

## FROM THE “FEMINIZATION OF AGRICULTURE” TO GENDER EQUALITY

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The term “feminization of agriculture” is used to capture a wide range of gender dynamics and shifts in rural gender relations. Definitions range from the broadening and deepening of women’s involvement in agriculture (Lastarria-Cornhiel 2006) to the increase in rural women’s *measured* economic participation in agriculture and a *reported* visibility of women in agricultural activities (Deere 2005). The term may be used to imply an increase in women’s labor in agriculture, in women’s labor relative to that of men, or in women’s roles in agricultural decision-making. Broadly speaking, however, literature on the feminization of agriculture has challenged researchers and development practitioners to consider how changing rural landscapes are affecting women, especially where men are moving out of agriculture. These changes have impacts on women’s productive and reproductive workloads, both paid and unpaid, as well as their agency and decision-making, both within the farm and the household and in the community and a variety of institutions.

Literature on the feminization of agriculture has two distinct narratives. The first takes a negative view, suggesting that women’s workload in agriculture is increasing at the same time as women continue to lack the resources needed to succeed (Song 1998, Padmaja et al. 2019, Tavenner et al. 2019, De Brauw et al. 2021). This narrative may refer to the women as being “left behind,” implying a lack of agency and a worsening of their livelihoods. A second narrative argues that processes of rural transformation are providing opportunities for women’s economic empowerment and gender equality (Khatri-Chhetri and Chanana 2017). As women move into paid employment or become more visible in smallholder commercial agriculture, they not only earn more income but also may gain greater visibility and voice within their household and community.

Uniting the narratives around the feminization of agriculture is evidence that the agriculture sector, and the rural sector more generally, are changing, and that these changes affect women and men differently. A number of different processes may be unfolding simultaneously—within as well as outside of agriculture—even within the same country. Some regions are experiencing growth in agriculture. Smallholder agriculture, including crops, livestock, forestry, and fisheries, may be commercializing, with changes in the products being produced and marketed and in the relative dependence on capital and labor. Newly created jobs provide new opportunities; these jobs may or may not be gender segregated, and they may differ from prior job opportunities in terms of both the location of the work and the skills required. New opportunities may also open up at various nodes along agricultural value chains for women and men (see Chapter 4 on value chains, this volume). Opportunities may also open up outside of the agriculture sector, changing patterns regarding who farms and how, as well as the returns to farming relative to other sectors. All of these changes are likely to influence gender equality.

As Chapter 1 introduced gender equality:

“... refers to the equal rights, responsibilities and opportunities of women and men and girls and boys. Equality does not mean that women and men will become the same but that women’s and men’s rights, responsibilities and opportunities will not depend on whether they are born male or female. Gender equality implies that the interests, needs, and priorities of both women and men are taken into consideration, recognizing the diversity of different groups of women and men” (UN Women 2001).

Gender equality is multidimensional, and agrarian change will affect the various dimensions differently.

This chapter assesses research and literature on the feminization of agriculture—especially that of CGIAR centers—with respect to insights into the process of rural transformation and its effects on gender equality. We identify both the key insights provided as well as what is missing. To do so, the first section below considers how various drivers of agrarian change affect patterns of women’s work and responsibilities. The second section then analyzes how these changes affect gender equality, primarily in terms of women’s work and agency, and what mechanisms and conditions can ensure that agrarian change ultimately promotes gender equality. Finally, we identify research and data gaps, proposing a research agenda that can advance gender equality.

We draw primarily on research carried out through CGIAR. We carried out a comprehensive search for literature on gender and rural transformation,

changes in employment, or the “feminization of agriculture” written by any of the CGIAR centers and CGIAR Research Programs—placing no restrictions on dates, and capturing both peer-reviewed work as well as gray literature. In addition, we drew on a broader set of literature review undertaken by a program supported by the CGIAR Collaborative Platform for Gender Research: “The ‘Feminization’ of Agriculture: Building Evidence to Debunk Myths on Current Challenges and Opportunities.”

## **Drivers of change in the agriculture sector**

The agriculture sector remains the backbone of the economy for many developing countries and employs much of the labor force, especially in rural Asia, Africa, and Latin America (Sachs 2019). However, the sector is undergoing dramatic transformations, shifting gender dynamics across geographical and cultural contexts. This section considers a number of drivers of change in gender relations in agriculture. These include the commercialization of both large-scale and smallholder agriculture, climate change, technologies and innovation, war and conflict, and the migration of women and/or men. For each driver, we discuss its effect on labor patterns, decision-making, and/or management roles. We note that it is not possible to describe all of the changes as the feminization of agriculture; in some areas women are migrating out of agriculture and rural areas.

### **Large-scale commercialization and wage work**

Worldwide, neoliberal policies beginning in the 1980s focused on market-based approaches, reducing agricultural subsidies, and public investment in agriculture. These policies had a variety of impacts on agricultural producers depending, in part, on their scale of farming. Large-scale commercial farming, aimed at export markets, created a demand for wage labor, providing employment opportunities to many, including women (Dolan and Sorby 2003, Deere 2005, Bigler et al. 2017, Sachs 2019). It also led to visible change in the gendered division of labor globally (Deere 2005, Sugden et al. 2014, Abdelali-Martini and Dey de Pryck 2015, Najjar et al. 2018, Padmaja et al. 2019). Opportunities for employment in the sector offered an avenue for women to obtain remuneration for agricultural work and created a wave of women’s participation in commercial farms (Lastarria-Cornhiel 2006). In Latin America, for example, women’s participation as wage laborers in new emerging non-traditional export production and packing, such as flowers, fruits, and vegetables, increased over this period (Deere 2005).

Although commercial agriculture may open up income opportunities for women, tasks and working conditions often differ from those of men. For example, women often work in seasonal packing and distribution on commercial farms in Latin America whereas men typically hold permanent positions (Deere 2005). In Peru, women are employed cutting asparagus whereas men are generally responsible for field collection, packaging, pest control, and irrigation management (Bernardinie 2019). The details vary across countries, with some value chains offering year-long employment opportunities for both women and men (Dolan and Sorby 2003). Furthermore, wages typically differ across jobs, with men's jobs paying substantially more (Bernardinie 2019), even where women and men work together and perform the same tasks (Deere 2005, Sunderland et al. 2014, Najjar et al. 2018).

Changes in the structure of commercial agriculture may influence gender relations more broadly. For example, in West Kalimantan, Indonesia, married couples working on government-managed plantations were given permanent contracts that included medical care, childcare, and accommodation. However, as private firms took over the industry, the terms and conditions of employment became more informal. Women and men were offered different jobs and wages; childcare and accommodation benefits were withdrawn. Women became more likely to accept lower wages and poorer working conditions because of their lower bargaining power (Li 2015).

Overall, the job growth that the expansion of commercial agriculture has fueled is having gendered impacts, in terms of segregation in tasks as well as gendered differences in working conditions and wages—with important regional heterogeneity as well. Much of the evidence comes from relatively old and small-scale case studies, however.

### **Commercialization of smallholder agriculture**

Increasing commercialization of smallholder agriculture has impacts on rural households, which are often very different for women and men. Smallholder households often combine multiple livelihood strategies, mixing production for home consumption with some degree of market-oriented farming in addition to participating in off-farm agricultural wage labor (Bigler et al. 2017). These mixed livelihood approaches, involving agricultural intensification and diversification, are heavily influenced by gender relations.

Men often handle the more commercial activities of smallholder farming or livestock-keeping whereas women are often largely responsible for subsistence agricultural activities (Ingabire et al. 2018, Tavenner et al. 2019) and activities related to household production. In some parts of sub-Saharan

Africa, women and men farm separate plots, with some crops seen as "men's crops" and others as "women's crops" (De Brauw et al. 2015, Ingabire et al. 2018;). Yet patterns change over time, particularly in response to market opportunities, and they are not absolute (Doss 2001). In South Asia and much of Latin America, it is mainly men who lead agricultural production activities, with women viewed as "helpers" rather than farmers themselves (Twyman et al. 2015). In Southeast Asia, especially in rice-based production systems, women and men often work together on the same tasks in the same fields (Akter et al. 2017). But in all of these situations, men are more likely to be seen as the farmer who is commercializing.

As smallholders move into more market-oriented agriculture, they may change the mix of crops grown, the provision of labor, and who controls the crops within the household. Crops traditionally grown by women may witness increased involvement of men when they become commercially viable. Depending on who dominates marketing and decision-making regarding production and access to and control over agricultural income may change for women.

In an example from Uganda, beans were traditionally considered a women's crop but when government policy prioritized their production as an export crop, men's participation in some production activities increased; they came to dominate site selection, fertilizer and insecticide application, and harvesting and women's activities came to include mainly winnowing, postharvest handling, sorting, planting, and weeding (Nakazi et al. 2017). The study does not offer insight into who controls the income from bean production but illustrates that the commercialization of crops may alter the participation rates of men and women in production activities. Similarly, in Zambia, men moved into groundnut production as shelling became mechanized and more profitable. In this situation, women welcomed men's involvement and were willing to give up some control over production as they were also released from drudgery (Orr et al. 2016).

Commercialization can also change the distribution of labor in other ways. For example, commercialization of livestock can result in new, gendered divisions of labor in which women assume physically demanding roles—specifically, tending livestock—while men take up less physically demanding work related to marketing. This can result in women feeling they have more work without receiving additional benefits (Njuki et al. 2016, Basu et al. 2019).

While examples abound of men moving into women's crops as market opportunities expand, or otherwise shifting less desirable work to women as more desirable work (for example marketing) arises, there is less research

on examples of gender equality improving as a result of increased market opportunities.

### **Climate change**

Climate change is a key driver of structural change within the agriculture sector. Not only does it directly affect cropping patterns and natural resource-based livelihood options (Sugden et al. 2014) but also it alters the existing division of labor via climate adaptation responses including migration (Djoudi and Brockhaus 2011, Mueller et al. 2014a, Kosec et al. 2018a, Khatri-Chhetri et al. 2019). A synthesis of relevant research by CCAFS, the CGIAR program on climate change, finds that women and men are exposed to different climate shocks and experience the impacts differently: few farmers adopt practices that will increase their resilience to climate change and women are even less likely to do so (Kristjanson et al. 2017).

Declining agricultural productivity as a result of climate change impacts may push smallholder farmers to seek alternative economic activities outside of their village. This may affect the gendered division of labor in agriculture (Sugden et al. 2014). In Morocco, rural–rural migration has increased for both women and men in response to droughts and climate change. This emerging pattern is breaking many stereotypes regarding the extent of women’s involvement in agriculture in the region and the range of climate adaptation techniques they may employ (Najjar et al. 2017).

Climate change has visibly altered livelihoods, with gendered impacts in the north-western province of Mali (Djoudi and Brockhaus 2011). People have shifted from water- to forest-based livelihoods as a result of frequent droughts. Over the years, many men have abandoned livestock-herding and charcoal production and have migrated out of their villages. Women have moved out of crop agriculture and into forestry and livestock management. In smallholder farms in East Africa, climate adaptation through crop diversification increases women’s control over income and foodstuffs, while adaptation measures that involve commercialization of crops have decreased women’s control (Tavenner et al. 2019).

Thus, the literature confirms that the gender division of labor in agriculture is changing in response to climate change and subsequent household adaptation strategies. In some contexts, this leads to increases in women’s work and responsibilities in agriculture. There is, however, insufficient evidence on whether and when these new roles and responsibilities contribute to reducing inequalities, particularly in economic opportunities. Policies and development interventions addressing climate change (for example

climate-smart agricultural practices) have the potential to advance or disrupt gender equality. For more on gender equality approaches to climate change adaptation, see Chapter 7, this volume.

### **Technologies and innovation**

Technologies introduced in the agriculture and rural sectors may also alter the labor patterns of women and men (Farnworth et al. 2019). The technologies may reduce labor inputs, such as agricultural machinery, or increase productivity, such as improved seed varieties. Mobile telephones and the internet can reduce price dispersion and misallocation across markets (Jensen 2007), increase farmers' access to weather data and thus influence planting decisions, serve as a platform on which to receive extension services (van Campenhout et al. 2018), permit access to services like picture-based weather insurance (Ceballos et al. 2019), and even increase communication between spouses—including when one of them has migrated. Information technology also affects individuals' influence over policymakers (Kosec and Wantchekon 2020).

Because agricultural labor, control over outputs, and access to technology itself are deeply gendered in most rural settings, the introduction of new technologies is likely to affect women and men differently. Agricultural technologies and gender relations are interrelated, and adoption of technology shapes gender relations. The introduction of new labor-saving technologies, such as mechanization, may have both positive and negative gendered impacts, depending on the extent to which men's or women's tasks are mechanized (Johnson et al. 2016, Khatri-Chhetri and Chanana 2017).

Abundant evidence suggests that women often have less access to and information about new technologies that would increase productivity, and fewer resources needed to purchase and use such technologies (Meinzen-Dick et al. 2010, Ragasa et al. 2012, Peterman et al. 2014, Kondylis et al. 2016). Women's ability to adopt technologies is constrained by the fact they are also much less likely than men to own land (Doss et al. 2015, Kieran et al. 2015) or to have secure tenure, which is often required for financing or long-term investment. As a result, women tend to focus on low-investment and low-profit innovation developed through their own social networks instead of via extension workers (Kawarazuka and Prain 2019). Poor targeting of extension services often neglects women farmers (Farnworth et al. 2018, Balasubramanya 2019). Thus, when men migrate, while remittances may allow for the purchase of some new technologies, the origin household may have other challenges in accessing them.

Technologies to increase productivity may have unanticipated impacts on the allocation of men's and women's labor. For example, the introduction of an improved breed of goats into a pastoral community in Tanzania changed the household distribution of livestock labor: traditionally, men and boys had taken the household herd grazing on the savannah, but, because the improved goats were not adapted to the long journeys, they remained with the women. The women welcomed the increased work burden because they also gained more milk for home consumption (Galiè and Kantor 2016). Technology may also substitute for men's labor. For instance, solar irrigation pumps installed in a village in Nepal with high rates of male outmigration have meant that *de facto* women household heads can irrigate their farms without relying on men (Khatri-Chhetri and Chanana 2017). Technologies that allow women to complete certain tasks on their own may reduce their dependence on men and increase their decision-making power in such tasks.

The impact technology has on gender dynamics also depends on what activities it aims to address and whose work it affects. New technologies adopted only by men may increase gender inequality. New technologies may also increase women's overall workload. Merely providing technology is not the answer; it is necessary to identify women's needs for labor-saving technology and provide appropriate training, and women must be able to benefit in terms of declining drudgery or increased income and sense of achievement. Further evidence is needed on how to use labor-saving technologies effectively to support women's work in the context of the feminization of agriculture.

## **Conflict**

Conflict also often changes labor patterns. CGIAR research in conflict-affected areas such as Syria and the larger Middle East and North Africa region does not specifically talk about conflict as the main driver of structural shifts in agricultural labor. However, evidence shows that, with the increasing migration of men from such areas, women are providing more labor in smallholder agriculture (Abdelali-Martini and Dey de Pryck 2015, Galiè et al. 2017). In addition, research within Syrian refugee camps in Lebanon shows that women often undertake agricultural wage labor as a means of survival whereas men are more likely to take jobs in construction (Al Zoubi et al. 2019).

While research on the relationship between conflict and crises and the feminization of agriculture is limited, the patterns of agricultural labor certainly change during such critical moments. Conflict rarely results in welfare gains for those it affects. It disrupts economic systems, including the agriculture sector, and changes labor patterns. More research is needed to



understand how conflict and crises—which disrupt supply and demand and may create security concerns that limit women’s mobility—more broadly shift labor opportunities for men and for women, on and off the farm. Research is also required on how women’s changing work and responsibilities in agriculture can facilitate gender equality in conflict and post-conflict settings.

## Migration

One important way that many of these drivers change labor patterns in agriculture is by influencing migration. The term “feminization of agriculture” is even occasionally defined as a situation in which women take on more agricultural responsibilities because men have migrated (Khatri-Chhetri et al. 2019). While seasonal and circular migration have historically been common livelihood strategies for rural households, changes in the economy, economic crises, decreases in landholding size, and declining profitability of smallholder agriculture are pushing people, especially men and youth, to seek economic opportunities outside of rural villages (Deere 2005, Basnett 2013, Mueller et al. 2014a, Kosec et al. 2018a, Mueller et al. 2018). Large-scale commercialization, land reforms, and privatization of land have created a landless or land-poor labor force in some areas, which has contributed to migration (Mukhamedova and Wegerich 2014, Najjar et al. 2018), especially in settings where land rental markets are thin or otherwise do not function well (Kosec et al. 2018a). Climate change may make smallholder agriculture riskier and less profitable. Migration may also be a response to new economic opportunities in both rural and urban areas, as well as abroad, pulling people, especially youth, away from farms (De Brauw et al. 2014, Mueller et al. 2018).

The reasons for migration will influence the impacts in the rural communities. In Kyrgyzstan, men’s outmigration is often a result of negative income shocks and economic stress facing agriculture-dependent households (Kosec et al. 2020). This predominately male outmigration is accompanied by reduced consumption and deteriorations in young child health (Kosec and Song 2019). A failure to control for economic conditions when considering the impacts of changes in rural labor patterns may skew the interpretation of their impacts. It may be more difficult for women to increase their agency and decision-making when prevailing economic conditions are bad.

If we consider only male outmigration, we may miss some key dimensions of the changes in rural areas. In some parts of Southeast Asia, women migrate and men are “left behind” in rural areas to farm (Elmhirst 2007, Hoang and Yeoh 2011). In some parts of Latin America too, women have a long history of migration, initially to cities within their own country and, since the 1990s,

more frequently to developed countries for care work (Deere 2005, Deere et al. 2015). Women's migration has implications for the availability of labor in the sending community, but the empirical literature does not cover the impacts of female outmigration from agricultural areas in any depth.

While marriage is often cited as a reason for women's migration (Mueller et al. 2015), it is often categorized as a social rather than an economic reason (Rao 2017, De Brauw et al. 2018). Yet migration for marriage will influence whether or not women work, and in which sector (Mazumdar and Agnihotri 2014). Once married, women may also migrate with their husbands, again affecting their patterns of work.

One trend that has surged is the seasonal rural–rural migration of women to harvest crops. In Latin America, women may migrate seasonally alone or with their families (Deere 2005). In Morocco, women may migrate to nearby villages to work as hired laborers, since social norms discourage them from doing paid agricultural work in their own villages (Najjar et al. 2018). Similarly, women from rural Tajikistan migrate seasonally to other villages within Tajikistan or to nearby villages of Kyrgyzstan for casual agricultural work (Mukhamedova and Wegerich 2014). These cases show that migration trends are altering the pool of agricultural laborers as well as the set of economic opportunities for both women and men. Whether this is good or bad for gender equality depends on the work conditions and wages for both women and men as well as on who controls income.

## **Lessons from the feminization of agriculture research for gender equality**

This section identifies key insights from the research on the feminization of agriculture regarding gender equality in the context of agrarian change. As discussed above, much of the literature focuses on the drivers of changes in women's work and agency without explicitly framing the discussion in terms of gender equality. We look at gender equality in terms of work and women's voice and agency. We consider this in four domains: commercial large-scale agriculture, smallholder farming, governance and natural resource management, and the role of development interventions in agrarian change.

The different aspects of gender equality are often not perfectly correlated: improvements on one indicator may correspond with a worsening on others. A nuanced view of gender equality that takes men into account and considers multidimensional impacts is thus critical. Importantly, we consider what other factors and gender dimensions we can draw from the existing studies

that affect how and the extent to which changes in women's roles and responsibilities improve gender equality.

### **Equal employment opportunities in commercial agriculture**

The review in the previous section confirms that the commercialization of agriculture can open up new employment opportunities for women yet it does not necessarily lead to gender equality related to wages, employment opportunities, and time use. Women often participate in these new activities and earn an income, but they tend to earn less than men and work under less secure contracts and in poorer working conditions. Thus, while there are new opportunities for women, they may not necessarily lead to gender equality. Broader structural changes that provide opportunities for women to earn the same wages as men and progress into both permanent and management jobs will be necessary for the sector to be a positive force toward gender equality.

In addition, patriarchal gender norms are one of the key underlying constraints to women's ability to take advantage of these new positions. Changes in men's and women's perceptions about the responsibilities around reproductive work appear to be a precondition for women to join commercial agricultural enterprises without a significant additional labor burden. Women are more likely to seize new opportunities when they are accompanied by a loosening of gender-biased norms that limit women's mobility and livelihood options, and when they do not merely increase women's overall work burden but rather create a more balanced division of labor between women and men. As women become visible in leadership positions, more households may become comfortable with the idea of their daughters, sisters, and wives earning money by working in the agriculture sector.

In Syria, some men assumed domestic responsibilities or purchased labor-saving home appliances when women were getting paid jobs in agriculture. Women's increased involvement in agricultural wage work brought about shifts in gender relations and women's empowerment. Labor contract work allowed women to come together as a community. Coming from a culture of seclusion, the work brought them into contact with women from other families. This offered them a space to share common problems, joys, and aspirations, opening their narrow worlds to new information, experiences, perspectives, networks, and friendships, and led to increased control over household expenditure and investment (Abdelali-Martini and Dey de Pryck 2015).

Other social norms also may limit women's ability to take advantage of new wage opportunities. For example, in South Asia, women's communication with outside men is often discouraged, limiting their opportunities to

work in agriculture (Sugden et al. 2014). Norms that allow men to disrespect women may also limit women's choices. Women agricultural workers in Morocco often self-select to work in women-only groups to avoid harassment, even though this leads to lower wages (Najjar et al. 2018). Thus, deeply entrenched norms are powerful barriers to making new employment opportunities women-friendly and to bridging gender gaps in economic opportunities.

To summarize, evidence confirms that women's increased employment in agriculture does not necessarily yield gender equality in terms of wages and working conditions. Second, women's paid employment or income-generating activities tend to translate to a higher workload, particularly when the gender division of reproductive labor does not shift. Third, women's increased income-earning does not necessarily or directly translate into autonomy over that income and an increased say in household decision-making. Existing gender inequalities as well as gender-biased social norms affect the nature and impact of the employment and income-earning opportunities that women are seizing. Shifts in norms, in women's voice, in the gender division of labor, and in decision-making can and do occur, but not automatically. Improvements in women's opportunities in the commercial agriculture sector are welcome but are only one aspect in a broader complex of gender relations and dynamics. To move toward gender equality, it will be necessary for the sector to make good jobs available for women and for the social norms to change to allow women to take up these positions.

### **Changing opportunities within smallholder agriculture**

In smallholder agriculture, several drivers of change with potentially diverse or contrasting effects are at play and have differing impacts on gender equality. Increased commercialization here opens up new opportunities for women but, without access to markets and control over the income earned, the changes may worsen gender equality. It is well documented in numerous contexts that women have less access to land and other resources needed to increase productivity (Deere and León 2003, Garikipati 2009, Ragasa et al. 2012, Peterman et al. 2014, Doss et al. 2015, Kieran et al. 2015). Increased market opportunities in the smallholder sector may also increase women's overall work burden. Thus, women's limited access to input and output markets, weak control over agricultural income, and double burden of reproductive and on-farm work (Ingabire et al. 2018) stand as barriers to gender equality. Often, these factors interact. As groundnut-shelling in Zambia was mechanized and men got more involved in production, women saw an increase in their decision-making around management and use of the income from the crop but men owned the

land and retained decision-making power over what crops were grown (Orr et al. 2014).

Migration, particularly the outmigration of men, has had significant impacts with regard to patterns of work and responsibility within smallholder agriculture. The impacts on gender equality may be positive or negative. Men's off-farm migration may create space for women to engage in agricultural management (Abdelali-Martini et al. 2003, Mukhamedova and Wegerich 2014, Stanley 2015, Farnworth et al. 2018, Kar et al. 2018, Padmaja et al. 2019). This includes not only primary agricultural production but also marketing of agricultural products, negotiating labor contracts, supervising hired male labor, and interacting with extension and municipality agents. The shift in perceptions of women as "farm helpers" to farm managers has the potential to contribute to gender equality in terms of women's control of income. For some women, men's absence translates into more decision-making power, freedom of movement, and financial freedom (Farnworth et al. 2019).

The balance of own-farm work and employment may also shift. In Viet Nam, women are increasingly farming rice in smallholder households as men and some younger women migrate from villages. Although women now have more autonomy over managerial decisions on the farm, they often substitute this unpaid on-farm work for their salaried work (Bacud et al. 2019). Other studies point to a relocation of women's labor from non-farm to farm activities when a family member migrates (Binzel and Assaad 2011 for Egypt, Mu and van de Walle 2011 for China, Mendola and Carletto 2012 for Albania). Unless men's outmigration is coupled with gender-sensitive changes in terms of access to and control over productive resources and decision-making platforms, we may not see improvements in gender equality.

To better understand what is changing and how this affects gender equality, more research needs to focus not only on how male outmigration and commercialization of smallholder agriculture affect women but also on what kinds of institutional and societal changes are required so that these changes move us toward gender equality. Situations are diverse across regions as well as within communities. Studies need to move beyond documenting current labor situations toward understanding changes in decision-making and control over resources. From a gender equality perspective, it is equally relevant to reflect beyond changes that the commercialization of smallholder agriculture and the outmigration of men have brought on, to also consider other changes in the rural landscape that influence relationships between women and men, which are a result of changing opportunities within

smallholder agriculture, such as women moving to cities; rural women's participation in the non-farm sector; and in-migration of other men.

### **Gender equality in governance and natural resource management**

Women's involvement in the governance and management of agricultural enterprises and community resources is a critical dimension in achieving gender equality that addresses the interests, needs, and priorities of women as well as men (Li 2015, Elmhirst et al. 2017, Galiè et al. 2017). Evidence is emerging on how changes in the agriculture sector affect women's voice in their community and in local institutions. CGIAR has ongoing work to look at issues of governance of local institutions in the context of male outmigration, for instance water management institutions in Tajikistan and Nepal.<sup>1</sup> These have the potential to provide key insights on how to move toward gender equality as new governance structures develop. This type of research merits more attention, given that women's voices have the potential to influence the mix of policies and interventions affecting the agriculture and rural sector.

Women's respect and involvement in their community may be linked with their higher-earning opportunities and resulting greater self-confidence. For example, in one village in Nepal with high rates of male outmigration, solar irrigation pumps together with trainings and better support from the district agriculture offices contributed to women farmers attaining higher productivity from their farming and increasing their incomes. As a result, they gained more prestige in the community, which is one dimension of gender equality (Khatri-Chhetri and Chanana 2017). In South Asia, women gain more confidence in making decisions regarding their farms when they come together via informal or formal groups. These women also gain more access to rural institutions such as credit services and extension offices through collective effort (Padmaja et al. 2019).

The changing nature of rural institutions in the face of agrarian change will also influence gender equality. In Sughd province in Tajikistan, the privatization of many collective farms has pushed many women out of agriculture into conventional and domestic roles (Mukhamedova and Wegerich 2014). At the same time, the existing collective farms have become female-dominated as men have migrated out. Women have been emerging as leaders who organize other women workers and negotiate on payment and

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1 See <https://wle.cgiar.org/influencing-water-investments-support-women-tajikistan> and <https://gender.cgiar.org/selected-research-proposals-feminization-of-agriculture/>

workload with the contractual (*dehkan*) farmers. Gender relations are shifting; women are actively taking over agriculture as primary farmers and gaining more confidence, leadership skills, and bargaining power as they organize themselves in cooperative labor units.

Yet commercialization and privatization can also negatively affect women’s voice and their control over (community) resources. A critical concern here is women’s voice in institutions that address issues of land tenure and land management. In Indonesia, changes in the rural sector have led to commercialized oil palm farming replacing women’s farms where they previously grew vegetables, fruits, and other crops for subsistence. The land women farmed was given to oil palm companies, whose governance and management decisions rarely included women (and often young men) (Li 2015, Elmhirst et al. 2017). Such policies of exclusion of women from decision-making platforms reinforce historic practices of gender injustice, or introduce new inequalities.

Women are rarely compensated for their losses when they lose access to land as a result of a government policy or commercialization project; this is often because their involvement in agriculture is considered an “interest” rather than a “right.” Compensation policies are often skewed either toward men or toward the household as a unit—in either case neglecting women’s rights and usage of land, and often ignoring customary laws in the process (Doss and Meinzen-Dick 2019). In Burkina Faso, for example, the government’s land expropriation policy has treated households as a single unit and given land to men, even though women are the main rice cultivators (von Koppen 2008). In Malawi, a resettlement program that otherwise improved households’ access to land, tenure security, and food security actually jeopardized the land rights of women in male-headed households as matrilineal customs were abandoned in the new resettlement villages (Mueller et al. 2014b). Thus, while the government policy could have actively bridged gender gaps in decision-making and control, it actually worsened the situation.

### **Interventions to improve gender equality**

Development interventions by government or non-governmental organizations (NGOs) may influence rural transformation and the resulting impacts on gender equality. These interventions can introduce new awareness of rights and responsibilities and challenge existing inequalities. They have the potential to increase the likelihood that rural transformation will benefit women. For instance, through trainings and support from extension officers in Nepal, women are increasingly participating in making decisions about

wheat farming and are emerging as autonomous wheat growers. Women consult their husbands and discuss decisions with them but, with their increased success and economic incentives, their families are more encouraging of their participation as commercial farmers (Farnworth et al. 2019).

Yet development projects may also reinforce harmful gender and socioeconomic inequalities. For instance, land restoration efforts in Kenya may also reinforce gender-biased norms where women are involved in low-paying and more labor-intensive tasks with limited control over land and productive resources; and minimal tenure rights and cultural factors reinstate men's dominance in decision-making (Ihalainen 2018). In addition, development projects that ignore intersectionality may benefit some women while making others worse off. For example, international NGOs in India often find it easier to target upper-caste women from landholding households, which increases inequality among women of different castes and socioeconomic backgrounds (Farnworth et al. 2018).

For development programs to do good rather than harm to gender relations, insights into gender dynamics must inform gender-responsive interventions. To offset some of the negative effects of agrarian transformation on gender equality, a number of studies call for gender-responsive mechanisms. For example, creative solutions that bundle direct payments to women with non-financial incentives, such as increased access to veterinary services, can help offset the impacts of women's loss of control over milk incomes under commercialization (Tavener and Crane 2018). In some cases, women experience more control over the incomes they receive individually or through women's groups, as opposed to through mixed gender groups (Ihalainen 2018).

Other responses use gender transformative approaches to engage explicitly with social norms to influence gender equal outcomes (see also Chapter 10, this volume). A number of CGIAR projects are attempting to change negative attitudes that exist toward women's engagement in agriculture. A project in Uganda encouraged couples to register at least one of their sugarcane blocks in the wife's name. The result was significant increases in women's involvement in the value chain and increased access of women to bank accounts, since these were a prerequisite for having a block registered in their name (Ambler et al. 2018). In Ethiopia, men as well as women were provided trainings on women's rights in agricultural value chains, benefiting women through increased access to resources, technologies, and knowledge (Gebremedhin et al. 2016).

One main takeaway from such projects is that it is important to target both women and men. This also counts for interventions that seek to raise



aspirations of farmers. In Kyrgyzstan, for example, interventions aimed at raising women’s aspirations can increase their involvement in household decision-making; interestingly, interventions that make their husbands more ambitious are associated with more egalitarian gender attitudes among both women and men, but no greater involvement of women in decision-making (Kosec et al. 2018b).

## **A research agenda to promote gender equality**

Having explored the existing body of research on the feminization of agriculture, we now reflect on how it contributes to enhancing understanding of gender equality in agrarian change processes and develop a research agenda. A first observation relates to the size, scope, and generalizability of existing studies. The research on the feminization of agriculture, in its myriad dimensions, tends to be based on relatively small-scale qualitative and quantitative studies, often in a single location for which findings may not generalize to other locations. A few quantitative studies analyze nationally representative datasets but the variables available often limit the scope. Even if findings do not generalize, it would be useful to understand the context in which these individual studies are taking place and what they imply for the types of settings in which their findings should (and should not) hold. Thus, it will be critical to build a body of research in which the individual analyses more closely speak to each other, drawing on common framings and terms. The current CGIAR research project on the feminization of agriculture is in the process of developing such a framework.<sup>2</sup>

The literature discussed here both supports and challenges the two narratives that we presented in the introduction. The rural transformation that is occurring may have multiple effects, some of which may be empowering for women and move toward gender equality whereas others may be disempowering and disadvantage women relative to men. The findings confirm that, in many places, women’s labor force participation in the agriculture sector is increasing for a variety of reasons—including commercialization of value chains, climate change, technology, conflict, and migration—but women are often concentrated in certain domains, such as seasonal, casual, or unpaid work.

Furthermore, women’s increased paid work in agriculture does not necessarily result in gender equality in terms of wages, positions, and overall time

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2 See <https://gender.cgiar.org/feminization-of-agriculture/>

use; prevailing patriarchal structures often create unequal distributions of both costs and benefits. Women's working conditions and pay often continue to be worse than those of men doing similar jobs, and women often remain responsible for productive and reproductive work in the home. This means entrance into the paid workforce increases their overall workload. Rural transformation, however, can move us toward gender equality, particularly when women are offered management or supervising roles, when labor-saving technologies and training are provided to women, and when women gain greater access to and control over resources and incomes.

While this review of literature has enhanced our understandings of gendered labor patterns in agriculture and provides insight into their implications for gender equality, it is necessary to address a number of key gaps. There is a need for greater evidence to identify the conditions under which rural transformation does increase gender equality. A future research agenda on rural transformation, the changing patterns of men's and women's work, and gender equality emerges when we look at the conceptual and methodological weaknesses and gaps.

### **Reconceptualizing the “feminization of agriculture”**

Our review of existing studies points to the importance of looking at the existing institutional framework in order to understand the effect of rural transformation and the feminization of agriculture on gender equality. Social norms on gender emerge as a key factor in this. These include norms around women's paid employment and behavior outside the household, perceptions of what women can and should do, expectations of women's unpaid work within the household, and the extent of acceptance of violence against women and harassment.

Another need that emerges is for more information on the macro- and institutional-level policy levers that can affect labor patterns and increase their potential to bring about gender equality. Since most research focuses on the micro level, it tells us little about relationships with national-level policies. There is evidence on how policies regarding property rights or wage employment affect women but these analyses usually do not consider the rapidly changing situation in rural areas. In addition, many of the institutions that affect agricultural production operate at the community level, such as producer cooperatives or water user associations. When are these institutions able to adapt to the changes and incorporate women not only as members but also as agenda-setters and leaders? Considering subnational differences in policies within a single country, changes in policies within a single country

over time, or differences in policies across countries can help researchers better assess which policies levers are most effective in bringing about gender equality in the context of rural transformation and other drivers of change in the rural sector.

Finally, there are dimensions of gender equality that are missing from current research and literature on the feminization of agriculture, and this is a gap that may need filling. In particular, how these rural transformations affect violence against women is critically important. CGIAR has carried out some innovative work on intimate partner violence in the context of social policy programs (Hidrobo et al. 2016, Roy et al. 2018) but less has been done on the relationship of agrarian change and violence against women.

There is a need for additional research on how agrarian change is unfolding in conflict and post-conflict situations. Severe policy and governance disruptions have the potential to promote rapid changes in women's and men's roles. Appropriate agricultural and labor market policies may support movement toward gender equality.

The institutional and policy environments in which women and men work affect both manifestations of rural transformation and the changing patterns of women's work and responsibilities, but they are also themselves affected by rural transformation. For example, as more women take on work outside the household and contribute to household income, social norms around what paid work women can and should do and norms around women's mobility and behavior outside the household are likely to change. Norms and perceptions around who is seen as a farmer and, therefore, a potential beneficiary of agricultural policies, may also change as more women take on the primary responsibilities for the household farm and men are absent from rural areas. And women may even help policies promote gender equality if agrarian change permits their greater involvement in decision-making processes at the local and national levels.

In analyzing the interactions between these different drivers, manifestations, and factors, it will be important to place these in the context of broader shifts in order to be able to assess whether change is moving toward or away from gender equality. There is a strong need for research on the broader trends across time and space in terms of rural women's and men's work within and outside of agriculture. As people move out of agriculture, where are they moving? To what extent are women moving into dynamic agricultural sectors rather than stagnating ones? And how do patterns vary with different drivers of change and transformation? New approaches, such as geo-spatial economic analyses and maps, may permit greater understanding and visualization of

these changes. They may also serve as a valuable policy tool for explaining broad patterns succinctly.

Finally, the research demonstrates the importance of considering the differentiated impacts of these changing labor patterns on different groups of women and men. Who is providing more agricultural labor and who is providing less? How are the shifts affecting men's and women's total labor burdens and responsibilities? How are the poor and the landless particularly affected? While we may be interested in the impacts on gender equality at a national or regional level, there may be differences within specific contexts and groups of people, such as groups based on age, caste, ethnicity, or other socioeconomic characteristics. Taking intersectionalities seriously can lead to a more nuanced understanding of the trends—and thus more appropriate policy prescriptions.

Future research should more consistently provide evidence on what is changing and how drivers of rural transformation affect manifestations of the feminization of agriculture. A critical step in this is to investigate how these changes and these drivers affect different dimensions of gender relations. Many of the studies reviewed describe women's increased control over an asset, or their involvement in decisions as achievements in and of themselves. It is pertinent to go beyond such a narrow focus and to more systematically and comprehensively measure the domains in which gender equality has (and has not) been advanced.

### **Addressing data gaps with improved measures**

An improved conceptual framework needs to be accompanied by improved ways of measuring changes in the dimensions of gender relations and in the patterns in agricultural and rural sectors. New quantitative work needs to take measurement seriously, and consider how to build upon existing studies through the collection of high-quality detailed data. These include data that allow us to better understand “jointness” in decision-making; data that capture the nature of asymmetric information between spouses, especially following male outmigration; data on women's and men's time use and how each goes about multitasking; and data on the policies or norms in a given setting that may affect the potential for agrarian change to bring about gender equality. We consider some of these data gaps in more detail here.

To understand shifting labor burdens, we need better data on time use in agriculture and domestic and unpaid care work, as well as off-farm work for women and men, girls and boys. The development of new methodologies on time use are currently underway but challenges remain as to how to best collect such data in rural settings in order to be able to better analyze

patterns over time and space. In addition, while qualitative work, such as the GENNOVATE project (Petesch et al. 2018), has explored how to collect qualitative data across sites on *gendered power relations*, less quantitative work has been done to collect such data. Substantial work has been done, however, both qualitative and quantitative, on *measuring women’s empowerment*, much of it through CGIAR collaborative projects.<sup>3</sup> See also Chapter 9, this volume, on measuring women’s empowerment.

Related to the issue of measurement, a current body of research, again much of it within CGIAR, is exploring methods to better understand household decision-making. New approaches have involved analyzing data from multiple respondents within the same household to understand different perspectives regarding who within the household is making the decisions—and how different respondents’ answers correlate with key outcomes (Kosec and Song 2019, Ambler et al. forthcoming). Other work seeks to understand how husbands and wives understand joint decision-making (Acosta et al. 2020). It would be useful to extend this literature to consider how gender dynamics affect household decision-making when one person has migrated or is spending time away from the farm or household.

In addition, since we are interested in how these changes in labor patterns and decision-making influence the well-being of people living in rural communities, it would be useful to identify additional measures of well-being, as well as of stress. Beyond increasing workloads, women may experience significant stress, despair, and other mental health issues associated with the increased pressures from new roles as primary household providers (for example in early stages of a husband’s migration). Men may experience significant stress because new patterns in the division of labor and decision-making may challenge traditional masculinities. Men who are migrants themselves may face stress and unhappiness (Chen et al. 2019), affecting both the level of remittances they send home and relationships with their families.

We need new approaches to collecting well-being information from both family members who remain in rural areas and those who migrate. Comparative studies of how well-being, decision-making, and other indicators vary by migrant and non-migrant members are rare. We also need more studies analyzing the asymmetric information resulting from migration and the implications for the welfare of non-migrant women—including how the explosion of information technology has influenced these asymmetries. Research by Ambler (2015) uses experimental methods to identify these

3 See <https://gaap.ifpri.info/>; <https://www.ifpri.org/project/weai>

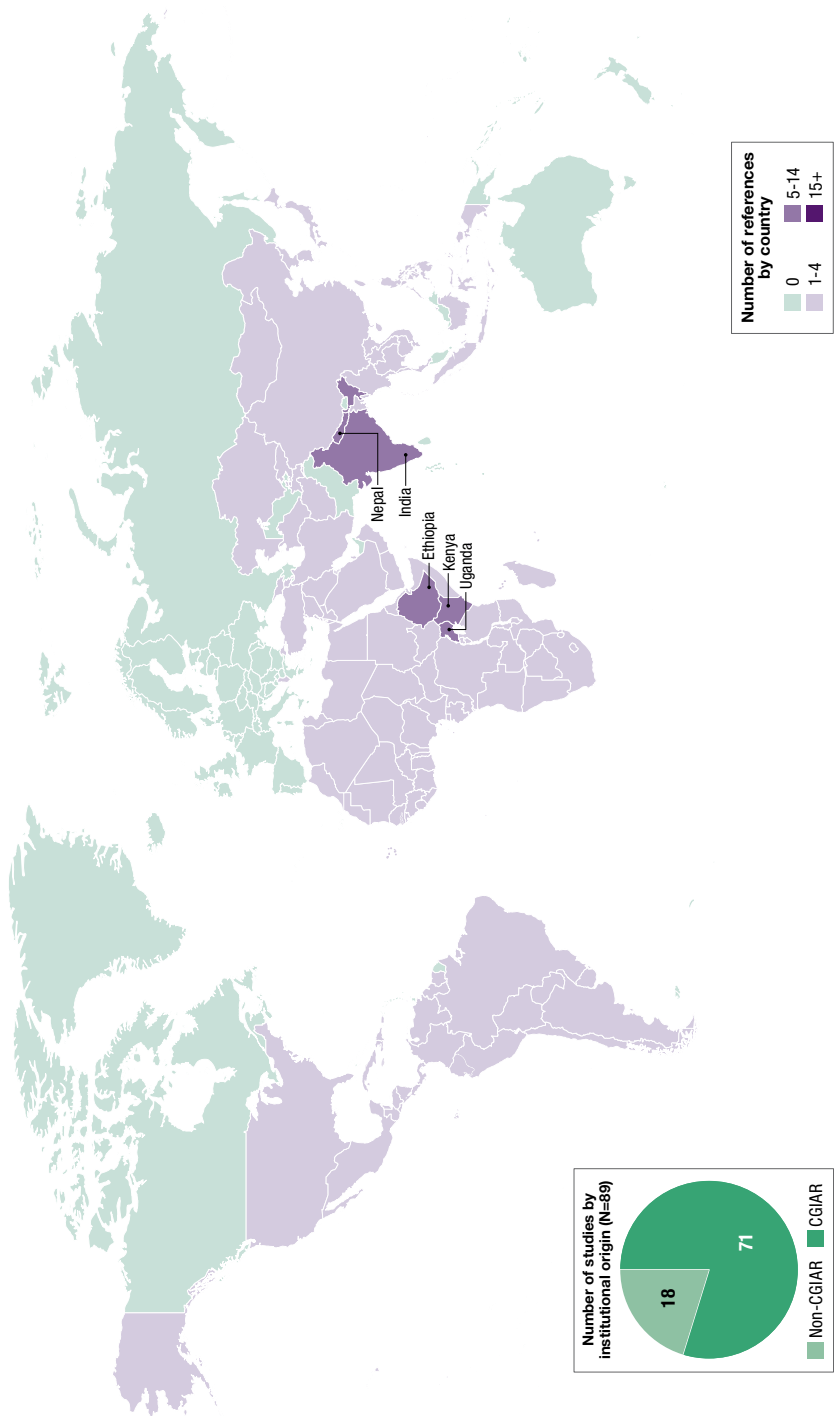
asymmetries based on interviews with both the sending and the receiving transnational households. The lack of intra-household data and research that covers both migrants and non-migrant family members makes assessing the impacts of migration on gender equality especially challenging.

## Conclusion

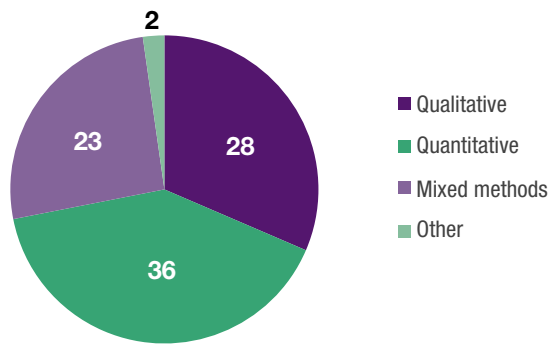
The term “feminization of agriculture” is used to refer to the broadening and deepening of women’s involvement in agriculture—in terms of workload, decision-making, or visibility. Some see this increased involvement of women in agriculture as empowering because it creates new opportunities for women; others fears disempowerment for women “left behind in agriculture,” with few agency and livelihood opportunities. This chapter points to the need for more insight into how rural transformation is changing gender relations vis-à-vis progress toward gender equality. The emerging picture of changes in women’s work and responsibilities has significant implications for CGIAR system-wide agricultural research and interventions.

First, the traditional gendered divisions of labor in agriculture are changing and labor patterns are increasingly diverse and variable. Agricultural interventions need to provide appropriate technologies, trainings, and policy recommendations to ensure that women as well as men benefit from the innovations and trends that are affecting rural labor markets, especially in agriculture. A failure to address these issues not only reduces adoption rates of technologies but also runs the risk of perpetuating gender inequality. Research and interventions need to question common assumptions about men’s and women’s roles and responsibilities; they must consider how the labor patterns as well as gender relations are changing, often in response to either new opportunities or setbacks. Context is critically important in this—and this raises the importance of qualitative work that sheds a light on why particular policies or interventions work in some settings but not in others.

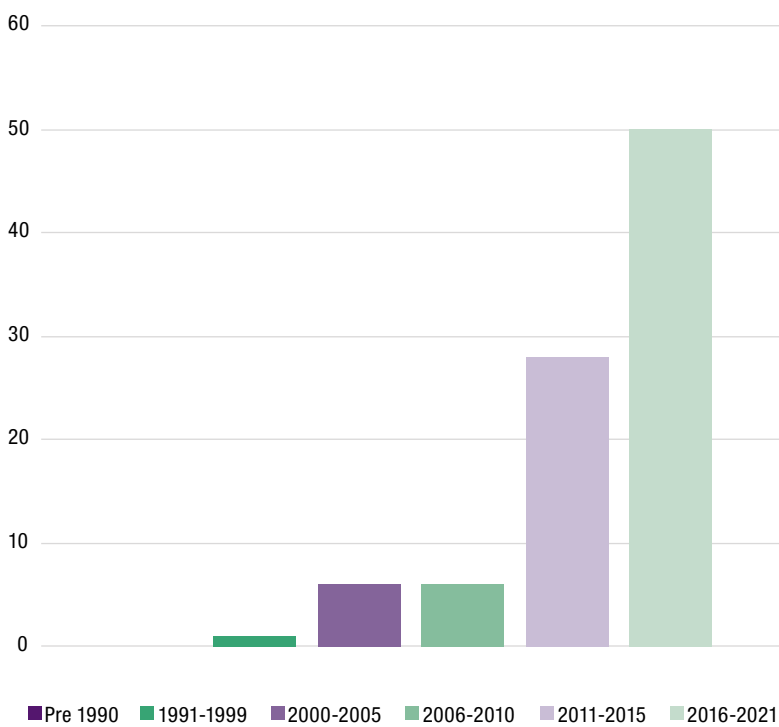
Geography of study sites for publications cited in Chapter 8



Number of cited studies by research methodology (N=89)



Timeline for references cited





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