



RESEARCH
PROGRAM ON
Roots, Tubers
and Bananas

Roots, Tubers and Bananas: a gendered approach to food security, nutrition and income



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Why gender?

The CGIAR Research Program on Roots, Tubers and Bananas (RTB) works globally to harness the untapped potential of those crops to improve income, nutrition, food security, and climate change resilience of smallholders, particularly for women and youth. In many countries, RTB crops are strongly associated with women who produce and process them and yet the benefits derived from the crops are often not equitably distributed between women and men due to unequal rights over resources and access to land, markets, information, technology and more.

Innovations in RTB crops have tremendous impact on poverty reduction, improved food security and nutrition. Thus, addressing gender differences in roles, rights and responsibilities associated with RTB crops will enable communities, districts and nations to better address gender inequities, confront household poverty, and improve food security. For this to happen, we need a better understanding of gender differentiated technology preferences for RTB innovations, and how the use of gen-

der-responsive tools and approaches can guide technical teams to make informed decisions when designing new technologies or prioritizing intervention options.

How is gender addressed?

The RTB Gender Strategy¹ designed in Phase I, provided conceptual, implementation and monitoring guidance to ensure that gender was integrated into all aspects of research, development and uptake of new RTB technologies and practices. Building on this initial progress, the RTB Gender Research Agenda (2019-2021)² harvested important findings from the prior phase and targeted integrated research in key impact areas with earmarked funding.

In the RTB Gender Research Agenda (2019-2021), strategic gender research is being conducted to inform, guide

- 1 RTB gender strategy is available at <http://www.rtb.cgiar.org/publication/view/gender-strategy/>
- 2 RTB Gender Research Agenda 2019-2021 is available at <https://hdl.handle.net/10568/105699>

and integrate gender research across the program. Integrated gender research is based on interdisciplinary collaboration and helps to improve the design of gender responsive innovations through the collection, analysis and reporting of sex disaggregated data, and the use of tools and approaches to inform innovation design processes across the five RTB flagship projects. Key research areas include: (1) breeding; (2) seed systems; and (3) scaling of RTB innovations. A summary of the gender related publications in RTB can be found at:

<https://cgspace.cgiar.org/handle/10568/80100/browse?type=subject&value=GENDER>

What characterizes RTB's gender research?

- **Participatory processes** — to enable adequate, gendered diagnosis of end-users' needs, monitor the deployment of new technologies, and identify where project adjustments may be required to incorporate gender perspectives.
- **Knowledge drawn through partnerships** — to partner with women's networks, self-help groups and gender alliances that are oriented to gender equity and women's empowerment issues and promote gender-equitable approaches. We build alliances with other projects and programs advancing gender equality and strengthening the capacity of National Agricultural Research and Extension Systems on gender mainstreaming.
- **Focus on capacity development** — to harmonize, strengthen and improve the overall understanding of

concepts and processes of gender analysis and integration of gender-equity concerns in all areas of RTB.

- **Emphasis on appropriate collection and use of outcome and impact information** to create feedback loops into technology design processes with a gender dimension.

Highlights of Strategic Gender Research

The RTB gender team participated with gender researchers from different CG centers and CRPs to synthesize and publish findings from the global comparative research initiative, **GENNOVATE**. The study addressed questions on how gender norms and agency (i.e., the capacity of individuals to act independently) influence how men and women engage in agriculture and benefit from it. In a dedicated journal issue, this team submitted two papers that described the scale, structure and methodology of the study and three research papers that present findings on what influences men and women's capacities to innovate.³

Some of the findings from this strategic research highlight how women and men have different innovation pathways,⁴ may face different challenges, and have different needs in relation to innovation. Other findings highlight the implications of gender norms,⁵ roles⁶ and

3 <https://doi.org/10.19268/JGAFS.312018.3>

4 <https://doi.org/10.1108/IJGE-04-2019-0087>

5 <https://doi.org/10.1108/S1529-212620190000028004>

6 <https://doi.org/10.3390/su11164304>



practices⁷ for agricultural production, disease management and recovery. For example, while men are primarily responsible for implementing Single Diseased Stem Removal (SDSR) practices and gain higher access to information from learning groups compared to women, actual participation in learning groups increases the potential of women to implement specific practices of the SDSR package. This finding has important implications for the way technology dissemination and scaling strategies are designed. As this example shows, key findings from strategic gender research have been crucial to inform work on integrated gender research across prioritized areas, advancing toward gender equality in access to, use of, and benefits from RTB technologies.

Highlights on Integrated Gender Research

Breeding

Established as a collective space for collaboration and shared learning among breeders and social scientists, the **Gender and Breeding Initiative (GBI)**, coordinated by RTB, held a workshop in Nairobi in which experts from across the CGIAR's Research Centers and Research Programs developed a strategy for gender-responsive breeding. As a result, three working papers were published on: 1) gender and social targeting in plant breeding;⁸ 2) a framework to capture and respond to demand through breeding;⁹ and 3) case studies on gender in breeding.¹⁰ The information generated by these studies enabled the development of a "Decision Checklist for Gender-Responsive Breeding" as an overarching framework to enhance gender considerations in critical decision points across the breeding cycle. These studies also produced two specific tools called the "G+ tools for gender responsive breeding"¹¹ that offer an integrated and systematic evidence-based protocol for customer and product profile development as well as for the evidence-based prioritization of product profiles.

A strategic partnership was established with the CGIAR Excellence in Breeding Platform (**EiB**) for the inclusion of the gender-responsive tools in the EiB product profile development process. A grant from EiB is currently being implemented to pilot the G+ tools in breeding programs for beans and cassava, while RTB is supporting the implementation in breeding programs for banana and sweetpotato. Studies documenting gender differences related to product characteristics and cultivar preferences for different RTB crops are being used to inform breeding programs.¹²

Seed Systems

A review of research work published between 2013 and 2016 form the basis from which to draw lessons and identify gaps in mainstreaming gender in RTB crop and seed system interventions.¹³ Building on this analysis, the RTB gender team worked closely with seed system scientists to incorporate a gender lens to the seed systems' toolbox. Of particular relevance is the mainstreaming of gender in RTB crop and seed systems interventions¹⁴ that



was used for a broader analysis of seed systems across the CG (forthcoming).

With regard to seed systems, three studies deserve special note: 1) a comparative analysis of different banana seed systems in Uganda;¹⁵ 2) gender in culturally-embedded practices of managing banana diversity and planting material in Uganda;¹⁶ and 3) experiences of gender-responsive participatory varietal selection for sustainable potato seed systems in India.¹⁷ These studies are currently informing seed system interventions in specific crop areas across Africa and Asia. However, a detailed internal analysis reveals the need to further advance the adjustment of seed systems tools and to pilot their operation to ensure they effectively contribute to equitable research and development outcomes.

Scaling of innovations

Many RTB innovations have been developed across different technical areas to promote equitable scaling, analytical approaches and tools for gender analysis, and gender-responsive innovations.

7 <https://doi.org/10.1177/0030727019831704>

8 <https://hdl.handle.net/10568/91276>

9 <https://hdl.handle.net/10568/91275>

10 <https://hdl.handle.net/10568/92819>

11 <https://hdl.handle.net/10568/101473>

12 <https://doi.org/10.4160/23096586RTBWP20193>

13 <http://hdl.handle.net/10568/89806>

14 <https://hdl.handle.net/10568/89806>

15 <https://doi.org/10.4160/23096586RTBWP20194>

16 <https://doi.org/10.1080/15427528.2019.1610822>

17 <https://doi.org/10.4160/9789290605270>



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To strengthen **Integrated Pest Management (IPM)** research and dissemination strategies, integrated gender research was conducted with specific emphasis on Banana *Xanthomonas* Wilt (BXW) and Banana Bunchy Top Disease (BBTD). Gender norms and roles in disease management were analyzed to understand disease spread in relation to the use of different practices and technologies by men and women. Findings from different RTB crops have shown that understanding the determinants of decision-making in crop management can lead to better design of interventions to improve efficiency in smallholder agriculture.¹⁸ In banana production systems, for example, interventions need to support collective action and intra-group exchange of information about IPM practices to have gender transformative effects while also contributing to sustainable management.

Drawing on a number of different cases in Asia and sub-Saharan Africa, findings show how a gender perspective can broaden aspects of agronomy research and contribute to improving crop production and scaling up of existing technologies and practices.¹⁹ Material developed by the studies will be used for training extension workers and further elaborated to support new initiatives.

Inclusive value chain development. The rich experience of gender analysis and final outcomes of Farmer Business Schools (FBS) were documented through qualitative research in India²⁰ and the Philippines.²¹ These studies show that men and women play different roles, draw different lessons from, and have different experiences in FBS. For women, the greatest benefits were the skills acquired in business planning, developing brand names, logos, processing, packing, and, especially, negotiation with potential sellers. In Africa, the effects of commercializing sweetpotato on gender relations and farmers' well-being were assessed²² and recommenda-

tions were formulated to build commercial partnerships for orange-fleshed sweetpotato processing²³ and gender-equitable sweetpotato value chains.²⁴ The lessons learned and strategies adopted will be useful for designing future gender-intentional value chain development interventions.

The influence of gender on participation in cassava value chains²⁵ and women's empowerment in traditional food value chains were studied in Tanzania,²⁶ while in Nigeria, researchers examined gender-based constraints that influence cassava production, processing and marketing.²⁷ Results indicated that any intervention in the cassava value chain should consider gender relations to effectively benefit both men *and* women and alleviate household poverty.

Science of scaling. The first studies conducted by RTB that analyzed gender-responsive scaling of sweetpotato multiplication technologies found that gender-blind scaling of technology may exclude women,²⁸ thus undermining adoption and negatively impacting gender relations in some cases.²⁹ These findings prompted the development of a new intervention to engage directly with tools and methods for scaling innovations to mainstream gender in their design and operation.

Key challenges and opportunities

RTB's approach to gender builds on existing integrated and strategic gender research by taking a more systematic approach to strengthen the capacity of in-house scientists, researchers, stakeholders and partners in this area. Both the approach used by RTB and the specific key areas prioritized have strong potential to contribute to the One CGIAR design process. Topics such as scaling, breeding and seed systems will be part of the One CG agenda and need to include a gender dimension to ensure equitable research and development outcomes. Emergency shocks and trends like the ones created by the COVID-19 pandemic are likely to have stronger effects on women and more vulnerable populations. As a response to this emerging topic, a working group on COVID-19 has been established to analyze, through a gender lens, the effects of the pandemic on food systems.

18 <https://doi.org/10.3390/su11164304>

19 <https://doi.org/10.3389/fagro.2020.00007>

20 <https://hdl.handle.net/10568/101577>

21 <https://hdl.handle.net/10568/105439>

22 <https://doi.org/10.4160/9789290605096>

23 <https://doi.org/10.4160/9789290605102>

24 <https://doi.org/10.4160/9789290605102>

25 <https://doi.org/10.1017/S0014479717000552>

26 <https://doi.org/10.1080/21683565.2017.1325433>

27 <https://doi.org/10.1016/j.pmpp.2018.11.007>

28 <https://doi.org/10.1080/0966369X.2017.1383363>

29 <https://doi.org/10.1016/j.njas.2018.05.003>

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