FWWB
FRIENDS OF WOMEN'S WORLD BANKING INDIA

Thematic brief

What will encourage women farmers to adopt climate-resilient agricultural practices?

Learnings from India

This thematic brief is developed under the Action Learning Research project *'Role of Gender in Agriculture, Climate Change and Food Security'* by Friends of Women's World Banking (FWWB) India. As the author **Bharti**, role has been to review and analyse existing literature and FWWB's work on gender-responsive approaches, climate-smart, resilient and sustainable agricultural (CSA) practices and design a framework for greater adoption of CSA.

Context

Empirically, women farmers are found to adapt less to climate change due to limited access to information, technology, and decision-making, as well as greater workloads. With varying abilities to cope and adapt to climate change, their needs, priorities, and realities are often underrecognized and inadequately addressed (CGIAR, 2021). These gendered differences in agriculture affect their access to climate-adaptive agriculture. They further build a strong case for support for gender equality and climate resilience by adopting a gender-responsive climate-smart agriculture (CSA) approach (FAO, CGAIR, & CCFAS, 2016). It is through the adaptation of climate-resilient and mitigation strategies[1],some improvements in the lives of small and marginal farmers can be realised. (UN-WOMEN, 2021).

Agriculture forms the principal employer of women globally and in India. Women represent more than 70 percent of the agricultural workforce in many parts of the world, despite persistent problems compared to men in participating as equal economic agents in agribusiness value chains (UN-WOMEN, 2021). In India, the agriculture sector employs 80 per cent of all economically active women, 33 per cent in the labour force, and 48 per cent as self-employed. As per the Indian Council of Agricultural Research (ICAR) research (2020), their participation is 75 per cent in crop production, 79 per cent in horticulture, 51 per cent in post-harvest work, and 95 per cent in animal husbandry and fisheries. Women are engaged in agricultural activities mainly as wage labourers, cultivators on their land, and managers of agricultural activities through labour supervision and certain post-harvest activities. (ICAR, 2020)

Climate-influenced migration is seen to be an intensifying factor in the feminisation of agriculture in some regions, particularly in South Asia and Central America, where out-migration by males is predominant. Women members of the house who are left behind are burdened towards managing agriculture and domestic responsibilities with less family labour, further exacerbating their vulnerability. (Huyer, et al., 2021).

Despite women's dominance of the labor force, intensive involvement, and low leadership in many areas of agribusiness (market-facing roles), the majority of women continue to be in low-value-added crops, concentrated in basic production and low productivity activities, and struggling to leverage lucrative aspects of the value chain (UN-WOMEN, 2021). Moreover, their contributions have often gone unrecognised and undervalued, and they have faced numerous barriers in the sector.

Women in India have poor access to family labor, basic agricultural technologies and substantially suffer from increased women's-workloads for women. Women further face an extreme disadvantage in terms of wage pay parity, access to resources , and poor representation in local organizations. Thus, in climate change impacts, such as heavy rains, and droughts, women farmers need adequate information, and services to withstand climate risks and variabilities.

Methodology

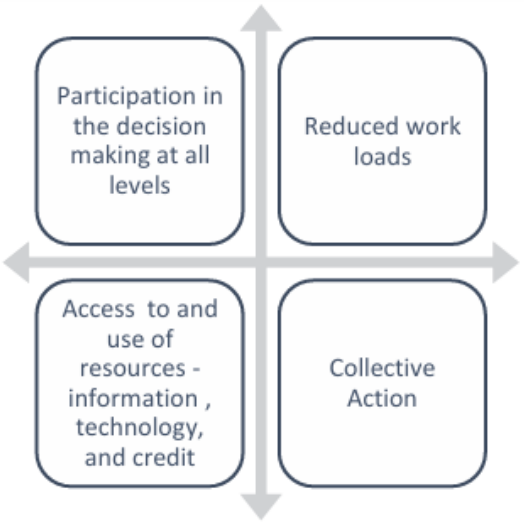
This analytical brief is developed by examining secondary literature on gender-responsive approaches, climate-smart agriculture, and resilient and sustainable cultural practices. FWWB's longstanding work in agriculture, climate change, and capacity building has also been referred to and analyzed. Thus, through desk review and analysis of the research

[1] Realising 2°C warming target as set by the United Nations Framework Convention on Climate Change (UNFCCC)

reports, policy papers, and FWWB's project documents, this analytical brief aims to draw out a framework or an outline for increasing the adoption of climate-resilient practices by women farmers in agriculture. The framework will attempt to understand the key enablers and constraints in instituting gender responsive CSA practices.

CSA initiatives promoting collective action, participation in decision-making, reducing workloads, and access to resources have gained centrality to enhance their agency. Based on climate sustainable and resilient agriculture approaches adopted across different context, four critical dimensions for achieving gender equality in climate-resilient agriculture can be best illustrated through Figure 1. These four dimensions, as illustrated in Figure 1, must be accorded attention by implementers, experts and farmers while designing CSA measures to mitigate and adapt to climate change for gender equality.

Figure 1- CSA framework



The framework, as designed by the CGIAR Research Program on Climate Change, Agriculture, and Food Security (CCAFS) was adopted in the climate-smart village of Daga-Birame in Senegal. Using that, collective action and technology training were undertaken, yielding increased women's control over livelihood revenue, forest management, environmental conservation, and participation in decision-making. The collective action included setting up a microenterprise, a savings pool invested in resilience activities, and equal participation in a local forest management committee (CGIAR, 2021)

Experiences from India

- In an example from India, Consultative Group on International Agricultural Research (CGIAR) worked with many women-led organizations to capacitate them to use climate-smart farming technologies and access climate information services. In one of its projects, Self Help Groups (SHGs) participated in village level committees to set up women-led custom-hiring centers to rent out climate-smart technologies to reduce labor around weeding (cono-weeder), harvesting (harvesting machine) and water management (solar pumps). Through agro-advisory and weather information services, women have expanded their networks and deployed advisories on weather, markets, crop cultivation, and technologies into agriculture. Thus, collective action has gained centrality for gender equality, increased agency, reduced workloads, and resilience (CGIAR, 2021).
- Another example is adoption of Andhra Pradesh agro-ecology model of community managed natural farming systems as an alternative to chemical-based and capital-intensive agriculture in India. It falls under regenerative agriculture and is synonymous with agroecology, based on the 13 principles of agroecosystems and food systems namely principles 1-7 (recycling, input reduction, soil health, animal health, biodiversity, synergy, economic diversification) and 8-13 (co-creation of knowledge, social values and diets, fairness, connectivity, land and resource

governance, participation) respectively. (CGIAR, 2023). Because of climate-induced weather patterns due to heat waves, delayed rains and strong winds and overutilization of chemical inputs affecting soil health, liberal power and irrigation subsidies, agriculture growth has been dampening. This has triggered many farmers adopt Andhra Pradesh agro-ecology model of community managed natural farming systems across India as chemical free farming yields to reduction in greenhouse gas emissions and adverse impact of climate change on agriculture. (Sharma, 2024)

Friends of Women's World Banking India (FWWB)'s Experience

FWWB through its work with small and marginal farmers promote direct participation of farmers, particularly women farmers, in the agri-based economy, augment their capacities and increase their climate resilience. It collaborates with agri-tech and experts for adoption of climate resilient and sustainable agriculture techniques on water conservation, soil management, and regenerative agriculture. It has been primarily engaged in building capacities of farmers through trainings, workshops and exposure visits and enabling catalytic finance for climate adaptive measures. So far, FWWB has supported 200 farmer collectives and more than 1.5 lakh small and marginal farmers across India.

FWWB in one of its projects titled as "Promoting Women's Participation in Farm and Non-Farm Livelihoods in the North Eastern States of India—Meghalaya, Nagaland, and Manipur" aimed to understand two key aspects: a. Assess, identify, and fulfil 600 women farmers' capacity-building needs on climate resilience, regenerative agriculture, governance, financial management, organisational development, credit support, and other business-oriented aspects; and b. Advocate for and facilitate the promotion of climate-resilient practices and technologies for the betterment of women-led FPOs.

In the context of the North East, the opportunities and constraints experienced by women and men differed in terms of gender roles, mobility, decision-making power, access to resources, and control over benefits. Through the need assessment exercise, it was revealed that critical gaps exist across key intervention areas: Climate Change awareness, individual and group savings, and digital literacy. While basic financial services (bank accounts) were widely used, knowledge of sustainable farming was found to be very preliminary. Therefore, there was a need for foundational training in Sustainable and climate-resilient practices, alongside digital literacy and financial management, to establish a solid foundation for women's entrepreneurship.

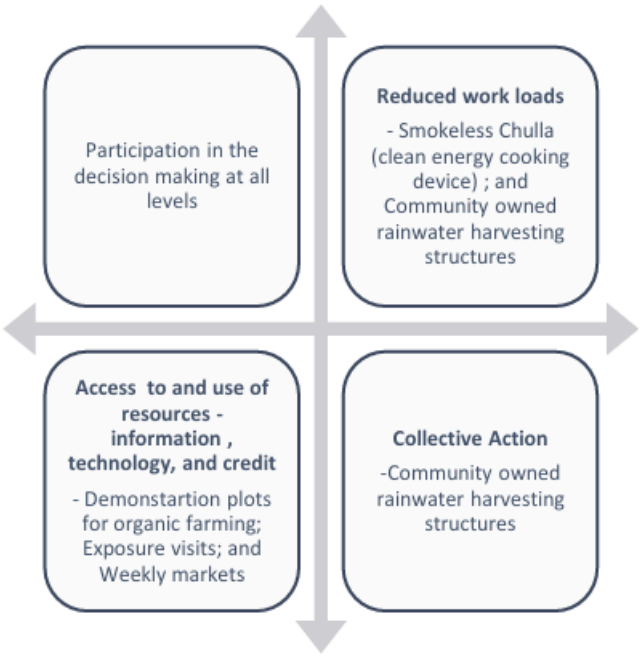
Under this project, around 600 women were trained, handheld, and mentored in climate resilience; affordable technologies were introduced; and local climate-resilient practices were documented. Several innovative, sustainable, climate-resilient practices were studied during the project, and communities were trained and capacitated in select practices.

Some of the sustainable, climate-resilient practices implemented under this project have been analysed using the above CSA framework (Figure 1) and presented in Figure 2.

- **Access to and use of resources** through *'Demonstration Plots',' Exposure Visits' and 'CSA Trainings'* contributed to knowledge sharing on organic or natural farming and sustainable agriculture practices among women farmers. Further, '*Weekly Market*' connected farmers directly with consumers, eliminating middlemen and fostering

community engagement and eco-friendly packaging practices. To enhance awareness and adoption of climate-resilient agricultural practices, sessions on Climate Resilient Practices were organised with 40 Producer Groups (PGs) from old and new villages, covering a total of 259 members. These sessions aimed to share knowledge and promote best practices in the field, focusing on how farmers can adapt to changing climatic conditions while improving productivity and sustainability. The interactive discussions helped members understand the importance of resource management, soil health, organic farming, and crop diversification.

Figure 2 – Climate resilient practices captured in the FWWB project and analyzed through CSA Framework



- **Reduction of workload** through the introduction of '*Smokeless Chulla'* (a clean-energy cooking device) and '*Community-owned rainwater harvesting structures' reduced workloads. Smokeless Chulla* has been seen as an eco-friendly cooking solution that uses locally available resources, addresses waste issues, minimises ecological footprint and air pollution, and reduces drudgery. This innovative approach not only contributed to stability and cost-effectiveness but eco-friendly, community-driven solutions. Beyond practical benefits, the smokeless Chula served as an educational tool for sustainable cooking practices, promoting environmental sustainability and improved health through reduced indoor air pollution.
- **Collective action** through '*Community-owned rainwater harvesting structures',* ensured drinking water security in proximity to their households and further established strategic linkages with government schemes, strengthening community ties.

Learnings from FWWB India experience

Climate change affects women farmers disproportionately, and so does the impact of climate adaptation and mitigation strategies on gender inequalities. Therefore, governments and non-governmental partners need to learn from past work and research to develop gender-responsive approaches that promote gender equality and resilience for all.

- **Targeted private and public climate investments on women and other most at-risk populations among women**. This calls for treating women as a heterogeneous group and identifying distinctive climate-agriculture-gender inequality hotspots where climate hazards converge with women farmers participating in food systems. In the case of the

FWWB project, the need for Smokeless Chulha and Rainwater harvesting structures prioritised women's needs into the design of the project interventions.

- **Promote women's participation in decision-making** in climate change and disaster-risk-reduction programs to enable greater resilience among smallholder households, communities, and economies. It has been learnt that households where women participate in decision-making are more likely to invest in women-centric solutions, thereby minimising ecological footprint, drudgery and workload. It has also been found that when women are involved in deciding which crops to grow, they prefer crops that are high in food security and nutrition.
- **Ensure productive resources and labour-saving technologies are made available to women,** reducing their workloads, increasing productivity, and allowing time for resilience activities. This is to be done in a participatory manner, with attention to women's needs. For example, in Nepal, women farmers use climate-smart technologies such as green manuring, direct-seeded rice, and laser land levelling to improve their productivity and incomes and reduce their drudgery (CGIAR, 2021). As learnt from the referenced FWWB India project, the use of clean energy devices and environmentally friendly packaging catalysed behavioural change to promote a resilient, environmentally conscious community.
- **Support collective action for increased resilience** by working with women's groups and other social networks (Producer Groups) to access information, resources, and economic opportunities needed to respond to climate change. Through these networks, women farmers gain advice on weather, markets, crop cultivation, and technologies. It is also critical to understand women's knowledge level and adaptive capacity while designing climate information services. Such linkages with market and other networks set the stage for a more sustainable future, preserving traditional agricultural knowledge and fostering awareness about climate change

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