What is feminization of agriculture?

Feminization of agriculture refers to women taking on responsibilities for deciding what is to be done in farming, and taking on more farm work themselves. There is no single feminization process, rather, a variety of processes taking place in different locations, at different speeds and in different ways. In some cases, agriculture appears to be masculinizing rather than feminizing. However, a major trend is women doing more and deciding more in farming than before — though not necessarily both at once. These changes are challenging researchers, development practitioners, policymakers and other stakeholders to consider how these processes are affecting women and the very practice of farming itself.

There are many forces behind feminization. For example, off-farm opportunities frequently provide more work to men, both local and...
further afield. Other processes driving change include the increasing mechanization of smallholder farm processes which can remove both women and men’s work, the climate crisis, conflict and pandemic diseases, as well as aspirations for a different kind of life. Whilst feminization processes in agriculture associated with male outmigration dominate much research, it is well established that in parts of South and Southeast Asia women out-migrate from rural areas in significant numbers.

Women and men experience transformation processes differently. Gender norms, attitudes and power relations frame the different ways in which women and men farmers perceive and are able to build on opportunities. Inequalities in these processes can contribute directly to inefficient farming systems across production and post-production processes, enormous costs in terms of GDP and in broader human development, and challenge the world’s ability to achieve the Sustainable Development Goals.

Despite considerable research interest over the past fifty years on women in agriculture, specific research on the role of women in wheat production in the Indo-Gangetic Plains (IGP) is surprisingly sparse. A scoping study and associated journal paper found few studies focused specifically on women’s roles in wheat in Bangladesh, India, Nepal and Pakistan. Interviews with rural advisory services, policymakers and researchers in these countries showed that very few stakeholders recognized women as ‘farmers’ and thus virtually no programmatic responses had been developed.

Why do we know so little about women in wheat in the IGP?

One reason we know so little may be due to how some research is framed and conducted. In some parts of the IGP, social norms around women’s honor and the importance of seclusion can make male heads of household reluctant to report to enumerators the degree to which women participate in farm work. This reluctance may be deepened by perceptions of women’s work not actually being farm work at all, including by women themselves. This may be because the work is unpaid, considered an extension of general household chores.

1 Belton, B. and M. Filipski (2019). Rural transformation in central Myanmar: By how much, and for whom?
3 Rigg, J. et al. (2016). The puzzle of East and Southeast Asia’s persistent smallholder.
4 Gulati, K. et al. (2019). Intrahousehold valuation, preference heterogeneity, and demand for an agricultural technology in India.
5 Pattnaik, I. et al. (2018). The feminization of agriculture or the feminization of agrarian distress? Tracking the trajectory of women in agriculture in India.
8 Rao, N. et al. (2019). Women’s agricultural work and nutrition in South Asia. From pathways to a cross-disciplinary, grounded analytical framework.
11 Tateossian, F. et al. (2020). EVALSDGs INSIGHT #10: Transforming M&E for Achieving the SDGs.
For instance, “household work” is not defined as an economic contribution in many surveys. Yet in India household work can include a vast array of agricultural-related tasks: working in the kitchen garden and orchard, caring for livestock, processing primary products like wheat and maize, collecting firewood, preparing cow-dung cakes for fuel and getting water. Moreover, surveys may rely on stereotyped assumptions about the gender division of labor in agriculture without asking in more detail about “who does what” in each task. For instance, it is often assumed that men apply pesticides and fertilizers, but often women bring water, sometimes over considerable distances, to mix these products. As such their role is integral to the process. The ways in which poor survey design can fail to acknowledge what women and men actually do, let alone how these roles are changing, can mean that women’s economic contributions become invisible in economic accounting with almost no one paying attention.

Research remains sparse on intersectionalities in wheat although the commitment in the Sustainable Development Goals (SDG) to Leave No One Behind (LNOB) invites study. In IGP countries, age, caste — including associated ideals of seclusion — ethnicity, socio-economic status and other factors interact with gender in complex ways. Intersectionalities between gender, caste, age and other dimensions of social difference play a strong role in determining which women work in the fields and which women work in the homestead, and they play a role in shaping the ability of different women to take significant decisions in farming.

Age is an important intersectionality. Gendered expectations regarding the degree to which young women and men are expected to work on the farm can play a significant role in determining the variety of futures they may be able to consider. Normative injunctions restricting the participation of young women in farm work can mean that the burden of work can fall upon their mothers, who, as they age, are less subjected to normative injunctions.

Finally, powerful imagery of the farmer as male across the IGP helps legitimize men’s rights over physical and financial capital, and ensures they are targeted by extension services in their perceived role as decision-makers. Farnworth and Colverson term this “conceptual lock-in” whereby men are fundamentally conceptualized as farmers by agricultural actors at all levels. Jiggins points out this is a global issue. The challenge to male-dominated agricultural professions remains “defining who is a farmer, what farming is about, and what progress and modernization within the agricultural sector might mean.”

Feminization in wheat-based systems in the IGP. What do we know?

Labor feminization

Bangladesh

In Bangladesh, women’s participation in agriculture is increasing and men’s participation is slowly decreasing. This trend accelerated after 2013 when off-farm opportunities for women began to stagnate.27 However, feminization — particularly in the hired labor sector — has been observable for many years, with women’s agricultural labor force participation rate increasing from 24% to 36% between 1999 and 2016. Although women are increasingly involved in fieldwork as hired laborers (and particularly for poorer women, on the family farm) their opportunities are limited by norms constraining their mobility, low pay compared to men and preferential hiring of men if they are available.28 Despite discrimination, the women to men wage gap is narrowing slowly.29 However, hired women are vulnerable to mechanization. A study of manual mungbean harvesting showed it was a key source of income for married women in particular, and enabled them to prioritize expenditures on issues of key concern to them, including children’s education. Mechanization, which is commencing, will deprive women of this source of income in the context of few other opportunities, while strong norms around seclusion mean that women are far less able than men to adapt their livelihood strategies and move into new domains.30

India

In agriculture, labor is feminizing as men take up off-farm opportunities. In 1981, two thirds of men (66.3%) and four fifths (82.6%) of women worked in agriculture, either as smallholders or as paid laborers. The equivalent figures for 2011 were around half of men (49.8%) and two thirds of women (65%).31 Women work on family farms and as hired laborers on other farms.32 33 Research on labor in wheat production provides complex data. D’Agostino34 found that the introduction of new high yielding varieties (HYVs) of wheat during the Green Revolution led to a significant decline in paid hired labor opportunities for women because wheat was culturally defined as suited to male laborers. Male wages rose and women’s wages fell. In contrast, a study in Madhya Pradesh showed that women — as smallholders and as hired laborers, and across all castes — contributed labor to every production and post-production task in wheat.35

Nepal

In Nepal, women provide a larger labor force (74%) in agriculture compared to men (51%) and there is an increased proportion of de facto female-headed households due to male outmigration.36 Male outmigration — to India, the Gulf and beyond — is very high in Nepal and is a key driving force behind feminization. Women continue to carry out tasks ascribed to women, such as sowing, weeding and livestock care, and they are increasingly taking on “men’s work” such as land preparation. In one study37 a woman explained: “We don’t have such a thing as men working on men’s plots and women working on women’s plots. All tasks...”

29 Belton, B. and M. Filipski (2019). Rural transformation in central Myanmar: By how much, and for whom?
30 Farnworth, C.R. et al. (2020). How will mechanizing mung bean harvesting affect women hired laborers in Myanmar and Bangladesh.
31 Pattnaik, I. et al. (2018). The feminization of agriculture or the feminization of agrarian distress? Tracking the trajectory of women in agriculture in India.
are done together.” In some cases, women’s intensified workloads lead them to adopt less intensive farming practices. Overall, women of lower caste status remain more likely to work in the field than women in higher castes. In Nepal young men are out-migrating in large numbers whereas many young women are generally expected to find a future in farming. However, although women currently and into the future are likely to dominate the rural labor force in farming, they are rarely targeted for mechanization or other technologies. A study on mini-tiller adoption found a significant gender gap with considerably lower adoption by female-headed households compared to male-headed ones. The discrepancy was primarily ascribed to women not being explicitly targeted by extension services for the new technology.

**Pakistan**

Male outmigration to urban areas and to West Asia is prominent in Pakistan. Women typically remain in villages, taking on additional roles in farming previously conducted by men as well as carrying out time-consuming household chores. Practices associated with women’s seclusion are often more relaxed for poor women, and for women from ethnic minorities who must earn money through fieldwork to ensure household survival. Older women take on increasingly more agricultural tasks as their children grow up. There is a strong gender bias in employment with hired women laborers in Punjab, for example, conducting the vast majority of weeding, harvesting and post-harvesting tasks but only 5% of marketing.

**Managerial Feminization**

**Bangladesh**

Mechanization of agricultural processes is offering some women smallholders new opportunities, including co-managing hiring services with their husbands. For instance, multi-crop reaper-harvesters enable farmers to rapidly cut rice, wheat, sesame, jute and other crops during harvest. Over 90% of reaper service providers registered by the Cereal Systems Initiative for South Asia (CSISA) are men. Some wives advertise the reaper to other farmers through their social networks, bring fuel for the machine, prepare and bring food for the reaper operator whilst in the field, and clean machinery. A few wives assist with accounting and keeping track of prospective clients. A separate study showed women benefiting from managing and sometimes owning machinery services, as well as from the

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benefits of hiring machinery services to harvest crops. However, technical, economic and cultural barriers constrain women’s full participation and restrict their ability to maximize their benefits. Mechanization helps increase household income, reduces women’s drudgery, and improves their health and overall household well-being. Increased income for women is possible when they are given training on agricultural machinery.

Another study in northern Bangladesh showed that indigenous (Adivasi) Santal as well as low-income Muslim women faced significant barriers to accessing and implementing wheat-maize innovations. However, when Santal women were trained in wheat-maize innovations through a women’s organization, they took over the organization and expanded outreach to low-income Muslim as well as Santal women across the community.

**India**

Pattnaik et al., find there is no necessary correlation between men leaving agriculture and higher decision-making capacity among women left behind to work on the farm. A closer look at adoption decisions in relation to mechanical rice transplanter (MRT) in Bihar, for example, shows that the decision on whether to adopt is associated with gendered perceptions of how adoption is expected to affect the distribution of welfare between individual household members. MRT are adopted when they reduce male labor in the field or reduce the cost of hired labor; women’s intra-household bargaining power relative to men’s is too weak to affect this choice.

However, experiences vary across the wheatbelt. Farnworth et al., analyzed data obtained through the GENNOVATE research program to analyze data on decision-making in relation to wheat in six farming communities in four states: Bihar, Haryana, Punjab and Uttar Pradesh. They were able to identify a range of strategies deployed by women to take decisions and categorized these into a typology. Overall, the study identifies six clear strategies ranging from women simply acquiescing to men’s decision-making, through to women exerting full decision-making power on the farm. The study further found that external actors, ranging from the rural advisory services to researchers, make little effort to include women in wheat information dissemination and training events despite powerful evidence of women taking managerial roles in some communities. This suggests that such actors tend to work with damaging assumptions about “who decides” for far longer than farmers themselves.

**Nepal**

Research findings vary on the degree to which women are taking key farming decisions. In some locations experiencing high male out-migration, women in nuclear households are taking more farming decisions. However, women living in extended households with their husband’s parents tend to find their decision-making constrained.

Another case study shows, however, that women’s decision-making power in nuclear as well as extended families has increased due to male-outmigration. This study showed that parents-in-law are increasingly trusting their daughters-in-law to take key farming decisions. NGOs — simply through practicing gender equality in meetings and outreach — have made women feel valuable and empowered. NGO promotion of gender equality has strongly influenced community acceptance of women’s ability to take decisions and to move around the community. Nevertheless, the study shows that women remain ignored by the extension services as a whole, though individual officers may support them. Such support can radically strengthen women’s ability to innovate. One successful woman innovator explained: “I was the first person to innovate in the village. I was selected to test improved varieties of wheat using new cultivation methods.” In most cases though, women innovate in wheat through observing other farmers, sharing knowledge between themselves, and planting small areas before taking their wheat innovation to scale. Men, however, are taught directly

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45 Williams, A. (2019). What mechanization means to women: Case studies from polder communities of Coastal Bangladesh.
48 Pattnaik, I. et al. (2018) The feminization of agriculture or the feminization of agrarian distress? Tracking the trajectory of women in agriculture in India.
49 Gulati, K. et al. (2019). Intrahousehold valuation, preference heterogeneity, and demand for an agricultural technology in India.
50 Farnworth, C.R. et al. (2020). From working in the fields to taking control: towards a typology of women’s decision-making in wheat in India.
by extension services and take wheat innovations to scale much more rapidly than women are able to.\textsuperscript{51} Studies conducted in several districts in Nepal expose the commonly held views about the universality of male decision-making in wheat as a myth.\textsuperscript{52} Although men often claim to be key decision-makers, in reality many men engage in intensive discussions with their wives, as one man explained: “When selecting hybrid seed we, argue. I may say we should plant the same seed across the whole plot and my wife may say — based on her observations in a friend’s field — ‘No, we will plant multiple varieties.’ We decide together.” Acharya et al.,\textsuperscript{53} however, urge caution around interpreting evidence for empowerment. For example, women may be much more active in markets, but this can simply be evidence that men are absent rather than women exercising real decision-making power.

**Pakistan**

Research findings vary regarding women’s participation in decision-making around wheat and farming more broadly in Pakistan. Some observers consider that women's agency is generally weak.\textsuperscript{54} However, others find that due to male outmigration some women are increasingly taking decisions. Kelkar finds that, in such cases, women are happy with their new management roles and responsibilities. “When men return after many years’ absence, women do not easily or willingly give back the management roles to them.”\textsuperscript{55} Yet the extension services focus almost entirely on men, weakening women’s ability to take good farming decisions and undermining their voice in intra-household decision-making.\textsuperscript{56} As in other countries, there are significant regional differences, and differences by ethnicity, in women's relative empowerment.

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**Recommendations to make women visible in wheat**

Feminization of agriculture processes offer everyone who works in wheat systems in South Asia opportunities to do things differently. Acknowledging the reality of change can empower women and strengthen wheat farming.

**Researchers**

- Work, as far as possible, in mixed-methods, interdisciplinary teams.
- Design research to include attention to interdisciplinarity. Include factors of difference alongside gender: caste, ethnicity, socio-economic status, age, disability and others.
- Design quantitative and qualitative research to be free from conceptual biases. Make no assumptions about “who does what” and “who decides.” Seek to capture paid and unpaid work. Disaggregate production and post-production tasks into component parts for assessment.
- Train enumerators to understand their own conceptual biases and assumptions and to mitigate these when talking to respondents by asking carefully phrased probing questions. Match respondents and enumerators by gender.
- Make full use of participant observation. Ask practitioners and men and women farmers about what they are doing.
- Document women’s narratives on how they use their agency to negotiate challenges.
- Use creative techniques to help women speak for themselves, for example life-stories and theatre.
- Create safe spaces to allow respondents to explain “what they really do” and “how they really decide”. This may be through couple interviews, participatory research methods, discussing observations from similar communities where women work in the field/take decisions, or organizing same-gender focus group discussions (FGDs) which allow for careful challenge to normative answers.

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\textsuperscript{51} Farhana, N. et al. (2008). Exploring the gender involvement in agricultural decision making: A case study of district Chakwal.


\textsuperscript{53} Acharya, S. et al. (2020). Changing gender dynamics through high-value agriculture: a case of Ilam district, Nepal.

\textsuperscript{54} Jafry, T. (2013). Integration of gender and social equity in R4D on wheat-based systems in South Asia: Scoping study report to the CGIAR Research Program on Wheat.

\textsuperscript{55} When men return after many years’ absence, women do not easily or willingly give back the management roles to them.

\textsuperscript{56} Arshad, S. et al. (2013). Women’s participation in livestock farming activities.
Rural advisory services and development partners

- Work with local partners, including women’s groups and NGOs, to develop gender-transformative approaches to development. These need to be paced carefully and slowly and bring the whole community onboard.
- Train men, women and the broader family on gender to raise awareness of each person’s contribution to household well-being, and how to strengthen women’s participation and benefits.
- Develop inclusive criteria and logistical support to enable women, and people from marginalized communities, to attend and participate actively in field trials, demonstrations, farmers’ field days and exposure trips.
- Create opportunities for women to raise and discuss important issues in women-only groups before they are encouraged to raise these issues in larger, mixed-gender forums.
- Hold women-only extension events.
- Train women and men extension agents on gender.
- Develop and support a cadre of women extension staff, trained on gender and intersectionalities as well as on technical issues, to reach women farmers.
- Identify women leaders to take the lead in further dissemination to farmers.
- Make special efforts to reach young women in all training programs.
- Develop extension activities in support with partners to help women improve their business and managerial skills, and ensure that men are brought on board.
- Work with smallholder farm families to encourage women’s participation in machinery rental businesses and, where possible, in the use of machinery.
- Provide machinery suitable for women.
- Develop women-friendly marketplaces (including women’s toilets and washing facilities, appropriate vending spaces, etc.).
- Design context-specific development programs to challenge women’s invisibility in wheat.

Policy makers

- Develop flexible, participatory policy making. Women’s voices need to be reflected in policy. Policy needs to be flexible and updated regularly in consultation with all stakeholders including with women, so that a sense of policy ownership can prevail.
- Encourage learning events between women farmers, hired workers and policy makers.
- Analyze assumptions made by existing policies on gender, and ensure that new policies and strategies address gendered realities on the ground.
- Provide policy makers with appropriate and up to date gender data to help them make the best decisions possible.

Target women as hired laborers

- Create opportunities for hired women, formed into groups, to develop their skills in market linkages, machinery rentals, maintenance, bookkeeping and, where possible, use of machinery. Ensure that credit arrangements are suited to women’s repayment capacity.
- Develop legislation and outreach support to ensure that the gender gaps in wage labor are closed.
- Arrange childcare for women hired laborers where women work.
- Provide protective gear and training to women involved in pesticide and herbicide storage and mixing.
- Where possible, formalize terms and conditions using a written contract. Make sure hired workers understand their rights, duties and benefits.

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