

## KEY RESEARCH FINDINGS

# ENTRY POINTS

## for enabling gender equality in agricultural and environmental innovation

Men and women on average report growing power and freedom to shape their lives as well as declining poverty in their villages across the 137 GENNOVATE village-level case studies. Wider forces in the macro environments as well as improvements in rural livelihoods due to agricultural innovation contribute importantly to these promising trends. Yet, beneath these broad patterns, the GENNOVATE data

show strong differences in how men and women – and their communities – experience and benefit from innovation processes. The research communities experiencing more inclusive innovation processes and rapid poverty reduction offer valuable lessons on which agricultural research and development (R&D) can build.



A farmer plants maize in Chiapas, Mexico. Photo: Peter Lowe/CIMMYT.

## Why this briefing note?

This note provides an overview of findings from the GENNOVATE (“Enabling Gender Equality in Agricultural and Environmental Innovation”) case studies about the gender dimensions of these uneven local change processes. The note draws from across the evidence and conclusions presented in seven CGIAR Research Program (CRP) reports.<sup>1</sup>

GENNOVATE focuses on the ways gender norms and agency shape agricultural and natural resource innovation processes. For this study, innovation refers to agricultural technologies, practices, learning opportunities, and ways of organizing that are new for the study communities and may be internally devised or externally introduced. Innovation is thus broadly conceived as a social process that engages multiple actors with varied and often competing interests

and with differing capacities to mobilize resources. **Gender norms – or societal rules governing men’s and women’s roles and everyday behaviors – strongly condition who can learn about, access, try out, adapt, and benefit from innovation processes.**

GENNOVATE combines contextually grounded and comparative research strategies and involves an unprecedented collaboration of investigators from nearly all CRPs. In focus groups and semi-structured interviews, equal numbers of women and men across the study villages reflected on and discussed questions, such as: What are the most important new agricultural practices, technologies, and networks for the men of the village? And for the women?

<sup>1</sup> Each GENNOVATE CRP report draws on the particular set of case studies commissioned by its CRP, or in some cases a combination of CRPs. All community names are pseudonyms. For individual reports and more contextual findings, please visit <https://gender.cgiar.org/themes/gennovate/>.

## Opportunities and barriers to inclusive innovation processes

In diverse contexts, women as well as men are deeply engaged in diverse crop, livestock, and agri-related trading activities. Yet, our evidence indicates that women’s use of improved technologies remains low, and they face diverse barriers to accessing finance, farmland, machinery, learning opportunities, networks, and other resources vital for engaging with today’s innovation processes.

Study participants identify numerous agricultural innovations to have come into their villages in recent years; and they take them up when they deliver and make sense in relation to their other livelihood activities and local gender norms. Gender norms are important because they shape the scope for and domains of agricultural innovation. In a majority of study communities, women and men alike strongly associate men with larger plots, larger animals, larger investments, larger machines, and larger sales of produce; and they widely associate women with small homestead-based production and small-scale marketing activities. These normative framings mean that **men’s and women’s innovation pathways and related opportunities often differ, as do the resources they mobilize to seize emerging opportunities.**

### Valuable innovations, but mostly for men.

Among the many agricultural innovations identified across the research communities, **new varieties and better quality seeds, especially of wheat, maize, and rice crops**, emerge as the **most highly ranked innovations in the majority of case studies by men and women** across regions, mainly due to delivering significantly greater yields and earnings. New cultivation practices related to these crops are also among the most highly ranked. These findings, which reflect the study’s numerous cases in CRP focus regions for these key crops, provide strong evidence of the relevance of these innovations in the research villages over the past five years. Nevertheless, even as many women highly value these improved varieties for improving their families’ wellbeing and food security, the data make evident that overall men enjoy far greater experience with and benefits from the innovation processes associated with these key crops than women (e.g., Table 1).

**Women in diverse case studies across regions rate innovations highly that provide them with greater economic independence while enabling them to manage daily housework, care, and food security responsibilities.** These

**“We can make decisions on plants. But if we want to buy a cow, we must ask our husbands because a water buffalo can start a whole fortune.”**

— Middle-class women’s focus group, Xuan My, Vietnam

innovations include, for example, improved livestock breeds, crop varieties, and related management practices or new horticulture and aquaculture activities, which women often base from their homesteads and use for family provisioning and income earning.

### Valuable labor saved, but machines and other technologies that reduce drudgery are mostly men’s.

Women and men across the study frequently discuss how **the need for labor has now declined**, freeing up time and resources for other activities. They especially report reduced work and time burdens and greater earnings because of **increased access to mechanization** (e.g., tractors, including hand tractors with attachments; combines; power sprayers; threshers and other processing machinery, such as drying apparatus for nuts), which has often accompanied the promotion of improved varieties and other innovations. Against a widely expressed stereotypical association of men and machines, women from multiple locations voice their demand for relevant mechanization, although the data make evident **that women’s access to most agricultural machinery remains limited with the exception of processing equipment in some contexts.** Additionally, study participants speak of rental income

**Table 1.** Share of focus groups rating improved wheat as one of the top-two agricultural innovations in their village and for their own gender over the last five years (86 women’s focus groups and 86 men’s focus groups).

	Improved wheat rated among top-two for women	Improved wheat rated among top-two for men
Poor focus groups	32.6 %	55.8 %
Middle-class focus groups	32.6 %	72.1 %

Note: Sample includes 43 cases set primarily in South Asia (adapted from GENNOVATE WHEAT CRP Report).



from machines. Nevertheless, labor constraints continue to emerge as important barriers to innovation, especially for poor women and men who cannot afford hired labor or machines.

### Other key assets.

Men and women alike widely identify the availability of assets, especially finance and land, as primary factors enabling innovation, and men's greater access to and control of these resources. Women also stress the importance of family support. **Inequalities in resource control, in turn, contribute strongly to gender differences in local innovation processes because engagement with the current generation of new crop, livestock, fishing, or non-timber forest opportunities often requires stable use or access rights over land and/or equipment and large outlays of cash.** Exceptions to women's marginalization from promising innovation opportunities include, for example, selected cases from Kyrgyz Republic, Nepal, Philippines, Uzbekistan, and Zimbabwe where there is a longer history of women's land rights, or agricultural management and entrepreneurship, or effective policies and interventions supporting women's inclusion as well as men's.

### Valuable networks and learning opportunities.

**Men are often perceived by state, private sector, and civic actors as the obvious conduits for important information, services, and economic opportunities.** For example, in cases from Indonesia where gender hierarchies are less marked than elsewhere in the study, the negotiating arenas associated with oil palm development – and shaping land acquisition and dividend sharing schemes – privileged local elites and in



Women farmers show their eggplant harvest in India. Photo: USAID-India.

some instances male household heads. Women's exclusion when paddy land is converted to oil palm plantations occurs despite women's active contribution to household livelihoods.

Similarly, in the majority of research communities **extension and other related** services overwhelmingly continue to benefit men more than women. Testimonies of women's engagement with extension are frequently qualified by observations of barriers, such as: women are not invited to learning events; women's access is limited by household demands and constraints on their time and physical mobility (e.g., figure 1, showing limitations on physical mobility for women in many contexts, and differences in men's and women's perceptions of this); women's interactions with male extension agents could risk social disapproval; only women who head their households engage with extension services; and women lack the means to apply new learning or can get the required information from their husbands. With limited access to new actors and opportunities, **women in many research communities instead have instigated their own self-help and rotating credit groups** that help them to access information, build solidarity with other women, and borrow and save small amounts – all of which buttress their livelihood initiatives and voice in their households.

### Challenges regarding bargaining power and other dimensions of agency.

As explored more in the next section, women far more than men explain how they have to continuously negotiate their livelihood initiatives with family members due to varied normative pressures. Women consider that, when available, spouses, parents, siblings, and occasionally other close relatives provide key sources of emotional support, technical knowledge, and finance that enable them to take risks and overcome difficulties with new technologies, practices, and social disapproval which may accompany trying out something new. **Women in diverse contexts identify family support as crucial for their possibilities to engage with innovation.**

For both genders and across contexts, psychosocial dimensions such as self-confidence, willpower, drive, willingness to take risks, and a positive attitude emerge as important resources for innovation. **These agentic traits, however, are much more accepted in men than women.**

**“Since the fields belong to the husband’s family, you almost cannot undertake activities without asking permission from your husband. You talk with him... Women have no farming equipment, so they need to be patient for men to agree to plow or spray their fields...”**

—Middle-class women’s focus group, Seribila, Mali

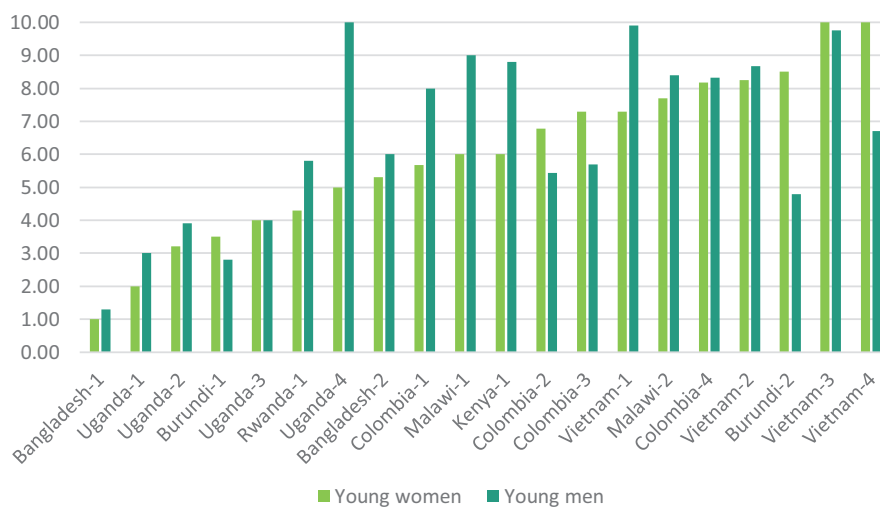
### Significant effects of more inclusive innovation processes.

In a set of **dynamic outlier case studies**, local **gender norms** are **more fluid and both women and men report a much stronger sense of empowerment over the past decade** relative to the other cases. In these same contexts, separate focus groups

of men and women alike also report significantly **greater poverty reduction** during the past 10 years relative to the other case studies. Among other factors, both women and men in the outlier contexts observe greater freedom for women to move about their villages and to earn income from their livelihood activities compared to women elsewhere (see GENNOVATE MAIZE and WHEAT CRP reports). These processes in the outlier cases indicate that **agricultural R&D can benefit from approaches which are attentive to local contexts and unlock pathways that simultaneously empower both women and men to strengthen their agricultural livelihoods**. GENNOVATE data illuminate how such processes contribute to an enabling environment characterized by more equitable gender norms in households and communities and thus hold promise for catalyzing more inclusive and efficient agricultural development and rural transformation.

## Gennovate scope and methodology

- **Sample:** 137 villages in 26 countries, engaging more than 7,500 rural women and men of different socioeconomic backgrounds and age groups.
  - **Asia:** Afghanistan, Bangladesh, India (Andhra Pradesh, Bihar, Haryana, Madhya Pradesh, Maharashtra, Punjab, Rajasthan, Uttar Pradesh), Indonesia, Kyrgyz Republic, Nepal, Pakistan, Philippines, Uzbekistan, Vietnam.
  - **Africa:** Burkina Faso, Burundi, Democratic Republic of the Congo, Ethiopia, Kenya, Malawi, Mali, Morocco, Niger, Nigeria, Rwanda, Tanzania, Uganda, Zimbabwe.
  - **Latin America:** Colombia, Mexico.
- **Approach:** Employs an agency-structure conceptual framework that rests on the understanding that for innovation to be effective the primary stakeholders – women and men on the ground – must exercise agency and be actively engaged in learning about, testing, and adapting a new technology or practice to their needs. Structure refers to the rules that shape social action, including gender norms, and the resources that enable individuals (to varying extents) to take action.
- **Methods:** In each research village, a standardized package of seven data collection instruments was applied (FGDs and semi-structured interviews), reaching equal numbers of women and men.
- **Data analysis:** Integrates two approaches: i) in-depth case-oriented analyses of how norms and agency shape innovation processes; and ii) variable-oriented cross-case analyses on specific topics with coded data.



**Figure 1.** Number out of every 10 women who can move freely on their own in the public spaces of their village, average ratings by individual young women (participating in 20 focus groups) and young men (participating in 20 focus groups).

Note: Sample includes 20 cases set primarily in sub-Saharan Africa (adapted from GENNOVATE RTB-HT CRP Report).



## Social context for seizing opportunities

GENNOVATE's conceptual approach rests on the understanding that women and men living in farming and forest environments are key stakeholders in innovation processes and must be active participants in learning about, testing, and adapting a new technology or practice to their needs. The heterogeneity of local structures and institutions – which may feature more or less restrictive gender norms and be more or less enabling for innovation among different women and men and social groups in a community – is what makes agricultural innovation processes so varied, complex, and uncertain on the ground. **Men's and women's sense of agency is thus central to innovation processes, but diverse gender norms strongly privilege men in the playing fields of exercising agency.**

In diverse ways, GENNOVATE delves into local perceptions of agency and agricultural decision-making. The study's empowerment findings refer specifically to a "power and freedom" ladder rating exercise conducted by individual members of men's and women's focus groups. This exercise explores views on the levels of and changes in the capacities of local women and men to make important decisions in their lives, such as about marrying or working for pay. **Most study participants observe a process of local empowerment for their gender over the past 10 years, and reveal their perceptions to be strongly conditioned by longstanding restrictive (gender and age-based) norms as well as by how these norms are changing locally.**

Together the testimonies explaining the ladder ratings and other evidence gathered on agency and agricultural decision-making reveal with great consistency how: i) men and women experience a very different normative climate for exercising agency as they move through their life cycle; and ii) communities with more restrictive norms raise diverse constraints on both women's and men's capacities to access and benefit from new opportunities and to manage risks in their lives. While both women and men exercise agency throughout their daily lives, these processes are strongly governed by normative frames, differ strongly for each gender, and are not necessarily empowering.



A farmer collects cobat fruit near Boromo, Burkina Faso. Photo: Oliver Girard/CIFOR.

## What fuels agency and empowerment?

Notions of empowerment which emerge from the testimonies often reflect normative expectations that underpin men's authority position and provider role and women's submissive position and domestic roles; however, in many contexts strict gender hierarchies are easing and these processes are also often perceived as empowering.

- ✓ Men across study communities widely report increased sense of power and freedom as they transition from dependency on and deference to parents to heading their own households and assuming the role of provider. Women only rarely register the transition to marriage and family formation as empowering; more often they speak of limited agency and even disempowerment as they move from their parents' control to their husband's, and, depending on the village, to in-laws as well. In most villages, a newly married young woman cannot move beyond the homestead unless accompanied by a family member and would be discouraged from working for pay.
- ✓ Women report increased sense of power and freedom as they gain authority in their role as mothers and their children become older, provide respect, require less care, and contribute to household needs.
- ✓ Men and women alike also feel greater power and freedom as they begin or strengthen their roles as income earners.
- ✓ In numerous communities, women and men associate increased power and freedom with a shift toward more collaborative household relations.

## Women's economic agency often a source of stress.

**In a large majority of research villages, study participants report a growing number of local women who work for pay, but the acceptability of this continues to be uneven and contested.** Testimonies often associate women's new or increased economic participation with men's labor migration, with women-headed households, and with the pressures of poverty. Other forces seen to open space for women's economic agency include active local markets that women can access and participate in along with men; external partners and agricultural innovations that meet women's as well as men's needs and preferences; more equitable family transfer practices which effectively entitle both women and men with land rights; land and forest lease policies that open doors to women as well as men producers; and gender-equitable local opportunities for education, credit, and jobs. In selected communities across regions, however, testimonies from both genders reveal that local women who take up or enlarge their economic activities may be deemed as directly challenging men's authority and risk strong social disapproval in the community, and, from their partners, physical punishment and withdrawal of agricultural labor and financial support to the family.

## Restrictive gender norms also affect men powerfully.

Men endure strong emotional and social costs when unable to fulfill expectations as the household authority and breadwinner. In some contexts they may be ostracized by family and peers if their wives are openly working any kind of job.

## Other dimensions of social differentiation also condition access to opportunities.

A woman's and man's freedom of action may be mediated by complex and highly local rules pertaining to the combination of age or position in the life cycle, place of birth or current residency, the socioeconomic position of their family of origin or current family (if different), caste and/or ethnic group, religion, local marriage practices (e.g., for a woman, position in a polygamous marriage), level of education, place of employment, and other social markers of local importance. As opportunities unfold in a community, **women's and men's various and changing identities sometimes provide them with openings, or, alternatively, may heighten their risk and vulnerability.**

- For example, in many study communities **women from middle-class households often find it more difficult than poor women to move about their communities and access economic opportunities.** Poor people regularly have to withdraw from normative expectations out of necessity, and oftentimes there is greater acceptance of this.
- Or, to take another example, **women heading their own households emerge as actively engaged in agricultural innovation in numerous case studies across contexts.** These women often find it easier than married women to move about their villages and access information, interact with the opposite sex, avail of opportunities to apply new learning, and assume leadership positions.



**“If women go to the market, then people will say that we have seen your wife selling vegetables with other men in the market, mixing with men, gossiping with men.”**

—Middle-class men’s focus group, Village 3, Bangladesh

### Youth particularly constrained.

**Young women and men feel the most limited agency and the most restrictive norms among the social groups who participated in the study.**

Young people often observe their farming and other opportunities to be highly dependent on their parents’ support, and they describe farming roles as more gender differentiated than the adults, especially young men. Young people express strong aspirations for education and non-farm livelihoods (figure 2). Yet, across many communities, youth display interest in modern agricultural opportunities that tap into their education and ambitions for what they deem successful livelihoods.



A family in Bangladesh processes livestock feed. Photo: CIMMYT archives.

### Struggling contexts, often stricter norms.

In contrast to the outlier study villages discussed previously in this document, the data also feature study villages experiencing pronounced difficulties with local innovation or wider development processes, and numerous men and/or women who are strongly discouraged by their local economic opportunities. Examples of challenges reported in these difficult environments include persistent or rising poverty; new farming or livestock practices that provide limited benefits despite increased time and work burdens and women often expected to help fill the labor gap; job loss to mechanization; and increased landlessness or greater difficulties accessing or affording rental lands. Both women and men speak of household conflict and sometimes violence against women as consequences of such hardships and, particularly, the stress these place on men’s authority and provider roles. More generally, these contexts often feature more restrictive norms and greater contestation around them in the testimonies gathered.

### Agency, norms, and innovation processes do not always move together.

Despite women’s active engagement in their local agricultural economies as producers and traders, local mindsets continue to conceive of a good woman farmer as existing “in men’s shadows” or looking after a vegetable garden and small animals as part of their domestic responsibilities. Even in contexts where women exercise significant roles as managers of commercial farms or agri-enterprises, such as villages visited in Nepal or the Philippines, normative expectations are out of sync with these realities and continue to restrict local women’s decision-making, resource control, physical mobility, and civic leadership. These normative framings also continue to shape assumptions of external agencies, including those engaged in agricultural R&D. **Rather, interactions between norms and agency are highly contextual and make for both opportunity and risk in innovation processes for women and for men.**



**Figure 2.** Most prevalent topics in coded data associated with youth aspirations for education and for their future (51 youth focus groups).

Note: Sample includes 27 cases set primarily in sub-Saharan Africa (adapted from GENNOVATE MAIZE CRP Report).



## Opportunities for research and development

As villages are transforming, so are social relations within them. Yet, GENNOVATE makes evident that these processes are highly variable on the ground. **The GENNOVATE approach provides a means for the CRPs' large-scale research and intervention programs to better understand and contribute to social processes where both women and men effectively access and benefit from agricultural innovation.**

**The move towards an agri-food systems approach in the CGIAR Strategy and Results Framework provides an opening for adding more integrated approaches across diverse crop, livestock, and natural resource management as well as institutional dimensions to CGIAR targeting**

**approaches.** Successful and equitable innovation and adoption require attention to more than technology, agroecological conditions, and markets. As the normative climate shapes patterns of social action in both public and private spheres, GENNOVATE findings indicate a need for R&D interventions to pay **more attention to social relations and decision-making within households as well as to formal and informal social networks and governance arrangements in and beyond the community.**

**A transformative change in gender norms requires a simultaneous shift in men's and women's attitudes and behaviors in specific contexts.** While there are exceptions, current intervention designs often reinforce

rather than ease restrictive norms because they mainly facilitate men's agricultural innovation. At the same time, many initiatives that target women remain at a small scale, or sometimes are overtaken by men or fuel backlash, and are not contributing reliably to normative change either. Gender transformative approaches work to shift norms by raising critical awareness among both men and women of gender roles and norms, by promoting women's empowerment, access to opportunities, and leadership along with men's, and by supporting processes that contribute to more equitable decision-making, distribution of resources, and allocation of burdens between women and men.



Farmers show "bean power" in Tanzania. Photo: G. Smith/CIAT.



## Entry points.

GENNOVATE's approach fits well with current innovation systems thinking which draws attention to the normative context that informs everyday practices and to approaches that can identify and support inclusive change processes which are already underway. This reorientation will require investment in institutional learning and innovation with partnerships and intervention models which are pursued as part of multipronged strategies to facilitate equitable and effective innovation processes:

- **Positive outlier cases.** The research villages featuring significantly greater empowerment and poverty reduction than elsewhere illuminate how a shift toward more equitable norms is central to these dynamics. Lessons from these contexts where both women and men are able to connect to agricultural opportunities point to opportunities for leveraging similar processes elsewhere.
- **Men and women innovators.** Further comparative analysis of the experiences of local men and women innovators can contribute to the evidence base on gendered factors and processes that help (and hinder) innovation capacities, including for early adopters (and dis-adopters).
- **Labor-saving and low-cost technologies.** Effective and affordable equipment and other technologies and practices that reduce drudgery should be prioritized. Women as well as men in diverse contexts express high regard for labor-saving technologies, including harvesting machinery, which reduce labor constraints. In Bangladesh, Uganda, and Malawi, women often mention

orange-fleshed sweet potato as low cost both in terms of monetary investments and time.

- **Synergies across agricultural activities.** Identify opportunities for improving interactions among the different activities women and men pursue individually and together, including linkages between crop, livestock, and marketing activities.
- **Inclusive value chains.** Develop and invest in approaches that bring women into valuable commercial agricultural opportunities along with men, including approaches to strengthen women's access to resources vital to innovation processes. This could be appropriate in Vietnam or Nepal, for instance, where women are already engaged in most aspects of agriculture, including large livestock, but exercise limited asset control. In many contexts, women are active in local markets and provide an entry point for adaptation and dissemination of agri-food innovations for key crops, vegetables, fish, dairy, prepared foods, snacks, etc.
- **Equitable learning opportunities.** A key challenge remains for more gender-responsive communications measures and agricultural learning and information diffusion services. As diverse study participants widely report learning of new technologies from friends, relatives,

**"I got credit from Agrobank and studied how to buy my own tractor."**

—Poor women's focus group, Komola, Uzbekistan



A woman farmer stacks wheat residue in Ethiopia. Photo: Peter Lowe/CIMMYT.

neighbors, employers, and others, interventions offer promise that link informal communications channels and social networks with formal institutions. They can also open opportunities to those with few chances to participate in past interventions.

- **Innovating women-headed households.** Women-headed households who are actively innovating in their agricultural livelihoods emerge as role models for normative change and opening space for other women; however, further learning is needed to ensure that interventions targeting this group do not increase stigma, work burdens, and other risks.
- **Young producers.** The youth who participated in the study express strong aspirations and are better educated than previous generations, but remain deeply embedded in family and community networks. Young men's and women's interest in agriculture can be increased by direct application of knowledge and skills gained through formal education and by recognition of the knowledge-intensive nature of many aspects of agriculture. Young women especially struggle to engage with economic opportunities and will often require special measures to ensure their inclusion.



Farmers in Malawi show their drought tolerant maize harvest. Photo: CIMMYT archives.

- **Other local change agents.** Invest in women and men role models as part of specific downstream agricultural R&D interventions to increase openings for inclusive innovation processes. Men (and notions of masculinity) need support to expand their roles and accepted behaviors as much as women (and notions of femininity) need support to expand their roles and accepted behaviors. Work with and build the capacity of progressive rural leaders to catalyze inclusive agricultural change as a complement to investing in mechanisms for institutional innovation in diverse agri-food systems.
- **Informal education and community learning models.** Growing evidence finds community-based learning initiatives to be effective that work with local leaders and community members of both genders to improve rural livelihoods, build awareness of human rights, and support social norm change. These approaches are especially relevant for contexts where normative environments are highly restrictive

and women who seek to engage in agricultural innovation risk strong social disapproval, physical punishment, or their partners withdrawing support or labor from the household.

In summary, in order to strengthen understanding and contribute more effectively to inclusive innovation processes on the ground, **agricultural R&D strategies can benefit from approaches like GENNOVATE that weave together methodological concerns for context, comparison, and collaboration.** Across the participating CRPs and beyond, study findings can be used to inform gender-transformative approaches which not only identify gender differences and inequalities in innovation processes, but also work to reduce their underlying causes by supporting innovation processes that help to ease restrictive gender norms. In the period ahead, community revisits provide ripe opportunities for further learning as GENNOVATE's multidimensional baseline information can be used to enrich understanding of gender dimensions of innovation processes over time.

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