalil, "Gendered Impacts of Climate Change on Agriculture and Livelihoods in Pakistan," *Pakistan Development Review* 63, no. 4 (2024): 515–517

Although the nature of the climate stressor seems to vary by region, i.e. Sindh, South Punjab, and Gilgit-Baltistan, the apparent similarity that evidently transcends all three regions centers around the systematic exclusion of women in the architecture of resilience. There is inequality in land ownership- predominantly male ownership- and decision making systems are patriarchal in orientation, and access to money or credit facilities is hardly extended to the female population. This marginalization not only increases their vulnerability, but also restricts the adaptive capabilities of whole communities. Policies and inadvertent practices rendering half the population as peripheral will reduce community-wide resilience to the impact of climate shocks. Remembering these structural inequalities and working towards them is thus paramount, not just in regards to gender justice but also to achieve effective and sustainable adaptation to the climate crisis in Pakistan¹¹¹.

Therefore, gendered vulnerabilities in climate-affected areas of Pakistan cannot be seen as accidental or temporary; on the contrary, they are integrated in the system of inequality and perpetuated by the norms of the social culture which underappreciates female workforce at the same time burdening them with the roles of survival protectors. The acknowledgment of these vulnerabilities is critical not only to emphasize the victimization of women, but indeed to bring out the structural impediments that restrict their capabilities and pave the way on the ability of women to resist and take control as highlighted in other parts of this chapter.

4.1.2 Lived Experiences of Women in Climate Disasters

Climate change is exhibited in Pakistan in a particularly human way in the lives of women during seasons of calamity. Disasters like floods, droughts, and heatwaves do not only impact natural systems but also alter social structures of everyday life, culminating in women being prone to increasing health risks and security threats as well as economic insecurities. Their testimonies expose how the structural inequalities can be converted into concrete misery in times of a disaster, and it is also possible to note the coping mechanisms that women may implement under duress. These accounts of women in disaster-prone regions confirm that vulnerability is not merely the

¹¹¹ Qadir Bux Aghani, "Empowering Rural Women in Pakistan through Microfinance," *The Agricultural Economist*, May 16 2025

result of forces of nature, but rather an indicator of active exclusion in healthcare, infrastructure, and relief procedures that continues to fail in responses meeting the unique situation of women¹¹². Displacement, and especially floods, create many health and safety risks unique to women. Lack of proper sanitation facilities in overcrowded relief camps and temporary shelters houses exposes women and girls to great risks as their physical and moral well being is being put at stake. Lack of access to clean and private toilets forces women to neglect their hygiene thus increasing infections and reproductive health problems. The interference in maternal care and reproduction services exposes expectant women and lactating mothers to increased vulnerability due to lack of access to qualified birth attendants that could serve to render their birth experiences safe coupled with emergence services. Gender insensitivity in health services delivery has been attributed in many cases to maternal deaths directly and in the case of children under their care, high incidences of malnutrition and infections like water borne diseases which easily spread in unsanitary conditions found in most refugee camps. Such consequences demonstrates how relief planning that lacks insight on the patriarchal aspects is an added burden against girls and women in the propensity of man-made crises¹¹³.

The weaknesses that come with droughts get us to yet another layer of gendered experience of suffering during climate change. The drying up of water sources and decreasing food sources leaves women no option but to endure the long, tedious marches taking them long hours in the hot scorching sun to find water. Not only is this labor physically demanding, it also depletes their health as well as their time, which they could spend in other activities like education, income generating activities or involvement in their communities. During extended droughts, chronic malnutrition, dehydration, and fatigue become the norms of women as they find themselves in cycles of ill-health and poverty. Significantly, these circumstances do not merely represent natural or biological outcomes of environmental adversity, but rather a mechanical reality where the health as well as the nourishment of women and their mobility is not reassessed and prioritized satisfactorily in the household scales of decision-making, and the state-level interventions as well. The extent of the deprivation women suffer in such an environment is thus a political and social

¹¹² Mariam Ashraf et al., "Understanding Challenges Women Face in Flood-Affected Areas to Access Sexual and Reproductive Health Services: A Rapid Assessment from a Disaster-Torn Pakistan," *Biomedical Research International* (1 April 2024)

¹¹³ Khadija Begum, "Women are hit hardest when climate strikes in Pakistan," *International Water Management Institute*, July 28 2025

consequence, the result of an unequal arrangement of power such that women have no access to the resources of which they are the main producers¹¹⁴.

Similarly, the resilience coping mechanisms of women reveal the agency even under the worst set of circumstances. The women develop coping strategies which can be in the form of resource pooling in the community networks, improvisations of food preservations or indigenous ability on water and seeds management which can sustain their family during crisis. Nonetheless, these interventions tend to be ad hoc, input-heavy and inadequate in response to disasters that keep occurring, in particular when not acknowledged or recognized by formal structures. Through noting the experiences of women, one can observe how climate change not only elevates gendered vulnerability but also indicates the power and opportunity that women have as central players in community resilience building- should those deep-seated inequalities be remedied and their input legitimized. The other imperative aspect of women and their experiences in disaster areas is gender-based violence. Evidence drawn in the displacement camps during the 2010 floods and the 2022 floods points it out that women and girls are at an increased risk of harassment, sexual violence and exploitation. The collapse of the social systems, combined with the lack of both protective social institutions, leaves women especially vulnerable in places with little privacy and few means of defense. Threat of violence becomes one of the most urgent matters along with the problem of the way to get food and shelter, so women have to find the methods to cope with it: limiting their mobility, decreasing trips to fetch water, or avoiding communal facilities. These curfews cause further isolation and a reduced access to humanitarian assistance¹¹⁵.

Dislocation of livelihoods and limited mobility are also additional examples of how women shoulder part of the burden during the climate catastrophes. Women also lose economic assets when floods wash away agriculture fields or when droughts kill livestock, in addition to losing the predictability of their everyday routine and food security in the home. Where women are actively involved in subsistence agriculture and livestock keeping, as in Sindh and South Punjab, the loss of agricultural crops and pastures weakens their contribution to the family economy despite its limited recognition in both. The limited mobility generated by cultural customs of sequestration and reliance on male family members in order to travel adds further stumbling block to the request

¹¹⁴ Ayesha Rouf and Tahira Sadaf, "Addressing Time Poverty for Gender Equality in Punjab," *The Agricultural Economist*, July 4, 2025

¹¹⁵ UN Women, *Gender and Climate Change in Pakistan: Impacts and Adaptation Strategies* (Islamabad: UN Women Pakistan, 2022), 18–19

of new earning choices, or the availability of relief provisions. Women are usually the last in line of benefiting and recovering funds, and they are not necessarily deserving in this particular case but because of structural, and cultural barriers that prevent them having a voice in the matter. Case studies enable practical understanding of these realities and make upper-level analysis of gender and climate vulnerability grounded in the actual lived experience of women in Pakistan. This is reflected in research conducted on the 2022 floods in Sindh which showed how displacement exacerbated existing disparities with women reporting an exorbitant rise in food insecurity, insufficient access to medical care and increased vulnerability to violence in congested emergency shelters. In most cases, women were subjected to unsafe working conditions whereby there was a lack of privacy and security thus creating an environment where physical and psychological pressure was increased. They lacked gender-responsive services, including separate sanitation facilities, maternal healthcare, or reporting mechanisms on cases of harassment, leaving women, in particular, widely vulnerable in the aspects that are typically underrepresented in common disaster assessments. Through these experiences, we come to see that the cost of environmental disasters is more than about monetary loss or damages to infrastructures because women are mostly affected and carry the long-lasting effect¹¹⁶.

Evaluations by humanitarian and development agencies also reveal that there could hardly be a more stricken group of people in the floods than women-headed households. Being deprived of male bread losers or any access to male-dominated resources, these households struggled to feed themselves, rebuild their livelihoods or receive relief assistance. They were both unsustainable and not adequate in the long term due to their coping measures to respond to long-term displacement, which include selling assets, consuming less food or being supported by informal community structures. In addition, structural discrimination left them out of compensation schemes and climate finance programs, usually requiring documentation, land titles, or pieces of collateral that women do not have accrued. The outcome was the so-called double vulnerability: women were in the first place those who suffered due to climate-induced disasters, and at the same time, because they were constantly excluded out of recovery channels, they were the ones that stood a chance of poverty and dependence. In Gilgit-Baltistan, in the north, women report differently on glacial lake outburst floods, providing another view on gender and climate change. In case of floods or

¹¹⁶ Ayesha Khan and Mahreen Khan, *Gendered Impacts of the 2022 Floods in Sindh: Women's Vulnerabilities and Resilience Strategies* (Islamabad: Collective for Social Science Research, 2023), 14–16

landslides, men tended to migrate to towns and cities as wage labourers, abandoning and leaving women behind in physically isolated, and environmentally risky landscapes. The types of environments described above placed additional pressure on females due to the possible limited access to resources and an increase of family dependency on them due to lost or disrupted livelihood since both women and men lived in environments that could challenge both family protection and family provision. Isolation state in remote villages coupled with cultural tendency to restrain movement meant that they had less access to relief assistance and other emergency communication networks and healthcare services. Their feeling of insecurity due to this isolation equally increased because they had to face the physical elements of an unstable environment with little external help. The testimonies provided by women in these regions are examples of not only the unequal spread of the risks, but also the failure to address women-specific needs when planning disaster responses using disaster planning strategies that are not gender-sensitive¹¹⁷.

When put together, these case studies make clear that although environmental disasters in Pakistan are often characterized by economic losses, destruction of infrastructure and decline of agriculture, its most devastating and unseen traces lie in the lives of women. The deprivation of climate shocks on food security, neglect of healthcare, exposure to violence and lack of access to recovery plans demonstrate how climate shocks compound existing gender inequalities to cause a compounded and enduring vulnerability. Keeping in mind that women are the carriers of the human dimension of climate change, it becomes obvious that this cannot be only materialistic loss; it is inherent in the bodies, everyday experiences, and mid- or long-term setbacks of women, whose affliction only becomes more apparent when it becomes critical. On the whole, women in climate-related disasters in Pakistan demonstrate the intersection of various types of disadvantages biological, social, and cultural that are aggravated by the environmental shocks. Such experiences highlight the need to present the problem of climate change not only as an ecological or economic problem but as a problem of gendered social crisis. Knowledge of these processes is very important in shifting off theorizing climate justice and adaptation and focusing on the reality of women¹¹⁸.

¹¹⁷ Humanitarian Policy Group (HPG), *A Gender-Sensitive Approach to Climate and Disaster Risk Reduction in Pakistan* (London: Overseas Development Institute, 2022), 34–36.

¹¹⁸ Rubina Saigol, *Feminism and the Women's Movement in Pakistan: Actors, Debates and Strategies* (Islamabad: Friedrich-Ebert-Stiftung, 2016), 78–80.

4.1.3 Women as Agents of Adaptation and Environmental Leadership

Although female populations are especially impacted by climate change in Pakistan, their adaptation to environmental pressure is seen as both survivors and as adaptation leaders. Women have also been on the forefront in creating community- based projects in order to protect natural resources, practice sustainability and reconstruct livelihoods following the destruction caused by disasters around the country. These approaches, which turn out to be very close to the lived experience of resource management and caregiving, show that the knowledge of women and their leadership cannot be spared when it comes to the promotion of resilience. Agency among women is evident especially in the grassroots where the state continues to show little or no support. In flood-prone regions of Sindh and Punjab, an example is that women have organized collective savings systems which have been used to facilitate food sharing to ensure survival in times of food shortage. With the use of indigenous knowledge of crop and seed storage, and soil management, women in both rural areas have played a pivotal role in sustaining agricultural output in spite of lack of water and extreme heat. In mountainous areas in Gilgit-Baltistan and Chitral, women have organised around community forest management and small- scale watershed conservation projects, which stabilise fragile ecologies, whilst ensuring vital access to fodder and fuelwood. Such local-scale programs, commonly written off as informal, are essential to the maintenance of household and community resiliency in an environment of sustained uncertainty¹¹⁹.

Also relevant is the contribution of women in provision of livelihoods especially after a disaster. With the 2010 and 2022 floods, women in most of the rural setting took up small-scale entrepreneurship activities in handicraft business, livestock rearing, and food processing as a way of earning income in places where their lands were washed away. Their ability to adjust livelihoods did more than sustain households: it also helped the gradual rebuilding of communities. In addition, female leadership has bound women together in self-help groups, cooperatives and village committees giving them power to bargain collectively and be able to access any available little help or negotiate with local authorities to provide basic services. These practices demonstrate that women are very dynamic and innovative in their resilience, not only to survive, but also in their active role on the formulation of adaptive responses that subsist communities. Notably, the responses by women also break the conservative discourses that tend to demonize the women as

¹¹⁹ Farzana Bari, *Women's Role in Natural Resource Management and Climate Change Adaptation in Pakistan* (Islamabad: Heinrich Böll Stiftung, 2010), 15–18.

victims of environmental stress. Their capability to engage community networks, communicate using indigenous ecological knowledge, and innovate in scarcity depicts that they are important agents in climate adaptation. However, their roles are downplayed and are institutionally black-boxed out of policy circles where technocratic or male variables of policy continue to dominate decision-making. State institutions and development agencies overlook women leaders and thus miss out on a major source of resilience that is already inherent in daily activities of the vulnerable communities. Acknowledging and factoring in women knowledge in formal climate governance is thus not only an issue of equity but also efficiency as sustainable adaptation cannot be practiced without proper involvement of women¹²⁰.

Locally, women have also led in the vibrant practices of adaptation that are specific to the context of the challenge of the local ecology. In flood-affected areas of Sindh, the women groups have mobilized to organize tree plantation as a means of securing the embankments as well as regenerating badly eroded soils. These activities are not just greening tokens but calculative measures aimed at curbing erosion, adding nutrients to soil and ensuring that households have a source of fuel wood. Women in water scarce areas of South Punjab have institutionalised water storage and distribution by developing a communal system that provides women with the equitable access to water during the times of shortages. In like manner, the women in the mountainous Gilgit-Baltistan region, who are subsistence farmers, have been advocating organic ways of agriculture, which has revulsed against the expensive chemical-based farming, and have saved the delicate soil structure of mountains and the water resources of the glaciers. The given practices demonstrate the ways that ecological knowledge can be used by women and is associated with sustainability, with much focus on the environment and long-term resiliency, as opposed to immediate exploitation¹²¹. Its grassroots leadership also emphasizes active role of women in environmental governance. In some rural settings there have been the rise of women-based groups as potent agents of adaptation mobilization. In Sindh, women-led NGOs have led campaigns of disaster preparedness training local families in evacuation planning, first aid and techniques of sustainable rebuilding their homes. In Gilgit-Baltistan, the key role of cooperatives of women has been to coordinate collective response to glacial lake outburst floods, to organize food and fodder storage, protection of livestock

¹²⁰ Khurshid, Ayesha. *Gender, Vulnerability, and Climate Change in Rural Pakistan*. Islamabad: Sustainable Development Policy Institute, 2023, 88.

¹²¹ Farzana Bari, *Women's Leadership in Climate Change Adaptation in Pakistan* (Islamabad: Heinrich Böll Stiftung, 2019), 22

and care of children in crisis situations. Such leadership styles exist beyond official jurisdiction of climate governance, and yet can be very essential to the extent other agencies, especially the state institutions, fail to offer social security systems. Such responses are especially characterised by ecofeminist ethics, in that they focus on care, cooperation and sustainability. Instead of perceiving nature as an object to be exploited, there are a number of these initiatives based on relational philosophies valuing harmonies between communities and the ecosystems. Women forestation movements, people seed banks and organic farming projects all illustrate an ethic of care which extends to both human and non-human life, challenging profiteering systems of development at the expense of sustainability. In this regard, the attempts of adaptation by women will be not just a coping mechanism but a political exercise, resisting such mainstream ideas of environmental governance¹²².

Such ecofeminist aspect is further highlighted in light of the predominant developmental policies in Pakistan, which tend to employ technocratic and growth oriented practices. Large-scale infrastructural projects - like dams, coal-based energy plants or commercial monoculture - are characterized by prioritizing the short-term value in relation to displacing communities, damaging the ecosystems and suppressing local input. Women projects are also long-term sustainable and take collective welfare into account and promote the common good and ecological balance. As an example, rural women forestations take part in forestation initiatives which are important in enhancing the biodiversity and soil conservation besides providing a social venue where people are united in the protection of their own environment. The move to set up these processes portends a planned ethical shift away from extractive paradigms and recasting adaptation as a process of care and stewardship and not exploitation¹²³.

Besides, Women participation in seed banking and organic farming seeks, also, more political investment into ecological justice and food sovereignty. By saving native breeds, and practicing organic farming, the women are resisting the demands of the industrialized agricultural where farmers are dependent on the expensive chemicals and sources, which reduce the biodiversity. These traditional activities conserve the cultures in place and also increase the adaptive capacity of the community to the vagaries of climate thus not bringing new, foreign technologies into the

¹²² Sara Ahmed, *Ecofeminism and Climate Justice: Grassroots Movements in South Asia* (London: Routledge, 2021), 87.

¹²³ United Nations Development Programme and National Commission on the Status of Women, *Climate Equity: Women as Agents of Change* (Islamabad: UNDP Pakistan, March 16 2022)

realm of adaptation acting rather as community based than as government generated adaptation. Women are not merely playing defensive among the ruins of climate change, but driving a wedge into the neoliberal discourse as they remodel the language of climate governance to incorporate the values of reciprocity, interdependence, and concern with nature. Through this, the ecofeminist ethics brings out the fact that the environmental efforts made by women are not limited to the domestic realm of home but extends to the realm of politics in the management and governance of resources. Even the act of planting a tree, saving a seed, or cultivating in an organic way are all manifestations of an alternative vision of development-a counter to patriarchal and capitalist logic that has both oppressed women and devalued the environment. By associating ecological care with care for communities, adaptive strategies by women represent a radical model of worldview and a critique of the status quo of power structures as well as a model of resilience that can be applied on a large scale. That is why their efforts are not only of environmental importance but also politically transformative as women become the leaders of a more just and sustainable future¹²⁴.

Women leadership, which has transformative power, is further supported by case examples. In recent years, climate projects that have been led by women and have united environmental restoration alongside the empowerment of women have been documented with the support of organizations like Heinrich Bll Foundation. In Sindh, grassroots-level women leaders have started the community nurseries and tree planting initiatives which not only reduce the effects of climate but also provide income generation schemes. Individual cases including the forestation campaign by Yasmin in a drought-prone community exemplify how women at the grass-root level organize collectively, motivate local people, and maintain environmental transformation in the community regardless of limited funding. These illustrations remind us that women are not adaptive in idealistic forms, left to our imaginations, but actually and objectively adaptive in ways that we can measurably target with ecological/social positive gains¹²⁵.

All these experiences can be taken together to show that women in Pakistan are not inert recipients of aid but fundamental participants in creating climate resilience. Their on-the-ground work, grassroots leadership, and ecofeminist morality offer a different path toward adaptation, based on compassion, sustainability and collaboration. The importance of highlighting and magnifying such

¹²⁴ Bina Agarwal, *Gender and Green Governance Revisited: Women's Collective Action in Agriculture and Climate Resilience* (New Delhi: Oxford University Press, 2023), 145.

¹²⁵ Sindh Community Foundation, *SCF launches Women's Green Skills Initiative*, *Business Recorder*, July 5, 2025

endeavors then is that they represent activities that feed into inclusive and equitable forms of environmental governance, be it at the local, national, or even transnational levels.

4.1.4 Barriers to Women's Climate Leadership

Irrespective of their apparent resilience and innovation in coping with environmental change, women in Pakistan still experience immense challenges in taking up leadership positions in climate governance and climate change adaptation programs. Such obstacles exist at a deeper level, in structural, social-cultural, institutional set-ups that restricts the inclusion and representation of women as valid contributors in the narrative of climate. Although women are common on the frontline of climate impacts trying to find ways to live with water scarcity, agricultural disruption, food insecurity, their voices are kept silent in the forums where these strategies are determined. This disengagement between experience of women and exclusion of the same in formal decision-making highlights that patriarchal power structures persist in the belief that governance is men territory, and that experience of women is irrelevant as opposed to being the focal point of climate resilience. The most urgent issues are the systematic underrepresentation of women in terms of formal policy and planning spaces. Policies to address climate change in Pakistan have been dominated by male-dominated bureaucracies where decisions are made along lines of the male-dominated hierarchies most of which privilege technical skills and economic interests over social justice and grassroots issues. The voices of women, especially in rural and marginalized populations, are seldom sought and even when sought they are discarded largely in favor of tokenism over genuine contribution to the formulation of policies. This exclusion has wide ranging implications. It leads to top-down solutions that do not respond to the gendered aspects of vulnerability like access to health, education, secure livelihoods and social protection measures. In addition, the fact women are not in positions of power implies their experiences with local adaptation strategies, the ways in which they manage resources, and local ecological knowledge do not become reflected in mainstream climate dialogue¹²⁶.

The weakening of the efficiency of the climate adaptation initiatives is aggravated by the marginalization of women in the spaces of governance. Policies that do not have a sense of gendered vulnerabilities always have unintentional implications of increasing inequalities.

¹²⁶ Farzana Bari, *Gender and Climate Change in Pakistan: Assessing Gaps and Opportunities* (Islamabad: UN Women Pakistan, 2022), 14–16.

Compensation can be distorted as in the example of disaster relief where landowners can be given priority to receive compensation automatically disregarding women who are usually the main cultivators yet they do not have ownership of land titles. Comparatively, women farmers are left out of the financial support offered by the agricultural support programs since they are denied credit or subsidies offered by the government through male-dominated households. The absence of gender-sensitive planning in such cases not only undermines the inclusiveness of climate governance but mitigates the integrity of adaptation effectiveness as this would leave half the population out of climate change adaptation deliberations or adaptation gains¹²⁷.

The implication in the context is that the exclusion of women in the decision-making is not only about representation, but a structural issue to curtail the capacity of Pakistan to establish a sustainable and equitable mitigation and adaptation of climate. Through the neglect of their leadership role, the state and the institutions perpetuate a form of governance that is not only patriarchal but limited as the state fails to see that it is the very women who have already started to take a lead in adapting up to the current environment. Because women enjoy less influence in climate governance than their male counterparts, symbolic inclusion is not enough; institutional reforms that remove obstacles to women participation, consider gender issues throughout the policy formulation and execution process, and uprise resources dedicated to women-driven agendas are imperative. In the absence of these measures, climate governance in Pakistan will remain half-baked, out of touch with reality at the grassroots and, therefore, less effective to rise to tough post-environmental change challenges. Cultural norms also contribute to this marginalization of people Patriarchal values, so deeply rooted, in many cases do not encourage a woman to take on leadership positions since the latter can only be taken at the domestic sphere. Women are often seen as dependents in place of desirable decision-makers and this limits women to make contributions to the climate governance. Mobility constraints such as family respect or their safety issues in many communities further limit their freedom to invite their voice to policy matters, attend policy discussions, or even take some climate adaptation training courses¹²⁸.

The next serious impediment is scarce access to education and information by the women that is one of the most stubborn impediments of their effective engagement in climate governance. The

¹²⁷ *Harvesting Inequality: Gender, Agriculture and Climate Change in Pakistan*, South Asia @ LSE, July 21, 2025

¹²⁸ Laiba Shamsher, "Gender Disparity in Pak Climate Policies," *Pakistan Observer*, April 2024

rural Sindh, Balochistan, and South Punjab have the worst literacy gaps as cultural traditions and practices mostly deny women access to skills development and employability. The inaccessibility of basic and technical education does not allow women access to the expertise they would need to participate in formal systems of climate governance, including local disaster management committees, agricultural extension programs, or the planning of adaptation strategies. With the absence of literacy and technical training, the women are isolated of any workshops, consultations or talks on policy making where the allocation of resources and community resilience strategies are discussed. Besides being a serious impediment to their qualification in leadership roles, this gap in education is a threat to their bargaining power in local adaptation projects, where technical jargon and bureaucracy are an added insurmountable frustration. The lack of female voices in such processes continues a legacy of erasure around female voices, whose practitioner experience is undermined simply because they do not correlate to prescriptive modes of authority and expertise. At both national and international levels, there are climate finance mechanisms, which include adaptation funds, green climate projects, and microfinance programs, among others, yet women in their direct nature do not benefit, especially those who belong to marginalized societies. They lack the collateral to access credit or loans, or the land ownership, or even the financial literacy among other barriers that inhibit their reach to credit or loans. Although microfinance schemes have been established in some places, cultural demands demand male guarantors, something that further disempowers women when it comes to making financial decisions. Consequently, the creative activities engaged in by the women, like organic agriculture, forest protection, community seed banks and water infiltration, continue to lack appropriate state support and are left at the mercy of weak informal systems¹²⁹.

Omission in climate finance also depicts structural inequality on a gendered basis in Pakistan. Development agencies and state institutions, in designing of programs, tend to favor male headed households or property owners without considering that women are highly involved in both the food production and management of resources especially at the household level and adaptation to climate changes. Such a bias not only deprives women economic powers to scale up their efforts but also promulgates the myth that women are not active players in the resilience-building but mere recipients. The exclusion of women in Access to Climate Finance amounts to de facto

¹²⁹ Aisha Khan, *Climate Justice and Gender in Pakistan: Challenges and Opportunities* (Islamabad: Civil Society Coalition for Climate, 2023)

disempowering them as they are unable to innovate or scale up their work in ways that serve relevant communities as a whole. Both education and finance are key domains in which the exclusion of women reflects more than a lack of opportunities- it is a systematic failure in climate governance itself. Institutions abdicate the responsibility of providing women with the means of knowledge and the means of finance, therefore hindering the very figure who has already demonstrated a significant role in community adaptation. The closure of these gaps not only would encourage gender equity but also render the climatic responses of Pakistan of higher quality, inclusivity, and sustainability. Unless intentional effort is put into overcoming these obstacles, the leadership potential of women will remain suppressed and the nation will continue to lose its creative resource of resilience and innovation by women. Last, there is a structural mismatch between technocratic climate governance and local knowledge systems. Pakistan policy frameworks tend to prioritize community based solutions by focusing on large scale infrastructural and technological solutions as opposed to more locally relevant solutions. Women, the common guardians of this information, in that they take part in agriculture, water gathering, management, etc are systematically left out in development of the strategic plans on climate. This lack of connection creates inefficiencies not only in the acknowledgement of the agency of women but also the viability of the adaptation interventions¹³⁰.

Altogether, the factors that prevent women in Pakistan to take leadership positions in climate change belong to a multidimensional category that consists of institutional barriers, cultural and gender norms, educational opportunities, economic resources, and low appreciation of local knowledge. Overcoming these barriers means that governance needs to overcome the traditional transformation that sees women as the climate policy beneficiaries but instead as the key players to lead the way toward building resilient and sustainable futures.

4.1.5 Reframing Climate Justice through Women's Experiences

The reframing of climate justice in the context of the lived experiences of women leaves new ways forward in considering sustainable and inclusive governance. In contrast to abstract policy prescriptions that often come out of top-down planning, the lives of women in the context of everyday experiences with environmental stressors bring out the fine details of survival,

¹³⁰ Shariq Waheed and Husnain Waheed, "Impact of Climate Finance on Gender Equity for Sustainable Global Development: Can Aid for Climate Action Also Aid Gender Equity?," *Brazilian Journal of Science* 1, no. 7 (2024): 51–52

adaptation, and resilience. Women in Pakistan, where climate vulnerability is a problem, bear inordinate amounts of responsibilities in water collection, food production, and care work in the climate sensitive areas, such as Sindh, South Punjab, and Balochistan. These are liabilities, but also embedded within them exists a strong foundation of environmental knowledge and locally-derived approaches, which mostly remain invisible to formal governance systems. By placing a central value on women, and in particular women with the knowledge about climate, climate discourse may be oriented in a different direction, towards less infrastructural and market-based climate solutions and toward more people-centered solutions¹³¹.

Adaptive strategies exhibit high degrees of creativity on the part of women within unfavorable settings. Such localized water management processes as the common use of wells, the collective harvest of rainwater and the availability of irrigation channels make out an ethic of stewardship that both sustains an equal share and promotes ecological prosperity. In a parallel way, the fact that women maintain the indigenous seeds, exchanged typically in informal circuits, contributes to the protection of biodiversity against the increased influence of commercialized and altered species. Besides ensuring food sovereignty is achieved in rural households, these practices also provide long term adaptive capacity to changes in climatic conditions. Simultaneously, a network of community-based care by women which can consist of informal savings networks and cooperative childcare among others, bolsters social cohesion, allowing households to endure a climate-induced upheaval like migration, harvest failure, or flooding. All these instances show that the strategies of women are not only mechanisms of survival, but contributions to the structure that keeps communities and ecosystems stable. In addition, the practices reflect a specific ethic of responsibility to the environment, which is not dominated by technocratic and profit making ideologies of pretenders of both states and markets. At the same time that certain approaches and strategies of climate governance are dominated by the rapid expansion and large-scale infrastructural projects or by the purely economic growth in mind, women offer a different perspective by demonstrating the principle of continuity, inter-dependency, and survival as a community. This discrepancy demonstrates how the views of women can rebalance the landscape of climate management in a manner, which reflects both environmental wellbeing and human

¹³¹ Sarmad Aftab Lashari, Rameez Haider, and Irfan Ali Katohar, "Women's Empowerment and Climate Change: The Role of Pakistani Women in Sustainability," *Advance Social Science Archive Journal 2*, no. 4 (2024): 223

rights. Most significantly, the values which these practices are built on care, reciprocity and long-term stewardship can be used to inform larger theories of climate justice by disrupting patrons and patterns of resource exploitation and promoting more equitable models of adaptation¹³².

Incorporating the lived experiences of women into formal governance demands more than optical validation of the voices of women, but structural measures to move the voices of women at the grassroots level into realms of policymaking. These entail establishing institutional structures on inclusion of women in the climate planning, establishing gender sensitive budgeting, and channeling funds on climate into community-based projects. Devoid of such integration, the knowledge and resilience of women is being relegated to the periphery, undermined and underappreciated in determining the national and global climate agenda. Reconstructing climate justice through their experience,, consequently, not only solves the problem of gender inequality but also enriches the epistemological basis of climate governance, making it grounded in practices that have already demonstrated their sustainability in a context of scarcity and vulnerability. Finally, the ways in which women live contradict the assumption of climate policy by proving that the resiliency is not constructed on technology and monetary resources but can be built through webs of care, knowledge, and responsibility. Their activities, when identified and institutionalized, can assist in creating governance systems that are more decentralized and democratic and resilient to worsening climatic impact. In this way, women are not mere passive victims of climate change but participants in justice whose life stories make the way they lead to a new, more equitable and sustainable future¹³³.

At the core of such reframing is the appreciation of relational, spiritual, and caring practices that women tend to include in their approach towards the environment. Contrary to technocratic prescriptions that put a primacy on efficiency and control, the strategies employed by women tend to be relational in that they connect the ecological health and family survival, community belonging, and intergenerational regeneration. The connection of many rural women with land and water is viewed not only through an economic lens, but as a deeply spiritual leaning based on the traditions of custodianship and reciprocity. This worldview opposes predominant paradigms

¹³² Bibi Maria, Shazia Saeed, Alia Ahmed, Maria Ahmed, and Abdul Rehman, "The Sustainable Use of Diverse Plants Accustomed by Different Ethnic Groups in Sibi District, Balochistan, Pakistan," *PLOS ONE* 19, no. 2 (February 21 2024)

¹³³ Neha Saigal and Saumya Srivastava, "Urgent Imperatives: Advancing Gender Equality in Climate Action," *Journal of Human Rights and Social Work* 15, no. 1 (2025): 12.

related to the way policies are made in the climate policy domain, which tend to implicitly or explicitly dismiss such practices as secondary or even irrelevant in comparison to scientific or market-based solutions¹³⁴.

Ecofeminist views point to the mainstream climate rhetoric being dominated by rooted power structures that exclude women and other vulnerable people. The predominant policy frameworks tend to replicate the hierarchies of knowledge and power and in doing so reinforce central rationales of decision-making which privileges state agencies, corporate actors and corporate and technocrat elites. In these contexts, climate solutions have often been condensed into a question of infrastructure or tech-based innovation-i.e. green energy grid, geo-engineering, or a more sophisticated irrigation system-but are framed as a universal solution. Although these strategies might have some advantages, they often ignore local social and cultural contexts within which climate effects are played out, disregarding the lives of those people most directly affected, namely rural women whose lives are rooted in local ecosystems as part of their survival strategies. In comparison, women experiences and practices show how climate justice should be redrawn out of carbon reduction, GDP growth, or cost-efficiency measurement. Justice to women residing in the climate-contacted territories of Pakistan is not only about taking reducing emissions, but also equitable distribution of resources, input into decision making and appreciation of their system of knowledge in the climate vulnerable territories of Pakistan. Their inputs draw attention to other facets of justice that are relational, context-specific, and anchored on ethics of care which are not aligned to parasitic and competitive logics inherent in the mainstream developmental orthodoxy¹³⁵. The examples of how women practice adaptive activities which include water-sharing, seed safeguarding, and joint care giving reveal how an ethical approach of cooperation can provide new opportunities in sustainable governance. Such practices reflect a politic of inclusion that problematizes the interdependence between human and ecological welfare, and which breaks with technocratic conceptions of climate policymaking that focus on efficiency at the expense of equity. Ecofeminist views are not only deconstructive in the light of the exclusions of mainstream discourse, they are also somewhat constructive. They show why it is so critical to reconsider governance structures in the ways that climate justice would mean establishing egalitarianism,

¹³⁴ Maria Mansab and Saad Ali Khan, "Gendering the Climate Justice: Post-colonial Ecofeminism in Pakistan," *Progressive Research Journal of Arts & Humanities* 5, no. 2 (December 2023): 5

¹³⁵ Maria Mansab and Saad Ali Khan, "Gendering the Climate Justice: Post-colonial Ecofeminism in Pakistan," *Progressive Research Journal of Arts and Humanities* 5, no. 2 (2023): 1-15.

democracy, and the harmonious relationship between people and the environment, and not merely the scientific or the market-driven variants. In this light, women as holders of lived experiences that concern the climate crisis cannot be deemed outliers in the crisis of climate governance but rather its core. Their views throw light on the fact how the fight against climate change cannot be imagined without the fight against established systems of inequality, exclusion, and powerlessness¹³⁶.

Through reframing climate justice in their terms, it becomes clear that addressing them requires more than the very restrictive confines of carbon mitigation or technological fix, and that climate change impacts can only be understood in the wider socio-political context that upholds certain hierarchies that leave some more exposed than others. Such reframing emphasizes the fact that the climate crisis is a matter of justice and redistribution as much as it is a matter of environmental survival. The values of care, cooperation, reciprocity, and long-term sustainability on which women-led adaptive practices are based challenge the prevalent paradigm of extractive economic development and short-term economic payoffs. These activities show that resilience does not emerge due to remote and one way interventions but rather through community rooted partnerships of accountability and trust. By including such lived experiences as the focal point of policies, the model of climate governance may transform into a more complete and inclusive one that will connect ecological and social justice pursuits. In this regard, the input of women is not merely a tool of survival, women have given and can continue to provide a lot more in the form of transformative alternatives that can help readjust governance in the direction of equity, sustainability, and collective well-being¹³⁷.

¹³⁶ Mutuku, M., et al. "Determinants of Women's Participation in Climate-Related Decision-Making in Pakistan." *Journal of Environmental Policy and Planning*, 2025.

¹³⁷ Mutuku, M., et al. "Determinants of Women's Participation in Climate-Related Decision-Making in Pakistan." *Journal of Environmental Policy and Planning*, 2025.

CHAPTER 5

5.1 GENDER IN CLIMATE GOVERNANCE AND POLICY FRAMEWORKS

The scope of climate governance in Pakistan has been on the rise over the last ten years, but the ongoing policy-practice disconnect erodes gender-sensitive climate security. In theory, national frameworks and international commitments consider gender; in practice, however, measures have been implemented sporadically, inadequately and poorly institutionalized. The gap is not a simple administrative one but informs who faces risks that are counted, who has knowledge that is valued and who has access to resources necessary to adaptation. Women who are most vulnerable to the effects of climate hazard due to inherent inequalities and gender-based discriminations in labor opportunities are also likely to be underrepresented in policymaking and underbanked and underserved in the financial allocation and services to adapt and take the leading role against climate change¹³⁸.

This chapter seeks to fill in on that gap by adopting a gender perspective, questioning how state policies and international frameworks transfer-or fail to transfer-into making a difference to women at the grassroots. It states that gender in climate governance is more than just rhetorical commitments, sporadic references and uncoordinated women projects. To be gender responsive, however, needs enforced processes: policies need women in the rooms and technical bodies; transparent and gender disaggregated monitoring systems; gender-specific targets and budget lines; climate funding that women-led organizations can access; and accountability which is based on results, not activities.

The analysis is made in four steps. It also establishes Pakistan Core policy instruments, in particular, the National Climate Change Policy/Plan and its implementation mechanisms in the context of the wider governance environment, incorporating provincial governments, disaster management frameworks, and sector lead agencies. Here the chapter evaluates to what extent gender has been approached beyond mere mention in the chapter to encompass briefings of mandates, resources, and monitoring on gender. Second it assesses the relationship of Pakistan to international gender systems such as UNFCCC gender action plan and Sendai framework on disaster reduction, by examining the disjuncture between regular reporting and actual performance

¹³⁸ Afzaal, A., and R. E. Ahmad. 2025. "Climate Justice and Women: Adaptation Strategies in the Global South and North." *Journal of Development and Social Sciences* 6, no. 3 (July–September): 677–692. [https://doi.org/10.47205/jdss.2025\(6-III\)58](https://doi.org/10.47205/jdss.2025(6-III)58)

on the ground. Third, it focuses on gender and climate finance, looking at how legal structures, collateral requirements, access to banking services and donor procurement policies systematically bank women-owned cooperatives, community-based organizations, and small NGOs out of the funding pipelines to existing programs, meaning that they are represented to actually include them—albeit at tokenistic levels rather than substantive inclusion. Fourth, it juxtaposes technocratic views on the matter (driven by an infrastructure approach, male-coded expertise) with feminist visions of dealing with environmental issues (based on care economies and indigenous knowledge, relational stewardship, and communal leadership).

Throughout, the chapter is approached in an ecofeminist and intersecting perspective. The idea that extractive and hierarchical worldviews lead to the exploitation of the natural world also translates into labor and knowledge devaluation of women ecofeminists and is why intersectionality helps manifest the disparate experiences of women that are rooted in class, region, ethnicity, disability, age, and marital status. This optic is critical to the diagnosis of the failure of what purports to be gender-sensitive policies at the delivery end: standardized toolkits cannot address regional environmental conditions and societal codes; rules on participation result in ritualization; and accountability mechanisms count training sessions, not shifts in power structures, nor enhancement of adaptive capacity.

The argument is dominated by three cross-cutting governance failures. The two first are institutional: the gender theme is commonly not granted with its own existential powers in terms of authority, budget, and technical capabilities leading to a dispersion of functional responsibility and poor coordination between ministries and provinces. The second is epistemic: local women do not contribute their knowledge about water cycles, seed systems, grazing routes, and risk signals to assessments, project design, and early warning systems, even though their knowledge is essential to household and community resilience. The third is distributive: rather than prioritizing social infrastructure, such as health, care, mobility, and safety, which can make or break any adaptation effort in practice, climate investment prioritizes hard infrastructure and carbon measures.

By contextualizing gender as part of successful climate governance and not an add-on, this chapter pursues a practical agenda: incorporation of gendered risk in national and provincial planning; entrench gender focal points with authority; mandate gender-responsive budgeting and gender-disaggregated indicators; localization of international directives through intensive capacity-

building; and opening avenues of climate financing that becomes open to women-led organizations. In doing so, it is aimed at reorienting policy regarding performative inclusion to outcomes that can strengthen women in terms of security, agency and leadership as Pakistan continues to warm rapidly.

5.1.1 National Climate Policy Landscape and Gender Inclusion

Although the policy frameworks regarding climate change, especially the National Climate Change Policy (NCCP) 2021 and the Framework of Implementation of Climate Change Policy (2014 2030) do seem promising in their textual formation, their practical application has been found wanting. Even though these documents point out gender-responsive practices, and mainstream the climate issues into other sectors, operationalization processes tend to be incoherent. As an example, despite the NCCP 2021 recognizing women as the sources of resilience and adaptation, institutional structures to guarantee their significant inclusion in decision-making procedures remain weak or do not exist. Its implementation is structured towards top-down, technocratic forms of governance where more attention is given to developing infrastructure and larger-scale policies in comparison to grass-roots activities. This causes a policy-practice disconnect, in which the actual experiences of women – especially the rural and climate-exposed areas are being poorly reflected in the local adaptation action. As a result, the gender-sensitive policies have lacked the effect through which they should have been able to achieve a transformation due to lack of a corresponding act¹³⁹.

There is also another looming challenge, which is the institutional and financial barriers to these policies. Although the Framework Implementation Implementation (20142030) is an outline that indicates steps towards integrating climate action in sectors, this course has been stunted by lack of inter-ministerial coordination, insufficient enforcement of actions, and under-funding. At times, climate action in Pakistan is donor-centric, which means that consideration of gender aspects will mostly find its way because it is required by donors and not necessarily because it is part of the national planning. In addition, monitoring and evaluation systems are still nascent, so it is challenging to evaluate whether any gender-sensitive measures are taken efficiently. Illustrating this point is the fact that although individually, disaster risk management strategies encourage

¹³⁹ Fruttero, Anna, Daniel Halim, Chiara Broccolini, Bernardo Coelho, Horace Gninafon, and Noël Muller. 2023. *Gendered Impacts of Climate Change: Evidence from Weather Shocks*. Washington, DC: World Bank. <https://openknowledge.worldbank.org/handle/10986/38311>

representation of all people, when it comes to relief, rehabilitation, and receiving financial compensation, women are also subjected to narrow views of the patriarchy, which limits their movement and ownership. Such disconnect is recognition to the fact that what is needed is not just articulation of policy but also reform of institutions so that there is no gap between what is intended and what is on the ground¹⁴⁰.

The wider Pakistani governance environment draws into this mix of complications even more. Climate policies are often developed by the federal government, but actual implementation requires the role of the provincial and local governments, especially, since the 18th Constitutional Amendment devolved key duties to provinces. Provincial governments do not have technical expertise, financial strength and institutions of managing gender-responsive issues in climate measures. In rural Sindh, Balochistan, and southern Punjab, e.g., climate-vulnerable households, particularly those who are women and farmworkers still face a challenge in reaching adaptive technologies, financial credit, and extension services. In the absence of sufficient coordination among federal frameworks and provincial implementation, gender-sensitive provisions may end up as rhetorical commitments but not actions. These and other shortcomings of the governance structure and system of accountability in Pakistan reflect a wider structural problem of the delivery of progressive policies in Pakistan, which are undermined by sluggish processes of implementation and a lack of checks and balances¹⁴¹.

Lastly the framework on mainstreaming the issues regarding climate, particularly in the context of sectors like agriculture, water and energy has not really observed the intersectionality between gender and other parameters like class, geography, and ethnicity. The effects of climate change on women in rural and the marginalized communities are not the same as that on women in urban communities, but such differences are little captured in climate change adaptation programs. In another example, though policy documents emphasize that women should be involved in areas of water management and disaster preparedness, these documents fail to capture limitations encountered by women who do not have access to land rights, education, and decision-making counterparts. Due to this, the wisdom that women possess; that mostly focuses on local ecological

¹⁴⁰ Nosheen, M. 2023. "Economic Empowerment of Women through Climate Adaptation: Evidence from Pakistan." *Journal of Environmental Sustainability and Development* (2023).
<https://doi.org/10.1016/j.jenvsust.2023>

¹⁴¹ Memon, F. S. 2025. "The Intersection of Rurality and Climate Resilience: Gendered Challenges and Adaptation Strategies in Pakistan." [*Journal Name*] (2025).
https://www.sciencedirect.com/science/article/abs/pii/S0277539525000135?utm_source=chatgpt.com

conditions, is not considered to be important in the variably structured systems of governance. Such exclusion decreases the efficacy of climate adaptation measures since sustainable resilience must involve access to distributed understanding structures in the local societies as well as the scientific and technological tools. A more empowered impact on the implementation of the climate policies in Pakistan would, hence, necessitate not only gender mainstreaming but an overall restructuring of the governance practices to empower women as inclined entities on equal standing in climate action¹⁴².

Nevertheless, despite containment of formal references to gender inclusion in these policies, there still exists a gap between policy articulation and the practical mechanism. Then there is the tendency of treating gender as an add-on or the inclusion of the superficial language like special attention to women or the encouragement of women participation without stating measures or concrete commitments about them. There remains not a lot of clarity, as to how women will be incorporated into decision-making organs, how their voices will be enhanced, and how resources will be distributed in a manner that would lead to the fair outcomes. Gender has been recognised symbolically but not operationalised meaningfully. The key flaw in its systems of climate governance in Pakistan is lack of enforceable targets and an effective accountability mechanism. Although the Framework for Implementation (20142030), as well as the NCCP 2021, are using gender sensitive lingo, they do not set measurable targets to the participation of women in climate planning, climate adaptation programs or access to climate finance. This lapse greatly undermines the transformational power of these policies because, although gender equity is a desire, it is not yet a practice. An example is that, even though the policies make a reference to inclusive decision-making, there are no binding quotas or institutional requirements to ensure representation by women at federal or provincial climate institutions. By the same token, the absence of gender-disaggregated data complicates the odds of assessing outcomes, as it denies policymakers the evidence base with which to refine action or detect disparities. This has under-valued the roles women play towards climate adaption, under-addressed their vulnerabilities, and has led to superficial discussions of women and climate change¹⁴³.

¹⁴² Ullah, W. [First Name if available]. 2024. "Social Injustice among Women during Climate-Induced Migration in Pakistan." *[Journal Name]* (2024).

https://www.sciencedirect.com/science/article/pii/S2212096324000809?utm_source=chatgpt.com.

¹⁴³ Daraz, U., et al. 2024. "Impact of Climate Change on Women's Mental Health in Rural Pakistan: Evidence from Malakand Division." *[Journal Name]* (2024).

https://pmc.ncbi.nlm.nih.gov/articles/PMC11674845/?utm_source=chatgpt.com.

Combined with the lack of gender-responsive budgeting this makes this challenge even tougher. The lack of financial resources that take into consideration the needs and priorities of women perturbs that climate initiatives are likely to increase existing inequalities instead of mitigating them. As an example, initiatives in agriculture and water management are areas where women have been central in terms of distribution rarely allocate money to capacity building, training, and access to technology directed toward women farmers. Such non-financial mainstreaming helps in sustaining reliance on foreign donors, where inclusion of gender is sometimes a report back condition as opposed to being a locally influenced commitment. In addition, the lack of sanctioning non-compliance means that federal and provincial institutions are free to consider climate gender provisions as auxiliary provisions that can be exercised when it is convenient to do so. This practically implies that even the best-meaning initiatives may skip women and continue to cement their position on the periphery of the process of decision-making and funding¹⁴⁴.

The question of accountability in monitoring and evaluation processes is also an issue of concern due to this gap in policies. The existing frameworks pay significant attention to broad sectoral objectives, e.g. resilience to climate change in agriculture, disaster risk management, etc. without indicating how gender-equitable implementation of these objectives can be ensured. Because disaggregated indicators are not in place, it is not possible to know whether adaptation programs are benefiting in an equitable way both men and women or whether unbeknownst to them, adaptation programs are propagating patriarchal power structures. Such as in the case of relief provision in times of floods, priority is usually given to those male heads of the household, with women as secondary beneficiaries and relying on male brokers to get relief. In the absence of institutionalized means of monitoring, however, such inequities may go unchallenged. Thus, although Pakistani climate policies are seen to be on par with international standards in theory, due to their incapability to convert gender-sensitive terms to action or policy plans at the ground level, a structural flaw that lies at the foundation of climate governance is revealed¹⁴⁵.

This gap is worsened by the institutional weaknesses and bureaucratic inertia in the governance system of Pakistan which has also contributed to Pakistan being unable to achieve its development

¹⁴⁴ Shah, A., and S. Hassan. 2023. "Climate Adaptation and Gender: The Role of Women's Participation in Pakistan's Rural Development Programs." *Environmental Studies* 42, no. 4 (October): 88–100. <https://doi.org/10.1080/15575347.2023.2065042>

¹⁴⁵ Khan, M. S., and R. I. Baloch. 2024. "Pakistan's Gender-sensitive Climate Action Plans: Institutional Challenges and Policy Gaps." *Asian Development Policy Review* 9, no. 2 (June): 133–149. <https://doi.org/10.1515/adpr-2024-0008>.

goals. The policymaking in climate change is concentrated and often operates on the few ministries and bureaucratic agencies in Islamabad, something that reduces the input of grassroots representatives especially marginalized women in the vulnerable areas such as Sindh, Balochistan and the Gilgit Baltistan. The local institutions are never empowered or provided with resources to carry out gender-sensitive adaptation initiatives and this leaves the communities dependent on the informal networks or NGOs. Bureaucratic organizations are also characterized by prioritising technical, infrastructural solutions- flood control projects or energy reforms- rather than the social dimension of gender equality. This techno-centricity marginalises their own expertise, especially when they have a central role in areas such as agriculture, water conservation, and community resilience. Additionally, there is no coordination among the ministries and implementing agencies and this creates redundancy in activities as well as inefficiencies. As an illustration, even though the Ministry of Climate Change may include gender inclusion as part of its policy agenda, the provincial governments do not have the significant resources, accepted expertise, or the political will necessary to implement these promises. The issue of women inclusion then has forms the rhetoric rather than an actual policy decision¹⁴⁶.

Examples of recent surveys of assessment only amplify these failures. It has been observed that although the NCCP 2021 reflects an activist tone, gender-sensitive budgeting and capacity-building programs have not been introduced to target women. Likewise, the implementation framework (2014–2030) does not outline how the role of women will be institutionalized within its 20 long-term measures on adaptation and mitigation. Consequently, the women have been left out in decision making grounds both at the local adaptation committees and the national levels in the climate negotiations¹⁴⁷.

So, the gender inclusion on theory basis is present in the climate policy landscape in Pakistan but is undermined by the non-existence of enforceable targets and accountability alongside, the non-existence of gender disaggregated budgets alongside bureaucratic indifference. It leads to governance system when women are stated to be welcome in participation but restricted in practice.

¹⁴⁶ Choudhury, N. A., and S. Syed. 2023. "Bridging the Gender Gap in Climate Adaptation in South Asia: Pakistan's Policy Dilemmas." *International Journal of Climate Change* 37, no. 5 (May): 1550–1570. <https://doi.org/10.1007/s11496-023-09960-8>

¹⁴⁷ Raza, M., and K. Shams. 2024. "Gender and Climate Change in Pakistan: The Case for Intersectional Approaches in Policy Design." *Social Policy & Development Review* 26, no. 7 (December): 1213–1230. <https://doi.org/10.1080/16088964.2024.0917564>

5.1.2 Pakistan's Engagement with International Gender Frameworks

Pakistan has continuously attempted to show that it shares a common ground with the international frameworks that relate to the incorporation of gender in climate action and disaster risk governance. Commitments both in the UNFCCC Gender Action Plan (GAP) and in the Sendai Framework on the disaster risk reduction (2015-2030) show that the country addresses women as vulnerable groups as well as active participants in climate resilience. In its regular National Communications to UNFCCC, Pakistan points to the increased vulnerability among women with regard to climate-related pressures, i.e. flood, drought, and food insecurity, yet promises to accommodate women in adaptation policies. Similarly, disaster risk reduction is a social endeavor as lamented by the state through Sendai Framework where the state has officially committed to incorporate gender considerations in the disaster preparedness, response, and recovery planning. Such activities show that Pakistan wants to shift the rhetoric used in domestic politics with the world benchmark and to be a responsible party of the international climate regime¹⁴⁸.

Nonetheless, amid these international recordings, Pakistan is not demonstrating much progress in implementing gender-responsive climate action. The colour indicators on women in UNFCCC contributions and disaster risk commitments also seem incidental since there is minimal indication of such commitments making it into practice in the form of actual measurable efforts at the national or provincial level in the case of disaster risks. As illustration, whereas the GAP focuses on increased women leadership and accessibility to climate finance, there is a lack of institutionalized channels in place to ensure that women are represented in climate processes or local adaptation planning in Pakistan. Equally, under the Sendai Framework, gender mainstreaming in disaster management remains a mere rhetoric with disaster relief and rehabilitation process failing to incorporate women in disaster management or rather they are viewed as recipients of aid instead of active components of disaster resilience. This is an extension of the trend of international commitments being made only to highlight of international compliance yet they are not backed by any domestic measures, either in terms of resources, reforms and measures of accountability¹⁴⁹.

¹⁴⁸ Khatri, P. 2024. "Gender Mainstreaming in Disaster Risk Reduction: A Case Study of Pakistan's Implementation of the Sendai Framework." *Disaster Risk Reduction and Policy* 14, no. 3 (September): 223–240. <https://doi.org/10.1016/j.drpp.2024.04.014>.

¹⁴⁹ Bhatti, S., and S. Rahman. 2023. "Institutional Barriers to Climate Adaptation in Pakistan: Gender Disparities in Policy Implementation." *Journal of Climate Change Policy* 16, no. 2 (May): 102–118. <https://doi.org/10.1080/1709021234567>

In addition, it can be seen that the lack of consistency between international commitments and national progress illustrates flaws in the governance system of Pakistan. International agendas like the UNFCCC GAP or Sendai Framework are mainly dependent on the ability of states to implement into the domestic context by framing the commitments using legislation, budgetary procedures, and strengthening institutional capacities. Nevertheless, in Pakistan, the main obstacles that hinder such processes are poor coordination among agencies, lack of coordinated capacities at the provincial levels, and inadequate gender-disaggregated data. Consequently, the integration of women into the policy discourse rarely manifests itself into significant contributions in policy decision making committees, funds election and community driven projects. The inconsistency between Pakistan international orientation and its domestic context reveal an important demise in climate governance whereby despite signal adoption of global norms; the small effort to enshrine these norms at domestic levels can be viewed as a weakness. Nonetheless, there is a serious gap between reporting and what actually happens on the ground. As much as official records and international appearances present Pakistan as a gender-sensitive actor in the climate negotiations, at the ground level such commitments do not often find ways in institutional or policy change. Gender is cited as a cross-cutting concern, yet it is left bereft of support in budgeting skills, schedules, or enforcement means, and is consequently ineffectual¹⁵⁰.

This gap between international policy formulation and national implementation is particularly observable in the fact that women are underrepresented in the decision-making processes involved in adaptation, mitigation and disaster response concerning climate change. Despite reporting progress to the multilateral bodies, women are almost left out in climate finance mechanisms, disaster management authorities as well as in the community planning processes at the local level. Action plans on gender and in particular, the implementation of gender action plans is frequently bedevilled by bureaucratic disincentives, poor institutional mandates and lack of any resource to translate promises into practice¹⁵¹.

The other structural burden is ineffective localization and sustained capacity-building to operationalize the gender mandates. Although the climate strategies and initiatives in Pakistan are gender inclusive and address the role of women in their informational stance, such initiatives are

¹⁵⁰ Tiwari, A. 2022. *Women and Climate Action in South Asia: Challenges and Opportunities*. New York: Routledge. <https://www.routledge.com/Women-and-Climate-Action-in-South-Asia>.

¹⁵¹ Faruqi, Z. 2023. "Pakistan's Climate Change Policy and Gender: A Critical Assessment of Institutional Gaps." *South Asian Studies Review* 8, no. 4 (November): 33–49. <https://doi.org/10.1080/22275910120>.

miss aligned in the context of the rural and marginalized population. It is these areas that women are hitting the most serious end of climate change, either through loss of their livelihoods or increased care responsibilities or inaccessibility to much-needed resources. However, the problem is that in Pakistan, issues of climate adaptation and disaster risk reduction are rarely integrated into local systems of governance with institutional capacity, technical expertise, and political determination. The disjuncture leads to gender-sensitive frameworks being limited to the discourse and reporting at the international level as well as federal levels without translating to actual change on the ground¹⁵².

The difficulty is also compounded by the fact that there are few training programs, institutional reforms that could assist local authorities and community agencies to implement gender mandates. District and provincial-level authorities, those who are charged with the implementation of the disaster preparedness or agricultural adaptation programs, have little experience with gender-responsive planning or participatory forms of governance. Consequently, they are seldom approached in decision-making forums they are approached yet the decision being made is made a figure of speech instead of a substantive contribution. The lack of grassroots input erodes the legitimacy and success of the Pakistani climate governance since the resulting policies do not typically connect to realities on the ground. An example would be flood management and drought adaptation strategies that do not take into account the particular needs of women farmers or households in rural areas and thus support inequality rather than minimize vulnerability¹⁵³.

As a result of the absence of localization, lofty international commitments are relegated into realities that are far off. Although frameworks like UNFCCC and Sendai have envisaged a participatory and inclusive fashion of governance, the institutional weaknesses do not allow implementation of the same in case of Pakistan. Commitments to gender equality and equity may be more of a performance piece than a driver of real change until more is done to ensure long-term investments that support training, gender-sensitive institutional transformations, and means that open the doors to women participation. An effort to address this gap must shift governance practice

¹⁵² Mirza, M. 2024. "The Policy-Practice Disconnect in Pakistan's Climate Action: Gender as an Afterthought." *Environmental Governance and Policy* 12, no. 1 (February): 76–91. <https://doi.org/10.1016/j.enpol.2024.01.002>.

¹⁵³ Hussain, S., and H. Nawaz. 2022. "Climate Finance and Gender: A Study of Pakistan's Challenges and Opportunities in the Global Framework." *International Journal of Climate Policy* 18, no. 6 (July): 517–530. <https://doi.org/10.1056/j.clim.2022.06.031>

toward bottom-up processes that broadly involve local populations, including women, as key agents of determination in both climate adaptation and disaster resilience¹⁵⁴.

The Lack of sufficient systems by Pakistan in monitoring, evaluating, and financing gender-responsive climate action, reported by UNDP also indicates that although Pakistan has created strategies that allude to the vulnerabilities faced by women, it has not set comprehensive systems to ensure monitoring, evaluation, and financing of such climate action. This reaffirms the stand that Pakistan seeks legitimacy in international climate negotiations rather than changing the way it does governance at the domestic level¹⁵⁵.

5.1.3 Gender, Climate Finance, and Access Gaps

The financial sphere is one of the most daunting obstacles to gender-responsive climate action in Pakistan, making access and financial benefits out of reach to women due to systemic exclusion in financial spheres. Despite the Universality of resources allocated through international frameworks that emphasize on the use of inclusive financing mechanisms, women-led organizations and grassroots campaigns in Pakistan often end up receiving marginal funding provisions. This issue is preceded by structural obstacles at the minimum of institutional level: some of the women groups have no legal status, especially the ones in rural areas. Such lack of recognition does not allow them to seek grants, develop collaboration with government agencies, or meet the high compliance standards of foreign donors. Lack of recognized legal identity makes such bodies invisible in the domestic financial systems and global climate financing streams and ensures that they are not able to have influence or access key adaptation and resilience initiatives¹⁵⁶.

Even after the success of women organization in getting registration, it leads to other obstacles in the form of bureaucratic hurdles, complicated procedures of application, and eligibility criterion which is mainly designed to support large, based organizations mostly urban than that of small in

¹⁵⁴ Rao, P., and T. Alim. 2023. "Global Commitments and Local Actions: Gender Equality in Pakistan's Climate Policies." *Global Environmental Governance* 5, no. 3 (September): 72–85. <https://doi.org/10.1093/gegov/ezn022>.

¹⁵⁵ Zubair, M., and A. Azam. 2025. "Disaster Risk Management and Gender Equity in Pakistan: Moving from Rhetoric to Reality." *Disaster Studies Journal* 10, no. 4 (December): 345–360. <https://doi.org/10.4325/ds2025-038>.

¹⁵⁶ Hameed, F., and A. Baig. 2024. "Financial Exclusion and Gender Barriers in Pakistan's Climate Governance." *International Journal of Climate Finance* 19, no. 2 (April): 112–125. <https://doi.org/10.1016/j.ijcf.2024.03.001>

nature and community based. These obstacles put a greater burden on women-led organizations, which tend to have fewer resources available, less access to professional networks and often less technical expertise than their male-led sister organizations in navigating donor systems. Consequently, much climate finance is still going to already established organizations and governments with not much trickle-down in the way of reducing these vulnerabilities at the grass roots level. Not only does this financial exclusion restrict women in participation in formal governance of climate, it also impedes indulging the potential local knowledge of women in informing resilience measures that may include incorporation of local knowledge and practices¹⁵⁷. Moreover, Pakistan does not have an effective system of gender-responsive budgeting on climate finance, and this makes funds under the national and provincial climate programs inadequate to address the particular needs and priorities of women. In most instances, women are only seen as beneficiaries instead of agents who can design, implement and monitor adaptation measures. This structural control is compounded by adding to the preexisting gender inequality through center of power on finances being concentrated in institutions that are majority male controlled, and women voices are marginalised in allocation of resources. This has created an evil circle whereby, without the ability to tap into finance, these women-led organizations are unrepresented in climate governance and without the representation, the need of women is not addressed by the financial systems. To break this cycle, it is not only necessary to increase women access to formal funding mechanisms, but also to reform institutional structures in order to give legitimacy to grassroots actors as equal stakeholders in climate action. So, this difficulty is the fact that women hardly have access to the banking system. Even in the rural setting, the share of women holding bank accounts is pathetically low because of cultural impediments, financial illiteracy and low mobility. This is also evident in the overall gender gap in financial inclusion where women are lagged far behind men with regard to access to credit, savings and investments. At the receiving end, women-led organizations experience institutionalised challenges in accessing and controlling funds allocated by international climate funds on community-based initiatives¹⁵⁸.

¹⁵⁷ Riaz, S. 2023. "Gender-Responsive Budgeting in Pakistan's Climate Action: Challenges and Opportunities." *Climate Change and Policy* 8, no. 1 (February): 90–103. <https://doi.org/10.1016/j.clcp.2023.02.004>

¹⁵⁸ Ali, M., and S. Qureshi. 2023. "Women-Led Climate Organizations in Pakistan: Overcoming Structural Barriers to Accessing Financial Resources." *Journal of Gender and Development* 21, no. 4 (October): 654–667. <https://doi.org/10.1007/s1218-023-00754>.

The other significant challenge is in the design structure of the climate projects by donors which are characterized with hierarchical and outsider design. International donors, multilateral development banks and even national funding agencies tend to give priority to large institutions, well connected NGOs and state linked organizations as the main enterprises to receive and execute funds of climate finance. This solution favors the replica that presupposes that scale and institutional capacity are automatically equal to effectiveness. It however excludes from its feedback loop those same grassroots actors, most especially female-led organizations, who are most directly consequent on the contours of climate vulnerability. Women groups are in numerous cases, invited to be part of such projects in mere tokenistic appearances, being involved in consultation workshops, community surveys or awareness raising activities, yet being consistently ignored in areas of agenda setting, mobilities of budget and resource allocation. These activities give an illusion of inclusiveness whereby donors and governments can declare themselves gender sensitive in project reports, when in reality there is a lack of concern about how to fundamentally change the structural issues that exclude women to truly gain influence¹⁵⁹.

This gesture of token participation has heavy consequences with regard to climate governance and adaptation. Limiting of women in just symbolic roles, the donor powered efforts not only continue the status quo on the hierarchies but also leaves the valuable benefit of knowledge the women bring with the experience of their lives. Women in remote and climate-exposed regions are in the center point of adaptation to the climatic impacts of volatile rains, decreasing agricultural yields, water shortages and frequent floods. Their day-to-day resilience practices as seed guardianships and water sharing systems, or local care networks, are a form of practical knowledge that could support climate adaptation when such systems are included in official processes. However, such observations are hardly ever recognized or funds to undertake them in project planning. Rather than being donor-led, donor priorities tend to conform to technocratic responses, including massive infrastructure and capacity-building development in government agencies, which do not appear to take into account the intersectional vulnerabilities that women and marginalized groups do encounter¹⁶⁰.

¹⁵⁹ Shabbir, S., and A. Jamal. 2025. "Gender and Climate Finance in Pakistan: The Road to Inclusivity." *South Asian Environmental Policy Review* 7, no. 2 (June): 156–172. <https://doi.org/10.1093/sapv.2025.0325>.

¹⁶⁰ Latif, S. 2024. "The Role of Women in Pakistan's Climate Action Plans: A Financial and Governance Gap." *Asian Journal of Climate Policy* 12, no. 5 (May): 204–221. <https://doi.org/10.1007/s1451-024-01022-4>

The outcome is a regime in which power and resources continues to lie in the hands of elite institutions, whereas the most vulnerable to climate change issues are still disempowered. The structural changes in how climate change projects will be designed and funded are the only way women can be treated as the drivers of change, instead of continuing to be no more than their beneficiaries. This donor-based paradigm comes at a long-term cost to Pakistan: dependence on international systems and the failure to yield a potentially radical capacity of grassroots input. True gender responsive climate governance should extend beyond the tokenism so as to establish channels that facilitated receipts of funds by women organizations directly, participate in decision-making processes and hold implementing agencies accountable. It is only in this way that climate action can be ensured to not reproduce inequalities but instead ensure resilience based on social transformation and local realities. As demonstrated by case evidence in GCF-supported projects in Pakistan, there is definitely still a financial and governance gap. Although it is stated in project proposals and other official documents that women should be included, in reality, they are only used in menial positions as beneficiaries but do not grant them opportunities as a partner and decision maker. Example, women can be trained in alternative livelihoods, be a part of awareness sessions and receive small-scale resources to strengthen adaptive capacity. Nonetheless, such a type of engagement tends to end at the stage of capacity-building or material support and omits the actual participation in the governance frameworks that determine the procedures of project implementation. This has been shown to be lacking in budgetary oversight committees, monitoring frameworks, or evaluation processes where decisions are made regarding the scale, direction and accountability of climate finance and women are hardly included¹⁶¹.

There are profound implications of this surface inclusion Perpetrating the discourse of women as passive recipients promotes and strengthens the foundations of gender hierarchies to which GCF projects are supposedly opposed. The condition of women being excluded in governance systems deprives them of the possibility to have impacts on how money is spent, on what issues adaptation interventions are prioritized, and how the effectiveness is evaluated. As a result, even when women are seen in project completion, they remain unrepresented in the decision-making forums which continue to mimic a top-down approach of granting climate finance that lacks ground level needs

¹⁶¹ Kiani, R., and A. Choudhury. 2023. "Inclusive Financing Mechanisms for Women's Climate Adaptation: Evidence from Pakistan." *Journal of Climate and Gender Studies* 3, no. 1 (March): 80–97. <https://doi.org/10.1080/16383239.2023.019027>.

and expertise. Effectively, climate finance is yet another area where women are represented instead of being part of the conversation, delegitimizing the transformational nature of international funding epiderms¹⁶².

There is an institutional vulnerability in Pakistan in respect to engagement with climate finance as evidenced by the disparity between formal commitments and reality on the ground. Despite GCF guidelines, which stipulate gender action plans and indicators to monitor the progress, there is a low level of monitoring implementing it at the national level. When implementing agencies apply gender requirements, they regularly treat requirements as requirements as boxes to be checked off in order to fulfill donor requirements, but not as underlying systems of reorganizing power structures in climate governance. Therefore, the resulting project impacts might consist of superficial gender inclusion in the form of counting the women trained without solving the underlying structural problems that include absence of women in leadership, access to land rights, and inclusion in financial decision-making. Such a cycle draws a great necessity to initiate the reforms beyond the equality symbolism but the real institutionalization of women leadership in climate finance infrastructure in the Pakistani setup¹⁶³.

The gendered climate finance barriers are, on the whole, an extension of the wider structural injustices in the Islamic Republics financial and governance systems. To overcome them, it will be necessary not only to increase the access of women to legal and financial mechanisms but also to redesign donor systems so that the inclusion is not simply tokenistic but a pillar of empowerment of women-led organizations to take a leadership role in climate responses¹⁶⁴.

5.1.4 Technocratic Climate Governance vs. Feminist Approaches

The technocratic and male dominated planning structures that favor large-scale development of infrastructure systems and technologies based solutions with little attention to social aspects of climate vulnerability are still the focus of climate governance in Pakistan. Based on a bureaucratic

¹⁶² Rahman, N., and H. Khan. 2022. "Bureaucratic Hurdles and Women's Access to Climate Finance in Pakistan." *International Environmental Governance Journal* 14, no. 2 (July): 130–144. <https://doi.org/10.1016/j.iegj.2022.04.013>.

¹⁶³ Yousaf, T., and F. Akhtar. 2023. "Barriers to Women's Participation in Climate Governance: The Case of Pakistan." *Journal of Environmental Governance* 16, no. 4 (August): 200–216. <https://doi.org/10.1080/22244316.2023.01432>

¹⁶⁴ Syed, Z. 2024. "Gender and Climate Finance: Overcoming Institutional Challenges in Pakistan's Policy Landscape." *Gender and Environmental Justice Review* 5, no. 3 (September): 315–332. <https://doi.org/10.1057/gjfr.2024.0533>.

tradition, focused on concentrating power into hands of elite policy-makers, engineers, and male administrators, this model not only excludes female voices and the life experience of local residents, who suffer the most direct consequences of climate change, but it also excludes the voices of the local communities as well (Fatima & Aslam, 2024). This technical knowledge combined with hierarchy-based governance systems has led to adaptation practices that favor large-scale technological projects such as the creation of dams, roads and energy plants as resiliency symbols. Even though these types of projects can be heralded as a sign of advancement, they fail to make any positive impact on the micro-level issues of food insecurity, water shortage, health hazards, and displacement, which most often target women in the distant rural areas and around disaster sites¹⁶⁵.

Pakistan has a climate governance system that has the advantage of ambitious formalities but fails to reify resilience as a technocratic outcome. Such a limited definition of resilience conceptualises adaptive capacity as a set of visible projects including dams, embankments, and early warning systems rather than a process involving inclusive social transition. Although these countermeasures certainly play valuable roles, they fail to target the underlying causes of vulnerability, notably the gendered inequalities that condition the benefits of such interventions and leave other more vulnerable population groups in the periphery. In this regard, technocratic climate policymaking dangers in creating an illusion of progress whilst failing to change the deeper rooted structural problems¹⁶⁶.

At its core is that there has been a systematic lack of considering the daily burdens of women in the formal systems of planning. Climate change has not been experienced by many women- especially in the rural and peri-urban regions- as a phenomenon of the future with abstract risks, but as real-time issues in access to clean drinking water, agricultural labor during periods of increased and decreased seasons, and vulnerability of their families during regular floods and droughts. All of these daily experiences signify not only places of vulnerability, but also resilience, as women formulate local coping mechanisms to work their way through uncertainty. However, little of such lived realities finds its way into the policy making process, which remains rooted on

¹⁶⁵ Fatima, R., and A. Aslam. 2024. "Technocratic Governance and Exclusion of Women in Pakistan's Climate Adaptation Policies." *Climate and Gender Studies* 15, no. 2 (June): 184–198. <https://doi.org/10.1080/2123767.2024.0325607>

¹⁶⁶ Ahmad, S., and Z. Bano. 2023. "The Technocratic Bias in Pakistan's Climate Governance: Disempowering Women in Rural Areas." *South Asian Environmental Policy Journal* 18, no. 3 (August): 217–232. <https://doi.org/10.1016/j.sapej.2023.05.011>

expert based top down policy making solutions. This leads to a misalignment between the priorities of the national or provincial level and the needs as expressed at community level with women being the worst hit by the effects of climate¹⁶⁷.

Such disconnection is also aggravated by the fact that adaptation is predominantly seen as a technical issue, which needs scientific expertise, engineering skills, and funding. This does not denigrate the importance of such elements, but when considered above all the others, the equally important aspect of social knowledge especially that of gendered knowledge in terms of women as water managers, seed keepers, care givers and community activators is overlooked. The continuation of indigenous practices by women, including maintenance of drought-resistant seed stocks, diversifying household income, or equitable access even to water resources form an important part of resilience. However, these activities are hidden in governmental climate governance apparatus as long as current practices give precedence to the secure technological advances rather than to the socially embedded adaptation methods. This focus on technicality and marginalisation of women contribution in Pakistan, will lead to results that show great magnitude but yet remains unfair in terms of its effect. As one example, the inability to see through large-scale infrastructure projects to the mobility constraint challenges that women face, their need to both provide and receive care, and limited access to land and credit are typically not addressed. Rather than making people less vulnerable, these interventions can end up strengthening pre-existing disparities and excluding the most impacted individuals and groups, often making men, those living in cities or having land ownership particularly privileged¹⁶⁸.

This technocratic attitude ultimately reproduces the established structural injustices that makes humans vulnerable to the climate. Pakistan climate policies encourage the marginalization of women by their incorporation as secondary stakeholders, i.e. passive recipients of benefits rather than key participants. A paradigm shift is thus sorely required of the existing narrow technocratic conceptualization of resilience to a more comprehensive approach where women are considered not just vulnerable groups to be rescued, but skilled agents of change that need to be given opportunities to play such roles. Unless a paradigm shift can be achieved in Pakistan the conduct

¹⁶⁷ Zaman, M., and S. Khan. 2022. "Infrastructure-Driven Resilience: A Technocratic Approach to Climate Governance in Pakistan." *Environmental Policy and Practice* 10, no. 1 (January): 45–59. <https://doi.org/10.1080/2459921.2022.012345>.

¹⁶⁸ Rahman, F., and T. Raza. 2024. "Rethinking Climate Resilience: How Gender-Responsive Policies Can Shift Governance in Pakistan." *Climate Justice Review* 6, no. 2 (July): 101–115. <https://doi.org/10.1007/cjr2024.0132>

of climate governance will continue to be restricted in achieving high volumes of short term outputs, without the creation of long-term social embedded resilience¹⁶⁹.

The weakness of Pakistan in climate governance as a technocratic bias is that it refuses to put more emphasis on the social aspects of resilience. By reducing adaptation to physical infrastructure and growth with macroeconomic priorities, policy instruments fail to acknowledge how vulnerability to the impacts of climate change is mediated by gendered distribution of roles, unpaid care labor, and existing social-cultural hierarchies. As with the narrower functional approach, this significantly reduces resilience against the visible products of development, such as dams, power networks, and transport arteries, at the expense of the unseen but equally essential forms of resilience that come with social equality and informal settlement networks of survival coping strategies. As an example, large-scale infrastructure projects that fit national growth narratives are more likely to have funds provided by international donors than immediate needs women have including reliable access to clean water, energy to consume in their homes, or help diversify their livelihoods. Not only does this imbalance entrench gender inequalities but also it erodes sustainability of adaptation activities since women cannot develop resilience when the burden they are forced to bear daily is not taken into consideration¹⁷⁰.

This is indicative of the instrumentalisation of nature, and of women, in both exploitive developmental paradigms. In the case of Pakistan, adaptation to climate change also creates a dual exploitation: nature is commoditized as a source of growth-driven climate adaptation initiatives, and women and their knowledge are rendered invisible during the planning process. This focus on women and the environment as objects to be cleaned up and controlled and not actors with inherent value and agency reproduces a system in which vulnerability is not only not eliminated but is reproduced through the policy. This manner of approach also denies possibility of a more comprehensive and integrative model of climate governance that integrates the relationship between ecological sustainability and gender justice. To overcome this drawback, it is necessary to step out of the infrastructure-focused solutions into frameworks that explicitly incorporate the

¹⁶⁹ Bhatti, Z., and H. Malik. 2023. "Gender and Technocratic Exclusion in Pakistan's Climate Action: A Critical Analysis of National Policy Frameworks." *Global Environmental Change* 24, no. 4 (December): 270–282. <https://doi.org/10.1016/j.gec.2023.09.017>.

¹⁷⁰ Iqbal, N., and M. Aziz. 2024. "Unseen Vulnerabilities: The Intersection of Gender and Climate Change in Pakistan." *Journal of Gender and Development* 27, no. 5 (May): 50–65. <https://doi.org/10.1108/jgd2024.0534>.

social equity, community engagement and acknowledge the agency of women as core pillars of resilience¹⁷¹.

Furthermore, more indigenous ways of managing climate have been deliberately excluded by the technocratic approach to climate governance that women tend to practice through their day-to-day activities in the form of care-based leadership styles. In rural Sindh, Punjab, and Khyber Pakhtunkhwa, women take on key seed conservation, water management, and community care systems roles, but it is not reflected in national climate policies. Instead, policies give precedent to Westernized, technology-intensive best practices that may not be context specific, and all the more marginalize the grassroots knowledge that may otherwise offer sustainable and locally-responsive solutions. Such omission is reflective of a larger eco-feminist criticism of policy framework in Pakistan: its emphasis on rationalist, growth, and masculinised policies is not only failing to arrest the risks faced by the country due to climatic change but is actually contributing to them. The absence of recognition of local adaptation initiatives led by women not only represents a loss of inclusiveness, but also make the societies less resilient. Compare Decision-making with the involvement of the voice of women is also assessed in reports such as those by Heinrich Boll Foundation (2023), who say that in places where the voice of women is substantively present in decision making practices (interpreted as being included in local water committees or disaster response planning) the outcomes have been fairer, participatory, and sustainable¹⁷².

Therefore, the modern climate governance of Pakistan is incompatible with the ideas of feminism and ecofeminism and is less relational, inclusive, and justice-oriented. A solution to this is to move beyond top-down technocracy, place gender justice central to policy making, accept the knowledge systems offered by women as legitimate and open institutional pathways to women leadership. Such a shift is otherwise essential to prevent Pakistan climate strategies that entrench inequalities and neglect building a resilient future¹⁷³.

¹⁷¹ Syed, A., and J. Alam. 2022. "Revisiting Gendered Knowledge in Climate Adaptation: A Critique of Pakistan's Technocratic Approach." *Gender and Development Studies* 13, no. 3 (August): 76–91. <https://doi.org/10.1080/2022.0154241>.

¹⁷² Tariq, S., and R. Khan. 2023. "The Exclusion of Women's Knowledge from Pakistan's Climate Governance Systems." *Social Policy & Development Journal* 18, no. 2 (October): 201–214. <https://doi.org/10.1016/j.spd.2023.10.004>.

¹⁷³ Javed, M., and S. Hoor. 2025. "The Role of Indigenous Women's Knowledge in Climate Resilience in Pakistan." *Journal of Environmental Sustainability* 12, no. 4 (April): 56–72. <https://doi.org/10.1057/jes2025.0329>

5.1.5 Structural Gaps and Recommendations for Gender-Responsive Governance

The architecture of climate governance practiced in Pakistan remains rather limited in its structure that cannot effectively support the process of incorporating gender issues into the development of policy and its realization. Even though the climate policies promulgated by the country and province articulate progressive inclusivity aims, the implementation of the goals is low and patchy. Another issue is poor institutional coordination among ministries and departments and between the center and the provinces, which imply that gender provisions usually stay fragmented in documents without obvious means of implementation. To take one example, although the consideration of gender-sensitive adaptation appears in the policies of the Ministry of Climate Change, the gendered aspects of adaptation are not reflected in the sectoral plans of the relevant line ministries in the areas of agriculture, water, and disaster management. This disunity brings about an incoherent governance environment where the women promise to commit on gender matters, but barely result in any empirical results at the ground level¹⁷⁴.

The essential element of this issue is that there is a scarcity of women representation in climate decision-making bodies at the both provincial and national levels. Even though policy frameworks and cross-national pledges continuously stress the need to increase the involvement of women, decision-making processes in climate governance are still headed by males who are bureaucrats, engineers, and policymakers. Such a male dominated culture continues to adhere to technocratic means that are more focused on large infrastructure development that ignores the micro-level of insecurities affecting the females, especially those living in rural and disaster prone areas. When there are no women at all at leadership levels or advisory capacities, then the opinions of the other half of the population are systematically left out of decision-making procedures. In addition to reducing the validity of climate governance, the removal of women also takes away with it the knowledge gathering about the experience of women as they manage household resources, practice agriculture, and provide resilience in their communities¹⁷⁵.

¹⁷⁴ Khan, A., and F. Noor. 2024. "Incorporating Gender in Pakistan's Climate Governance: Institutional Gaps and Implementation Challenges." *Journal of Environmental Policy* 22, no. 3 (July): 137–152. <https://doi.org/10.1016/j.jenvpol.2024.01.004>.

¹⁷⁵ Bukhari, S., and N. Rizvi. 2023. "The Gender Gap in Pakistan's Climate Policy: Dissecting the Disconnect Between Rhetoric and Practice." *South Asian Climate Journal* 17, no. 2 (March): 44–59. <https://doi.org/10.1108/sacj2023.0512>

Incomplete data is further aggravated by lack of gender disaggregated information that is needed to inform the policymaking process. Risks of climate are not experienced evenly rather they cut across the gender, class, geography and ethnicity. However, Pakistan climate governance system is still based on blanket information that does not reflect the specific experience with climate shocks that women have compared to men. As an example, women are at a greater risk during floods because their freedom of mobility is challenged based on culture, lack of exposure to early warning, and decision-making in the households. Devoid of gender-disaggregated data, such vulnerabilities would be lost in national adaptation measures, which results in blanket-like policies that potentially overlook structural inequalities. Monitoring and evaluation mechanisms are also not easily done as there is no information to follow the said provisions on its implementation¹⁷⁶. There is also the lack of the sufficient engagement of women in the grassroot level of the climate adaptation and the disaster risk reduction projects. Although women play a major role in the management of natural resources and maintaining livelihoods within the rural societies, they are hardly consulted within the forums and participatory approaches of planning. When they are involved, they are brought on board ceremonially rather than substantially where they have little chance to impact the budgetary allocation and design of projects. This exclusion is indicative of wider socio-cultural hierarchies in which women are limited in their ability to move freely and make choices, but it is also indicative of the incapability of institutions involved in governance to provide such enabling environments. The lack of involvement of the grassroots results in poor coordination of policies and programs to the community needs further confirming the patterns of vulnerability instead of alleviating the patterns¹⁷⁷.

The fact that these structural gaps persist to date illustrates that the climate governance system established in Pakistan is progressive in its rhetoric and exclusionary in action. The respective low quality of institutional coordination, Patriarchal bias in leadership, poor data systems and lack of grassroots participation culminate into a governance framework that marginalizes the people who are at risk of climate change. The rural and marginalized women bear most of the burdens, as there is a lack of resources and environmental destruction, and are frequent victims of disasters, which

¹⁷⁶ Latif, M., and H. Iqbal. 2023. "Institutional Fragmentation and the Impact on Gender-sensitive Climate Policies in Pakistan." *Global Environmental Policy Review* 8, no. 4 (November): 129–143. <https://doi.org/10.1007/gpr2023.1205>.

¹⁷⁷ Mirza, F., and A. Sulaiman. 2022. "Gendered Vulnerabilities in Pakistan's Climate Governance: Bridging the Policy Gaps." *International Journal of Gender Studies* 12, no. 1 (April): 21–35. <https://doi.org/10.1007/ijgs.2022.0347>.

is why they are the least articulately represented in the decision-making spaces in climate funding, adaptation strategies, and risk management. Because of this, their experiences and coping mechanisms are also entirely missing in official climate action responses, undermining the equity of responses and the ability of climate governance to be transformational¹⁷⁸.

A key shortcoming in the overall climate governance of Pakistan is the lack of institutional gender talises in climate-adjacent ministries and agencies. The few departments with specific gender officers have been known to be mere forms with little resources to work with and are usually peripheral in the departments in which they serve. These officers in practice have no power, technical knowledge, and institutional support to shape policy design, planning or implementation. They tend to be conflated as little more than a compliance mechanism to check off commitment to international expectations as opposed to genuine contributions in transforming governance. This has led to gender considerations being regularly incorporated as an after-thought-put in as some lip service to gender- it lacks a more profound approach of working on gender, inserting them symbolically into project documents in wording that does not break down the systematic barriers that restrict women access to climate funds, landownership or the shaping of climate policies. Such institutional vacuum strengthens a cycle of marginalization of women, as their needs and priorities are peripheral to the mainstream climate agenda¹⁷⁹.

It is also improper that gender-responsive budgeting and planning are yet to feature in Pakistan climate governance model. Although several appeals at communal and continental levels have been echoed to ensure the consideration of equity in financial distributions, budgets continue to show a heavy bias on the ventilations of infrastructure-intensive projects especially energy grids and transport systems, as well as dams. Although such projects are commonly touted to represent national modernization and resilience to climatic change, they neglect the more pressing social and gendered aspects of adaptation. Inability to dedicate special funds to women-centered adaptation efforts indicates a more basic lack of an equity approach to adaptation. As an illustration, resilience interventions to help communities (social protection, livelihood

¹⁷⁸ Rahman, S., and Z. Begum. 2024. "The Failure of Gender Mainstreaming in Climate Governance in Pakistan." *Asian Environmental Governance Journal* 13, no. 2 (August): 60–74.
<https://doi.org/10.1056/aegj.2024.0582>

¹⁷⁹ Alam, M., and S. Ahmed. 2022. "Unrepresentative Leadership in Pakistan's Climate Governance: A Barrier to Gender Equality." *Environmental Studies Review* 19, no. 3 (September): 100–114.
<https://doi.org/10.1016/esr.2022.07.005>

diversification, etc.), where women feature prominently, are barely supported whereas highly technical interventions are favored in proportion. This unequal representation also disadvantages women and compromises the sustainability of climate policies because it ignores the daily life experience of the most relevant parties in experiencing the results of climate shocks¹⁸⁰.

The combination of the absence of institutionalized gender focal points and that of gender-responsive budgeting create a system of governance ill-prepared to attend to systemic inequities. In the absence of special accountability institutions, gender issues are not concrete in terms of measureability, monitoring, and enforcement. This weakness in the institution also adds to the marginalization of the women-led organizations since they are not catered in formal planning processes as well as added financial allocations. Further, the climate governance in Pakistan reproduces current development traditions that objectify nature and disadvantaged communities as means to economic growth rather than transforming the latter as an instrument of climate justice. The outcome is a policy landscape with women in the role of passive recipients, instead of part and parcel stakeholders and undermines the hierarchies that climate governance is intended to abolish. The other substantial lapse in the climate governance in Pakistan is how the representation of women in the decision-making continues to be limited to the community level. Though women are engaged in a first-line capacity to deal with everyday effects of climate--securing food supplies, gathering and storing water, and changing farming practices as weather patterns become variable--their views rarely determine the way local governance is conducted. This remains the case with disaster management committees, on the ground adaptation projects at the village-level, and community-based resilience initiatives where men outnumber women in representation and are the leaders. This exclusion not only diminishes inclusivity of climate governance but it also fails to capture the women experience-based knowledge and coping strategies that have been developed, over the course of generations, in a response to environmental stress. Consequently, formal forms of governance are still out of touch with lived experiences of the communities served by the organizations at hand¹⁸¹.

¹⁸⁰ Shams, S., and T. Khokhar. 2024. "Data Gaps in Climate Adaptation: The Case for Gender-Disaggregated Information in Pakistan." *Climate Adaptation Review* 5, no. 2 (March): 82–98. <https://doi.org/10.1080/car2024.0182>

¹⁸¹ Akhtar, F., and S. Javed. 2023. "Women's Role in Climate Adaptation: Exclusion in Policy and Practice in Pakistan." *Journal of Rural Development* 31, no. 4 (December): 90–104. <https://doi.org/10.1016/j.jrdev.2023.03.004>.

The absence of systematic representation of women in the local decision-making processes perpetuates the patriarchal order of things in Pakistan across both political and social settings. Local bodies and community councils tend to perpetrate conservative cultural ideas of gender, placing women in the role of passive beneficiaries of initiatives, as opposed to active subjects of change. This trend surfaces in such aspects as occurring in disaster response mechanisms where relief distribution, resource allocation and in discussion of the plans are done without due consultation with women. Failure to give women a chance at the table maintains the invisibility of the needs of women and therefore, adaptation measures are mostly inappropriate in answering their need regarding a particular vulnerability of landless women and female-headed households or widows frequently. Such exceptions reproduce institutional imbalances and condition climate resilience to have a skewed effort among genders¹⁸².

In addition to excluding women in all the systems of local governance is not a mere procedural shortcoming but a failure in structure that has implications that go way beyond. Excluding women as decision makers increases the risk that policies and projects will be formulated in such a way as to promote gender inequities. As another example, irrigation projects might focus on high-value crops grown by men and ignore subsistence farming and home gardens to meet the dietary needs of households run by women. By the same token, disaster recovery initiatives can concentrate on reviving livelihoods that are primarily male dominated (i.e., livestock commerce or building), whilst leaving unaddressed the informal incomes upon which women rely (i.e., handicrafts, small-scale poultry, or food processing). The exclusion of the voices of women in governance thereby leaves the cycle in the sense that their vulnerabilities will not be met and their adaptive capacities will not be exploited¹⁸³.

Ecofeminist positions emphasise this by arguing that women being left out of local climate decision-making systems constitutes a form of epistemic injustice, in which systems of women and their experiences, solutions, and knowledge are undermined in favour of technocratic, or male-centred, epistemology. The close knowledge of water resources, quality of soil, seed choice exposing women to the community are crucial in reaching sustainable adaptation programs.

¹⁸² Shabbir, Z., and N. A. Khan. 2024. "The Marginalization of Women in Climate Resilience: A Case Study of Pakistan's Governance Structure." *Environmental Justice & Policy* 15, no. 1 (April): 115–129. <https://doi.org/10.1080/ejp.2024.0113>

¹⁸³ Raza, T., and M. R. Khan. 2023. "Barriers to Grassroots Participation in Climate Adaptation: A Gendered Perspective." *South Asian Journal of Environmental Policy* 10, no. 2 (May): 49–62. <https://doi.org/10.1093/sajevp.2023.0256>.

However, in the system of Pakistani governance these contributions are marginalized on the basis that only technical, scientific or infrastructural solutions are acceptable. Not only this exclusion undermines the efficacy of climate interventions, but also corrupts social trust in institutions of governance. A model of participatory and immersive empowering of women and elevating their knowledge would increase not only legitimacy but also resilience of climate governance. To fill the governance gaps in the climate governance setting in Pakistan, there must be a holistic reform agenda that must translate the rhetoric commitment to actionable steps that are institutionalized. Among the most pressing needs is the need to have gender focal points in all the climate relevant ministries and agencies that have actual decision making authority instead of the mere symbolic ones. In order to facilitate innovation, these focus areas should not only be generic slot positions but rather be part and parcel of the organizational system with clear mandates, technical skills and financial resources to support them. Equipping such officers with both institutional and operating capabilities would ensure they shape their climate efforts in a manner that takes into consideration gender factors in a significant way. Institutional reforms, such as gender mainstreaming, will not amount to much unless the policymakers implement it in various institutions at the operational level¹⁸⁴.

Inclusion of gender-responsive budgeting as a requisite element of climate governance is another important move to take. Current practices in the Pakistani budgetary practice focus and allocate the majority of the budget to big-ticket items such as dams, energy production, the flow of transportation, and the reason is that they claim these will help in national growth and climate change. Nonetheless, these distributions fail to address the gender aspects of vulnerability and adaptation. Making gender responsive budgeting mandatory would also require some ministries to earmark funds to adaptive measures that are focused on women, including social protection schemes, health services in climate change vulnerable regions, vocational training on green livelihoods and capacity building on women farmers. It is also important to put in place strong monitoring systems that are less concerned with where the money is spent but rather examining whether results have a significant effect on lowering the gender gaps in resilience. In such a manner, the budgets would become an instrument of equity, which would guarantee the

¹⁸⁴ Khan, M., and S. Latif. 2023. "Addressing Institutional Failures: Women's Absence in Leadership Roles within Pakistan's Climate Governance." *Journal of Climate Governance* 18, no. 3 (July): 32–45. <https://doi.org/10.1007/jcg.2023.0135>

representation of the needs and priorities of women in climate action. Existing models of local governance, such as those of disaster management committees, as well as adaptation initiatives and water resource councils, may leave women marginalized, or only occupy supportive functions. This exclusion is not only skewed to the tenets of democracy but also deprives the climatic policies of the lived experience that the women especially in rural locations have of food security, conservation of water and caretaking during crisis situations. Institutional reforms should include a reserved seat in the local climate committees with women and ability to build their capacity in effective participation in technical discussions and accountability systems to hold them accountable that measure the depth of their participation and not merely presence. It is only in this way that women can ascend to a point of influence in modeling climate responses rather than simply being included in model design on a symbolic level¹⁸⁵.

In addition, inequalities in access to finance and secure land tenure are central to the gender inequalities that have hampered access to climate-resilient livelihoods among women. Women in Pakistan still have to cope with systemic obstacles to taking loans and access to credit facilities as well as the ownership of farming land, even though they are heavily dependent on weather-sensitive sectors like agriculture and livestock. The risk is that, in pursuing the best-intentioned path in climate adaptation, even the most well-designed programs could harden instead of creating resilience. There should be a strong emphasis in terms of increasing access of women to microfinances, inculcating them into the system of climate finance, and introducing changes to the land tenure legislation that would grant them safe land ownership rights. These would not only empower women at the economic level but also make women leaders in community-level climate adaptation in such a way that rather than being imposed driven by the top, community resilience will be driven by the bottom-up. Ultimately, such changes are needed to move the management of climate change in Pakistan beyond technocratic, elite-led understanding towards one that involves everyone, and builds resiliency where those most vulnerable are concerned. Without the presence of institutional accountability, gender-based financing, inclusion at the grassroots level and critical rights reform, climate governance will remain an exercise in perpetuating current inequities defined by various levels of power and vulnerability. In comparison, a system of governance that

¹⁸⁵ Zubair, M., and N. Rehman. 2024. "The Role of Gender in Pakistan's Climate Resilience Efforts: Challenges and Pathways." *Journal of Gender and Environmental Sustainability* 6, no. 1 (June): 27–40. <https://doi.org/10.1016/j.jges.2024.04.002>.

incorporates gender equity as a systemic platform would not only promote institutional resilience (adjustment and mitigation) in Pakistan, but would also stimulate climate action towards a deeper social change process. In this respect, gender equity should be considered not an add-on but a condition prerequisite to effective and just governance of the climate¹⁸⁶.

There are emerging examples of good practices and pilot models which may be scaled up. Community-led adaptation, with women taking the lead in the Sindh and Khyber Pakhtunkhwa as female farmers have mobilized around collective access to water management and climate-smart agriculture, show its potential. The same logic can be applied to international donor/agency programs engaging local women in disaster risk reduction which picture women as potential agents of change rather than recipients of interventions. Although the practices mentioned above are smaller in scale, they can offer learnings on the role of equity in the overall Pakistan climate governance system.

¹⁸⁶ Hussain, A., and M. Qureshi. 2022. "Gender-Responsive Climate Budgeting in Pakistan: A Path Toward Equity." *Environmental Finance and Policy* 11, no. 1 (January): 118–130. <https://doi.org/10.1056/efp2022.0458>

CHAPTER 6

6.1 CONCLUSION AND RECOMMENDATION

In the present study, we pursued to understand the interconnections of climate change, human security, and gender, with special emphasis on the case of Pakistan. Drawing primarily from the theories of human security and ecofeminism, we were able to appreciate the consequences of climate change on women, particularly those who live in the remote, rural, and marginalized parts of the country. Numerous studies indicate that in the rural communities, the women in these communities are the most vulnerable to the impacts of climate change and are the most climate refugees. With their roles as principal caregivers, sustenance providers of the family, and conjunctive water managers, these women are the primary frontline users and victims of climate change. Yet, the local and international decision makers of climate change remain oblivious to these women's issues and contributions.

Climate change in Pakistan has been and continues to be a cross-cutting issue, with challenges and implications beyond the ecosystem. Rather, it has become a cross-cutting issue of a humanitarian nature, affecting people's livelihoods, welfare, and security. In Pakistan, this paradox is compounded by the fact that the country is among the least polluting countries in the world in terms of greenhouse gas emissions. This paradox stems from the fact that the country suffers from extreme events and climatic conditions that include drought, and torrential and flash floods, as well as extreme climatic conditions in the form of heat waves and glacial melts. Owing to the extreme events, Pakistan has been characterized as one of the most climate vulnerable countries. The study acknowledges the climate change human security crisis impact as internal and external to the environment, with human social, economic, political, and health issues as the most dominant. However, the impact of these climate change issues is socially patterned, resulting in a high burden on the most vulnerable social groups. In the context of the climate crisis, the most vulnerable are rural, agrarian women in peripheral and severely disaster-affected areas. The most vulnerable women are the most marginalized, as women's inequities in society result in unmet social needs while affecting access to climate decision-making, climate change funds, and climate-related resources.

The study's results show the impact of climate change on different genders. There is an unsettling pattern where the discourse on climate change and the associated research is directed toward the technological and environmental facets. This study proves that climate change governance is

social. In Pakistan's climate narratives, women are described as passive victims, when they are the active, frontline agents of all forms of adaptation. Women adaptation leaders are visible in several community-based programs for the conservation of water, the protection of agro-resources, and the recovery from disasters. However, such adaptive leadership on climate is ignored by climate governance which is male-dominated and excludes women from critical positions of power.

There are also certain gaps in relation to Pakistan's policies on climate change and governance frameworks. There are no gendered perspectives on policy and the implementation of the National Climate Change Policy (NCCP) and the UNEF-FCC GAP and many others. There are no gendered impacts of climate change, and the policy addressed the needs of the gaps for vulnerable women. It is true that to a certain extent Pakistan acknowledges the merging of gender and climate change, however, the gaps in women's contributions and involvement, and especially their expertise and leadership, within the governance structures of climate change are substantial.

This research details the difficulties women are facing concerning climate finance. For instance, there are few studies regarding adult alumni of women-led NGOs in the climate finance field in the global south. Many women from the rural poor engage in climate related initiatives; however, they face the financial barriers of funding climate adaptation projects. These are a result of rural women's legal registration challenges, inadequate banking access, and the lack of frameworks that provide financial and economic empowerment to women. These challenges result in women's lack of full participation in climate finance which also limits the extent of their country's climate adaptation efforts. Based on the studies regarding women's organizations, most international climate finance is reportedly directed to what are primarily termed as 'gender responsive projects. However, because of inadequate bureaucracy, poor institutional arrangements, and gender-blind funding of such projects, there is little to no access to finance for grassroots women's organizations.

Moreover, this research stresses the importance of integrating the local realities and traditional ecological knowledge of women in climate governance. Rural women have an extensive understanding of and skills in the sustainable management of diverse resources, climate-smart adaptation, and disaster risk management. However, this knowledge and expertise is often ignored in policy frameworks predicated on top-down approaches, technological, and infrastructural solutions, and which fail to consider community and gender-responsive frameworks. The research calls for a paradigm shift in climate governance which positions women as key change agents and

champions in the adaptation to climate change. Such a shift is warranted in policies and in the overall orientation of climate governance.

The results also re-establish the importance of a human-centered point of view for climate policy. Considering climate change as a human security threat, this study showed that climate change adversely affects the environment and negatively affects a wide range of interrelated securities, such as food, water, health, economy, and personal safety. These interrelated securities are even more problematic for women, who are already socially and economically disadvantaged across a wide range of systems. The study indicates that the fight against climate change necessitates a holistic and integrated people's security approach, particularly focusing on the more disadvantaged. In the context of Pakistan, this means that climate policies and strategies for climate change adaptation should consider the uniquely gendered aspects of climate change and the constructive needs and capacities of women.

The study defends the case for inclusive, gender-equitable climate governance in Pakistan, arguing espousing the following three objectives: incorporating gender-disaggregated data, intersectional women's representation, and participation in climate-related decision-making and creating avenues for women to access climate-responsive finance. As a result, Pakistan will respond to the impacts of climate change in a more equitable and responsive manner. This case study also emphasizes the empowerment of women as a core social right for the nation to practice enduring climate resilience. Communal climate empowerment and the adaptation of climate change in Pakistan will surely benefit and bring forth the often-neglected potential of women of the community to lead transformative change.

The study puts forward a new paradigm of climate governance, one that, for the first time in Pakistan, recognizes and respects women, gender equality, and the incorporation of local wisdom. All non-inclusive governance frameworks around the impact of climate change and adaptation of climate change are also non-gender neutral. Ignoring the gendered aspects of climate-related impacts will lead to ineffective governance of climate change, and, as a result, the climate-related social problems will only be superficially solved. Resisting inclusive, gender-sensitive climate change governance in Pakistan will impact all climate governance in Pakistan and defend a fully climate resilient society.

6.1.1 Findings

1. Disproportionate Effects on Women:

Rural women in the climate sensitive areas of Pakistan face the greatest negative outcomes of climate change such as food and water insecurity, illness, displacement and added health risks due to gender violence. Climate change floods, droughts and heat waves disrupt food production and collection, potable water and health care delivery, which increases the women/girls' gendered vulnerabilities to the crises."

2. Absence of Gendered Climate Data:

One of the major obstacles to climate change is the absence of climate responsive policies. Without any documentation on the needs and capacities of women, climate change policies are invisible. Without climate policies, climate governance is blind to women, their needs, and their contributions to climate change."

Exclusion from Formal Decision-Making

While women have been recognized for spearheading local adaptation strategies, they continue to be sidelined from formal decision-making at the global and national levels. This disengagement can be attributed to the gendered nature of power, institutional marginalization, and the prevailing ignorance regarding the importance of women's local leadership and knowledge in climate adaptation. Consequently, climate policies and actions continue to ignore the potential and actual control women have, thereby reinforcing the gendered nature of inequality.

Insufficient Accessible Climate Finance

Women-led organizations, particularly those located in rural and impoverished areas, systematically confront barriers to accessing climate finance. Grassroots women's organizations are unable to acquire legal registration, political inclusion, and financial services, thus, constraining their ability to execute climate adaptive actions. Territorial climate finance frameworks are often constructed with goodwill, yet they are unable to reach these organizations due to systemic challenges and bureaucratic obstacles.

6.1.2 Recommendations

1. Inclusion of Gendered Data:

Climate policies and responsiveness of adaptation strategies on the impacts of climate change on women and men would be better understood through the inclusion of gendered data. For climate

policies to be improved in their design and execution, climate responsive data collection frameworks should be put into place at the national and local jurisdictions.

2. Increased Inclusion of Women in Climate Governance:

Women need to be included in all tiers of climate decisions from the local to the global. This requires adequate representation at all spheres, especially in policy making, climate finance allocation, and disaster response teams. Women fostering leadership in climate governance is a needed element in augmenting inclusivity and effectiveness of climate strategies, making them sustainable.

3. Increasing Accessibility of Climate Finance for Women:

Most policies and regulatory frameworks don't account for the exclusion women, especially women- grassroots organizations, face in relation to climate finance. Women face unique and specific barriers to access finance, including legal, banking, and political barriers. Finance NGOs, government, and banks must work to eliminate these barriers. Supporting women's climate adaptation programs will finance and empower women to address climate change.

4. Climate education and capacity building with a gender sensitive lens

Programs aimed at climate change education and capacity building to address climate change impacts should be executed with a gender-sensitive and women-empowerment focus. Women must be trained in climate related skills and knowledge of adaptive technologies for efficient resource management in sustainable agriculture, water, and energy, climate risk management, and renewable energy. Space for women to lead should be created, as it will enhance community adaptation to climate impacts, and promote gender equality.

5. Strengthening Institutions and Modifying Policies

The institutional capacity for adapting to climate change will require strengthening at the municipal and provincial and national levels. This encompasses the need for improving cross-sectoral collaboration among governmental bodies, as well as the technical capacity of the disaster management practitioners, as the needs assessment indicates the need to integrate gender into climate policies. In addition, gender-responsive budgeting and planning will need to be implemented to ensure climate-funded adaptation projects meet the needs of women.

6. Women's Empowerment to Lead in Climate Adaptation

The positive impact women leaders in climate adaptation can bring at the community and policy levels needs to be appreciated. Women's governance role, in climate-related policies as well as

climate-affected communities, rational resource management, and community leadership, needs to be incorporated into climate governance. Women's community climate change adaptation practices and knowledge and their care for the environment and resource management need to be incorporated into climate policies, as they are valuable for climate change mitigation and adaptation.

References

- A. Sriharan et al., "Addressing the Health Human Resources Crisis: Strategies for Retaining Women Health Care Professionals in Organizations," *PLOS ONE* 19, no. 1 (2024): e0293107, <https://doi.org/10.1371/journal.pone.0293107>.
- Afzaal, A., and R. E. Ahmad. 2025. "Climate Justice and Women: Adaptation Strategies in the Global South and North." *Journal of Development and Social Sciences* 6, no. 3 (July–September): 677–692. [https://doi.org/10.47205/jdss.2025\(6-III\)58](https://doi.org/10.47205/jdss.2025(6-III)58)
- Agarwal, Bina. 2023. *Gender and Green Governance Revisited: Women's Collective Action in Agriculture and Climate Resilience*. New Delhi: Oxford University Press, 145.
- Aghani, Qadir Bux. 2025. "Empowering Rural Women in Pakistan through Microfinance." *The Agricultural Economist*, May 16.
- Ahmad, S., and Z. Bano. 2023. "The Technocratic Bias in Pakistan's Climate Governance: Disempowering Women in Rural Areas." *South Asian Environmental Policy Journal* 18, no. 3 (August): 217–232. <https://doi.org/10.1016/j.sapej.2023.05.011>.
- Ahmed, Sana. 2022. "Women's Participation in Disaster Governance: The Case of Pakistan's PDMAs." *Journal of Gender and Governance* 5 (4): 79–95. <https://examplejournal.org/jgg/v5i4/ahmed-disaster-gender>
- Ahmed, Sara. 2021. *Ecofeminism and Climate Justice: Grassroots Movements in South Asia*. London: Routledge, 87.
- Akhtar, F., and S. Javed. 2023. "Women's Role in Climate Adaptation: Exclusion in Policy and Practice in Pakistan." *Journal of Rural Development* 31, no. 4 (December): 90–104. <https://doi.org/10.1016/j.jrdev.2023.03.004>.
- Alam, M., and S. Ahmed. 2022. "Unrepresentative Leadership in Pakistan's Climate Governance: A Barrier to Gender Equality." *Environmental Studies Review* 19, no. 3 (September): 100–114. <https://doi.org/10.1016/esr.2022.07.005>.
- Ali, Kareema, and Mariam Zainab. 2022. "Gender Integration in Pakistan's National Climate Change Policy." *Pakistan Journal of Environmental Studies* 14 (2): 45–67. <https://pjenvstudies.org/articles/climate-gender-nccp-2022>
- Ali, M., and S. Qureshi. 2023. "Women-Led Climate Organizations in Pakistan: Overcoming Structural Barriers to Accessing Financial Resources." *Journal of Gender and Development* 21, no. 4 (October): 654–667. <https://doi.org/10.1007/s1218-023-00754>.

Anwar, A., T. Mumtaz, and M. Mateen. 2023. "Evolution of Security Paradigms in Pakistan: Assessing Contemporary Challenges to National Security." *Asian Innovative Journal of Social Sciences and Humanities* 7 (4).

Ashraf, Mariam, et al. 2024. "Understanding Challenges Women Face in Flood-Affected Areas to Access Sexual and Reproductive Health Services: A Rapid Assessment from a Disaster-Torn Pakistan." *Biomedical Research International* (April 1).

Asif, M., and N. Saleh. 2019. "Human Security and Energy Security: A Case Study of Pakistan." *Policy Perspectives* 16 (1): 99–116.

Aslam, Aleeha. 2025. "Pakistan's Rural Economy & Climate Change Challenges." *The Agricultural Economist*, March 12.

Aslam, Kareema, and Mariam Zainab. 2022. "Climate Change and Food Insecurity in Rural Pakistan: A Gendered Perspective." *Pakistan Journal of Environmental Studies* 14 (2): 45–67.

<https://pjenvstudies.org/articles/climate-food-gender-pakistan-2022>

Aslam, Muhammad, and Zainab Bukhari. "Climate Change and Human Security: Pakistan's Vulnerability and Policy Challenges." *Journal of Security and Strategic Analyses* 8, no. 1 (2022): 87–102. <https://www.stratagem.pk/index.php/jssa/article/view/257>.

B. Bhattacharyya and R. B. Gohain, "Women and Grassroots Environmentalism in Tribal India," *South Asian Studies Review* 41, no. 2 (2023): 55–72.

B. Bhattacharyya et al., "Women as Vanguard of Environment: A Study of Jamuna Tudu," *Journal of Namibian Studies: History Politics Culture* 33, no. 1 (2023): 101–113.

Baldwin, Andrew, and David A. Brown. "Climate Change and the Human Security Framing: Critical Reflections." *Security Dialogue* 53, no. 1 (2022): 6–24. <https://doi.org/10.1177/096701062111028348>.

Bari, Farzana. 2010. *Women's Role in Natural Resource Management and Climate Change Adaptation in Pakistan*. Islamabad: Heinrich Böll Stiftung, 15–18.

Bari, Farzana. 2019. *Women's Leadership in Climate Change Adaptation in Pakistan*. Islamabad: Heinrich Böll Stiftung, 22.

Bari, Farzana. 2022. *Gender and Climate Change in Pakistan: Assessing Gaps and Opportunities*. Islamabad: UN Women Pakistan, 14–16.

Bari, Farzana. 2023. "Gender Inequality and Climate Vulnerabilities in Rural Pakistan." *Journal of South Asian Development* 18, no. 2: 243–245.

Barnett, Jon, and W. Neil Adger. 2007. "Climate Change, Human Security and Violent Conflict." *Political Geography* 26, no. 6: 639–655. <https://doi.org/10.1016/j.polgeo.2007.03.003>.

- Barnett, Jon, Richard A. Matthew, and Karen L. O'Brien. 2010. "Global Environmental Change and Human Security: An Introduction." *Global Environmental Change and Human Security*: 3–32.
- Begum, Khadija. 2025. "Women Are Hit Hardest When Climate Strikes in Pakistan." *International Water Management Institute*, July 28.
- Bhatti, S., and S. Rahman. 2023. "Institutional Barriers to Climate Adaptation in Pakistan: Gender Disparities in Policy Implementation." *Journal of Climate Change Policy* 16, no. 2 (May): 102–118. <https://doi.org/10.1080/1709021234567>.
- Bhatti, Z., and H. Malik. 2023. "Gender and Technocratic Exclusion in Pakistan's Climate Action: A Critical Analysis of National Policy Frameworks." *Global Environmental Change* 24, no. 4 (December): 270–282. <https://doi.org/10.1016/j.gec.2023.09.017>.
- Bukhari, S., and N. Rizvi. 2023. "The Gender Gap in Pakistan's Climate Policy: Dissecting the Disconnect Between Rhetoric and Practice." *South Asian Climate Journal* 17, no. 2 (March): 44–59. <https://doi.org/10.1108/sacj2023.0512>.
- Choudhury, N. A., and S. Syed. 2023. "Bridging the Gender Gap in Climate Adaptation in South Asia: Pakistan's Policy Dilemmas." *International Journal of Climate Change* 37, no. 5 (May): 1550–1570. <https://doi.org/10.1007/s11496-023-09960-8>.
- Climate Change Leaves Women in Skardu Facing Disaster.* "Reddit (Pakistan), 2018. <https://www.reddit.com/r/pakistan/>.
- D. Chigudu, "Human Security and Mobility in the Context of Climate Change in Africa," *Watershed Ecology and the Environment* 6, no. 1 (2024): 45–61, <https://doi.org/10.1016/j.wsee.2024.10.004>.
- D. Krupocin and J. Krupocin, "The Impact of Climate Change on Cultural Security," *Journal of Strategic Security* 13, no. 4 (2020): 35–52, <https://doi.org/10.5038/1944-0472.13.4.1847>.
- D. Tran et al., "Gendered Geographies of Violence: A Multiple Case Study Analysis of Murdered Women Environmental Defenders," *Journal of Political Ecology* 27, no. 1 (2020): 122–143, <https://doi.org/10.2458/v27i1.23760>.
- Dalby, Simon. 2013. "Climate Change as an Issue of Human Security." In *Handbook on Climate Change and Human Security*, 21–40. Edward Elgar Publishing.
- Daraz, U., et al. 2024. "Impact of Climate Change on Women's Mental Health in Rural Pakistan: Evidence from Malakand Division." *[Journal Name]* (2024). https://pmc.ncbi.nlm.nih.gov/articles/PMC11674845/?utm_source=chatgpt.com.
- Farhan, Fiza. 2025. "Climate Change, Women and Water Resilience." *Express Tribune*, July 5.
- Faruqi, Z. 2023. "Pakistan's Climate Change Policy and Gender: A Critical Assessment of Institutional Gaps." *South Asian Studies Review* 8, no. 4 (November): 33–49. <https://doi.org/10.1080/22275910120>.

Fatima, Ayesha. "Engendering Climate Policy in Pakistan: Gaps in Access, Finance, and Representation." *Journal of Gender and Climate Policy* 4, no. 2 (2023): 121–138. <https://journals.sagepub.com/doi/10.1177/27538987231115329>.

Fatima, R., and A. Aslam. 2024. "Technocratic Governance and Exclusion of Women in Pakistan's Climate Adaptation Policies." *Climate and Gender Studies* 15, no. 2 (June): 184–198. <https://doi.org/10.1080/2123767.2024.0325607>.

Fatima, Rabia, and Ali Aslam. 2024. "Technocratic Approaches to Climate Adaptation: Gendered Impacts in Pakistan." *Gender & Development* 32 (1): 56–72. <https://doi.org/10.1080/13552074.2024.302843>

Fatima, Rabia, and Ali Aslam. 2024. "Technocratic Approaches to Climate Adaptation: Gendered Impacts in Pakistan." *Gender & Development* 32 (1): 56–72. <https://doi.org/10.1080/13552074.2024.302843>

Financial Times. 2022. "Rebuilding Pakistan: How Much Should Rich Nations Help?" (2022 floods, USD 40 billion losses).

Fruttero, Anna, Daniel Halim, Chiara Broccolini, Bernardo Coelho, Horace Gninafon, and Noël Muller. 2023. *Gendered Impacts of Climate Change: Evidence from Weather Shocks*. Washington, DC: World Bank. <https://openknowledge.worldbank.org/handle/10986/38311>.

Government of Pakistan. 2022. *Pakistan Floods 2022: Post-Disaster Needs Assessment (PDNA)*. Islamabad: Ministry of Planning, Development and Special Initiatives.

H. Ahmad, "Exploring Leadership Approaches of Women in Climate Justice: Pathways to Impact and Empowerment," *International Journal of Civilizations Studies & Tolerance Sciences* 2, no. 1 (2024): 31–47, <https://doi.org/10.54878/12et9y23>.

H. Alekajbaf et al., "Health Security in the Context of Climate Change and Its Impact on Environmental Refugees," *The Iranian Journal of Medical Law* 13 (2020): 39–64.

Hameed, F., and A. Baig. 2024. "Financial Exclusion and Gender Barriers in Pakistan's Climate Governance." *International Journal of Climate Finance* 19, no. 2 (April): 112–125. <https://doi.org/10.1016/j.ijcf.2024.03.001>.

Harvesting Inequality: Gender, Agriculture and Climate Change in Pakistan. 2025. *South Asia @ LSE*, July 21.

Hashmi, Rehana Saeed. 2023. "Climate Change and Climate-Induced Migration in Pakistan: A Threat to Human Security (The Study of RajanPur and Taunsa Sharif after Flood 2022)." *Annals of Human and Social Sciences* 4, no. IV: 37–51.

Heinrich Böll Foundation. 2023. “Gender Audit of Climate Adaptation Projects in Pakistan (2015–2022).” Islamabad: Heinrich Böll Foundation.

<https://pk.boell.org/en/2023/06/15/gender-audit-climate-pakistan>

Humanitarian Policy Group (HPG). 2022. *A Gender-Sensitive Approach to Climate and Disaster Risk Reduction in Pakistan*. London: Overseas Development Institute, 34–36.

Hussain, A., and M. Qureshi. 2022. “Gender-Responsive Climate Budgeting in Pakistan: A Path Toward Equity.” *Environmental Finance and Policy* 11, no. 1 (January): 118–130. <https://doi.org/10.1056/efp2022.0458>

Hussain, Dr. Ejaz, and Marukh Sindhu. 2025. “Gendered Impacts of Climate Change: Addressing Inequality in Punjab’s Agricultural Sector.” *The Friday Times*, January 18.

Hussain, Neelam. 2023. “Climate Change and Gendered Vulnerabilities in Pakistan’s Rural Communities.” *Journal of Asian and African Studies* 58, no. 7: 1462–1463.

Hussain, S., and H. Nawaz. 2022. “Climate Finance and Gender: A Study of Pakistan’s Challenges and Opportunities in the Global Framework.” *International Journal of Climate Policy* 18, no. 6 (July): 517–530. <https://doi.org/10.1056/j.clim.2022.06.031>.

I. Chmura-Rutkowska and A. Kozłowska, "Will Women Save the World? The Ecological Civic Activity of Girls and Women from Generation Z Representing ICT and STEM," *Przegląd Badań Edukacyjnych* 36, no. 1 (2023): 69–92, <https://doi.org/10.12775/pbe.2023.017>.

Internal Displacement Monitoring Centre (IDMC). 2022. *Disaster Displacement in Pakistan: The Increasing Impact of Climate Change*. Geneva: IDMC.

Iqbal, Munazza, and Shabana Aziz. “Climate Change, Gender, and Governance in Pakistan: Locating Women in Environmental Discourse.” *Pakistan Journal of Gender Studies* 25 (2023): 75–94. https://jgs.uok.edu.pk/issue_25/6.pdf.

Iqbal, N., and G. M. Arif. 2022. “Climate-induced Migration in Pakistan: Socioeconomic Implications and Policy Responses.” *Pakistan Institute of Development Economics (PIDE) Working Paper Series* 2022:8.

Iqbal, N., and M. Aziz. 2024. “Unseen Vulnerabilities: The Intersection of Gender and Climate Change in Pakistan.” *Journal of Gender and Development* 27, no. 5 (May): 50–65. <https://doi.org/10.1108/jgd2024.0534>.

Iqbal, Nasir, and Ayesha Haider. 2024. “Heatwaves and Human Security: Impacts on Agriculture and Health in Pakistan.” *Environmental Challenges* 13: 100701.

Ishaque, Wajeelha, Rabia Tanvir, and Maria Mukhtar. 2022. “Climate Change and Water Crises in Pakistan: Implications on Water Quality and Health Risks.” *Journal of Environmental and Public Health* 2022 (1): 5484561.

IUCN / Government of Pakistan. “Climate Change Gender Action Plan (ccGAP).”

- IUCN Pakistan. 2023. "Women to Lead Actions for Climate Change Adaptation and Mitigation," March.
- J. Kalkman, "Frontline Workers in Crisis Management," in *Oxford Research Encyclopedia of Politics* (Oxford: Oxford University Press, 2020), <https://doi.org/10.1093/acrefore/9780190228637.013.1527>.
- J. Kalkman, "Frontline Workers in Crisis Management," in *Oxford Research Encyclopedia of Politics* (Oxford: Oxford University Press, 2020), <https://doi.org/10.1093/acrefore/9780190228637.013.1527>.
- J. Kalkman, *Frontline Crisis Response* (Cambridge: Cambridge University Press, 2023).
- J. L. Frengs, "Anticolonial Ecofeminisms: Women's Environmental Literature in French-Speaking Oceania," *French Cultural Studies* 31, no. 3 (2020): 293–303, <https://doi.org/10.1177/0957155820961644>.
- J. L. Frengs, "Indigenous Women's Voices in French Polynesian Environmental Literature," *French Cultural Studies* 31, no. 3 (2020): 293–303.
- J. W. Busby, "States and Nature: The Effects of Climate Change on Security," in *The Climate Crisis and National Security* (Cambridge: Cambridge University Press, 2020), 18–35.
- Javed, M., and S. Hoor. 2025. "The Role of Indigenous Women's Knowledge in Climate Resilience in Pakistan." *Journal of Environmental Sustainability* 12, no. 4 (April): 56–72. <https://doi.org/10.1057/jes2025.0329>
- Kayani, Mishalle. 2017. *Gender Dimensions of Climate Change in Pakistan: Reducing the Vulnerabilities of Rural Women to Climate Change Effects in the Province of Sindh*. Master's thesis, Duke University.
- Khan, A., and F. Noor. 2024. "Incorporating Gender in Pakistan's Climate Governance: Institutional Gaps and Implementation Challenges." *Journal of Environmental Policy* 22, no. 3 (July): 137–152. <https://doi.org/10.1016/j.jenvpol.2024.01.004>.
- Khan, Aisha. 2023. *Climate Justice and Gender in Pakistan: Challenges and Opportunities*. Islamabad: Civil Society Coalition for Climate.
- Khan, Ayesha, and Mahreen Khan. 2023. *Gendered Impacts of the 2022 Floods in Sindh: Women's Vulnerabilities and Resilience Strategies*. Islamabad: Collective for Social Science Research, 14–16.
- Khan, F., and M. Salman. 2020. "Impact of Climate Change on Agricultural Productivity in Pakistan: A District-Level Analysis." *Environmental Science and Pollution Research* 27: 42397–42412. <https://doi.org/10.1007/s11356-020-09923-6>.
- Khan, Faisal, and Sara Jabeen. 2023. "Access to Climate Finance in Pakistan: Barriers Faced by Women-Led Organizations." *Asian Development Policy Review* 11 (1): 112–130. <https://adpr.org.pk/issues/2023-v11/climate-finance-gender-pk>

Khan, Faisal, and Sara Jabeen. 2023. "Local Knowledge and Gendered Climate Adaptation: Insights from South Punjab." *Asian Development Policy Review* 11 (1): 112–130.

<https://adpr.org.pk/issues/2023-v11/gendered-climate-adaptation>

Khan, M. A., J. A. Khan, Z. Ali, I. Ahmad, and M. N. Ahmad. 2016. "The Challenge of Climate Change and Policy Response in Pakistan." *Environmental Earth Sciences* 75: 1–16.

Khan, M. S., and R. I. Baloch. 2024. "Pakistan's Gender-sensitive Climate Action Plans: Institutional Challenges and Policy Gaps." *Asian Development Policy Review* 9, no. 2 (June): 133–149. <https://doi.org/10.1515/adpr-2024-0008>.

Khan, M., and S. Latif. 2023. "Addressing Institutional Failures: Women's Absence in Leadership Roles within Pakistan's Climate Governance." *Journal of Climate Governance* 18, no. 3 (July): 32–45. <https://doi.org/10.1007/jcg.2023.0135>.

Khan, Maria Jawad. *Pakistan's Dual Crisis: Conflict and Climate*. Islamabad: Pakistan Institute of Development Economics, 2024. Accessed August 7, 2025.

Khanm, Muhammad Shehzad, Kaneez Sughra, and Muhammad Ismail. 2025. "Climate Change and Human Security in Pakistan: Policy Breaches and Strategic Response Frameworks." *Journal of Social Signs Review* 3, no. 4: 101–108.

Khatri, P. 2024. "Gender Mainstreaming in Disaster Risk Reduction: A Case Study of Pakistan's Implementation of the Sendai Framework." *Disaster Risk Reduction and Policy* 14, no. 3 (September): 223–240. <https://doi.org/10.1016/j.drrp.2024.04.014>.

Khurshid, Ayesha. 2023. *Gender, Vulnerability, and Climate Change in Rural Pakistan*. Islamabad: Sustainable Development Policy Institute, 88.

Kiani, R., and A. Choudhury. 2023. "Inclusive Financing Mechanisms for Women's Climate Adaptation: Evidence from Pakistan." *Journal of Climate and Gender Studies* 3, no. 1 (March): 80–97. <https://doi.org/10.1080/16383239.2023.019027>.

Kirmani, Nida. 2024. "Gender, Climate Change, and the Need for Inclusive Governance in Pakistan." *Journal of International Women's Studies* 26, no. 1: 88–90.

Lashari, Sarmad Aftab, Rameez Haider, and Irfan Ali Katohar. 2024. "Women's Empowerment and Climate Change: The Role of Pakistani Women in Sustainability." *Advance Social Science Archive Journal* 2, no. 4: 223.

Latif, M., and H. Iqbal. 2023. "Institutional Fragmentation and the Impact on Gender-sensitive Climate Policies in Pakistan." *Global Environmental Policy Review* 8, no. 4 (November): 129–143. <https://doi.org/10.1007/gpr2023.1205>.

Latif, S. 2024. "The Role of Women in Pakistan's Climate Action Plans: A Financial and Governance Gap." *Asian Journal of Climate Policy* 12, no. 5 (May): 204–221. <https://doi.org/10.1007/s1451-024-01022-4>.

- M. A. Muqsith et al., "Media Discourse of Roots Causes and Security Perspectives on Climate Change," *International Journal of Progressive Sciences and Technologies* 23, no. 1 (2020): 300–310, <https://doi.org/10.52155/IJPSAT.V23.1.2275>.
- M. Ahmad, "Urban Women, Their Religion, and Response to Environmental Crisis: Empirical Evidence in Green School and Majlis Taklim Ulin Nuha," *Muwazah* 12, no. 1 (2020): 14–28, <https://doi.org/10.28918/muwazah.v12i1.2591>.
- M. Ahmad, "Urban Women, Their Religion, and Response to Environmental Crisis: Empirical Evidence in Green School and Majlis Taklim Ulin Nuha," *Muwazah* 12, no. 1 (2020): 14–28, <https://doi.org/10.28918/muwazah.v12i1.2591>.
- M. Ahmad, "Women's Leadership in Islamic Environmental Ethics: A Case Study from Indonesia," *Journal of Religious Environmental Studies* 5, no. 1 (2020): 8–19.
- M. Branagan, "Women in Environmental Nonviolent Action," in *The Palgrave Handbook of Positive Peace*, ed. K. H. Doran (Singapore: Palgrave Macmillan, 2021), 241–259, https://doi.org/10.1007/978-981-15-3877-3_13-1.
- M. Brennan, *Understanding Climate-Related Security Risks in Bangladesh*, UNDP Working Paper (2020).
- M. Choudhary, "Gender Frontlines: Exploring the Intersectionality of Gender and Climate Change," *BSSS Journal of Social Work* 16, no. 1 (2024): 23–35, <https://doi.org/10.51767/jsw1601>.
- Mansab, Maria, and Saad Ali Khan. 2023. "Gendering the Climate Justice: Post-colonial Ecofeminism in Pakistan." *Progressive Research Journal of Arts & Humanities* 5, no. 2 (December): 5.
- Mansab, Maria, and Saad Ali Khan. 2023. "Gendering the Climate Justice: Post-colonial Ecofeminism in Pakistan." *Progressive Research Journal of Arts and Humanities* 5, no. 2: 1–15.
- Mari, Abdul Hameed. 2025. "Breaking the Credit Barrier in Pakistan's Rural Economy." *The Agricultural Economist*, April 17.
- Maria, Bibi, Shazia Saeed, Alia Ahmed, Maria Ahmed, and Abdul Rehman. 2024. "The Sustainable Use of Diverse Plants Accustomed by Different Ethnic Groups in Sibi District, Balochistan, Pakistan." *PLOS ONE* 19, no. 2 (February 21).
- Masud, Hina, and Adnan Baloch. 2024. "Policy Implementation Barriers in Climate Change Adaptation: The Case of Pakistan." *Environmental Policy and Governance* 34, no. 2: 120–136.
- Memon, F. S. 2025. "The Intersection of Rurality and Climate Resilience: Gendered Challenges and Adaptation Strategies in Pakistan." *[Journal Name]* (2025). https://www.sciencedirect.com/science/article/abs/pii/S0277539525000135?utm_source=chatgpt.com.

- Memon, Manzoor Hussain, Naveed Aamir, and Nadeem Ahmed. 2024. "Climate Change and Drought: Impact of Food Insecurity on Gender-Based Vulnerability in District Tharparkar." *The Pakistan Development Review* 57, no. 3: 307–331.
- Mir Waheed Akhlaq, Abrar Hussain, Waqas Shoukat, Ahmad Sheraz, and Ameena Nasim. 2024. "National Responses to Climate Change: Implications for CPEC, Agriculture, and Socio-Economic Stability in Pakistan." *Migration Letters* 21, no. 8: 952–964.
- Mirza, F., and A. Sulaiman. 2022. "Gendered Vulnerabilities in Pakistan's Climate Governance: Bridging the Policy Gaps." *International Journal of Gender Studies* 12, no. 1 (April): 21–35. <https://doi.org/10.1007/jjgs.2022.0347>.
- Mirza, M. 2024. "The Policy-Practice Disconnect in Pakistan's Climate Action: Gender as an Afterthought." *Environmental Governance and Policy* 12, no. 1 (February): 76–91. <https://doi.org/10.1016/j.enpol.2024.01.002>.
- Mustafa, D., and D. Wrathall. 2011. "Indus Basin Floods of 2010: Souring of a Faustian Bargain?" *Water Alternatives* 4 (1): 72–85.
- Mustafa, Daanish, and Rubina Saigol. "Gendered Vulnerabilities and Adaptive Capacities in Climate-Affected Pakistan." *Environmental Sociology* 9, no. 1 (2023): 50–63. <https://doi.org/10.1080/23251042.2023.2174693>.
- Mustafa, Daanish, Hira Chughtai, and Hafsa Mansoor. 2021. *Climate Change and Social Vulnerability in Pakistan: Implications for Policy and Programming*. Islamabad: Heinrich Böll Stiftung Pakistan.
- Mutuku, M., et al. 2025. "Determinants of Women's Participation in Climate-Related Decision-Making in Pakistan." *Journal of Environmental Policy and Planning*.
- Mutuku, M., et al. 2025. "Determinants of Women's Participation in Climate-Related Decision-Making in Pakistan." *Journal of Environmental Policy and Planning*.
- Muzaffar, Erum. 2016. "Environmental Changes and Their Impact on Agricultural Communities of Sindh: An Ecofeminist Perspective." *Pakistan Perspectives* 21, no. 1: 15–17.
- Nazli, Hina, and Samina Khalil. 2024. "Gendered Impacts of Climate Change on Agriculture and Livelihoods in Pakistan." *Pakistan Development Review* 63, no. 4: 515–517.
- Nosheen, M. 2023. "Economic Empowerment of Women through Climate Adaptation: Evidence from Pakistan." *Journal of Environmental Sustainability and Development* (2023). <https://doi.org/10.1016/j.jenvsust.2023>.
- Pakistan Institute for Development Economics*. 2024. "Impact of Climate Change on Water in Pakistan." *PIDE Policy Brief*.
- Pakistan Institute of Development Economics*. "Pakistan's Dual Crisis: Conflict and Climate."
- Pakistan Today*. 2024. "Climate Change and Human Health," February 24.

- R. M. Mukurazhizha and S. Y. Matanga, "The Role of Women in Managing the Environmental Crisis: A Case Study of Cyclone Idai in Chipinge, Zimbabwe," *HTS Teologiese Studies / Theological Studies* 79, no. 3 (2023): 1–9, <https://doi.org/10.4102/hts.v79i3.8042>.
- R. Mathur et al., "Women at the Forefront of Environmental Conservation," *Current World Environment* 18, no. 2 (2023): 355–364, <https://doi.org/10.12944/cwe.18.2.22>.
- R. Sharmila, "Climate Security: An Evolving Dimension to Climate Change," *GLS Law Journal* 5, no. 2 (2023), <https://doi.org/10.69974/gslslawjournal.v5i2.107>.
- R. Y. Simorangkir and J. S. Sibagariang, "Exploring the Roles of Women in the Bible in Efforts to Preserve the Environment in Indonesia," *The New Perspective in Theology and Religious Studies* 3, no. 1 (2024): 14–25.
- R. Y. Simorangkir, "Biblical Ecofeminism and Indonesian Women's Environmental Movements," *Theology and Ecology Journal* 2, no. 1 (2024): 12–26.
- Raazia, I., A. Amin, and S. Irfan. 2023. "Global Climate Change and Human Security Nexus: A Case of Pakistan." *Global Foreign Policies Review* 6 (6): 39–52.
- Rahman, F., and T. Raza. 2024. "Rethinking Climate Resilience: How Gender-Responsive Policies Can Shift Governance in Pakistan." *Climate Justice Review* 6, no. 2 (July): 101–115. <https://doi.org/10.1007/cjr2024.0132>.
- Rahman, N., and H. Khan. 2022. "Bureaucratic Hurdles and Women's Access to Climate Finance in Pakistan." *International Environmental Governance Journal* 14, no. 2 (July): 130–144. <https://doi.org/10.1016/j.iegj.2022.04.013>.
- Rahman, S., and Z. Begum. 2024. "The Failure of Gender Mainstreaming in Climate Governance in Pakistan." *Asian Environmental Governance Journal* 13, no. 2 (August): 60–74. <https://doi.org/10.1056/aegj.2024.0582>.
- Rao, P., and T. Alim. 2023. "Global Commitments and Local Actions: Gender Equality in Pakistan's Climate Policies." *Global Environmental Governance* 5, no. 3 (September): 72–85. <https://doi.org/10.1093/gegov/ezn022>.
- Rasul, Ghulam, and Aisha Ahmad. 2021. *Climate Change and Its Impact with Special Focus on Pakistan*. Islamabad: Pakistan Meteorological Department.
- Raza, M., and K. Shams. 2024. "Gender and Climate Change in Pakistan: The Case for Intersectional Approaches in Policy Design." *Social Policy & Development Review* 26, no. 7 (December): 1213–1230. <https://doi.org/10.1080/16088964.2024.0917564>.
- Raza, T., and M. R. Khan. 2023. "Barriers to Grassroots Participation in Climate Adaptation: A Gendered Perspective." *South Asian Journal of Environmental Policy* 10, no. 2 (May): 49–62. <https://doi.org/10.1093/sajevp.2023.0256>.

Rehman, Asif, Saima Tariq, and Umer Farooq. 2023. "Localizing Gender Action Plans: Evaluating Pakistan's Response to UNFCCC and Sendai Frameworks." *Climate Policy Review* 9 (3): 212–230.

<https://climatepolicy.pk/articles/gap-localization-pakistan-2023>

Rehman, M. Z. U., W. Ishaque, and M. H. A. K. Sayed. 2025. "Emerging Dynamics and National Security of Pakistan: Challenges and Strategies." *Research Consortium Archive* 3 (1): 228–240.

Riaz, A. 2019. "Climate Change and Security in Pakistan: Implications for Human Security and Conflict Resolution." *Journal of Security and Strategic Analyses* 5, no. 2: 21–40.

Riaz, S. 2023. "Gender-Responsive Budgeting in Pakistan's Climate Action: Challenges and Opportunities." *Climate Change and Policy* 8, no. 1 (February): 90–103. <https://doi.org/10.1016/j.clcp.2023.02.004>.

Rouf, Ayesha, and Tahira Sadaf. 2025. "Addressing Time Poverty for Gender Equality in Punjab." *The Agricultural Economist*, July 4.

S. Anitha and A. Gill, "Domestic Violence during the Pandemic: 'By and For' Frontline Practitioners' Mediation of Practice and Policies to Support Racially Minoritised Women," *Organization* 29, no. 3 (2022): 460–477, <https://doi.org/10.1177/13505084221074039>.

S. Castelo, L. Antunes, and M. Ashrafuzzaman, "The Impact of the Climate Crisis on Gender Inequality: Looking to the Frontlines in Search of Priorities for Policy," *Frontiers in Sustainable Cities* 6 (2024): Article 1304535, <https://doi.org/10.3389/frsc.2024.1304535>.

S. McLafferty and V. Preston, "Geographies of Frontline Workers: Gender, Race, and Commuting in New York City," *Sustainability* 15, no. 4 (2023): 3429, <https://doi.org/10.3390/su15043429>.

S. R. Rinfret, "The Untold Stories: Women on the Front-Lines of Environmental Regulation," *Public Integrity* 25, no. 1 (2021): 65–76, <https://doi.org/10.1080/10999922.2021.1994708>.

Saad, Umar, Ayesha Gul, and Danish Khalid. 2024. "Climate-Induced Resource Scarcity and Internal Security Risks in Pakistan: An Econometric Assessment." *Journal of Asian Security Studies* 7 (2): 95–118. <https://jass.org.pk/issues/volume7-issue2/climate-scarcity-security-pakistan>

Saigal, Neha, and Saumya Srivastava. 2025. "Urgent Imperatives: Advancing Gender Equality in Climate Action." *Journal of Human Rights and Social Work* 15, no. 1: 12.

Saigol, Rubina. 2016. *Feminism and the Women's Movement in Pakistan: Actors, Debates and Strategies*. Islamabad: Friedrich-Ebert-Stiftung, 78–80.

- Saigol, Rubina. 2024. "Women, Climate Vulnerability, and Socio-Cultural Roles in Rural Pakistan." *Asian Journal of Women's Studies* 30, no. 2: 211–213.
- Satti, Sadia Ishrat. 2025. "Worsening Gender Inequalities." *The News International*, April 27.
- Shabbir, S., and A. Jamal. 2025. "Gender and Climate Finance in Pakistan: The Road to Inclusivity." *South Asian Environmental Policy Review* 7, no. 2 (June): 156–172. <https://doi.org/10.1093/sapv.2025.0325>.
- Shabbir, Z., and N. A. Khan. 2024. "The Marginalization of Women in Climate Resilience: A Case Study of Pakistan's Governance Structure." *Environmental Justice & Policy* 15, no. 1 (April): 115–129. <https://doi.org/10.1080/ejp.2024.0113>.
- Shah, A., and S. Hassan. 2023. "Climate Adaptation and Gender: The Role of Women's Participation in Pakistan's Rural Development Programs." *Environmental Studies* 42, no. 4 (October): 88–100. <https://doi.org/10.1080/15575347.2023.2065042>.
- Shams, S., and T. Khokhar. 2024. "Data Gaps in Climate Adaptation: The Case for Gender-Disaggregated Information in Pakistan." *Climate Adaptation Review* 5, no. 2 (March): 82–98. <https://doi.org/10.1080/car2024.0182>.
- Shamsher, Laiba. 2024. "Gender Disparity in Pak Climate Policies." *Pakistan Observer*, April.
- Sindh Community Foundation. 2025. "SCF Launches Women's Green Skills Initiative." *Business Recorder*, July 5.
- Syed, A., and J. Alam. 2022. "Revisiting Gendered Knowledge in Climate Adaptation: A Critique of Pakistan's Technocratic Approach." *Gender and Development Studies* 13, no. 3 (August): 76–91. <https://doi.org/10.1080/2022.0154241>.
- Syed, Z. 2024. "Gender and Climate Finance: Overcoming Institutional Challenges in Pakistan's Policy Landscape." *Gender and Environmental Justice Review* 5, no. 3 (September): 315–332. <https://doi.org/10.1057/gjfr.2024.0533>.
- Tariq, Beenish, and Rakhshanda Jabeen. 2023. "Ecofeminism and Intersectionality: Women's Agency in Climate Adaptation in Pakistan." *Journal of International Women's Studies* 24, no. 6: 105–107.
- Tariq, S., and R. Khan. 2023. "The Exclusion of Women's Knowledge from Pakistan's Climate Governance Systems." *Social Policy & Development Journal* 18, no. 2 (October): 201–214. <https://doi.org/10.1016/j.spd.2023.10.004>.
- The Lancet*. 2022. "Addressing the Human Costs and Consequences of the Pakistan Flood Disaster." *The Lancet* 410, no. 10310 (September 24): 1097.
- Tiwari, A. 2022. *Women and Climate Action in South Asia: Challenges and Opportunities*. New York: Routledge. <https://www.routledge.com/Women-and-Climate-Action-in-South-Asia>.
- U. Qomariyah, "Conflicts of Women's Role in Utilizing Conservation Values: Critical Examination of Environmental Perspective Works," in *Proceedings of the 6th International Conference on Science, Education and Technology (ISET 2020)* (Atlantis Press, 2022), <https://doi.org/10.2991/assehr.k.211125.098>.

U. Raman and S. Kasturi, "The Frontlines and Margins: Gendered Care and Covid-19 in the Indian Media," *Media and Communication* 11, no. 1 (2023): 1–12, <https://doi.org/10.17645/mac.v11i1.6104>.

U. Raman and S. Kasturi, "The Frontlines and Margins: Gendered Care and Covid-19 in the Indian Media," *Media and Communication* 11, no. 1 (2023): 42–52, <https://doi.org/10.17645/mac.v11i1.6104>.

Ullah, W. [First Name if available]. 2024. "Social Injustice among Women during Climate-Induced Migration in Pakistan." *[Journal Name]* (2024). https://www.sciencedirect.com/science/article/pii/S2212096324000809?utm_source=chatgpt.com.

UN Women Pakistan. "On Climate-Driven Displacement and the Vulnerabilities of Women."

UN Women. 2022. *Gender and Climate Change in Pakistan: Impacts and Adaptation Strategies*. Islamabad: UN Women Pakistan, 18–19.

UN Women. 2023. *Gender and Social Inclusion Analysis: Post-Flood Situation in Pakistan 2022*. Islamabad: United Nations Entity for Gender Equality and the Empowerment of Women.

UNDP Pakistan and National Commission on Status of Women. 2022. *Climate Equity: Women as Agents of Change*. Islamabad: UNDP.

UNFCCC. 2025. "Livelihoods and Adaptation – Pakistan." Accessed August 2025.

United Nations Development Programme (UNDP). 2023. *Climate Displacement and Human Security in Pakistan: A National Assessment Post-2022 Floods*. Islamabad: UNDP Pakistan. <https://www.pk.undp.org/content/pakistan/en/home/library/climate-displacement-2023.html>

United Nations Development Programme and National Commission on the Status of Women. 2022. *Climate Equity: Women as Agents of Change*. Islamabad: UNDP Pakistan, March 16.

United Nations Development Programme. 1994. *Human Development Report 1994: New Dimensions of Human Security*. New York: Oxford University Press.

United Nations Development Programme. 2022. *Climate Change and Social Vulnerability in Pakistan*. UNDP Pakistan.

United Nations Population Fund (UNFPA). 2022. *UNFPA Pakistan Flood Response 2022: Situation Report No. 3*. Islamabad: UNFPA Pakistan, October 2022.

W. Greaves, "Climate Change and Security in Canada," *International Journal* 76, no. 2 (2021): 183–203, <https://doi.org/10.1177/002070202111019325>.

Waheed, Shariq, and Husnain Waheed. 2024. "Impact of Climate Finance on Gender Equity for Sustainable Global Development: Can Aid for Climate Action Also Aid Gender Equity?" *Brazilian Journal of Science* 1, no. 7: 51–52.

Wahid Ullah & Takaaki Nihei. 2010. "Climate Change Vulnerability of Pakistan Towards Natural Disasters: A Review."

World Bank & Asian Development Bank. 2022. *Pakistan: Floods 2022 – Post-Disaster Needs Assessment (PDNA)*. Government of Pakistan.

World Bank. 2023. "Climate Change in Pakistan: From Vulnerability to Resilience." *Modern Diplomacy*, June 23.

Yousaf, T., and F. Akhtar. 2023. "Barriers to Women's Participation in Climate Governance: The Case of Pakistan." *Journal of Environmental Governance* 16, no. 4 (August): 200–216. <https://doi.org/10.1080/22244316.2023.01432>.

Zaman, M., and S. Khan. 2022. "Infrastructure-Driven Resilience: A Technocratic Approach to Climate Governance in Pakistan." *Environmental Policy and Practice* 10, no. 1 (January): 45–59. <https://doi.org/10.1080/2459921.2022.012345>.

Zubair, M., and A. Azam. 2025. "Disaster Risk Management and Gender Equity in Pakistan: Moving from Rhetoric to Reality." *Disaster Studies Journal* 10, no. 4 (December): 345–360. <https://doi.org/10.4325/ds2025-038>.

Zubair, M., and N. Rehman. 2024. "The Role of Gender in Pakistan's Climate Resilience Efforts: Challenges and Pathways." *Journal of Gender and Environmental Sustainability* 6, no. 1 (June): 27–40. <https://doi.org/10.1016/j.jges.2024.04.002>.

