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# Going Back to the Well: Women, Agency, and Climate Adaptation

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## Abstract

Rising temperatures and more extreme weather associated with climate change are expected to exacerbate existing social and gender inequalities across the globe. Climate change has differential effects on women and men: they are exposed to different climate shocks and experience different impacts related to gender differences in roles, rights, and opportunities. Women's knowledge, networks, and assets are a significant aspect of resilience, but little attention is given to enabling their capacity as active agents. Instead the focus is on women as vulnerable victims of climate change. Evidence is emerging that adaptation and mitigation approaches in climate-resilient agriculture can and must reduce women's and men's vulnerabilities, promote their capacities for resilience, support women to exercise their agency, and, consequently, increase gender equality. Not only do we need to implement climate approaches that benefit women, we need to increase women's resilience if we are going to effectively address and mitigate climate impacts. If we don't, we will be on track to miss the 2 degree target – and at same time gender inequality will increase worldwide.

A recent review of literature and regional case studies with researchers from four regions identified the critical dimensions of gender in/equality in climate-resilient agriculture. They are: (1) participation in decision-making at different levels, (2) work burden, (3) access to and use of productive resources such as agroclimatic information, technology, livelihood incomes, and credit, and (4) collective action. Models for action are presented that show how gender-responsive approaches can promote equality while increasing resilience for all.

**Keywords:** Gender; Climate; Women; Agency; Equality; Equity; Technology; Collective; Decision-making; Workload

## Opinion

Rising temperatures and more extreme weather associated with climate change are expected to exacerbate existing social and gender inequalities across the globe [1]. There will potentially be impacts on all aspects of food security, including access and price stability. In rural areas, water availability and supply will be affected with changes in production of both food and non-food crops as growing zones shift [1,2]. Climate change has different effects on women and men, since they are exposed to different climate shocks and experience different impacts related to gender differences in roles, rights, and opportunities [3]. Women's knowledge, networks,

and assets are a significant aspect of resilience [4,5], but little attention is given to enabling their capacity as active agents. Instead the focus is on women as vulnerable victims of climate change, perpetuating stereotypes of women as victims while ignoring the root causes of gender inequalities causing vulnerability [3,6,7].

In a 2 °C (or more)<sup>1</sup> world, gender equality will need to encompass increased resilience, as well as reduced vulnerability, to the impacts of climate change. In this context, vulnerability is a function of exposure to climate risks (such as extreme weather events, losses in agricultural productivity, and alterations in



hydrological patterns), sensitivity to these risks, and capacity to adapt. Resilience is the capacity of communities or households to resist, cope with, or recover from shocks and stresses [8,9].

Increasing evidence is emerging that adaptation and mitigation approaches in climate-resilient agriculture can and must reduce women's and men's vulnerabilities, promote their capacities for resilience, support women to exercise their agency, and, consequently, increase gender equality. Not only do we need to implement climate approaches that benefit women as well as men, we need to increase women's resilience if we are going to effectively address and mitigate climate impacts. If we don't, we will be on track to miss the 2-degree target – and at same time increase gender inequality worldwide.

A recent review of literature and regional case studies with researchers from four regions identified four critical dimensions of gender in/equality in climate-resilient agriculture. They are: (1) participation in decision-making at all levels, (2) work burden, (3) access to and use of productive resources such as agroclimatic information, technology, livelihood incomes, and credit, and (4) collective action to address and mitigate climate impacts [3,11-13].

For example, women in climate-smart villages (CSVs) in India began to make decisions about the use of income from the adoption of climate-smart agriculture<sup>2</sup> as well as on farming practices and their children's education [14]. Additionally, in many regions, women have less access to family labor and even basic agricultural and energy technologies [15]. Agricultural technologies and practices for climate adaptation that reduce workloads can increase production [16], reduce negative impacts on health [17], and allow women more time for other activities such as education or developing livelihoods [18]. This is critical since climate impacts such as drought in combination with deforestation are expected to significantly increase women's workload in rural areas [3]. Information and capacity-building to cope with and manage climate risk and variability, while important for both women's and men's capacity to adapt, can also promote women's participation in household decision-making and increase their agricultural production [19-21]. Finally, women's group organizing, and collective action can engender capacity-building tailored to women's needs and constraints and serve as platforms for women to exercise agency in implementing climate adaptation strategies.

The combination of one or more of these dimensions can promote significant momentum towards gender equality. A collective action and technology training approach, implemented

by the CGIAR Research Program on Climate Change, Agriculture and Food Security (CCAFS) and partners in the climate-smart village of Daga-Birame in Senegal, promoted women's resilience by increasing agricultural production and promoting natural resource management. Women and men participated equally on a community environment committee and a women-run microenterprise was established to process and sell fruit powder made from local baobab trees. Marketing and income management were carried out exclusively through the women-run enterprise, with a village savings pool set up to invest in community resilience activities. Overall, women's control over forest resources and participation in community decision making also increased [22].

In Madhya Pradesh, Uttar Pradesh, and Bihar states of India a project to improve women farmers' adaptive capacity included women-led organizing, capacity-building, CSA technologies and practices, and climate information services. The representation of SHGs and other women-led groups in management and implementation was a strategic priority, as was strengthening women's agency and voice. Local women's self-help groups (SHGs) participated on Village Climate Management Committees to manage and implement CSA; while women-led Custom-Hiring Centers (CHCs) for renting out climate-smart technologies to farmers at affordable rates were also set up. The CHCs in all three project districts were women-led, to promote economic independence and group-based agency. Through information and communication technology (ICT)-based agro-advisory and weather/climate information services, women farmers became aware of new practices, even implementing some of them. They also participated equally - or in some cases more than men - in capacity-building events, technology prioritization, and community consultation, ensuring attention to their production preferences. Focus group discussions revealed that several technologies reduced women's work in the labor-intensive activities of weeding (cono-weeder), water management (solar pumps), and harvesting (harvesting machine) [23].

In this case, collective action became a platform for gender equality, agency and resilience. Women gained better access to information; their production increased; their workloads have decreased; and they played a leading role in community decision-making. They no longer relied solely on their social networks for information, and regularly accessed ICT advisories for information on weather, markets, crop cultivation practices, and technology use. The percentage of household income generated from rice and wheat production increased from 44 per cent to 50 per cent [11].

<sup>1</sup>According to the IPCC, global warming is likely to reach 1.5 °C if not beyond (2.0 °C) between 2030 and 2052. This is expected to increase the risk of heatwaves, heavy rainfall events, crop productivity decline, reduction in water availability, undernutrition, habitat losses and others [10], and the effects get significantly worse at 2 °C. The world has already witnessed about 1 °C of temperature rise and is on track to exhaust the carbon budget for 1.5 °C by 2030. Some projections put the world on track for 4 °C of warming.

<sup>2</sup>Climate-smart agriculture is an approach to help farmers adjust to climate change and manage climate risk by implementing strategies to increase sustainable production; increase resilience of farming systems; and reduce greenhouse gas emissions [2]. CSVs act as a platform for action research to test, develop, and support the scaling of CSA technologies and approaches, and develop practical adaptation options for food security, resilience, and decreased carbon emissions [10].

We need to build on and learn from these and other experiences. Climate change has different effects on women and men farmers, in relation to their access to resources and income, stemming from gender norms around decision-making in different cultural contexts, and as a result of male outmigration for employment. Climate adaptation and mitigation strategies can perpetuate or, at worst, exacerbate gender inequalities when implemented in a gender-neutral approach by, for example, diminishing or diverting the resources to which women have access. These models for action show that gender-responsive approaches can promote equality while increasing resilience for all.

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### Conflict of Interest

The views expressed in this document cannot be taken to reflect the official opinions of these organizations.

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