



Globally, women make up 45 percent of the workers in agriculture, processing, and marketing, including subsistence farming, while in poor countries, this percentage is much higher.

Genetic Innovation Gender Strategy

Introduction

Women are essential seed custodians, producers, processors, traders, and consumers of the crops targeted by CGIAR. They frequently use crops differently under different constraints from men, so they demand different types and combinations of plant traits to meet these needs. Plant breeding has not responded to demand for specific varietal traits from poor rural women, resulting in lower adoption and benefits from new varieties, compared with men. Women are negatively affected by the lack of technologies, including new crop varieties that meet their specific needs as growers, processors, traders, and consumers, considering that their farms can often be less productive¹.

What needs to change? Five kinds of gender equality in seed and variety adoption

- **Equal seed literacy:** women need the same opportunities to learn about seed of GI-bred varieties as men.
- **Equal variety choice:** varieties on offer should have traits valued highly by women and men if breeders design new varieties with equal attention to demand from both.
- **Equal seed access:** Women and men must have equal chances of obtaining, producing, and marketing high-quality seed of GI-bred varieties along with seed sector employment.
- **Equality in varietal adoption:** the same proportion of women as men should make sustained use of GI-bred varieties.
- **Equality in benefits:** Once adopted, GI-bred varieties and quality seed must benefit women as much as men.

What is the Gender Strategy for?

The Gender Strategy provides a road map for using gender research in gender-intentional plant breeding – for designing and deploying new crop varieties that are in demand by poor rural women and men alike to improve gender equality in seed access and variety adoption. The Strategy will be implemented in partnership with CG-NARES-SME breeding networks from 2024-2028.

Setting a standard for gender-intentional breeding

The Gender Strategy promotes the adoption of a GI-wide **Standard for Gender-intentional Target Product Profile Design**, a protocol for certifying that breeders' Target Product Profiles have done the gender analysis needed to qualify as gender-intentional. The standard will assist all CGIAR-NARES-SME breeding networks and national variety release committees in checking that the profile for a new variety has weighed the available evidence for and against including desirable gender-intentional design features, such as a trait that reduces workload in processing.

Gender research contributes to genetic innovation at multiple points in a breeding pipeline. The Gender Strategy focuses attention on the gender research contribution needed when breeding teams make important decisions in the course of variety development. For example, when breeders prioritize some traits and discard others as breeding objectives in a Target Product Profile. Suppose a prioritized trait has the effect of increasing women's workload (such as weeding, harvesting, threshing, winnowing, husking, shelling, grinding, fermenting, drying, storing, cooking etc.), then the breeder's decision may increase gender inequality and cause women to avoid and to discourage others from using the variety.

¹ FAO, 2023. The status of women in agrifood systems. <https://doi.org/10.4060/cc5343en>

The Gender Strategy will make sure Genetic Innovation focuses on the action needed to achieve eight outcomes derived from the GI Gender Theory of Change:

Outcome 1: CGIAR entities actively share responsibility for incorporating gender considerations in their work.

Outcome 2. CGIAR and partner researchers use gender-intentional market intelligence research approaches effectively to orient a variety development and deployment, resulting in equality in the proportion of women beneficiaries, their speed of adoption and the value of the benefits realized.

Outcome 3. Transdisciplinary CGIAR-NARS-SME networks function effectively in key countries/regions, resulting in cogenerated knowledge, shared understanding, and effective action to increase the development and delivery of appropriate varieties to differentiated market segments.

Outcome 4. CG-NARI-SME partners increase and accelerate the number and proportion of gender-intentional varieties selected and distributed for different market segments.

Outcome 5 National and private seed companies are inclusive in developing and delivering appropriate varieties.

Outcome 6. More women entrepreneurs and employees are active decision-makers and beneficiaries in seed businesses using gender-informed business development strategies.

Outcome 7. Public seed systems deliver improved varieties through informal seed systems.

Outcome 8. Men and women farmers adopt new varieties of priority crops faster and more equitably.

Gender Strategy Priorities

The Gender Strategy prioritizes gender research that can be designed and conducted across market segments and crops to improve the scope, scale, and relevance of gender analysis for gender-intentional breeding.

Priority 1. Gender-mapping of market segments

Gender Mapping will identify “gender hotspots” -- areas and populations within GI seed product market segments with high levels of any of the five gender inequalities in seed and variety adoption (Box 1). Gender hotspots will indicate where high-impact gender intentional breeding and seed strategies are most needed.

Genetic Innovation’s Market Intelligence will compile more evidence for gender mapping in existing seed product market segments, defined as a group of farmers with standard variety requirements based on where and how they grow and use a crop². Developing innovative strategies for mining existing data, using citizen science, and mobilizing expert opinion on relevant gender relations is crucial. Building on GloMIP’s characterization of sex-disaggregated demographics, gender mapping will compile a picture of gender relations in varietal adoption, seed access, planting, processing, marketing, subsistence use and consumption of a crop within spatially-defined market segments.

Priority 2. Systematize gendered plant trait and seed quality preferences.

Variety design (Target Product Profile development) requires the agreement of all CGIAR-NARES-SME breeding networks to standardize tools, data, analytical approaches, and procedures for characterizing gendered trait preferences.

Data-sharing and comparative analysis across seed product market segments, crops, and cultures of gender-disaggregated preferences are currently close to impossible. Standardization and capacity development in the agreed tools and methods across CGIAR-NARES-SME breeding networks will improve research efficiency and enable searches for stand-out, strategic plant trait and seed quality preferences that may call for priority attention.

Priority 3. Prospect for candidate gender-inclusive varieties among already advanced materials to accelerate impact.

Gender researchers will work with plant breeders to assess with other stakeholders whether any advanced materials in breeding pipelines have unrecognized or under-valued potential for a favorable impact on gender inequality. This assessment will be prioritized in hotspots where women have been slow to adopt modern varieties. Gender research will identify the steps needed to advance promising material rapidly with breeders, public variety release officials, seed producers and distributors to achieve rapid release and distribution.

A key action will be for CGIAR-NARES-SME networks to mobilize national and local partners to ensure their criteria for selection and release, especially criteria used by variety release committees, consider gender.

Priority 4. Identify opportunities for interventions to improve gender equality in adopting GI-bred varieties.

The Gender Strategy prioritizes cross-crop, cross-regional gender analysis to understand where and why gender differences significantly drive inequalities in seed literacy, varietal choice, seed access, variety adoption and benefit distribution. Just when, how and why gender differences directly affect adoption behavior is unclear. Moreover, without having a direct effect on adoption, gender inequalities can make the impact of other obstacles to adoption worse. This knowledge gap complicates the design of seed-based interventions to accelerate more gender-equal adoption. This analysis will help partners implement strategies to accelerate and level up inclusive adoption of GI-bred varieties in circumstances where the payoff is highest.

Priority 5. Innovate with research protocols, methods, and tools.

The Gender Strategy highlights investment in novel research approaches and protocols, which are urgently needed if applied gender research is to inform the development and

2 Donovan, 2022; Leveraging Evidence for Access and Development. 2021. Gender in agriculture and food systems: An Evidence Gap Map. Chennai, India: LEAD at KREA University. <https://hdl.handle.net/10568/114123>

deployment of new crop varieties. A critical innovation is for GI to adopt and implement the protocol under development for the Standard for Gender-Intentional Target Product Profile Design. Genetic innovation currently works with 375 market segments, of which so far, 22 percent have met the standard for gender-intentional breeding.

Other innovations support inclusive stakeholder engagement in variety design, evaluation, and release. A third strategic area for innovation is gender-intentional seed system tools and protocols. These include trial seed packs, taster kits, subsidies, mass media communication, insurance, support for women seed entrepreneurs, and Seed Equal's innovations for more efficient collection of varietal adoption data.

Partnerships to strengthen gender research and its impact.

The CG-NARES-SME networks established by the Accelerated Breeding Initiative, currently numbering 36, are key research partners. Gender specialists will promote the systematization, communication, and implementation of a set of principles and guidelines for gender-intentional partnership development with CGIAR-NARES-SME teams. The networks will generate and share market intelligence to ensure new varieties and seed strategies are designed considering gender. The Gender Platform will facilitate guidelines and a toolbox with common gender research methods and protocols. Partnerships with community-based organizations with gender equality as a goal are highlighted by the Strategy for developing more gender-equal seed delivery and seed business development.

Better capacity to design and deploy gender-intentional varieties.

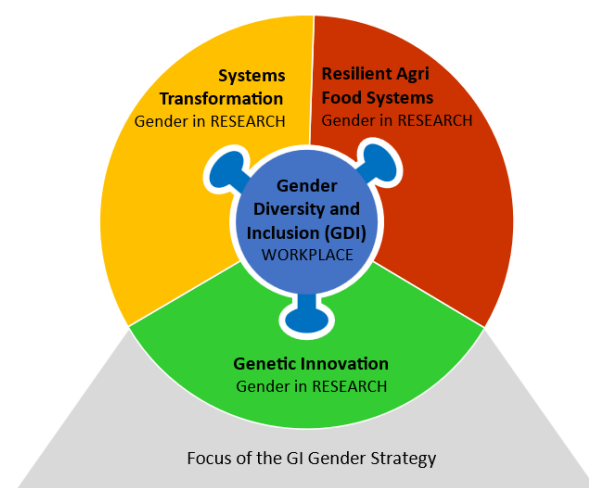
The Gender Strategy prioritizes the capacity development of CGIAR-NARES-SME teams to refocus and restructure breeding pipelines to become more gender-intentional. The GI Gender team will ensure in-house "gender and breeding" training of CG members of these networks. In 2023, guided by a needs assessment completed in 2023, identified a skill gap and pinpointed the gender research skills and knowledge required. Accelerated Breeding's TRANSFORM Work Package will work with the Gender Platform and Cornell University's GREAT program to develop formal training, mentoring and on-the-job learning by doing for all CGIAR-NARES-SME network members. Capacity development will be conducted through the Breeding Resources capacity-building hub.

How the Strategy was developed.

The Strategy authors reviewed historical and current documents and proposals related to gender research in CGIAR programs. Stakeholders, including donors, senior managers, plant breeders and social science researchers from CGIAR, NARIs and partners were interviewed about their expectations of gender-intentional breeding. Finally, the Strategy draws on lessons from practical experience with gender-intentional breeding systematized in fourteen Case Studies (Tufan et al., 2023).

The Strategy relies on CGIAR workplace diversity and inclusion.

The GI Gender Strategy is one component of a cross-CGIAR effort to improve gender equality in agriculture in three major research action areas as well as in CGIAR workplace diversity and inclusion. Effective implementation of the Strategy calls for more job opportunities, succession planning and early career mentoring for women professionals in plant breeding.



3 <https://www.frontiersin.org/research-topics/50909/gender-intentional-crop-breeding-from-integration-to-institutional-innovation>



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