



## GENDER AND CLIMATE CHANGE IN SOUTHERN AFRICA

### CONTEXT

Climate Crowd is a crowdsourcing initiative that convenes and supports a network of partners to gather data on how climate change is impacting people and nature. The platform supports on-the-ground projects that help rural communities adapt while reducing pressure on biodiversity.

Climate change affects men and women differently and can compound existing gender inequalities (Alam et al., 2015). Though women are often disproportionately affected by climate change, they are frequently underrepresented in decision-making processes related to climate adaptation (WEDO 2017). However, because rural women are often primary caregivers and are largely responsible for ensuring household food, water, and fuel needs are met, they possess unique knowledge and insights on natural resources and differing needs within a community. Thus, they are critical to ensuring adaptation and resilience-building efforts are both equitable and sustainable (IUCN 2015; UNEP 2020).

This report discusses connections between gender and climate change based on data from Climate Crowd interviews conducted in Zimbabwe, Zambia, and Namibia (country summary reports can be found at [wwfclimatecrowd.org/publications](http://wwfclimatecrowd.org/publications)). In Climate Crowd interviews, respondents were asked to speak on behalf of their community, and therefore, reports reflect differences in perception, not necessarily individual lived experience.



Table 1: Gender Differences in Climate Crowd Interview Responses

Country	Reported Change	Gender Differences in Reported Changes
Namibia	Water availability	14% of men vs. 41% of women [.07 p-value]
Namibia	Devil's Claw harvesting	4% of men vs. 18% of women [.06 p-value]
Zimbabwe	Tree planting	32% of men vs. 0% of women [.003 p-value]
Zimbabwe	Pesticide use	26% of men vs. 0% of women [.009 p-value]
Zambia	Conservation agriculture	47% of men vs. 19% of women [.05 p-value]
Zambia	Wild food availability	72% of men vs. 46% of women [.05 p-value]
Zambia	Fish availability	31% of men vs. 0% of women [.001 p-value]

Chi-squared tests for independence were used to determine the statistical significance of differences in reports according to gender. For small sample sizes, Fisher's Exact tests were used.

### WATER ACCESS

Men and women access, manage, and use water differently and unequally due to multidimensional gender disparities and discrimination. In many cultures, women are responsible for collecting and utilizing water for cooking, cleaning, subsistence agriculture, health, and hygiene, while men use water for income-generating purposes, such as raising livestock or larger-scale agriculture (WEDO 2003). In rural sub-Saharan Africa, collecting water takes 33 minutes roundtrip on average (UNICEF 2016), and 63% of rural women are responsible for water collection compared to only 11% of men (UNSD 2010). The responsibility of collecting and managing water resources, in conjunction with preexisting gender disparities, often limits women's involvement in activities such as income generation, education, recreation, or decision-making processes (WEDO 2003).

In recent years, communities in Namibia, Zambia, and Zimbabwe have faced worsening water scarcity from decreased rainfall, hotter temperatures, and drought. In Climate Crowd interviews in Namibia, women were more likely than men to mention losing a water source, possibly due to women's greater involvement in water collection. In response to depleted freshwater reserves, both male and female respondents reported higher dependence on boreholes and government aid, increased water monitoring and rationing, and traveling farther distances to collect water. Increased water scarcity may exacerbate many of the underlying gender inequalities highlighted above and threaten food security, livelihoods, and health.

# FOOD SECURITY

Because women are primarily responsible for water collection, an increase in the time and distance required to find water puts a greater burden on rural women, who already spend an average of 16-18 hours a day participating in agricultural and domestic activities (FAO 2017). Water scarcity can also expose women to increased risk of gender-based violence as they travel farther distances, often to remote locations, to fetch water (UNEP 2020).

## NATURAL RESOURCES

Climate change also disproportionately impacts segments of the population most reliant on natural resources for their livelihoods. Women are often highly dependent on natural resources for food and water provisioning and livelihood purposes. Men are more likely to be involved in extracting natural resources such as forest products for commercial purposes compared to women, who typically rely on forests for firewood, fencing, wild food, fodder for livestock, and natural medicines, all of which help to generate income and sustain families (Aguilar, Araujo, and Quesada-Aguilar 2008). In Climate Crowd interviews in Namibia, women were more likely than men to mention harvesting and selling Devil's Claw, a native plant harvested for its medicinal properties to supplement income. Although intended to help communities cope with income-loss due to drought, multiple respondents found that drought also impacted Devil's Claw productivity, and thus local livelihoods.

In Zimbabwe, drought has decimated crop production, prompting communities to rely on more resource-intensive livelihood alternatives, like selling charcoal and producing bricks, which require large amounts of wood for firing. The result has been accelerated deforestation and, subsequently, greater difficulty and more time spent collecting firewood (observed by 59% of respondents), a responsibility primarily shouldered by women (World Bank, 2006; Dube et al., 2017). In Climate Crowd interviews, men were more likely than women to mention planting trees in response to firewood scarcity, deforestation, and agricultural expansion. Nevertheless, women play important roles in forest resource management. Many women's groups in Zimbabwe oversee woodlot ownership, tree planting, and nursery development projects that help combat deforestation, support livelihoods, and preserve wildlife habitat (Aguilar, Araujo, and Quesada-Aguilar 2008).

Climate change poses immense risks to food security globally. In Zambia, for example, over half of respondents reported higher rates of hunger and malnutrition as a result of declining rainfall, which can disproportionately affect women. Often in charge of ensuring that household nutritional needs are met, rural women are more likely to skip meals or eat smaller portions during times of food insecurity to ensure men and children have a sufficient amount to eat (Dometita, 2017).

Climate Crowd respondents in Namibia, Zimbabwe, and Zambia report declining crop yields and worsening livestock health in recent years. One of the many challenges associated with climate change is an increase in pest prevalence, as was noted by over half of the respondents in Zimbabwe. Though women are involved in many aspects of commercial and subsistence farming (UNDP 2016), men were more likely to report using pesticides than women in Climate Crowds interviews. While women often assume traditionally male-dominated roles due to shifting socioeconomic and demographic changes, men are still primarily in charge of pesticide application in Zimbabwe due to the activity's labor-intensive nature and concerns over women handling chemicals while breast-feeding and preparing meals (USAID 2014).

In Zambia, men were also more likely to mention adopting various conservation agriculture techniques as adaptation solutions to failing crops compared to women. Research has shown that throughout much of sub-Saharan Africa, including Kenya, women on average have lower access to modern agricultural inputs and technical support, including pesticides, fertilizers, and soil and water conservation techniques, thereby limiting their capacity to adapt (Perez et al., 2015).

In addition to agricultural declines, respondents reported declines in sources of wild food. Though men were more likely to mention changes in overall wild food availability than women, men and women both reported declines in wild fruit production, attributed to drought, extreme heat, and increased deforestation. In Zambia, women are more involved in collecting fruits, nuts, seeds, and other wild food items to meet household nutritional needs (FAO 2018). Thus, a reduction in wild fruit availability may disproportionately affect women. In contrast, men, who are more involved in fishing (FAO 2018), were more likely to reference climate/weather impacts on fish availability in Zambia compared to women.



MANYIKA DESCRIBES EXPERIENCING HOTTER TEMPERATURES, SEASONAL CHANGES IN RAINFALL, AND HIGHER PEST INCIDENCE. IN RESPONSE, SHE'S INSTALLED AN IRRIGATION SYSTEM AND VARIOUS PEST CONTROL TECHNIQUES, WITH LITTLE SUCCESS.

ZIMBABWE



# SOLUTIONS

The impacts of climate change around the world are highly gendered. Men and women perceive, experience, and respond to climate impacts in complex and heterogeneous ways. However, as highlighted in this report, when climate change threatens the availability of water, natural resources, and food, women are disproportionately impacted. Guidance on gender mainstreaming in adaptation efforts includes collecting gender disaggregated data, examining and designing interventions based on differing perspectives held by men and women, setting targets for female participation in project activities, and identifying gender-sensitive indicators for monitoring results (UNDP, 2013). This guidance is reflected in the process by which Climate Crowd interviews are collected and analyzed, and in our on-the-ground projects, which recognize women as agents of change. In partnership with Greenline Africa, our Climate Crowd [project](#) in Zimbabwe, for example, responds to issues primarily affecting women around water and firewood access. The project has set a goal of 60/40 female to male participation, will establish a women's cooperative to help scale up project activities, and will monitor changes in time spent collecting water (currently 2-3hrs). Visit our [project page](#) to learn more about this project and others.

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Photos: Zimbabwe photos: Nikhil Advani/WWF-US; Final page banner James Suter / Black Bean Productions / WWF-US

Citation: Climate Crowd, 2020. "Gender and Climate Change in Southern Africa." World Wildlife Fund, Washington, DC.

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