



Women in Cotton: Addressing the Impact of Climate Change through Climate-Friendly Practices

CottonConnect reports on its research study into how climate change affects women cotton farmers and the impact of interventions designed to mitigate climate change.

WOMEN'S ROLE IN COTTON FARMING

Cotton growing, farming, and manufacturing have traditionally been dominated by men, especially the management functions – farm management and decision-making. This has left women with little opportunity to influence farming practices or business decisions. However, women's contributions to the farm include crucial tasks of sowing, weeding, pest observation, and harvesting, all critical to cotton farming and done alongside their 'economically invisible' responsibilities of managing the household, caring for children and elderly and other similar tasks.

UPDATING OUR 2020 REPORT

About 40 percent of farmers in CottonConnect programmes are women. Working with them over ten years has helped shape our understanding of the impact of climate change on their work.

Our 2020 report, '[Women in Cotton: Listening to Women's Voices on the Effects of Climate Change](#)' gave voice to their stories and showed the effect of climate change on their lives. In June 2023, we repeated the exercise and extended the study to include over 100 women farmers, encompassing participants from Bangladesh, India, and Pakistan. The aim was to update findings and document climate-friendly activities by women cotton farmers in our programmes.

Methods included Focus Group Discussions (FGDs) – four in India and two each in Bangladesh and Pakistan, involving eight to ten women per FGD. Also, 21 in-depth interviews (IDIs) with women farmers, and 11 Key Informant Interviews (KIIs) were conducted to comprehensively understand challenges.

The information collected from our farmers is subjective and anecdotal and is not based on a scientific methodology.

IMPROVING WOMEN'S CONTRIBUTIONS

The future of cotton production will depend on both men and women being able to successfully address climate change and promote sustainable farming methods.

Empowering female farmers is key for sustainable development of the cotton sector. In communities characterised by households with low levels of education, income and high inequalities, the role that women play on the farms contributes to improvement in family income and can lead to female empowerment. Strengthening education, promoting self-reliance, empowering women socially, in their communities, builds women's confidence and their standing in their communities. These are essential steps to enable them to make and implement decisions and build their own resilience. With the right support and opportunity, women move from being part of the problem to being part of the solution, unleashing the potential of hundreds of millions of women farmers to improve sustainable production and contribute to a reduction of poverty and hunger.

Part 1: Challenges persist – What we found

UNDERSTANDING OF CLIMATE CHANGE CAUSES STILL LIMITED

Findings from our study found that awareness of climate change among women farmers has significantly increased. They were aware that climate change is being felt worldwide, and is not limited to their village, community or country. They owed this knowledge to their interactions during our programme training and their exposure to news sources.

However, women's understanding of the underlying causes of climate change remained limited across the three countries. Some women attributed it to factors such as poor planning, deforestation, and exploitative use of natural resources.

"Our actions have caused the climate to change – cutting down trees, and excessive use of natural resources, using chemicals have caused an imbalance in nature. We never know what to expect anymore. Last year, floods hit us hard, and this year, who knows what will happen."

Shamshad Bibi, cotton farmer, Punjab, Pakistan

BUT WOMEN ARE RECOGNISING CLIMATE CHANGE

Women in all three countries recognised significant changes around them due to climate change: rising temperatures, shorter but harsher winters, and changes in the monsoon cycle affecting cotton sowing and resulting in crop yield challenges.

"Earlier, Bangladesh was known as a country with six seasons. Now it is a country with two seasons. This shift is a stark reminder of the profound impact of climate change on our nation."

Afroza Khatun, cotton farmer, Khulna, Bangladesh.

Crop failures and reduced yields were also reported, with unpredictable weather, increased pest attacks, and delayed or lower germination affecting overall productivity. Furthermore, women highlighted the impact of climate change on plant health, such as smaller-sized and scorched fruits due to increased temperatures.

Women noted the disappearance or less frequent sighting of birds and insects on their fields, attributing it to changes in nesting places due to the shift from mud houses to cement houses and the decrease in tree population.

In all three programme countries, women said that they had to get up earlier in summer to begin their tasks on the farms before the sun became too intense, and the extreme heat limits their time spent working on the farm compared to before.

"My day starts at 4:00 am. I begin by collecting water and gathering fodder for the livestock, then I cook for the family, and ensure a steady supply of water for household use, especially during summers when the supply of water is limited. I then join my husband on the farm to work. During the hot summers, I prepare each meal promptly to prevent food from spoiling quickly. In the evenings, if there are social events like weddings, pujas, or community gatherings, it is expected of me to attend and participate. Where is the time to rest?"

Woman cotton farmer, Madhya Pradesh, India

INCREASED RESOURCE ACCESSIBILITY, BUT MORE WORRIES

Most women reported that they no longer travel to fetch water for domestic use, as they now have pipelines in their homes and additional hand pumps. This positive change was undermined by an overall decrease in water supply in recent years, necessitating careful management of water for both families and livestock.

Women did report that the availability of cooking gas, saving them valuable time and energy. As they no longer have to spend time gathering firewood.

"We've witnessed drastic climate changes disrupting our lives and farming. As a result, our women farmers, take a hit with irregular rains and scorching heat. In Rann of Kutch, for example, temperatures rise to 51%. Recently, the cyclones wreaked havoc, demanding immense recovery efforts. Water remains a challenge. Drinking water is accessible, there are pipelines also, but bore wells now reach 700-800 feet. Power scarcity affects daytime farming, pushing farmers to irrigate at night. In this struggle, a resilient spirit surfaces. We adapt, rebuild, and stand together, shaping a future amid evolving climates." Heena Dave, Senior Coordinator, Self Employed Women's Association (SEWA)

INCREASED COSTS

While climate change has increased farming expenses, women have managed to mitigate some costs by adopting integrated pest and nutrient management practices, using biopesticides and insecticides, and implementing techniques like intercropping and border cropping. However, the reliance on irrigation due to decreased rainfall has led to increased input costs, including the need for deeper tube wells and motor pumps.



IMPACT ON HEALTH AND WELLBEING

Research showed that women experience heightened stress and often feel a lack of support or understanding. Concerns include family expenses, low income, crop failures and the occurrence of events like floods, all adding to their stress and increasing the strain on women's mental health. This can influence family dynamics, leading to wider strains and even domestic abuse.

Rising temperatures due to climate change can cause physical exhaustion, especially for women who engage in farming activities. Women also shared that they face heat-related illnesses.

"Unfortunately, in some cases, pressures arising from crop failures, yield loss, loss of income and the need for financial resources to sustain households, escalate to domestic violence, with women becoming victims of abuse within their families."

Arpit Khandewal, Director, Shree Ram Fibres

WOMEN ARE STILL THE MAIN CARERS, OF CHILDREN AND THE ELDERLY

Women shoulder immense responsibilities in addition to farming, including managing the household, children and caregiving. Extreme weather conditions and resultant calamities and illnesses add to their stress and difficulties, leaving little time for rest and recovery.

"Regardless of whether we feel well or not, we must take care of everyone in the family – husband, children, in-laws and even the livestock. No one takes care of us when we are sick. As women, it is expected that we look after everyone regardless. The situation has worsened due to extreme weather conditions and resulting disasters, which have further increased our caregiving responsibilities."
Woman cotton farmer, Madhya Pradesh, India

INCOME IS DOWN AND EXPENSES ARE UP

Income from livestock has decreased, a situation they attribute to low livestock productivity due to lack of green fodder. Deforestation and the degradation of soil has made it challenging for women to find green fodder for their livestock. They often rely on dry grass or purchase fodder from the market, which may not be as nutritious. Which indicates that alongside the reduced income, the expenses associated with livestock have also increased.

Women also revealed that their expenses have shot up considerably. In India, women owed this to increased access to facilities. They now spend on cooking gas, rely on electric fans due to rising temperatures, and use stronger motor pumps for irrigation resulting in increased electricity consumption. The combined effect of decreased farming income and higher expenses underscores the economic challenges women farmers face due to climate change.

THERE'S A STRONG NEED TO DIVERSIFY

To compensate for income losses caused by crop failures and lower income from livestock, women have had to diversify their income sources and engage in alternative livelihood activities such as embroidery, tailoring, setting up small daily needs' shops, and establishing organic input centres.

Part 2: Making things better

EMPOWERING WOMEN FARMERS TO COMBAT CLIMATE CHANGE

Our research shows that specialised training significantly enhances women's farming roles, particularly in income generation and decision-making. Our goal has been to provide comprehensive insights and help farmers understand how to foster sustainable practices that not only improve productivity but also contribute to mitigating the impacts of climate change. This comprehensive approach not only benefits the farmers themselves but also helps build climate resilience in the agricultural sector and the communities they serve.

ACTIONS TO MITIGATE CLIMATE CHANGE CAUSE AND EFFECTS

- Empowering female farmers through sustainable agriculture and climate change awareness
- Building on existing knowledge and awareness of climate-resilient agriculture practices
- Input production centres for sustainable farming and agricultural self-sufficiency
- Training women in income-generating activities and income diversification

Empowering female farmers through sustainable agriculture and climate change awareness

WOMEN BECOMING CLIMATE CHANGE AMBASSADORS

Launched in September 2022 this programme is already successfully supporting women in the key cotton-producing districts of Narmada and Vadodara in Gujarat to make a critical transition from victim to "change ambassador". This programme empowers women with insights into climate change – causes and impacts while equipping them with "climate-smart" agricultural skills and practices essential for the sustainability of these communities. Local partners empower the women to pass on their learning on climate change causes and effects and the all-important "climate-smart" agriculture skills – which are central to the sustainability of these communities.

The first cohort of 42 "ambassadors" has since each trained 30 farmers. Now over 1,200 have received training, hugely expanding the programme's reach and impact. The programme is yielding practical results in communities – trained women are preparing 'bio' inputs to reduce chemical reliance, establishing centres to improve access to organic inputs, embracing agroforestry – planting trees alongside crops and adopting intercropping and move women from victimhood to become part of the solution, leading and inspiring the shift to sustainability.

ESTABLISHING INPUT PRODUCTION CENTRES

CottonConnect has been promoting the setting up of farmer input centres in its programme areas to help make available high-quality organic inputs at the village level. By having these centres near farmers' fields, farmers can easily buy reliable and affordable organic inputs (pesticides, insecticides, and fertilisers), which are essential for promoting sustainable and climate-friendly agricultural practices.

Farmers are encouraged to see that, by reducing the dependency on synthetic chemicals, they can create a more balanced and resilient agro-ecosystem, contributing to the conservation of biodiversity and eco-system health.

Moreover, these input centres serve as income-generation hubs for farmers involved in their establishment and management. As farmers produce and sell organic inputs to their fellow farmers, they boost their economic stability and promotes knowledge-sharing and cooperation within the community.

TRAINING WOMEN IN INCOME GENERATING ACTIVITIES AND DIVERSIFYING INCOME

In 2022 CottonConnect launched a pilot 'women entrepreneurship development programme' in Bangladesh to equip women with skills to diversify their incomes, thus providing a buffer against potential agricultural losses caused by climate-related disasters and unforeseen circumstances. Fifty women have gone through the programme, improving skills and knowledge, and were supported to establish their small enterprises and deliver their business plans. Each of the women beneficiaries has acquired the self-assurance to invest in and expand their respective enterprises. These opportunities have instilled a strong sense of purpose and determination in these women.



Conclusion

“The findings from our recent study reaffirm that the problems related to climate change continue to adversely affect the lives of women farmers in all regions. When women are trained and armed with awareness and understanding – they can play a crucial role in adapting and reducing vulnerability to climate change – they know what solutions are required beyond the farm. Empowering women in the cotton value chain can have positive effects beyond farm productivity, leading to improved living standards and food security.”

Alison Ward, CEO, CottonConnect

Our programmes such as the Women Climate Change Ambassadors' Programme and the Women Entrepreneurship Development Programme are demonstrating the power of training not only to improve farming and mitigate climate-induced change, but to enable the shift from victimhood to action, where women are part of – and even able to lead and inspire – the shift to sustainability.

Our aim is to have a broad-reaching impact and create climate-resilient farming communities. Empowering women farmers and promoting climate-resilient practices are crucial steps to achieve this vision.

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Recommendations

With climate mitigation strategies demonstrating effectiveness, the focus should now shift towards replicating and expanding successful approaches. This collaborative effort necessitates developing transformative partnerships across the supply chain, encompassing retailers and farmers.

Some steps that can help organisations across the supply chain working with farmers to move closer to this goal include:

- **Amplify women's voices:** Ensure women farmers' perspectives are acknowledged.
- **Learn from their lived experiences:** Engage more with women farmers to gain insights from their firsthand experiences.
- **Accelerate proven actions:** Scale actions and pilots that we know mitigate the climate crisis
- **Ensure women are involved as leaders and innovators**
- **Develop transformative supply chain partnerships with brands that are good for women and good for business**

Get in touch with CottonConnect to find out more about joint programmes with proven impact on female farmers.



CottonConnect's purpose is to reimagine cotton supply chains in order to help textile producers and farmers enjoy better livelihoods.

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