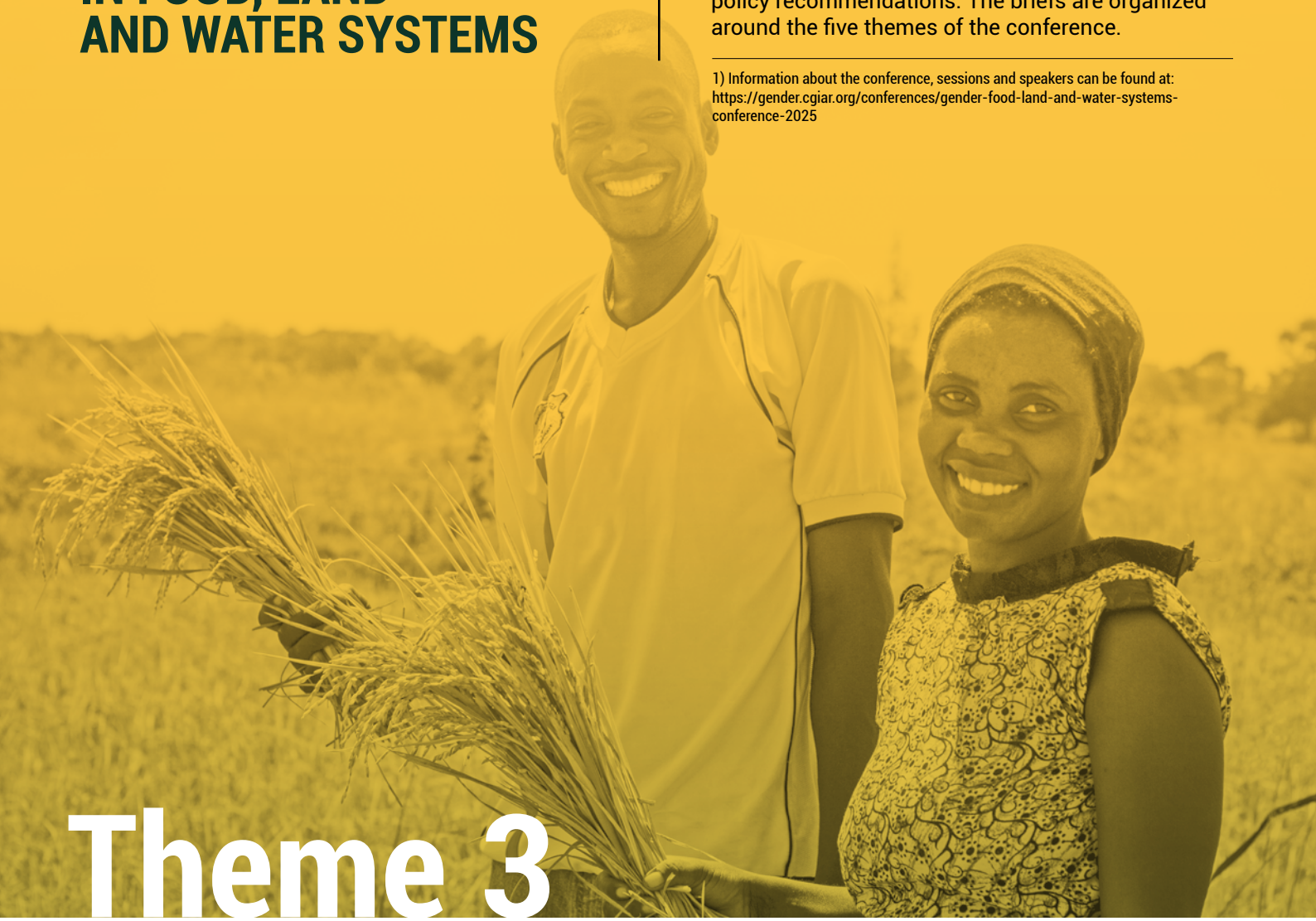
Brief series

ACCELERATING EQUALITY IN FOOD, LAND AND WATER SYSTEMS

This series of briefs synthesizes the key evidence and messages from presentations in sessions at the CGIAR Gender Conference Accelerating Equality in Food, Land, and Water Systems[1] held in Cape Town on 7–9 October 2025. The briefs highlight what we learnt and how this knowledge can inform action, including research and development practices and policy recommendations. The briefs are organized around the five themes of the conference.

1) Information about the conference, sessions and speakers can be found at: https://gender.cgiar.org/conferences/gender-food-land-and-water-systems-conference-2025



Theme 3

Effective strategies and innovations for enhancing resilience and livelihoods in food, land and water systems

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CGIAR GENDER EQUALITY AND INCLUSION

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Structural barriers limit the resilience of resource-poor women, youth and socially excluded groups and their ability to adapt to climate risks and other challenges. Enhancing access to resources and innovations, paired with targeted social-protection measures, is essential for building resilience and fostering inclusion in food, land, and water systems. Theme 3 examined strategies to enhance women's empowerment, including relational and resilience dimensions, to ensure greater equity in access to key resources and innovations.

THE WAY FORWARD: KEY RECOMMENDATIONS

- **Women must be intentionally targeted** along with men to ensure technology adoption, to create the highest levels of productivity and more deliver equitable benefit sharing.
- **Co-creation of technology adoption strategies** with women, men and youth is critical to ensure that new technologies and innovations are adopted by all.
- **Gender-responsive service provision** of programs and services (i.e., extension, credit, inputs) is essential to achieve not just gender equity, but also women's empowerment.
- An important factor influencing women's adoption of improved technologies is **women's land rights**, requiring interventions that increase joint ownership and equality in inheritance.
- **Gender equity in participation in input and output market access** needs to complement gender-targeted technology transfers to provide the resources and the monetary incentives to adopt these technologies.

Evidence synthesis

Gender inclusion in technology adoption

A study in Nepal found that how extension programs are targeted—to women, to men or to both genders—has significant effects on savings, technology adoption and income generation. Two studies in Ethiopia and Sub-Saharan Africa found that enhancing women's access to irrigation technologies can significantly reduce gender inequalities and improve rural livelihoods. Intentional inclusion of women in access to irrigation technologies—through tailored financing, marketing and group-based models—is critical to maximize development impact. Additional concrete actions include strengthening women-only collectives for safe, empowering spaces; improving governance in mixed-gender groups to amplify women's voices; leveraging financial institutions to expand women's credit and autonomy; enhancing women's participation in markets and buyer networks to improve profitability; promoting women's leadership and capacity-building programs; and sharing success stories of women's inclusion to attract investment and inform policy.

Inclusive response to climate change

Climate information services and climate-smart agriculture have the potential to help farming households adapt to increasingly unpredictable climate patterns. In Zambia, improved access for women to climate information services, especially weather forecasts, narrowed the decision-making gap between spouses, empowering women to have a greater voice in production decisions and helping couples reach more aligned investment strategies. A global evidence review found that gender-specific barriers to climate information services include poor access to communication tools (e.g., radios, mobile phones), low digital and climate literacy, limited mobility and time constraints, men-oriented extension systems, and restrictive social norms and intra-household hierarchies.

Promising strategies to reduce barriers, identified in this review, other qualitative studies and panel surveys between 2021 and 2024 in Ghana, include co-designing climate information services with women's participation from the beginning; using multi-channel, low-tech, community-based delivery of climate information; bundling climate information services with inputs, credit, training and collective learning; training extension agents to be gender-responsive; and providing better access to input and output markets and sustainable financing. Integrating these bundles into existing agricultural service systems and women's groups, like village savings and loans associations, enabled wider scaling, strengthened women's voices and created better access to markets and other resources.

Adoption of improved varieties

Drought recovery programs in Ethiopia that integrated vegetable-seed support and training targeting women enhanced livelihood resilience and household nutrition. Short-duration, targeted agricultural innovations can quickly rebuild income sources and provide food security during a drought. An analysis of the gender and decision-making dynamics in the cassava and sweet-potato value chains in Uganda and Nigeria found that women can be empowered by gaining higher incomes, obtaining access to training, controlling assets and participating in cooperatives, even though prevailing gender norms and land inequality still limit women's influence. Crop breeding also has the potential to empower women when they are included in participatory crop trait selection. Adoption and experiences with hydroponics fodder technology in Rwanda were also found to be strongly gendered. Hydroponics fodder technology has potential to improve rural livelihoods and resilience to weather variability; but its success, inclusivity and scaling potential depends on recognizing and addressing gendered realities in access to resources, decision-making, and the division of labor.

Gender transformation in agri-food systems

A global literature review of geospatial technologies to promote women's empowerment in agri-food systems identified several challenges in adopting these technologies, such as data privacy and accessibility. To address these challenges, resources such guidebooks and case studies need to be created, capacity building should be implemented, data issues addressed, and results leveraged for advocacy. An analysis of AI large language models in India also revealed that this technology needs to use diverse, current data and a gender-responsive benchmarking framework to assess fairness and ensure context awareness. Ethical AI development, improved model tuning and continuous feedback to better support women farmers is needed to promote gender equality and address systematic inequalities in agricultural advisory. A study in Zambia found that bundling climate-smart practices with social innovations, and providing information and financial services improved adoption of, and investment in, climate-smart practices, leading to higher farm income.

Equity in access to land and agricultural services

Studies in Madagascar found that land ownership within couples is highly unequal, with men owning much more land than women. Gender-equitable land rights require moving beyond household-level analysis to intra-household analysis. For example, 80 percent of joint plots were registered only in men's names. Another study in Madagascar found that local norms are also important in supporting gender equity in land ownership because legal verification of ownership is inconsistent; informal and semi-formal documents reflect joint ownership statistics better than official certificates. Policies should formally recognize joint ownership, harmonize land and civil laws, and protect women's rights during separation or widowhood. A study in Mozambique found that land demarcation has not been driven by short- or medium-term investment, especially for women farmers. To encourage investment, land rights reform may require full titling, not just demarcation, to change behavior. Additionally, strengthening women's social networks can improve the community's acceptance of their land tenure, which fosters investment.

Evidence gaps

Evidence presented during the conference as part of this theme came mainly from East and Southern Africa, West and Central Africa, and South Asia. While two reviews provided a global perspective, there were no studies from regions such Southeast Asia and the Pacific, Central and West Asia and North Africa, nor Latin America and the Caribbean. This shows a clear evidence gap, requiring efforts to generate evidence from these regions.

While the studies pointed out the need to co-create technology-transfer interventions, more analysis is needed to understand what systems and capacities are needed to enable these processes. Several studies noted the need for greater equity in input and output market access to ensure the adoption of technologies by women. While evidence exists on how to make these markets more equitable, the studies presented at this conference did not demonstrate how to integrate prior lessons into efforts that support gender equity in technology adoption. Finally, the reported studies examined the short-term effects of technology adoption and how greater access to resources like land affect investment in technologies. Analysis of long-term effects of targeting both genders is missing.