

Chapter 10

Feminist Research in Agriculture: Moving Beyond Gender-Transformative Approaches



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Abstract Feminist research approaches in agriculture are considerably underutilized. In this chapter, we suggest a few key reasons to help explain their lack of use in agriculture. We also provide background on what constitutes feminist research in agriculture through a review of the literature. Using a case study approach, we highlight the important and unique characteristics that define feminist research approaches in agriculture. The case studies provide examples of how researchers working in agriculture can gradually adopt key feminist research principles. We argue that to transform agrifood systems to be more inclusive, equitable, and sustainable, feminist approaches must be used in all research in agriculture. The chapter concludes by discussing what is needed to increase the use of feminist research approaches in agriculture, recognizing that resistance to change is inevitable and requires commitment at the top to spearhead efforts to institutionalize feminist approaches within agricultural research organizations.

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10.1 Introduction

An equitable and sustainable transformation of agrifood systems must embody the use of feminist approaches (Park et al. 2021). Farhall and Rickards (2021, pp. 1–2) argue that the use of feminist approaches entails tackling “forms of power and privilege within agricultural production and supply chains to include more diverse human voices and address structural issues ... [which is critical] because un-nuanced gendered approaches to development can exacerbate inequalities, re-entrench forms of difference, or marginalize women in new ways.” While gender is clearly on the agriculture for development agenda, now more so than ever, feminist approaches in agricultural research remain significantly underutilized (Farhall and Rickards 2021).

Several reasons help explain the lack of use of feminist approaches in mainstream agricultural research. First are the epistemological and methodological differences between and within organizations that carry out gender-related or women-focused research in agriculture (see Feldman 2018) and their staff capacities to adopt and implement feminist approaches (Travis et al. 2021). For example, the Australia-based International Women’s Development Agency (IWDA 2017) has a feminist research framework for use by its staff, which includes an approval process that staff must follow as they design and implement their research, analyze data, and communicate their findings for action. In contrast, some research and development organizations have gender strategies that guide, rather than mandate, researchers and practitioners on how to carry out sex-disaggregated analyses and integrate gender perspectives in their work.¹ Far fewer organizations carry out strategic gender research that prioritizes gender topics in agriculture. In recent years there has been a move away from research questions across different scientific disciplines that assume only men are farmers, agricultural managers, or decision-makers, as well as conclusions drawn from male-only samples while claiming universal or generalizable application (Feldman 2018), however research capacities within organizations to use feminist approaches are still low.

Second, there is a propensity for most agricultural research organizations to focus on short-term outcomes associated with their work, for example, when researchers from a given organization work with women to increase their access to and uptake of improved crop varieties for enhanced productivity and profitability. These outcomes are often achieved using a gender-responsive approach that develops innovations for women and men based on their practical gender needs rather than by setting up research processes to understand strategic gender needs and address the power differentials at household and other institutional levels that

¹ See the following examples for different gender strategies that support agricultural research and development: <https://gender.cgiar.org/about-us/gender-strategies>; https://www.jica.go.jp/english/our_work/thematic_issues/gender/c8h0vm000f3jmj6-att/gender_mainstreaming_07.pdf; and https://www.fhi360.org/sites/default/files/media/documents/FHI%20360_Gender%20Integration%20Framework_3.8%20%2528no%20photos%2529.pdf

exclude or subordinate women in agriculture and the broader society (Njuki et al. 2022). As such, women become targeted by researchers and practitioners as a means to increase economic, food and nutrition security (see Elias et al. 2021). The use of an instrumental approach to agricultural development, according to feminist scholars, is far more common than the use of an intrinsic approach that promotes gender equality as a goal in and of itself (see Cole et al. 2015; Farhall and Rickards 2021). The former approach, which focuses on individual capacity-building, can divert the focus away from addressing the causes of gender inequalities through collective mobilization (Farhall and Rickards 2021).

Third, there is a general resistance within the agriculture sector (but also within other sectors) to embrace gender equality or gender-aware approaches, let alone feminist principles, including when carrying out research and development work (EIGE 2016; Rao 2005; Kabeer 2007, 2016). The resistance towards feminism grows when it is viewed as gaining too much power or when feminists become successful at challenging patriarchal structures (Ikävalko and Kantola 2017). Individual and collective movements against patriarchy and the structures that maintain harmful practices within institutions are often challenged and can result in the creation of new counter movements that put hard-won rights at risk² (Shameem 2021). Resistance to feminism can (and often does) take the form of silence in response to practices that create and perpetuate gender inequalities (Ikävalko and Kantola 2017).

This chapter highlights the important and unique characteristics that define feminist research approaches in agriculture, by presenting four purposively-selected case studies. The case studies provide examples of how researchers working in agriculture can gradually adopt key feminist research principles. While conducting feminist research in agriculture is challenging and requires significant commitment to people and place, we argue that to transform agrifood systems to be more inclusive, equitable, and sustainable, feminist approaches must be used in all research in agriculture.

The authors of this chapter all consider themselves feminists who use feminist principles in the research they conduct in agricultural contexts, with a strong desire to bring about transformative change from the work we do. Case study authors are women and men from diverse countries in the Americas, Africa, and Asia, with varied educational backgrounds, and development and research experiences working on gender issues within their organizations. The authors acknowledge here that such experiences and training in equally diverse theoretical perspectives shaped how we framed the four case studies.

² We acknowledge the valuable contribution of an anonymous reviewer of the book chapter who raised this point.

10.2 What Is Feminist Research in Agriculture?

Feminist values must underpin all aspects of research efforts to contribute meaningfully to women's rights and the achievement of gender equality (Jenkins et al. 2019) as well as to transform agrifood systems (Park et al. 2021). Accordingly, there are several frameworks or lists of principles to mandate or guide the design and implementation of feminist research. The framework developed by the IWDA (2017) is useful for an understanding of the mandatory components of doing rigorous feminist research, highlighting four key components: (1) building feminist knowledge of women's lives, (2) accountability for how research is conducted, (3) commitment to ethical collaboration, and (4) having a transformative impact on the causes of gender inequality. We use this framework to help structure the literature reviewed in this section on what constitutes feminist research in agriculture and also the case studies we present in the next section.

Feminist research differs from gender research in that it aims to examine the diversity of women's experiences and how gender norms and power relations create inequalities between women and men (IWDA 2017; Kiguwa 2019). Podems (2010) argues that feminist research examines why gender differences exist and challenges women's subordinate position while acknowledging the multiple variations between women that shape their experiences with oppression in different ways (see also Jenkins et al. 2019). Others stress that examining the impact of intersectionality (versus intersecting identities) on women's lives is a salient feature of doing good feminist research (IWDA 2017; Mullinax et al. 2018; Kiguwa 2019) and requires that researchers consider how systems of inequality based on sex and gender identity, ethnicity, skin color, age, sexual orientation, geographic location, colonial history, among many other forms of discrimination and oppression, intersect to create unique experiences, dynamics, and outcomes.³ According to Kiguwa (2019, p. 227), intersectionality is "a core political tool of feminism" and the scholarship on intersectionality is quite diverse.

Feminist research prioritizes ethical approaches by adopting the precautionary principle of "do no harm" (IWDA 2017; Mullinax et al. 2018), which requires that the research does not create any additional risk due to people's involvement in the research. While the notion of a universal feminist research ethics is unreasonable given a multitude of feminisms and the use of different methods by feminist researchers (Kingston 2020; Kiguwa 2019), key ethical standards would include, for example, ensuring confidentiality and safety, informed consent, and respect for all research participants and research team members.

Feminist researchers in agriculture use diverse methods to examine power relations and patriarchy and the impacts they have on creating and perpetuating gender inequalities. By using multiple methods, feminist researchers can understand and present diverse worldviews of women in different ways (Kiguwa 2019). Tickamyer (2020) notes that using a feminist research approach does not necessarily mean only

³<https://www.intersectionaljustice.org/what-is-intersectionality>

using qualitative research methods, but rather using both qualitative and quantitative tools (see Jenkins et al. 2019) to address the research and societal problems, while also taking into consideration the research setting. Kiguwa (2019) notes, however, that past writings on this topic suggest that the values of quantitative tools and methods are, in themselves, problematic for failing to make sense of the social world and lived realities of many women.

Historically, feminist researchers use participatory research methods that aim to identify discriminatory norms and unequal power relations and determine suitable actions to address these underlying causes of gender inequalities (IWDA 2017; Jenkins et al. 2019; Njuki et al. 2022). A key characteristic of participatory feminist research is the iterative, circular, flexible, and dynamic nature, which assists in disentangling social and gender inequalities and empowering those who have been silenced (Mullinax et al. 2018). Participatory approaches cultivated by feminist scholars often emphasize critical reflexivity, the inclusion of disenfranchised voices, and dialogical problem-solving. As such, the researcher is not regarded as an objective expert, but rather aims to set up each stage of the research process to encourage the active participation of women, develop their capacities, and enable them to feel empowered by the process. Feminist research embodies the notion that the research being conducted is “for and with women” rather than conducting research “on women” (IWDA 2017, p. 15; see also Leung et al. 2019).

Feminist researchers pay particular attention to the fact that they enter the research process with a set of values that must be questioned throughout as it influences how the research is conducted, interpreted, and communicated (IWDA 2017; Jenkins et al. 2019). Feminist research explicitly recognizes the power dynamics involved when conducting research with women, and therefore, demands that researchers remain cognizant and reflexive about these dynamics of the research relationship throughout the research. Researchers must think critically about their relationships with the social world and their understandings of their experiences (Webster et al. 2014). Being reflexive encourages researchers to be honest with themselves about their motivations for participating in a particular research project as well as about their positionality when engaging in research (Manning 2018). This is particularly relevant in the context of research that examines multiple axes of difference. Critical research examines power relationships, explores the complexities of positionality and representation, and questions the researcher’s position as (re) presenter of the participants (Ozkazanc-Pan 2012). Researchers must go beyond noting personal beliefs and assumptions and how they affect interactions with people.

Feminist research aims to move our understanding of women’s lives in new directions by researching neglected issues, and in particular, the root causes and consequences of gender inequality, and ensuring the research is action-oriented, so that discriminatory norms and unequal power relations are transformed for greater gender equality (IWDA 2017; Kiguwa 2019). Prior work to empower women has often failed because of little or no regard for “the intersectionality of discrimination against women” and “the deeply ingrained nature of gender inequality at a structural and political level” (Mullinax et al. 2018, p. 4). Feminist research can help bring about transformative change at multiple systemic levels, from the individual to the

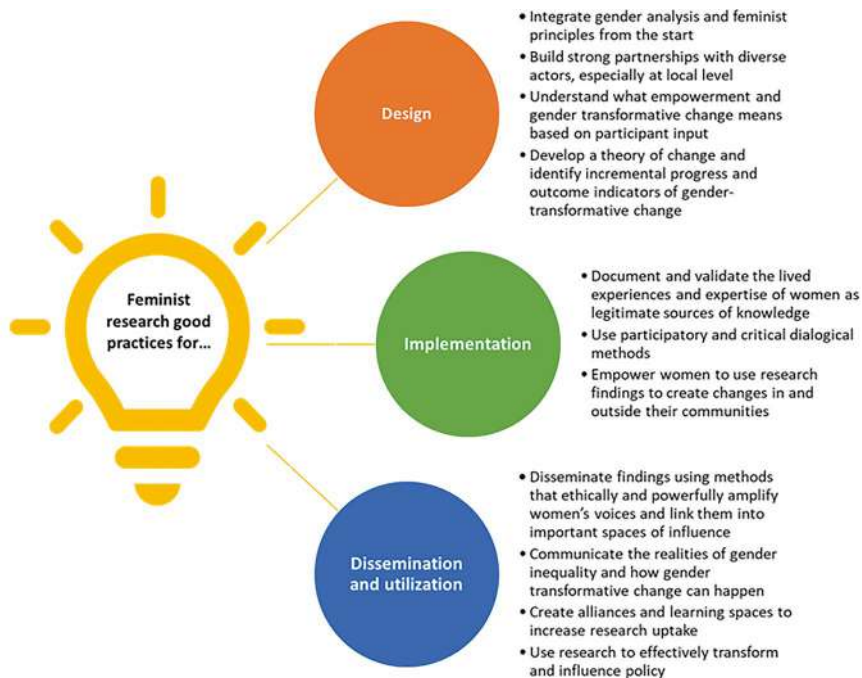


Fig. 10.1 Good practices for effective feminist research

organizational up to the societal level, and within movements and through partnerships, and in how research and knowledge is produced (IWDA 2017). Moreover, feminist research aims to inform the design and promotion of responsible technologies and influence policy, practice, and programming to help create an enabling environment for gender-transformative change (Cadesky 2020).

Based on these principles, Mullinax et al. (2018, p. 6) have summarized the good practices for effective feminist research design, implementation, and dissemination and use (Fig. 10.1). Many of these good practices are highlighted in the case studies presented in the next section.

10.3 Good Practice Case Studies Using Feminist Research Approaches in Agriculture

Four case studies are presented in this section to showcase how feminist research approaches can be used in agricultural research. Researchers were selected to develop their case studies based on prior knowledge that their agricultural research embodied some of the key feminist research principles detailed in the section above. The lead authors of this chapter asked researchers to respond to a prompt, or a series

of guiding questions, that forms the structure of each case study from the perspectives of those who carried out the research. The lead authors also developed a case study to pilot the prompt before sharing it with others.

The guiding questions included in the prompt (see Appendix) were developed after reviewing the literature on what constitutes a feminist research approach. The overall structure of the prompt was informed by the four component parts of the IWDA (2017) framework on doing rigorous feminist research. The other literature reviewed helped us to include specific guiding questions under each of the four component parts of the prompt. While unintended when designing the prompt, it is now apparent that the guiding questions in Appendix are useful in helping other researchers to design, implement, and monitor and evaluate their feminist research in agriculture.

10.3.1 Case 1: Gender-Transformative Research in the Barotse Floodplain of Western Province, Zambia

Steven Cole and Surendran Rajaratnam

We carried out gender-transformative research (Cole et al. 2014a) from 2013 to 2018 in the Barotse Floodplain of Western Province, Zambia. The research was part of a larger CGIAR Research Program on Aquatic Agricultural Systems (CRP AAS) and was informed by feminist research principles (see Kantor and Apgar 2013; Kantor 2013). Commitment to people and place was a mainstay throughout the research. While the research used mixed methods in a range of smaller research initiatives on different topics, participatory action research (PAR) cut across this work to ensure that it helped address the challenges faced by women and men who depend on the floodplain for livelihood security.

The research began with an understanding of the lived experiences of women and men living in 10 large communities in the Barotse Floodplain. The researchers carried out a mixed-methods social and gender analysis, with a strong focus on understanding the norms and power relations that create gender inequalities in the floodplain, from the perspectives of women and men who shaped and were shaped by such inequality. A wide range of science and communication outputs were developed during this initial phase of the research (see Cole et al. 2015; Rajaratnam et al. 2015, 2016; Dierksmeier et al. 2015) that later helped design several interventions that aimed to tackle the root causes of gender inequalities in the floodplain.

The gender-transformative research worked with women and men in the floodplain to understand how unequal power relations created advantages for some and disadvantages for others, while also creating sub-optimal development outcomes at household, community, and higher levels. The research used different qualitative tools to understand how certain norms and practices have changed or remained constant over time (Dierksmeier et al. 2015; Rajaratnam et al. 2015). Such perspectives can enable women and men to see that norms and attitudes are mutable over

time, and thus, transformative change is possible when women and men work together to achieve positive development outcomes.

While the research primarily included rural and resource-poor women and men, it captured a range of different socio-demographic and economic characteristics of research participants to include the experiences of diverse sub-groups of women and men. The researchers used an intersectional lens to understand and depict (via a well-being ladder) how multiple axes of identities intersect and interact to impact on women's and men's lives (see Rajaratnam et al. 2015, pp. 34–40). The research listened to women and men from different backgrounds from many communities throughout the floodplain.

The researchers studied both women/femininities and men/masculinities throughout the five years of research in the Barotse Floodplain. The work on rural masculinities and their impacts on disadvantages for women and other household members (Cole et al. 2015) helped to develop gender-transformative interventions to tackle restrictive norms and power relations.

The research was based on a gender-transformative theory of change (Cole et al. 2014a, b) to assess how gender-transformative change occurs, including initial changes (McDougall et al. 2015) and across different social change interventions. The researchers assessed the changes in women's empowerment outcomes and gender equal attitudes within a post-harvest fish loss intervention (Cole et al. 2018; Cole et al. 2020) and decision-making powers within a savings group intervention (Cole et al. 2021).

Over the five years, the project designed and implemented the research with various social and biophysical scientists, extension officers, value chain actors, and community members. While all publications included research team members with various educational backgrounds, e.g., from WorldFish, Department of Fisheries (national, regional, and district levels), and University of Zambia, the researchers failed to bring research participants onboard as co-authors, yet did acknowledge their contributions throughout the research.

The research understood the restrictive norms and power relations that create gender inequalities in the floodplain and set up iterative cycles of critical reflection, action planning, doing, and learning. By design, the research did not exploit or accommodate existing norms that restrict women from engaging in and benefiting from fishery-related activities. For example, solutions to the challenges women and men faced adhering to discriminatory norms came from the research participants themselves and not the outside researchers. While this cannot ensure that research keeps all participants from additional harm throughout the research process, it did ensure that those involved in the research were willing to try new ways of thinking and being that did not spark backlash or negative outcomes.

The PAR that utilized many feminist research principles was used during different stages of the research and across its topics over the five years. For example, the action research on post-harvest fish losses first understood how fish loss and waste in the floodplain was gendered, and subsequently set up a participatory process to select and modify improved processing technologies to fit women's needs and preferences. The researchers also implemented a social change intervention using drama

skits and critical reflection and action planning sessions on the restrictive norms and power relations that create fish loss and waste, among other issues. The researchers set up a monitoring and evaluation system to determine what changes in gender relations were happening and how (Cole et al. 2020, 2021).

Research findings throughout the five-years were disseminated and validated using strategies that ranged from feedback from research participants after trying out actions that were formulated during action planning at group level (Cole et al. 2018, 2020, 2021) to validation of the baseline and benchmarking data (Rajaratnam et al. 2015) to large stakeholder meetings to determine additional ways of supporting inclusive and sustainable value chain development (Kaminski and Cole 2018). Traditional ways of disseminating research findings were also used, including in the publications cited in this case study and at end-of-project stakeholder workshops.

During the five years, the research created alliances and learning spaces within Zambia and elsewhere to increase research use. This body of research has created the evidence that the use of a gender-transformative approach, informed by feminist research principles, can work and helps facilitate the empowerment of women and men, while bringing out additional positive development outcomes. For more information see Wong et al. (2019), McDougall et al. (2021), and the ongoing European Union-Rome Based Agencies Joint Programme on Gender-Transformative Approaches for Food Security, Improved Nutrition and Sustainable Agriculture (see FAO 2022).

The research used a two-fold approach to convince audiences of the realities of gender inequality and to communicate how gender-transformative change can happen: (1) PAR with stakeholders working at community, district, regional, national and international levels; and (2) traditional science and communication outputs. While changing formal policies were not an explicit focus of the research, policy and decision makers within organizations operating at different scales were engaged with the research at different times. And although uncompleted due to funding constraints, the researchers carried out an institutional analysis to understand how organizing committees at the district level can be part of the transformative change process (Kato-Wallace et al. 2016).

The research team was reflexive and introspective at all stages of the five-year research. A range of workshops and meetings were held to critically reflect on and plan the research. Gender-transformative theory of change workshops were incredibly useful in this regard, especially when identifying how institutional change must happen before or while implementing transformative change outside one's institution. During capacity-development workshops on how to implement gender-transformative approaches, the gender equal attitudes of workshop participants were assessed to determine whether they were changing. At another workshop, the researchers set up interesting role plays that helped question the mindsets of different research team members. Gender research capacities were also developed during the five years to enable research team members to carry out gender research in the future.

During various stages of the research, the team interrogated the power dynamics associated with the research relationship either using PAR with team members and

research participants or during research planning meetings when all team members were given the chance to input and shape the direction of the research and its outputs.

The research intervened primarily at individual, household, and community levels, with further engagement at the organizational level (e.g., through gender capacity development and institutional change efforts). Change occurred at the individual and relational levels, as evidenced by the monitoring and evaluation and via publications. Team members learned how to do gender-transformative research with multiple stakeholders and working in a complex socio-ecological system, which continued to yield results as team members tried to facilitate gender-transformative change in agriculture at scale.

While the researchers embraced an intersectional lens during the research, not all analyses and write ups showcased the intersectional approach used. They acknowledged that at times they wished to disaggregate their analysis further according to ethnic group or age, but this proved challenging with the quantitative data given the small sample sizes at these disaggregated levels. A focus on youth was also limited during the research.

10.3.2 Case 2: The Women in Agriculture Network: The Role of the Horticulture Value Chain in Empowering Women and Indigenous Populations in Honduras' Dry Corridor

Janelle Larson, Paige Castellanos, Leif Jensen, Carolyn Sachs, Arie Sanders, Alfredo Reyes, and Hazel Velasco

The Women in Agriculture Network (WAgN) research project in Honduras was a five-year collaborative effort between The Pennsylvania State University (Penn State) and Zamorano University. The research project was part of the USAID Feed the Future Innovation Lab for Horticulture at the University of California, Davis (UC Davis). The project explored whether the horticulture value chains could be a mechanism for empowering women and indigenous populations in Honduras' Dry Corridor region. From 2015–2019 the project studied the most critical barriers to successfully including women in horticulture value chains. The WAgN-Honduras team implemented mixed feminist research methods to investigate whether small-holder women farmers' participation in the horticulture value chains could positively impact their food security and access to extension services. The project employed in-depth interviews, focus group discussions, surveys, social network analysis, and participatory extension methods using a gender-transformative design. See references in Larson et al. (2019) and Sanders (2021).

We began the research by identifying key stakeholders in the Honduran Dry Corridor region and establishing positive working relationships with them. Stakeholders in the project included public and private agricultural development institutions, NGOs, farmers, and women's associations. Through stakeholder

engagement, the research team gained a rich understanding of gendered roles, division of labor, and inequalities in the region. Key findings of the research included:

- Despite multiple attempts to involve women in the agricultural value chain, efforts typically entailed using a top-down approach and focused primarily on the economic aspects of women's empowerment.
- Despite having a women's inclusion policy, most existing farmer's associations were dominated by men. Often, women were included to fulfill the requirements of donors and obtain funding. As a result, women were underrepresented in group membership and had limited access to its benefits, such as training.
- Women's organizations were more likely to prioritize non-commercial crops, indigenous knowledge and culture, and food sovereignty.

Based on the initial results, the WAgN-Honduras team included gender-transformative elements in the design and implementation of two farmer field schools (FFS). Due to the male bias of most farmers' associations in the region, the team implemented the two FFS with an indigenous women's association to ensure that women were meaningfully included. In the rest of this case study, we describe our experience with transformative FFS to provide a detailed example of our feminist research approach.

To assess transformative change, the team conducted ex-ante and ex-post semi-structured interviews and surveys. Participants were asked questions about their aspirations to produce high-value vegetable crops, their views on gender equality, and their expectations and reflections on the experience.

Two FFS were implemented with smallholder female and male farmers living in the rural region of Intibucá, Honduras. In the results of the initial data collection of the research project, the team identified a gender gap in access to agricultural assets and information. Thus, the purpose of the FFS was to explore suitability of the farmer field school to facilitate women's human capital formation and access to assets.

The FFS approach has traditionally focused on the diffusion of knowledge-intensive integrated agricultural practices (Godtland et al. 2004). More recently, it has also been used to promote community-level discussions related to gender, nutrition, empowerment, and gender-based violence (Davis et al. 2012). Despite differing findings regarding the impact of FFS on participants, research has confirmed that intersectional factors such as gender, race, class, and education can have meaningful implications for the program's outcomes (Choudhury and Castellanos 2020). Thus, the primary objective of the FFS was to address the gender gap in agricultural knowledge by implementing participatory extension. Implementing the FFS was an attempt to mitigate the burden of participation for frequently underserved groups—indigenous women—by incorporating a gender-transformative framework into the design, implementation, and evaluation.

The FFS was designed and carried out as a tripartite collaboration between: (1) The WAgN-Honduras team, consisted of Penn State and Zamorano faculty and two research assistants from different disciplines. The team was responsible for the

oversight of the FFS curriculum, gender-responsive framework implementation, data collection, and evaluation of the FFS method. The WAgN-Honduras team provided expertise in participatory research, gender, and agriculture, and already had a long-term relationship with the partner association; (2) Zamorano's Horticulture Innovation Lab team was responsible for implementing the agricultural section of the FFS curriculum. The Horticulture Innovation team had previous experience in FFS with smallholders in Honduras' Dry Corridor; and (3) the *Asociación de Mujeres Intibucanas Renovadas* (Association of Renewed Women of Intibucá—AMIR) staff who identified the research participants and provided feedback during the whole process to adapt the curriculum and feminist framework to the association's interests.

The FFS were developed in two different communities in the department of Intibucá, Honduras. Intibucá is in the Honduran Dry Corridor and has some of the highest rates of poverty and food insecurity in Honduras. The communities and the participants were selected with the support of the partner indigenous women's association, AMIR. Interested participants were selected based on the following criteria: they should be (a) smallholder farmers, (b) at least 18 years of age, and (c) a member of AMIR. Two groups of 25–35 people each were formed with the association's assistance. One FFS group consisted of women only ($n = 34$) and the second group was mixed (20 women and seven men). AMIR also requested that each group include participants from different nearby communities to increase cross-community partnerships. The final sample consisted primarily of indigenous Lenca women, and some Lenca men, and the sample captured a range of ages, family composition, economic characteristics, and levels of education. Our results were compared and contrasted based on participants' socio-demographic profiles, allowing us to conduct an intersectional analysis. In a feminist critical approach, all experience is considered intersectional, so there is no universal, homogenous experience of gender, race, class, or sexual orientation (Allen 2022).

The project was focused on studying indigenous rural women's realities and barriers to participate in agriculture. We also studied gender dynamics and how these women performed gendered tasks. We examined the women's expectations and how these are constructed vis-à-vis their male counterparts. By looking at gender dynamics inside and outside the household and smallholders' associations and society overall, the research team was able to identify and discuss with research participants how these divisions impacted the access and wellbeing of individuals from an intersectional lens. For example, during one of the discussions during the FFS the team explored how the construction of gender roles was intertwined with other aspects such as age, marital status, land ownership and its repercussions for different individuals to access resources and pursue interests.

The research was based on a theory of change. It hypothesized that by increasing agricultural knowledge and reducing women's burdens to participate in agricultural extension programs, women's productive agency would increase, thus improving food security and overall wellbeing for their families. By examining participants' perceptions of the benefits and drawbacks of gender-transformative-participatory

projects, this research helped to identify specific methodological or logistical limitations that may cause gaps between the project's aims, its immediate results, and its lasting effects on agrarian societies in the Global South.

The analysis of the data was conducted by the WAgN-Honduras team with constant feedback from the women's association. Some leaders from the women's association have participated as co-authors during oral presentations of the research results. This study was approved by the Internal Review Board (IRB) of Penn State University (STUDY00008275 and STUDY00017215). Informed consent was obtained through a verbal consent process before the start of the interviews, focus group discussions, and FFS sessions. To ensure transparency during the process and participants' comfort, all activities were conducted in Spanish.

During research activities, transportation costs were covered for the participants and childcare was provided at each meeting, as well as a nutritious meal for the participants and their families. In addition, with the help of the participants and the partner associations, the days and times for the research activities were established to improve participants' attendance. In developing logistics, the partner association played an essential role. In doing so, they helped determine what was less burdensome and what might be seen as a more compelling incentive for people to participate in the research. This included wages paid to cooks and nannies, as well as what kind of food and how much to provide.

Research findings were disseminated and validated in an iterative process, including with FFS participants and women's association leaders. The research design included multiple methods to ensure the robustness of the data such as pre- and post- semi structured interviews with participants, focus group discussions, observations, and short- and long-term follow-ups. The results were presented and discussed in multiple occasions during these visits with the participants, the women's association, and local and regional organizations working with smallholder farmers, as well as with other stakeholders. Results have been presented in academic conferences in Central America, the United States of America (USA), and Australia, and manuscripts are being prepared to publish the experience in peer-reviewed journals in English and Spanish.

The FFS were developed in alliance with scholars, agricultural extensionists, and an indigenous women's association (AMIR). One of the goals of this research project was to design and pilot a gender-transformative FFS that could be used as a model by development organizations in the region and beyond. So far, the women's association has been able to secure funding from three other international development organizations to conduct an adjusted version of the FFS that was part of this project. AMIR used their expertise gained in the design, evaluation and results of this project to adjust the FFS method and continue working on securing smallholders' access to knowledge and strengthen their communities and organization.

To convince audiences of gender inequality and explain how gender-transformative change can be achieved, the team used participatory research involving stakeholders at the community, regional, public and private levels, and traditional academic approaches.

By using FFS, and PAR, the researcher becomes a facilitator rather than an expert and an activist rather than an independent neutral scholar. At each step of the research, the WAgN-Honduras team held meetings with stakeholders and partners to ensure the research remained relevant to their interests, mainly centered on the needs and realities of women participants.

Feminist research approaches call on us to center power relationships during the whole research process. A key aspect of our ability to carry out the research was the care and effort we invested in developing rapport with stakeholders. The team tried as much as possible to design and adapt the research agenda with the goals of social equality, so the research could be of direct use to these stakeholders. Their expertise and knowledge of the region and smallholders' realities was constantly key in shaping the focus of the research as well as for refining the research methods and working directly with research participants.

In general, the team believes the research had a positive, transformative impact at the individual and organizational level. In a post-evaluation, all participants mentioned that learning more about the methods and techniques of agricultural production was extremely rewarding. Several farmers emphasized the importance of learning, even when the topics were not new to them. Most explained that it was positive to have a collaborative space with other farmers and facilitators to reaffirm what they have learned empirically on their own and to ask questions and listen to different ways of farming.

Participants appreciated the opportunity to socialize with others in their community and with people from nearby villages, with whom they did not often have the chance to interact. This gave them the opportunity to coordinate other social activities within the community and association. The status they gained at the community level led to them being asked for advice. They also mentioned the relationships built during the FFS helped them to connect with others outside their communities. Other participants mentioned they started trading seeds among each other, and some even set up communal school gardens.

There were several limitations beyond the scope of this case study, but they are worth considering in the design of future feminist-oriented research and extension projects. First, the oversampling of women provided rich data about women's particular experiences but limited information about men's experiences. Second, it was not possible to determine how or if the gender and nutrition-related discussions during the FFS sparked other conversations in the household or community. In describing examples during the evaluations, participants referred more to the women's association's ongoing efforts to create more equitable communities for women than to the FFS per se. In addition, lack of time and resources limited the research team's ability to capture farmers' experiences in-depth and continuously throughout the sessions.

10.3.3 Case 3: Climate Vulnerabilities and Resilience of Marginalized Groups in Bihar, India

Deepa Joshi, Sahara Basnet, Meera Bisht, Meghajit Sharma Shijagurumayum, Mayank Jain, and Prabhat Kumar

Climate impacts amplify agrarian distress in Bihar, India, which has been historically shaped by deep-rooted, social, economic, and political challenges. The Doing Science with Society (DSWS) project was funded by the CGIAR GENDER Impact Platform and was carried out by the International Water Management Institute (IWMI) in collaboration with two implementation partners, SumArth and Cynefin Co. The project aimed to understand climate vulnerabilities and resilience of marginalized groups, particularly women, in the Gaya district of Bihar. The focus was to unpack the multidimensional nature of inequality, and to understand how climate challenges shape and reinforce gendered vulnerabilities in agriculture. The project also focused on unpacking deep-rooted values and biases in institutions engaged in planning, designing, and implementing agricultural interventions.

The main implementation partner in Gaya was SumArth, a farmer-producer collective of over 13,000 farmers (60% women) working in seven Bihar districts to achieve reliable, profitable agriculture. Over 2000 SumArth members are landless, socially marginalized, and resource-poor, some of the estimated 374 million multidimensionally poor people in India, who lie outside the focus of macro-level policy interventions. Many in this group engage in peripheral agrarian practices in the informal sector and often rely on solidarity and reciprocity as key survival strategies.

In this research, we applied a transdisciplinary, ethnographic, digital tool called SenseMaker, which allows combining data analytics with personal, unique human stories and experiences. Case study data (597 stories) were collected from farmer end-users (382 women and 215 men) and 80 institutional stakeholders (51 women and 29 men). Individual and focus group discussions were also conducted with many of the same stakeholders.

Informed by a feminist political ecology lens, our focus in this research was:

1. Collating individual, embodied gendered experiences of coping with climate vulnerabilities.
2. Enabling institutional actors to reflect on how gender norms and power bias and shape climate interventions.
3. Bringing together end-users and stakeholders to collaboratively make sense of any mismatch between ground realities and institutional interventions and exploring the possibilities of bringing together experiential and expert knowledge to inform more inclusive, gender-transformative climate solutions.

A key stereotype we addressed in the research project was the simplistic manner in which gender-climate vulnerabilities are understood. Through early interviews, we identified caste, poverty, and gender as key variables that determine gender-power disparities. Our data show that women are not a homogeneous group, and are not all

equally vulnerable to climate impacts. These same variables also shape the structure and culture of institutions and in turn, climate interventions. We noted challenges to participation and representation of marginalized groups and individuals at community levels and in relevant institutions, and how a lack of attention to these issues are reiterated in essentialist narratives on women, creating key barriers to transformative change.

The Significance of a Feminist Political Ecology Lens in Analyzing Intersectional Inequalities and Power Dynamics in Climate-Food Systems Innovations

In our research, we adopted a feminist political ecology lens to analyze the historical basis of power and its production and reproduction within institutions. As we note, the combined effects of gender-caste-poverty among respondents is an outcome of a historical and structural inequality rooted in feudal, caste-based control of resources in the research locations. Our data reveal how these values persist, determining why “a son is [still] seen as the family’s future”, even by women. Patriarchy explains why parents are willing to invest scarce resources in sons rather than in daughters. We found that regardless of caste or class, as well as increasing engagement of women in agriculture, most families believe that daughters belong to the private (household) domain, while sons can and should function in the public sphere. However, not all women (or men) are equal. Landless laborers with little economic or social capital are predominantly from lower castes. They are often excluded from decision-making in the community. These exclusions are further impacted by gender. In situations of increasing male-out migrations, lower-caste, landless women in Bihar are particularly constrained not just by a lack of access to resources, but also by persisting exclusions from information, including climate-adaptation technology and interventions.

The early insights that women are not a homogenous group allowed us to be mindful of intersectional inequalities in the selection of respondents and in the design and use of SenseMaker research frameworks. Our questions not only disaggregate data by caste, gender, poverty, but also probe how these intersections impact both individual experiences, and social interactions. This allowed us to avoid a conventional binary framing of gender inequality, which assumes a universal vulnerability of women, or ignores the experiences of marginalized men across institutions. The research design also required us to look at the historical dimensions of inequality, power hierarchies, institutional structures and cultures, and gender-caste-class blind spots in climate-food systems innovations.

For example, our data show that in rural Gaya, upper caste women do not work in the fields or engage in agricultural tasks. They do not generally come out into the public domain; they engage in domestic tasks and responsibilities. Caste is associated with privilege and status and is a significant factor in determining or restricting the mobility and participation of women outside their homes, especially in agricultural production. Upper caste women’s participation in agricultural activities is linked to embarrassment and shame. In upper caste households, outside work (agriculture) is done by others—male and female agricultural laborers. There are no such expectations or restrictions for lower caste women; their poverty, lack of assets and

resources requires them to work outside the home, besides managing domestic work. This creates very different types of challenges for women and would also require different types of interventions in relation to climate impacts on agriculture.

This research attempted to answer the following questions: “How do we approach doing science on one of our most important and complex systems – the climate, paying particular attention to how deeply contextual societal norms and biases influence our approach?” and “How do we place gender at the center of new technical innovations in global agricultural research for development (AR4D) and trigger systemic structural gender-transformative change processes across the A4RD institutional landscape?”

Gendered Challenges in Agriculture: Masculinities, Caste, and Class Dimensions The project analyzed the gender-power dimensions of masculinity and femininity at the household, community, and institutional levels. Masculinities that shape institutions and technical interventions are shaped not just by gender but also by caste and class. For instance, despite women’s higher involvement in agriculture as laborers due to male-out migration, the notion of masculinity is maintained and reproduced (including the association of machines with men). The connection is maintained so strictly that women farmers wait for male community members to return from different cities to perform the mechanical work if no men from their households are available, or if male labor is expensive.

Structural and Systemic Challenges to Gender-Transformative Change in Climate Interventions The underlying focus of this research was on understanding structural as well as systemic barriers to gender-transformative change. Therefore, we investigated the structure and culture of institutions, as well as probed the combined effects of vulnerabilities by caste, poverty, and gender amongst farmers. Climate interventions oversimplify complexities to single-issue solutions like climate-smart irrigation or weather-based crop insurance, without assessing who may be excluded and why. “What is not counted does not count,” leading to technological innovations reduced to simply generating (sex-disaggregated) data. Our research shows that most institutional actors are male, upper-caste Hindus. Most of them felt that the workplace is a neutral space—free from influences of religion, caste, gender, or other biases. Occasionally, some male staff members empathize with women and marginalized groups but point out that the system is not designed to tackle gender equality and social inclusion. More importantly, most staff members are of the view that a focus on those who are “hard to reach” is not always appropriate, efficient, or justifiable. Contrary to narratives, the common understanding here is that climate impacts everyone equally. It particularly impacts agricultural resources, productivity, and ultimately people’s livelihood, but at the end of the day, everyone is impacted equally.

Designing and Implementing Contextually-Relevant Climate Solutions Through Plural, Experiential, and Situated Knowledge To transcend interdisciplinary approaches and enable plural, experiential and situated knowledge(s) to

inform the design and implementation of contextually-relevant climate solutions, we took several key actions (described below), including assembling an interdisciplinary team.

Equitable partnerships and trust-building with stakeholders and end-users are fundamental principles that guide our use of the SenseMaker tool. We engaged with end-users in the research design by conducting focus group discussions and case study interviews, generating knowledge to feed into the SenseMaker Signification Framework. By partnering with SumArth, we were able to ground the research in a contextually relevant framework and approach and involve local women and men as part of the research team. Our biggest outcome was influencing SumArth on the realities and challenges of intersectional inequalities and vulnerabilities in agriculture.

We followed the feminist research principle of member-checking by taking the data back to the researched communities (Caretta 2016). We are currently analysing the data and preparing to curate meaningful data to create an interactive platform for research dissemination. Our goal is to validate the findings through discussions with end-users and institutional stakeholders separately, then bring both groups together for a townhall discussion to explore more inclusive interventions collaboratively.

By co-designing and implementing the research with the partner organization, SumArth, we have enabled significant learning in a local farmer-producer organization. Our research team, comprising local women and youth drawn from SumArth's membership, were trained and facilitated to pilot the digital ethnographic tool, SenseMaker. SumArth will plan and facilitate knowledge-sharing workshops with relevant groups of stakeholders.

Through qualitative research with key implementation stakeholders, we reflected on gender norms, values, and biases that operate in the workplace. Although our reflections are not yet adequate, they provide some opportunities to move forward on issues of an inclusive workplace.

Designing a Research Tool for Transdisciplinary, Ethnographic Research: Opportunities and Challenges The research tool we used allows for transdisciplinary, ethnographic research through a digital interface. By design, the tool calls for reflexivity at every step of the research. By working closely with the designers of the of the SenseMaker tool, we were able to reflect on deeply contextual challenges in the tool's application—which include intimidation and fear among respondents to have the conversation recorded digitally, as well as more practical challenges relating to how limitations in technology infrastructure and capacity locally delay processes of data collection and analysis.

Reflexivity and introspection were critical elements of our research design, which aimed to ensure the co-design of a research framework that was not a top-down imposition from researchers external to the local context. This required over four months of work to finalize the framework and questionnaires, during which local stakeholders and researchers were engaged and influenced the research design and focus.

Our enumerators were trained in narrative field research techniques, which included framing guiding questions for respondents new to being researched, conducting ways to communicate to gain trust, and being mindful of formal and informal stakeholder groups and gatekeepers with vested interests.

To ensure ethical research, we obtained approval from the IRB at the IWMI, undertook ethical research certification, and trained all enumerators on the need to do no harm. All respondents were briefed on the research objectives and they gave consent before giving the interview. No children or minors were research participants.

Our approach was to be conscious of power dynamics in research projects, and to tackle these challenges by enabling local researchers to lead the research process. However, we also acknowledged our positionality as researchers and the limitations of our backgrounds, which were mostly urban, upper-caste, and literate. During the pilot phase of the project, we took notes and had reflexive sessions each day after the field visit. Interview questions were critically analyzed and reshaped based on feedback from respondents and field experiences.

Despite our efforts, we faced challenges with institutional stakeholders who held authority and power over the research process. We had to work around their availability and agreement to be interviewed, and often, their answers were not reflexive enough, making it difficult to probe further.

Our engagement with our local partner, SumArth, was also not always smooth and tensions relating to insider-outsider, researcher-practitioner issues required significant facilitation by the project team leader. However, through the project, we were able to influence SumArth, which will have a significant impact in the work they lead with other partners, multiple national and international ones. In their own words,

The project helped us to diversify our team with the emphasis on gender equality. When the project started, we had just two female employees but gradually during the course of our partnership with the project, the number increased to six, and we do see the value of a more gender-balanced team in our organization (a SumArth staff member).

Identified gaps in transformative, participatory approaches and addressing marginalization in research. A key gap that we identified, and are now working towards in the form of a publication, is the lack of know-how on transformative, participatory approaches among researchers and non-researchers. Simply put—how to allow marginalized groups to narrate their stories and experiences and affirmatively engage in problem-solving? Building trust takes a lot of time and effort, starting from making respondents comfortable to sharing deeply personal experiences, particularly negative stories.

Maintaining privacy and individual voices of women interviewees was a significant challenge during the data collection phase. Even while conducting personal interviews, family members or the community would gather around the researcher and respondent. In many cases a male family member remained present throughout the interview. For example, a woman from a backward caste was constantly interrupted by her husband during her interview, who said things like: “She would not know; why are you asking her?” In such situations, interviews had to be paused and

resumed in spaces appropriate for the respondent. But we cannot guarantee that this happened in all the cases.

The diversity among sub-caste groups determined that we were not always able to ensure representative voice and engagement of the most marginalized, even though the design of the research was cognizant of the power dynamics of gender, caste, and income. Our sample gender ratio was 60:40 (women to men). We conducted more interviews with women from scheduled castes, scheduled tribes, and extremely backward castes, most of whom were landless and earning a living either as tenant farmers or agricultural laborers.

Cognitive biases of our research team, i.e., subjectivity and positionality in the interpretation of data—is another issue often overlooked by researchers. We have tried to overcome these blind spots by holding several rounds of discussions and ensuring collective wisdom of the group of researchers and local partner participants in analyzing the data and exploring key issues for evidence-based data from an aggregate of individual, personal stories collected from the respondents.

Another key gap we encountered is the lack of data and information on how gender and social exclusion play out in institutional structures and cultures. The institutional actors we interviewed are hardly ever researched and were clearly not used to answering research questions. And yet, so much of what impacts why policies do not deliver rely on what happens within institutions.

10.3.4 Case 4: Time Poverty Among Women Smallholders in Ghana: Implications for Gender Priorities in the Peanut Value Chain

Leland Glenna, Paige Castellanos, Leif Jensen, Janelle Larson, Kaitlin Fischer, Edward Martey, Doris Puozaa, and Richard Oteng-Frimpong

This case study focuses on a gender-integrated FFS conducted for 16 weeks in two communities of Ghana’s Northern Region. FFS attendees were participants in a four-year project focused on understanding men and women farmers’ time use across seasons. The project’s objective was to measure any changes in how men or women spend their time on the farm or in the home after participating in the FFS, with the aim of reducing women’s time poverty. Time poverty refers to having insufficient time available to take on new tasks or for rest or leisure due to high agricultural and domestic workloads (Bardasi and Wodon 2010).

The research project titled “Time Poverty Among Women Smallholders in Ghana: Implications for Gender Priorities in the Peanut Value Chain” was funded by the Innovation Lab for Peanut at the University of Georgia through the USAID’s Feed the Future Initiative. It was led by a team of researchers at Penn State in the USA and the Savanna Agricultural Research Institute of the Council for Scientific and Industrial Research (CSIR-SARI) in Ghana. Researchers employed quantitative

and qualitative methods, including the Abbreviated Women's Empowerment in Agriculture Index (A-WEAI). Survey respondents were asked to respond to questions concerning agricultural production, resources, income, leadership, and time use before and after the FFS. By the end of the project, they provided accounts of their time use during a 24-hour period in the growing, harvest, and dry seasons during six waves of data collection, three before and three after the FFS. Focus group discussions with a sample of participants, men and women, informed FFS implementation. Further qualitative research was conducted with a sample of participating households in the form of in-depth, longitudinal interviews (funded by the Fulbright U.S. Student Program and Penn State's Africana Research Center and African Feminist Initiative).

Peanuts (known as groundnuts in Ghana) are grown by over 90% of agricultural households in northern Ghana (Martey et al. 2015). They are generally considered a "women's crop" (Apusigah 2013), although they are grown by both men and women (Doss 2002; Tyroler 2018). In northern Ghana, women are disproportionately responsible for domestic labor such as cooking, cleaning, and caring for family members (ISG and Ayamga 2017). Three time-use survey waves were used to gain a baseline understanding of men and women's differing responsibilities on the farm and in the home and the time spent on specific activities. Focus group discussions held separately with women and men allowed community members to explain what they view as their greatest time-consuming activities and their greatest constraints on increasing farm production, and to propose solutions to reduce drudgery or other production constraints. The suggestions were then used to design the FFS, which encouraged shifts in culturally entrenched gender roles for the benefit of the entire household. In-depth interviews and three additional time-use surveys were used to understand the extent to which the FFS induced changes in farmers' time use as well as their income, leadership roles, access to resources, and involvement of spouses and other family members in decision-making. Interviews also sought to understand why individual men and women grow the particular crops they do.

The project's FFS consisted of seven technical, farm-based sessions and nine gender-integrated, household-based sessions in each community. The household-based sessions addressed power issues by engaging in open discussions with men and women (separately and together) on topics such as: (1) gender roles and relations, (2) power inequalities and decision-making, (3) crop preferences by gender, (4) skills and ability, (5) conflict and conflict resolution, (6) self-esteem and leadership, (7) time use by men, women, and youth in the household, (8) animal care and responsibilities in the household, and (9) sanitation, hygiene, and nutrition. Each session reflected on individuals' and households' own experiences with a discussion of existing patterns and changing trends within society. Discussions of each topic were grounded in how power differences between men and women have led to and continue to lead to different opportunities and challenges for men and women that are socially constructed, rather than natural.

Participants were encouraged to consider how shifts in certain societal norms could benefit them and their household. For instance, during the session on power inequalities and decision-making, participants discussed the benefits for household

members of men and women making decisions together. By the end of the session, one goal was for participants to understand what power is, who has it, and the implications of having power, especially within the household. Discussions centered around the fact that men tend to control access to and use of resources at the household and community levels, and therefore make decisions for the household. Whereas women are usually required to make decisions in consultation with their husbands, men often make decisions without consulting their wives. Participants were introduced to the need for power-sharing and consensus-building in making decisions.

The project took place in two rural communities of northern Ghana selected for their differing proximity to commercial markets and the Northern Region's primary city, Tamale. It was hypothesized that the women and men in each community were likely to engage in varied agricultural and domestic practices due to differing levels of access to markets and labor as well as education. Every household in the two selected communities was included in the project. Households were both monogamous and polygamous and, in cases in which the household head had multiple wives, all wives were included in the research. Understanding the experiences of all wives in polygamous households indicates that even women with the same husband can face very different opportunities and challenges in their everyday lives that affect their time-use, decision-making abilities, and overall well-being.

Every FFS topic was discussed by, and in relation to, both women/femininities and men/masculinities. After establishing a shared understanding of terms and concepts among the group, participants were often divided by gender to consider the topic in greater depth by engaging in a group activity. After the activity, men and women came back together to share what was discussed, ensuring that men and women were active participants, able to share their perspectives and be heard by members of their own gender, and by others. By focusing on improving relationships of all kinds (e.g., between husbands and wives, between co-wives, between women, and between men), the project prioritized change at the individual, household, and community levels.

Every household-based FFS session began with an informal assessment of the prior week's learning goals by asking attendees to answer key questions summarizing the knowledge gained. Participants were also asked to narrate a situation at home or within the community in which they practiced what they had learned. Weekly topics were structured to build upon the topics introduced in earlier weeks. For instance, discussion of the benefits of livestock production for the household incorporated earlier FFS topics on men and women's inequitable access to assets, on women's time poverty, and how these relate to women and men's differing abilities to rear animals and receive the benefits. The final FFS session comprised technical and gender-based learning assessments (and a farmer graduation ceremony).

The post-FFS time use surveys will be combined with in-depth interviews and future participant observation to see if the FFS affected how men and women spend their time. We intend to assess the extent to which men and women have altered gender norms by assisting one another with their work on the farm and in the household.

This project takes an uncommon approach by evaluating the effects of new technology (through the technical FFS sessions) and social innovation (through the gender-based FFS sessions) on men and women smallholder farmers' time use. Many agricultural development projects introduce technologies with no attention paid to their corresponding social innovations, which can result in technologies having limited or even detrimental effects, especially on women (FAO 2023; Theis et al. 2018). This research is attentive to introducing both technical and social innovations and their combined effects. Also unusual is that the research includes the head of the household and all of his wives, contributing to our understanding of the experiences of women in polygamous households in northern Ghana. This is important for understanding the differences that exist between and within households based on the type of marriage within the household and women's social location as the only, first, second, or third wife. Going forward, when introducing these interventions to additional communities, it will be important to recognize that men and women differ not only in whether they are married or not, but in the type of marriage they have.

An interdisciplinary group of researchers both at Penn State and CSIR-SARI spanning the social and natural sciences designed the research project method. This included research instruments such as survey and interview questionnaires as well as the curricula for the FFS and a gender training of research staff. Core team members specialize in rural sociology, agricultural economics, gender, seed science, groundnut technologies, agronomy, and demography. The CSIR-SARI team members and partners led the on-the-ground implementation of the project, in part due to Covid-related travel restrictions imposed on Penn State team members—except for one Penn State rural sociology team member who actively observed the FFS sessions and led in-depth interviews with a sample of project participants. Data analysis and write up are ongoing by quantitative and qualitative researchers on the project team.

The FFS was led by Ghanaian researchers who live and work near the research communities, making them familiar with the general socio-cultural norms in the area. These researchers also have expertise in the spheres in which they contributed to the FFS sessions, namely, good agricultural practices and gender norms in peanut production, processing, and marketing; seed and plant technologies; and gender inequities in Ghanaian households and communities. During the FFS there were open discussions on gender norms and how they affect household members. Participants were shown pictures of how things could be if their perceptions and entrenched beliefs about various subjects changed. The women facilitators of the FFS were themselves examples of what a change in community members' views on gender could lead to, since some of them are from northern Ghana. From its beginning, the project was inclusive by involving participants in the identification and prioritization of their production and time constraints. The team collected baseline quantitative data through surveys and qualitative data through focus groups that informed the design of the remainder of the project, including the FFS intervention.

This research is ongoing, and findings have not yet been shared formally with community members or through peer-reviewed publications. The project plans to

share findings from the time use surveys and interviews with community members after the final survey has been conducted and solicit their feedback in a subsequent visit in 2023 (funded by the Society of Woman Geographers and Penn State's Office of International Programs in the College of Agricultural Sciences). Based on observations at the FFS, participant testimonies provided at the FFS graduation, and interviews with a sample of participants, knowledge gained and generated through the FFS has led to behavior change and improved household and community relations for some members of the community.

During the project, the research team embraced learning spaces facilitated by the USAID Innovation Lab network to share preliminary findings with other members of the Innovation Lab, through webinars and presentations. This enabled the research approach and first findings to be shared with individuals new to thinking about gender and with those already incorporating gender into their research, such as other USAID Feed the Future Initiative grantees involved in the Affinity Group for Gender within the USAID Innovation Lab Cross-cutting Theme Community of Practice. The project is contributing to efforts to motivate institutional change across the Innovation Lab network by illustrating the value of research rooted in social sciences (Marter-Kenyon 2022). Most other USAID agricultural research and development efforts are rooted in natural sciences, with no social science component beyond economics. Additionally, findings have been shared in seminars with other CSIR-SARI researchers and with the Ghana Groundnut Working Group, supported by USAID's Peanut Innovation Lab and comprised of researchers, farmers, aggregators, and processors in Ghana's peanut sector. The team is also fostering partnerships with organizations and practitioners in northern Ghana with the intention of scaling up the gender-integrated FFS method by bringing it to additional communities across the region.

The research team held a Gender and Agriculture Workshop for SARI employees involved in the project, such as enumerators collecting survey data, and employees involved in other socio-economics projects. The workshop focused on why gender matters to agricultural research, how to conduct feminist research, and incorporating gender into monitoring and evaluation and outreach. Survey findings have been shared at various seminars, workshops, and conferences with stakeholders from institutions working in the agricultural research and development arena. The present research findings have shown, for the first time in Ghana, that inequalities do exist within households based on household members' gender identity and type of marriage (monogamous or polygamous), and that for women, being an only, first, second, or third wife matters.

Reflecting on the power dynamics within the research relationship was necessary throughout the project. The team applied participatory methods and encouraged experiential knowledge sharing among the core research team and partners during the design and implementation of the project. For instance, before the FFS, community members were given the opportunity to discuss their production constraints, prioritize them, and suggest possible solutions. These suggestions set the stage for curriculum development and technology introduction. The research team recognized that its ability to provide research participants with small benefits, such as

snacks during the FFS sessions, could generate tension within the community, so what snacks were provided, when, and in what quantity was given careful consideration; snacks were handed over to the group leaders for distribution to participants. The researchers sought to understand participants' individual experiences and promote principles that would improve participants' well-being, rather than prescribe moral boundaries, which as non-community members, would have been inappropriate. The research team ensured the use of simple language and played facilitator instead of teacher roles during the FFS sessions.

The research used both reflexive and introspective approaches. The team employed methods that allowed room for modifications as long as they did not alter the ultimate goals of the project. Bearing in mind the differences in backgrounds of the research team and participants, issues were extensively discussed and the best courses of action taken. Efforts were made to respect the views of all partners and the same respect was insisted on among farmers during the FFS. The research team plans to continue conducting research in northern Ghana. In the future, they will increase communication among Ghanaian and American team members—which was limited by the barriers to travel presented by Covid—to improve the project's reflexivity. The team could have gone even further to interrogate the power dynamics within the research relationship. Another project limitation is that this research relies on a binary notion of gender that only recognizes two genders: man and woman. It fails to account for gender as a spectrum.

10.4 Moving Beyond Gender-Transformative Approaches

The authors started out this chapter by suggesting some reasons why the use of feminist research approaches in agriculture is not very common. These included epistemological and methodological differences between and within organizations, low staff capacities, a strong focus on shorter-term outcomes and a propensity to overuse instrumental approaches, and an overall resistance within agricultural research organizations to embrace such approaches. We also presented some details on what constitutes feminist research in agriculture, and using the conceptual framework developed by the IWDA (2017), we highlighted the key or mandatory components of doing rigorous feminist research. The framework provided a valuable guide to structure and review the four case studies that were included in this chapter. The guiding questions in Appendix that were used by authors to write up the different case studies can also be used to guide the design, implementation, and monitoring and evaluation of future feminist research in agriculture.

The case studies illustrate that each research project focused their attention on understanding gendered power relations and discriminatory institutions, especially informal norms. The projects mainly adopted non-traditional research approaches that aimed to empower research participants and create a safer space for critical reflection on and action to address the root causes of gender inequalities. Each research project studied masculinities and femininities within agriculture and how

these interacted with other contextually relevant social categories to benefit or disadvantage certain groups of people. All projects followed a transparent process to ensure ethical engagement with research participants and reported that research team members played primary roles as facilitators rather than as “objective” observers or science experts. This seemingly shifted the power dynamics between researchers and research participants to help ensure that the latter’s voices were heard and informed project design, implementation, and monitoring and evaluation.

Each case used several other feminist research principles when carrying out their projects. Using an intersectional lens, most of the cases reported that they captured the diversity of women and men, going well beyond viewing women and men as homogeneous groups. Each project clearly embodied interdisciplinarity. Using both qualitative and quantitative methods and perspectives from a multitude of disciplines, the different research projects generated a rich body of evidence to enable a range of stakeholders to reflect on and come up with ways to address gender inequalities and start gender-transformative change. In terms of accountability, the research projects created alliances and learning spaces with various actors, which ranged from donor agencies to community-based organizations. While not all projects reported that they completed implementation and disseminated their results, gender-transformative change processes were set up and are bearing fruit across the four cases. Using feminist research approaches within each project, these cases highlight how a range of agricultural research work can be implemented so as to help bring about women’s empowerment and gender-equal development outcomes.

Our review of the four case studies suggests that the use of feminist research principles is likely more evident in agricultural research projects that adopt gender-transformative approaches than in those that are gender-responsive or that mainstream gender in their project design and implementation plans to ensure they meet gender targets and the practical needs of women and men.⁴ While the similarities between gender-transformative and feminist research approaches make conceptual sense, Mullinax et al. (2018) point out that these approaches are different, and that gender-transformative research may or may not be feminist. Both approaches include power as their central focus, but feminist research challenges the use of mainstream research approaches by bringing in participants as co-researchers (or experts), rebalancing power relationships between the researcher and participants, and rejecting the notion that research is value-free and objective.

Moving beyond the use of gender-transformative approaches in agricultural research is a necessary next step to alter gendered power relations and discriminatory institutions, and to fundamentally change how agricultural research is carried out. To create an enabling environment for the use of feminist research approaches in agriculture, the larger agricultural research system clearly needs to change. Mullinax et al. (2018) maintain that broader institutional systems can support such change by aligning their internal organizational systems and policies with feminist

⁴See the following link for information on what gender mainstreaming entails <https://eige.europa.eu/gender-mainstreaming/what-is-gender-mainstreaming>

principles, adopting frameworks that integrate gender-transformative thinking in all aspects of organizations, and building staff capacities to do feminist research. They also advocate for donors to fund more agricultural research that embodies feminist principles, including research that reshapes how knowledge gets created and who owns the research, research that is more action oriented and leads to significant change at different levels, and building the capacity of researchers to implement that which is required for change to happen. The issue of sustained funding by donors to support feminist research in agriculture is also important as the first case study showed that, while financial support to carry out the research was provided for five years, it was not sustained into the longer term because donors prioritized funding for other purposes. Such longer-term commitments on the part of donors, but also researchers and their organizations, are needed to ensure that feminist research can help facilitate deeper level, transformative change.

As more organizations and donors support these efforts, the use of feminist research approaches in agriculture may increase and help shift how we do agricultural research and prioritize women's empowerment and gender equality as goals in and of themselves rather than mechanisms for increased productivity, food security, and the like. Nonetheless, generating an evidence base to showcase how the use of feminist research approaches in agriculture can bring about positive development outcomes is important as one means to gain institutional support at various levels. Arguably, this evidence base is relatively low given the lack of use of feminist research approaches in agricultural research, and yet this evidence base can only increase once institutional support creates an enabling environment for researchers across agricultural research topics (e.g., crop and animal breeding, agronomy, natural resource management, value chain development, consumer food preferences) to use feminist research principles when designing and implementing their research.

10.5 Conclusion

This chapter highlights the importance of using feminist research approaches within agriculture as a promising means to achieve equitable and sustainable transformations of agrifood systems. In this chapter we put forth several reasons to help explain the current lack of use of feminist research approaches in agriculture, while acknowledging the dearth of human resources in organizations with the capacities to do feminist research. We described what constitutes feminist research in agriculture by highlighting several frameworks and principles that researchers use to inform the design and implementation of their feminist research. We also provided detailed case study examples that carried out rigorous feminist research to showcase how feminist research can be implemented in an agricultural context. In practice, it is imperative to recognize that using feminist research approaches requires realistic timeframes with budgetary commitments as prerequisites for achieving gender equality as opposed to the usual focus on short-term outcomes. The latter is

associated with reliance on instrumental approaches that insufficiently address the underlying causes of gender inequalities.

We end this chapter with an appreciation that resistance to using feminist research approaches within and across organizations is and will continue to be common. Interrogating power relations that disadvantage certain groups of women and marginalized groups in agriculture and helping facilitate ways to change discriminatory norms that perpetuate or justify their subordination, is not an easy task to carry out within the agriculture sector. Across the globe, agriculture is male-dominated in organizations, especially at management or leadership levels. Including women and men farmers and other stakeholders as co-researchers to inform the design, implementation, and monitoring and evaluation of the research, goes against traditional agricultural research that usually assumes scientists are the ones who come up with solutions for farmers and other value chain actors. Mainstreaming the use of unconventional, or radical approaches, including feminist ones, in agricultural research starts at the top of organizations. To transform agrifood systems to be more inclusive, gender-equal, and socially sustainable, leaders need to institutionalize feminist research approaches across their organizations. Without commitment from the top, change will be limited and slow.

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Appendix: Guiding Questions Used to Develop the Case Studies

Element 1: Building feminist knowledge of women's lives

- How did the research investigate or address the harmful and positive impacts of gender-based stereotypes, and/or understand differences between women and men and why these differences exist?
- How did the research address power issues, and how power operates and affects individuals and larger groups of people in communities, and the fact that gendered power relations are grounded in historical contexts?
- How did the research examine the experiences of women in their diversity, and the impact of intersectional identities on women's lives? How did the research reject simple binaries? How did the research try to hear multiple voices throughout the research process and/or give voice to women within different social groups and/or contexts?
- Did the research study both women/femininities and men/masculinities and their construction and interaction? Please explain how.
- Was the research based on a theory of change that focused on assessing incremental progress toward gender transformative change? Please explain.

Element 2: Accountable for how research is conducted

- How did the research pursue new and neglected research questions?
- How did the research embody interdisciplinarity in its design/implementation/analysis/write up?
- How was the research grounded in a commitment to do no harm?
- How was the research methodologically rigorous in its use of a range of feminist participatory research methods? How did the research try to understand what women want through the research process? How was the research intentional in its design to ensure it was always leading to action?
- How were the findings disseminated and did the dissemination strategy aim to elevate marginalized voices and connect participants into important spaces of influence? How did the research empower participants to use findings to create change in their communities?
- Did the research team create alliances and learning spaces to increase research utilization?
- How did the research try to convince audiences of the realities of gender inequality and communicate how gender transformative change can happen? How was the research used to strengthen advocacy to transform and influence policy?
- Was the research team reflexive and introspective during the life of the research/research project? Did the team appreciate that research is neither value-free nor disinterested? Did the research consider and value different ways of knowing?

Element 3: Committed to ethical collaboration

- How did the research follow a transparent process to ensure ethical engagement with research partners?
- How did the research team interrogate the multiple power dynamics of the research relationship?

Element 4: Seeking for transformative impact on the causes of gender inequality

- At what levels or with which groups did the research focus to have a transformative impact on the causes of gender inequality (e.g., individual and/or organizational level, with the feminist movement, at societal level, and/or in the ways knowledge production is carried out and research methods are developed/used)? Please explain how transformative change occurred and was documented throughout the course of the research.

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