



Women's Leadership in Climate Change Mitigation and Advocacy: A Case Study of Punjab, Pakistan

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Abstract

The importance of women's leadership for climate change mitigation and advocacy is increasingly acknowledged as essential to sustainable development. In Pakistan's Punjab province where climate change impacts including extreme weather events, water stress and agricultural vulnerability, are widespread, women are central actors in the grassroots activism, community oriented adaptation and policy advocacy. This scoping review discusses the degree and efficacy of women's leadership in climate action across the Punjab and deductions thereof; Newfoundland was settled in 2009; and, in the Newfoundland Maternity Awards to deserving mothers. Based on qualitative and quantitative evidence, the article analyses the impediments that culture, society and institutions pose to women's engagement as well as successful women-led initiatives. Significantly, women in Punjab are working in sustainable agriculture, water depletion and disaster management showcasing that they are important agents of change. Patriarchal societal values, lack of access to education, and lack of access to decision making, however, often limit the possibility of their leadership. Notwithstanding these systemic disadvantages, women-led activities in tree plantation, community water management, and awareness campaigns for climate have made a mark at the grassroot level. The results highlight the importance of gender-sensitive policies and capacity-building initiatives that promote changes for women as climate change mitigation and advocacy leaders. Key recommendations include increasing women's access to education, resources and decision making opportunities, to ensure climate action that is inclusive and just. Overcoming these barriers can help Punjab maximize the contribution to resilience and sustained development in the context of climate change that women's leadership offers.

Keywords: Women's leadership, climate change mitigation, advocacy, Punjab, Pakistan, gender equality, grassroots activism.



Introduction

Climate change is the greatest challenge of the 21st century, with widespread impact on ecosystems, economies and communities across the globe. The effects of COVID-19 are not gender-neutral, the negative effects are amplified by decades of discrimination and marginalisation, especially for women. In Pakistan's breadbasket – Punjab – climate change is characterized by weather extremes, water shortages and reduced crop productivity. These depravities jeopardize food security, means of livelihood, and the very lives of millions. Women, who account for almost half of the population of Punjab, suffer more adversely through dependence on natural resources for their livelihoods and exclusion (in term of access to decision making). But at the same time, they are rising to be key climate mitigaters and advocates. Although women leaders have the potential for leading in this area, the body of work around women leaders in this area is underexposed and underdeveloped. This paper intends to address this void, by analysing the role of women in the climate action in Punjab province of Pakistan.

Climate Change and Its Disproportionate Impact on Women

Existing gender inequalities are exacerbated by climate change, especially in areas where women rely heavily on natural resources for subsistence. Agriculture remains a major source of income for a large proportion of the population in Punjab and women are essential for agricultural operations, such as sowing and harvesting crops, and for managing domestic resources. But climate-induced issues including erratic rains, longer drought, and extreme climatic conditions affect women more adversely, as they generally have less access to resources, less education, and less decision-making power (Agarwal, 2018). For instance, water shortage compels women to walk to distant places in search of water, adding to their burden and reducing the time for productive pursuits or schooling. And falling harvests feed into food insecurity, adding to women's responsibilities to keep households nourished.

In addition, cultural and institutional barriers often limit the ability of women to engage in formal decision-making mechanisms regarding climate change. Patriarchal systems run strong in social and political settings in Punjab, where women have very limited influence over policies and programs affecting their daily lives. This exclusion limits their potential to contribute and maintains cycles of precariousness and marginalization. However, in spite of these challenges, Punjab's women are being recognized as important climate actors whose indigenous knowledge and skills bring in useful insights for sustainable interventions.

Women as Agents of Change in Climate Mitigation and Advocacy

There is evidence that the involvement of women in climate fairness policies can result in more sustainable and fair outcomes (Agarwal, 2018). In Punjab, women engage in sustainable farming, water conservation and disaster preparedness work. For instance, many women have introduced climate-resilient farming practices — such as crop diversification and organic farming — that act as a hedge against the resultant impact of climate changes on their livelihoods. These practices not only improve food security and environmental su.

Women in Punjab are also doing commendable work in water conservation. Acknowledging the water-scarcity that prevails in the region, one of the ways the women have led the way is in the adoption of this water saving methods – rainwater harvesting and drip irrigation. These efforts are particularly important in rural communities, where clean



water access continues to be a challenge. Furthermore, women play a vital role in disaster management, utilizing their networks in the community to spread information and allocate resources in case of an emergency.

While women are actively participating in the groundswell of activities, women's leadership in formal climate action is inadequate. There is a cultural norm, institutional barrier and lack of recognition to what women can offer." For example, women are frequently missing from decision-making bodies at the local and national levels, which affects the opportunity for their voices to be heard in policy and program decisions. In addition, the absence of sex-disaggregated data on climate impacts and adaptation measures hinders the understanding of women's distinct needs and concerns, thereby inhibiting the development of effective interventions.

Challenges and Opportunities for Women's Leadership in Climate Action

Punjabi women are taking great strides in climate solutions work and advocacy, but there remain several challenges to their full engagement and leadership. Cultural customary practices and patriarchal systems inhibit women's movement and utilization of resources hence they cannot participate in formal decision making. For instance, the participation of women in the community meetings and local government structures is not encouraged, exacerbating the marginalization of women's views in climate matters. There are also institutional obstacles that magnify the difficulties, including a lack of policies and programmes that are sensitive to gender.

But there are many ways to improve women's leadership on climate. Providing women with education, training, resources can help them take a more active part in the climate movement. For example, training programs for climate-resilient farming practices and water conservation can empower women to address climate challenges adequately. Furthermore, supporting the inclusion of women at all decision-making levels can help to ensure that women's experiences and perspectives are considered in climate policies & initiatives. Another opportunity lies in leveraging women's existing networks and community roles to amplify their impact. Women in Punjab are often at the forefront of community-based initiatives, making them well-positioned to drive climate action at the grassroots level. By recognizing and supporting these efforts, policymakers and development practitioners can harness the potential of women as key agents of change in climate mitigation and advocacy.

Climate change poses significant challenges for Punjab, Pakistan, with disproportionate impacts on vulnerable populations, particularly women. However, women are not merely victims of climate change but also emerging as key agents of change in climate mitigation and advocacy efforts. In Punjab, women are actively involved in sustainable farming, water conservation, and disaster preparedness, demonstrating their potential to contribute to climate action. Cultural norms and institutional barriers limit their participation in formal decision-making processes despite their contributions.

This article has highlighted the challenges and opportunities for women's leadership in climate action in Punjab, emphasizing the need for gender-sensitive policies and programs that empower women and recognize their contributions. By addressing these barriers and leveraging women's unique knowledge and skills, Punjab can achieve more sustainable and inclusive outcomes in its climate action efforts. As the world grapples with the escalating impacts of climate change, the role of women in driving climate solutions



cannot be overlooked. Their leadership is essential for addressing the immediate challenges of climate change and building a more equitable and resilient future for all.

Objective of the Study

1. To analyze the role of women in climate change mitigation and advocacy in Punjab.
2. To identify barriers to women's leadership in climate action.
3. To propose strategies to enhance women's participation and effectiveness in climate-related initiatives.

Research Problem

While women in Punjab are actively engaged in climate adaptation and mitigation, their leadership potential is often constrained by patriarchal norms, limited access to education, and exclusion from decision-making processes. This study addresses the gap in understanding how these barriers can be overcome to harness women's full potential in climate action.

Literature Review

The convergence of gender and climate change has become a popular topic in recent years, especially in developing nations where women are most affected by environmental degradation and climate-induced catastrophes. The literature highlights the crucial role of women in climate resilience, recognising their special knowledge, skills and perspective in promoting sustainable capacities. This review draws a perspective of dimensions of women participation in climate change, with a special emphasis in Punjab Pakistan and attempts to point out the contributions, multiple roles of women for climate action, challenges and the role of gender responsive policies.

Women's Role in Climate Resilience

Agarwal (2018) argues that women's participation in environmental management leads to more sustainable and inclusive outcomes due to their deep understanding of local ecosystems and resource use. In many developing countries, women are primarily responsible for managing household resources, such as water, fuel, and food, making them particularly vulnerable to climate-induced scarcities. However, this reliance also positions them as key stakeholders in climate adaptation and mitigation efforts. For instance, in South Asia, women are often at the forefront of community-based adaptation initiatives, such as sustainable agriculture, water conservation, and disaster preparedness (Khan & Khan, 2020). These efforts enhance community resilience and contribute to broader environmental sustainability.

In Punjab, Pakistan, agriculture is the backbone of the economy and a primary source of livelihood for millions of people. Women are significant in agricultural activities, from planting and harvesting to managing post-harvest processes. However, the sector is highly vulnerable to climate change, with erratic weather patterns, water scarcity, and declining crop yields posing significant challenges. Studies have shown that women farmers in Punjab are adopting innovative practices, such as crop diversification, organic farming, and water-efficient irrigation techniques, to mitigate climate risks (Government of Punjab, 2021). These practices improve household food security and contribute to environmental conservation by reducing reliance on chemical inputs and promoting sustainable land use.

Challenges Faced by Women in Climate Action

Despite their active involvement in climate resilience efforts, women in Punjab face numerous barriers that limit their full participation and leadership. One of the most



significant challenges is their limited access to resources, including land, credit, and technology. Cultural norms and patriarchal structures often restrict women's land ownership and other productive assets, undermining their ability to invest in climate-resilient practices (Zaidi, 2022). Additionally, women's access to education and training opportunities is often limited, constraining their capacity to adopt and implement innovative solutions.

Cultural norms also play a significant role in restricting women's mobility and participation in public spaces. In many rural areas of Punjab, women's involvement in community meetings and decision-making processes is discouraged, perpetuating their marginalization in climate-related discussions. This exclusion not only undermines their potential contributions but also reinforces existing gender inequalities. Furthermore, institutional barriers, such as the lack of gender-sensitive policies and programs, exacerbate these challenges, leaving women with limited support to address the impacts of climate change on their lives and livelihoods.

Women's Leadership in Advocacy and Policy-Making

The literature highlights the importance of women's leadership in advocacy and policy-making for achieving climate justice. UN Women (2019) argues that gender-responsive policies are essential for addressing the disproportionate impacts of climate change on women and ensuring their meaningful participation in climate action. Women's unique experiences and perspectives can provide valuable insights for designing and implementing effective climate policies and programs. However, in Punjab, women's representation in climate-related decision-making bodies remains low, reflecting broader patterns of gender inequality in the region.

Empowering women as leaders in climate action must address structural and cultural barriers. For instance, capacity-building programs that focus on climate-resilient agricultural practices, water conservation techniques, and disaster preparedness can equip women with the skills and knowledge needed to drive climate initiatives at the grassroots level. Promoting women's participation in local governance structures and decision-making processes can also ensure their voices are heard, and their priorities are integrated into climate policies.

The Need for Gender-Responsive Policies

The existing literature underscores the need for gender-responsive policies that recognize and address women's specific needs and priorities in climate action. In Punjab, targeted interventions are required to empower women to be leaders in climate mitigation and adaptation efforts. For example, providing women access to land, credit, and technology can enhance their capacity to invest in climate-resilient practices. Similarly, promoting gender-sensitive education and training programs can equip women with the skills and knowledge needed to navigate the challenges of climate change.

Moreover, institutional reforms are needed to ensure women's meaningful participation in decision-making processes at all levels. This includes increasing women's representation in local and national climate-related bodies and integrating gender considerations into climate policies and programs. By addressing these barriers and leveraging women's unique knowledge and skills, Punjab can achieve more sustainable and inclusive outcomes in its climate action efforts.

The literature on gender and climate change highlights the critical role of women in climate resilience, particularly in developing countries like Pakistan. In Punjab, women are



actively involved in sustainable agriculture, water conservation, and disaster preparedness, demonstrating their potential to contribute to climate action. However, cultural norms, institutional barriers, and limited resource access hinder their full participation and leadership. Addressing these challenges requires targeted interventions, including gender-responsive policies, capacity-building programs, and institutional reforms. By empowering women as leaders in climate action, Punjab can achieve more sustainable and equitable outcomes, ensuring a resilient future for all.

Methodology

This review employs a mixed-methods approach to comprehensively examine the role of women in climate action in Punjab, Pakistan. Qualitative data is gathered through in-depth interviews with women leaders engaged in climate mitigation and advocacy efforts, providing insights into their experiences, challenges, and contributions. Quantitative data is collected through structured surveys conducted in both rural and urban areas of Punjab, capturing the perspectives of a broader population of women involved in climate-related activities. Additionally, secondary data from government reports, non-governmental organizations (NGOs), and academic studies are analyzed to contextualize the findings and identify trends. This triangulation of data sources ensures a robust understanding of the dynamics shaping women's leadership in climate action while addressing the limitations of relying on a single method. The mixed-methods approach allows for a nuanced exploration of individual narratives and broader patterns, offering a comprehensive perspective.

Analysis And Findings

The analysis of qualitative and quantitative data and secondary sources reveals that women in Punjab, Pakistan, are actively engaged in climate advocacy and mitigation efforts, particularly at the grassroots level. Their involvement spans various activities, including sustainable farming, water conservation, disaster preparedness, and community awareness campaigns. Despite their significant contributions, women face numerous cultural, social, and institutional barriers that limit their participation in higher-level decision-making and hinder the scaling of their efforts. This section delves into the key findings and their implications for women's leadership in climate action in Punjab.

Women as Effective Grassroots Leaders

One of the most striking findings is women's pivotal role in grassroots climate initiatives. Women in Punjab are at the forefront of community-based efforts to address climate challenges, leveraging their unique knowledge of local ecosystems and resource management. For example, women-led tree plantation drives have contributed to reforestation and raised awareness about the importance of environmental conservation. Similarly, women have spearheaded water conservation projects, such as rainwater harvesting and the construction of small-scale irrigation systems, to combat water scarcity in rural areas.

These initiatives demonstrate the potential of women's leadership in driving sustainable outcomes. Women's deep understanding of local contexts and ability to mobilize community networks make them effective change agents. However, limited access to resources, including land, credit, and technology, often constrained their efforts. Many women lack the financial means to invest in climate-resilient practices or expand their initiatives, highlighting the need for targeted support to amplify their impact.



Cultural and Institutional Barriers

Despite their active involvement in climate action, women in Punjab face significant cultural and institutional barriers that restrict their participation in formal decision-making processes. Cultural norms, such as restrictive gender roles and limited mobility, often prevent women from engaging in public forums or accessing resources. For instance, women's participation in community meetings or local governance structures is frequently discouraged, perpetuating their marginalization in climate-related discussions.

Institutional barriers further exacerbate these challenges. Women's representation in climate-related decision-making bodies, such as local councils and environmental committees, remains low. This lack of representation undermines their ability to influence policies and programs, which directly affect their lives and livelihoods. Additionally, the absence of gender-sensitive policies and programs limits the recognition of women's contributions and fails to address their specific needs and priorities.

These barriers highlight the systemic nature of gender inequality in climate action. Addressing these challenges requires changes in cultural attitudes and institutional reforms to promote gender equality and inclusivity. For example, creating platforms for women's voices to be heard and ensuring their representation in decision-making bodies are critical steps toward empowering women as leaders in climate action.

Need for Capacity-Building and Gender-Responsive Policies

The analysis underscores the importance of capacity-building programs and gender-responsive policies in empowering women as climate leaders. Many women in Punjab lack access to education and training opportunities, limiting their ability to adopt and implement innovative climate solutions. Capacity-building programs that focus on climate-resilient agricultural practices, water conservation techniques, and disaster preparedness can equip women with the skills and knowledge needed to drive climate initiatives at the grassroots level.

Moreover, gender-responsive policies are essential to address women's specific needs and priorities in climate action. For instance, policies that promote women's access to land, credit, and technology can enhance their capacity to invest in climate-resilient practices. Similarly, integrating gender considerations into climate policies and programs can ensure that women's perspectives and experiences are adequately represented.

Successful Case Studies

The analysis also highlights several successful case studies demonstrating women's leadership potential in climate action. For example, women-led tree plantation drives in rural Punjab have contributed to reforestation and fostered a sense of community ownership and environmental stewardship. Similarly, women's involvement in water conservation projects has improved access to clean water and reduced the burden of water scarcity on households.

These case studies illustrate the transformative impact of women's leadership when supported by adequate resources and institutional backing. They also underscore the importance of recognizing and scaling up women-led initiatives to achieve broader climate resilience and sustainability goals.

In conclusion, the analysis reveals that women in Punjab are making significant contributions to climate advocacy and mitigation, particularly at the grassroots level. However, their potential remains underutilized due to cultural norms, institutional barriers, and limited resource access. Empowering women as climate leaders requires



targeted interventions, including capacity-building programs, gender-responsive policies, and institutional reforms. By addressing these challenges and investing in women's leadership, Punjab can achieve more sustainable and inclusive climate action outcomes, ensuring a resilient future for all.

Conclusion

Women's climate change mitigation and advocacy leadership is indispensable for achieving sustainable development in Punjab, Pakistan. This study underscores women's critical role in grassroots climate initiatives, from sustainable farming and water conservation to disaster preparedness and community awareness campaigns. Their unique knowledge, skills, and community networks position them as effective agents of change, capable of driving meaningful and inclusive climate action. However, cultural norms, institutional barriers, and limited resource access hinder their full participation and leadership in formal decision-making processes.

To unlock the full potential of women as leaders in climate action, it is imperative to address these barriers through targeted interventions. Gender-responsive policies that promote women's access to land, credit, and technology are essential to enhance their capacity to implement climate-resilient practices. Additionally, capacity-building programs that provide education and training in climate adaptation and mitigation can equip women with the tools needed to scale their efforts and drive systemic change.

Equally important is creating inclusive decision-making platforms that ensure women's voices are heard and their perspectives integrated into climate policies and programs. Punjab can foster more equitable and sustainable outcomes by increasing women's representation in local and national climate-related bodies. Empowering women as leaders in climate action is a matter of justice and a pragmatic approach to building resilience and addressing the multifaceted challenges of climate change.

In conclusion, this study highlights the urgent need for policymakers, stakeholders, and development practitioners to prioritize gender equality in climate action. By addressing systemic barriers and investing in women's leadership, Punjab can harness the transformative potential of women to achieve sustainable development and climate resilience. The time to act is now, as empowering women is not just a pathway to climate justice but a cornerstone of a sustainable future for all.

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