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EDITED BY

Stephanie Leder,
Swedish University of Agricultural Sciences,
Sweden

REVIEWED BY

Arundhita Bhanjdeo,
PRADAN, India
Budhaditya Das,
Ambedkar University Delhi, India

*CORRESPONDENCE

Cathy Rozel Farnworth
✉ cathyfarnworth@hotmail.com

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Are wheat-based farming systems in South Asia feminizing?

Cathy Rozel Farnworth^{1*}, Hom N. Gartaula², Lone B. Badstue³,
Lara Roeven³, Preeti Bharati⁴, Siddiquir Rahman⁵, Patti Petesch⁶
and Tahseen Jafry⁷

¹Independent Researcher, Münster, Germany, ²International Rice Research Institute (IRRI), New Delhi, India, ³Research Consultant, Amsterdam, Netherlands, ⁴Consultant, Madhya Pradesh, India, ⁵Department of Anthropology, Jahangirnagar University, Dhaka, Bangladesh, ⁶Independent Researcher, Wageningen University and Research, Wageningen, Netherlands, ⁷Department of Engineering and Environmental Management, Glasgow Caledonian University, Glasgow, Scotland, United Kingdom

This article pulls together the state of knowledge on the degree to which wheat-based systems in Bangladesh, India, Nepal, and Pakistan, are feminizing. It is not yet possible to make definitive statements. However, it is clear that wheat-based systems are undergoing far-reaching changes in relation to “who does what” and “who decides.” There are some commonalities across all four countries. Intersectionalities shape women’s identities and abilities to exert their agency. Purdah is a cultural norm in many locations. Nevertheless, each country displays different meta-trends. In Nepal managerial feminization is increasing unlike in Pakistan. Women in Bangladesh spend the least time in field work whereas in other countries they are often strongly engaged. There are strong local variations within countries as well which we explore. Establishing the extent of feminization is challenging because studies ask different questions, operate at different levels, and are rarely longitudinal. Researchers often construct men as primary farmers, leading to a failure to find out what men and women really do and decide. This diminishes the value of many studies. Cultural perceptions of honor can make men respondents reluctant to report on women’s agency and women can be reluctant to claim agency openly. We provide suggestions for better research, and urge support to women as workers and decision-makers.

KEYWORDS

feminization of agriculture, wheat-based systems, Bangladesh, India, Nepal, Pakistan

Introduction

In 1998, Jiggins reported on 3 decades of research into the “feminization of agriculture” and commented that despite recognition of the trend toward increasing participation by women in farming, agricultural development practice has scarcely changed. This “by and large continues as if the complexities of gender roles in agriculture are merely constraints to the technical advances and efficiency gains deemed necessary to feed the world” (Jiggins, 1998, 251). She further argued that the challenge to men and male-dominated agricultural professions is “defining who is a farmer, what farming is about, and what progress and modernization within the agricultural sector might mean.” Jiggins concluded by highlighting the unwillingness of policymakers and other stakeholders to confront the implications of the need to empower women farmers for resilient and productive food systems (*ibid.*).

Twenty-five years later, the questions Jiggins raised, and the implications of their answers for research and practice, are as pertinent as ever. Feminist empirical researchers continue to

query what the feminization of agriculture might mean, and difficult questions are still being asked (Lastarria-Cornhiel, 2008; Slavchevska et al., 2016; Pattnaik et al., 2018). Anderson and Sriram (2019) liken the struggle to get the agricultural research for development (AR4D) system to consider the implications of half a century of empirical research on gender for women's empowerment as akin to the task of Sisyphus. Sisyphus, in Greek mythology, was the king of Corinth who was punished in Hades by repeatedly having to roll a huge stone up a hill only to have it roll down again as soon as he had brought it to the summit.

Wheat-based farming systems are agricultural systems within which wheat is an important livelihood crop. The term *wheat-based systems* refer both to the crop "wheat" as well as an agrifood system built around wheat production and consumption. In South Asia, wheat is primarily grown in rotation with rice thereby creating wheat-rice systems (Prasad, 2005). This paper focuses on gender in wheat-based systems to contribute to the scanty literature available in the sector in South Asia. The necessity of this is demonstrated by CGIAR Research Program on Wheat commissioned research entitled "Scoping Study on the Integration of Gender and Social Equity in R4D on Wheat-Based Systems in South Asia" (Jafry, 2013a, 2016). The scoping study drew on literature reviews and interviews with key stakeholders—policymakers, researchers, and extension agents. It concluded that data on the role of women in wheat-based farming systems in Bangladesh, India, Nepal, and Pakistan was very limited (Jafry, 2016). Furthermore, although empirical evidence regarding women's work in wheat-based systems emerged during interviews with rural advisory services, policy-makers, and researchers, almost none of these stakeholders recognized women as "farmers" (the word *kisan*, used across the region, has overwhelming male connotations) and thus virtually no programmatic responses had been developed (*ibid.*).

Analytic framework

The paper reviews literature on women farmers in wheat-based systems in Bangladesh, India, Nepal, and Pakistan. Our focus is on women farmers within these systems in general, regardless of their precise role in wheat production. Our aim is to understand whether wheat-based systems in these countries are feminizing over time.

Establishing what we need to know and how to measure it is not a simple task. Jiggins (1998) suggests five ways to conceptualize and measure feminization: labor force participation, agricultural inputs, allocational priorities, adjustment of local economies in relation to global priorities, and poverty profiles. Slavchevska et al. (2016) propose analyzing whether more women work in agriculture (1) over time and (2) relative to men, (3) whether women spend longer hours in agriculture, and (4) whether women are engaged in high-skilled work, either as managers of their own farms or in management positions in commercial farms. We prefer to simplify our task by working with Gartaula et al. (2010) and Pattnaik et al. (2018), who ask whether women work "more" in agriculture and term this development "labor feminization." They then define evidence for women taking "more" agricultural decisions as "managerial feminization." These admittedly vague definitions are useful because the word "more" allows us to understand feminization as a process rather than a state of affairs. It also allows us to work with the

indicators used by diverse researchers, which are far from consistent. For example, some of the studies we draw from work with the notion of innovation as a signal of greater women's agency. Thus, our analysis of managerial dimensions incorporates innovation, which Leeuwis et al. (2014, p. 6) refer to as women and men effectively negotiating and changing how they "interact with each other and respond to their environment" across a system of interlocking institutions. The institutional relations featured in most of our literature center on smallholder household enterprises; although, again, these studies may only touch lightly, if at all, on questions of differential status positions or the forces of markets, extension services, NGOs, or other institutions that directly reach communities. Put differently, the available literature is not yet at the stage that we can definitively "measure" the scope of the changes we are discussing. We do, though, disaggregate the two definitions in this article by asking, under labor feminization:

- Are women working more in agriculture?
- What are women doing?
- Which women do this work?

And under managerial feminization we assess the evidence with regards to:

- Are women increasing their influence over intra-household farm decision-making?
- Which women influence decision-making, and how?

It should be noted that labor and managerial feminization are neither dichotomous phenomena nor discrete processes. They are interrelated and should be seen as forming a "messy" continuum of women's progressive agency. For example, a woman wage labor without no say in agricultural decision making would be at the bottom end of the continuum whereas a woman farm manager who can take independent decisions would be at the top end of the continuum.

Our paper analyses these processes using feminist geographic epistemology (Moss, 2002). This considers social justice across the multiplicity of differences between men and women, and within genders. It rejects homogenized conceptualizations of "women" and "men" and considers enquiry into the ways in which different identities intersect, including race, age, income, class, caste, and other social markers, and considers attention to these intersections to be an important part of data production and analysis (Crenshaw, 1989; Mackay, 2019). Intersectionality is not about having multiple identities but rather about understanding how power structures operationalize and privilege certain identities and marginalize others. Different forms of group-based horizontal relations of marginalization can layer disadvantage upon disadvantage, for example, being economically poor, a woman, a widow, aged, and a member of a discriminated-against ethnic minority (Farnworth et al., 2018b).

Caste is a Hindu system of structured inequality in status built around concepts of superiority and purity (Bidner and Eswaran, 2015; Sankaran et al., 2017; Surendran-Padmaja et al., 2017; Mudliar and Koontz, 2018). The General Caste (GC) are considered the highest caste. Sandwiched between them and the marginalized castes are the mid-level Other Backward Castes (this term refers to their perceived backwardness in terms of education and social disadvantage). The Scheduled Castes (Dalits) and Indigenous

(Adivasi, Scheduled Tribes) are considered marginalized. Caste norms frequently prohibit mixing between castes, particularly with the Scheduled Caste to whom norms of untouchability—despite government prohibition—often apply in everyday life (Mudliar and Koontz, 2018). Thousands of sub-castes exist within each caste. Each caste/sub-caste has developed its own social norms and traditions to some extent. These shape men's and women's roles, responsibilities, benefits, and agency (Lamb, 2013).

We do not explore the broader gendered processes transforming farming systems. Suffice it to say that they include globalizing agri-food systems (Upreti et al., 2016), mechanization of smallholder farm processes (Rigg et al., 2016; Farnworth et al., 2020a,b,c; Depenbush et al., 2021), urbanization (Belton and Filipowski, 2019), dietary preferences (Beuchelt and Badstue, 2013; Brody et al., 2014), pandemic human diseases (Ragasa and Lambrecht, 2020), the climate crisis (McKune et al., 2015; Van Aelst, 2018), off-farm opportunities (Gartaula et al., 2010; Adhikari and Hobley, 2015), aspirations for a different kind of life (Huijsmans et al., 2020), and national policies that encourage migration—internal or external—for off-farm work by either women or men (Baudassé and Bazillier, 2014; Ferrant and Tuccio, 2015; Morokvašić, 2015; Khondker, 2017).

Transecting across these change processes there appear to be some commonalities in how gender relations are expressed at household level. Albeit with important contextual differences in the underpinning norms governing women's and men's expected roles and conduct, the more corporate structure of households in much of South Asia relative to many other world regions means that household members frequently attach strong normative value to “togetherness,” with the “activities and resources of the family [bound] together under the control of a male head” (Kabeer, 1999, p. 460). Social norms typically frame each household members' rights and entitlements differentially, and women typically pursue their strategic needs through engaging with various household members rather than pursuing their goals independently (Kabeer, 1999, 2000; see Agarwal, 2003). Bargaining spaces over the household's productive and reproductive needs must accommodate the “contradictory, complementary, or competitive” interests of the various household members (Feldman and Welsh, 1995, p. 36).

The rest of this paper is structured as follows. First, we set out our research methodology. The results section presents our findings first in relation to labor feminization then in relation to managerial feminization. The discussion and conclusion highlight key findings and considers their implications for further research.

Methodology

Our review included peer reviewed articles and grey literature (i.e., government reports, working papers, background papers, conference proceedings, and policy briefs) on the feminization of agricultural processes in wheat-based systems in Bangladesh, India, Nepal, and Pakistan published between 2000 and 2020. These countries are characterized by diverse contexts which can complicate their comparability. Nevertheless, considering that these countries overlap in certain socioeconomic characteristics and all grow and consume significant amounts of wheat, we considered this comparison to be appropriate. The four countries are considered Least Developed Countries (Nepal and Bangladesh) and lower middle-income countries (India and Pakistan) by the OECD (OECD,

2023). The World Bank indicates that 37% of the employed population in Bangladesh worked in agriculture in 2021, compared to 44% in India, 62% in Nepal, and 38% in Pakistan (The World Bank, 2023). Wheat is an important staple crop in South Asia and the region grows 15% of all wheat grown globally (FAO in Chatrath et al., 2007).

Initially, our intention was to take stock of literature published since 2013 on feminization of agriculture processes in wheat-based systems in the four countries. However, as only a limited amount of literature was published between 2013 and 2020, we decided to extend our search to include, and if necessary re-review, literature already examined by Jafry (2013a,b, 2016) published since 2000. We reviewed 49 peer-reviewed journal articles and 22 documents categorized as grey literature. We primarily focused on articles about agricultural feminization (i.e., the increased labor participation and decision-making power of women in agriculture) in the four targeted countries and in South Asia as a whole. We provide some recent data on labor force participation rates to help triangulate the literature review. We used the search terms listed in the table below and searched for literature on the Google Scholar search engine.

Literature review search terms

- “wheat” plus ...
- “feminization/women's participation/gender” (feminization) + “agriculture/rural/farming” (agriculture) + “South Asia/India/Pakistan/Bangladesh/Nepal” (country)
 - “decision-making” + “agency” + “farming” + “agriculture” + “country”
 - “gender/women/men” (gender) + “women” + “caste/scheduled caste/scheduled tribe/Dalit/Other Backward Caste” (caste) + “country”
 - “gender” + “women” + “participation” + “agriculture” + “country”
 - “gender” + “women” + “participation” + “agriculture” + “empowerment” + “country”
 - “labor/division of labor/work/domestic work” (labor) + “gender division of labor” + “country”
 - “labor” + “country”
 - “decision-making” + “country”
 - “assets” + “country”
 - “land/land ownership/land tenure” (land) + “country”

We analyzed the data through our analytic lenses of labor feminization and managerial feminization. Two initial reviews were prepared, one focusing on feminization processes *per se*, and the second on intersectionality in wheat-based farming systems. These reviews allowed us to identify similar and contrasting patterns emerging from the data. These patterns were then synthesized and interpreted.

In terms of data presentation, we summarize the data by our two thematic areas, discussing each country in turn in alphabetical order.

We take the opportunity to develop fuller case studies where relevant to highlight valuable findings.

Results

Labor feminization in wheat-based systems of South Asia

Bangladesh

Are women working more in agriculture?

In Bangladesh, wheat is a winter crop grown in rotation with rice and other crops. It is the second most important crop in the country. Data on labor in wheat specifically, in Bangladesh as in other countries, are not available. However, the data show that although men dominate agriculture, women are participating at ever higher rates as paid and unpaid workers. The male agricultural labor force participation rate (LFPR) has declined slightly over the past 2 decades, from 84% in 1999/00 to just above 80% (2016/17), whereas the female agricultural LFPR increased from 23.9 to 36.3% over the same period (Raihan and Bidisha, 2018). Women's overall participation rate was recorded at 49% in 2016–2017. Their participation, specifically as agricultural wage laborers, increased from 3.1% in 2000 to 11.02% in 2015 (Rahman et al., 2020).

What are women doing?

Increased female labor is partly due to male outmigration and men's participation in off-farm activities (Sen et al., 2020) and other societal shifts. For instance, stagnation in women's off-farm opportunities has contributed to more women engaging in agricultural work since 2013 (Rahman and Islam, 2013; Raihan and Bidisha, 2018). However, women's movement into the paid agricultural labor force remains challenging, with purdah representing a significant constraint (Raghunathan et al., 2021). Purdah is considered a means of maintaining women's dignity and family honor. It generally requires that women cover their heads outside the household, and that non-family women and men are separated, among other things (Rahman, 2010). Women tend to be employed for fieldwork when men are unavailable (Sraboni et al., 2014) and earn around a fifth less than men, though the wage gap is narrowing (Government of Bangladesh, 2015). By way of contrast, many male laborers follow the agricultural season around the country and are paid in cash and kind (Theis et al., 2019; Farnworth et al., 2020a,b,c). As a result of development interventions, women are increasingly involved in non-crop production, including livestock and poultry-rearing activities and in fish production from homestead ponds (Farnworth et al., 2016; Kabir et al., 2019; Wahab et al., 2019). These activities can be performed around the homestead and thus do not contravene purdah (Jaim and Hossain, 2011).

Which women do this work?

Naved et al. (2011) explored the gender division of labor (GDL) in six Muslim and Hindu communities. The GDL was found to be fairly strict across communities, with men primarily involved in field crops, including wheat, and women engaged in agricultural activities around the homestead. The researchers further found that it was not possible to make simple equations between gender equality, women working in the field, and religious affiliation.

There seems to be an association between poverty and working in the field. Kelkar (2009) reports that 20–50% of low-income Muslim women in four communities engaged in transplanting and weeding. A more recent study shows that married Muslim women are prominently involved in paid work hand-harvesting mungbean (part of the wheat-rice system). Married women with children have few other opportunities for income-generation since they are not able to travel to work in garment factories and similar. Hand-harvesting mungbean creates 1.39 million days of employment for hired women in Bangladesh. This corresponds to annual wages of 4.75 million USD (Debenbush et al., 2021). Farnworth et al. (2020a,b,c), who contributed to the same empirical study using qualitative methods, found that women's participation in fieldwork in two study sites in northern and southern Bangladesh is slowly increasing—particularly, but not only, in mungbean harvesting—as a consequence of rapid gains in general agricultural productivity over the past decade: more labor is required, yet men's labor is insufficient. This is partly because men are mobile and can pursue more lucrative opportunities elsewhere, but also because many wealthier men living in the community refuse to engage in fieldwork. Beyond this, increased education and a stronger awareness of women's rights are seen as contributing causes to women's ability to earn money in fieldwork. One woman said, “Society honors women who work as hired agricultural labor. They respect us. They know we are working for the family. If you can give a contribution it raises your prestige. People look at you differently.” Women use their money to support their children into further education, particularly boys—since girls receive a stipend—and other things they value (Farnworth et al., 2020a,b,c). This finding is supported by Anderson and Eswaran (2009), who found that women's autonomy is strengthened through earning money outside of their husband's farms rather than employment *per se*.

India

Are women working more in agriculture?

Wheat, as in Bangladesh, is India's second-most important crop. In many parts of the country, women provide labor across productive and post-production farm tasks in wheat-based systems. They work on family fields and as hired laborers on other farms and have done so for many years (Chayal and Dhaka, 2010; Ghosh and Ghosh, 2014). In 1981, 66.3% of men and 82.6% of women worked in agriculture. The equivalent figures for 2011 are around 49.8% of men and 65% of women (Pattnaik et al., 2018).

At the same time, declining agricultural profits from farming are resulting in lower use of labor, particularly women's labor (Jafry, 2016). Therefore, the overall LFPR of rural women is in marked decline. Between 2005 and 2012 rural female employment fell by 23 million, with a fall in absolute agricultural employment for women of 28 million (Neff et al., 2012; Mehrotra and Parida, 2017; Chanana-Nag and Aggarwal, 2018).

What are women doing?

D'Agostino (2017) discusses the effect of the introduction of high-yielding varieties (HYVs) of wheat during the Green Revolution on women's labor. Wheat is a relatively male labor-intensive crop in India. D'Agostino used data from 1956 to 1987 to estimate the effect of HYVs on gender wage inequality in wheat in agricultural labor markets, and found that the rising popularity of wheat production depressed the demand for female labor. Male wages rose, and female wages fell, combining to raise the male wage premium by 17%.

D'Agostino notes that women were generally unable to secure other paid work and thus substituted away into unpaid household labor and subsistence farming (*ibid.*).

A different picture is provided by a small case study in a wheat-growing community in Madhya Pradesh (Farnworth et al., 2022). Here women of all castes became increasingly involved in the paid agricultural labor force in wheat from the mid-2000s. Scheduled Caste (marginalized caste) men commented that “women are very hardworking; they, in fact, work harder than men. It is because of their support that many families have been able to improve their lives” and General Caste (GC—non-marginalized caste) women said, “All Brahmin women and men work as hired laborers. This is because their landholdings are too small to afford sufficient income.” The normative expectation remains that non-marginalized caste women should not work in the field. However, these women engage in fieldwork not only out of financial need, but as a way to express their agency. Women explained they want to work because they want money to meet their needs and aspirations. All respondents also work on their own wheat fields, and in general, women and men work together on all tasks in wheat, apart from irrigation in most families. Since 2016, however, mechanization of many tasks in wheat has started to limit women's work in wheat and there are few other opportunities to earn money. GC women are not permitted to move beyond the village, and women in other castes and ethnicities (particularly Scheduled Tribes—ST) have begun arduous work in construction in a city around 35 km away (*ibid.*).

Which women do this work?

Caste, as a variable, complicates our understanding of what labor feminization means in India. SC and ST women dominate the rural labor force. In 2011, 83.7% of ST women, 69.1% of SC women, and 59.9% of OBC/GC women were working in agriculture (Pattnaik et al., 2018). Eswaran et al. (2013) use national data for six states to explore caste differentials in women's employment in rural areas. They find that women are progressively less involved in paid labor across the caste hierarchy. Bidner and Eswaran (2015) attribute this to the enforcement of endogamy by the caste system, whereby OBC and GC women are monitored and constrained more than women in marginalized castes.

Pattnaik and Lahiri-Dutt (2020) find that in Gujarat and West Bengal women report agriculture as their main occupation at higher rates than men (1,111 and 1,131 women, respectively, to 1,000 men; Mehrotra and Sinha, 2017). In Gujarat, SC and ST women are considerably more likely to take up unpaid work on family farms and as paid laborers than women of other castes. Nearly all sub-castes among the OBC practice purdah, meaning that most OBC women do not go out for paid agricultural work. In West Bengal, however, widespread poverty results in women across castes working in agriculture (*ibid.*). The labor feminization story is thus that in Gujarat, low-caste women are engaged by feminization processes, whereas in West Bengal, feminization engages all women regardless of caste.

Nepal

Are women working more in agriculture?

Wheat is the third most important cereal crop, after rice and maize, in Nepal. Over the past decade about 4 million Nepalese have left their homes to obtain employment outside the country. Of these migrants, over 90% are men aged between 18 and 35 (Government of

Nepal, 2020). 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 (CBS, 2014).

More than three-quarters (76.4%) of women (aged 15–49 years) who are engaged in agricultural work are not paid. Of the women who are paid, just 5.9% receive cash payment. The remainder are paid in kind, or cash and kind (FAO, 2019). Women earn about 26% less per day than men, and in village-level exchange labor schemes, two women are exchanged for one man (FAO, 2019).

What are women doing?

Specific data on women's labor on wheat in Nepal's wheat-rice system is lacking. Evidence for increasing feminization of agricultural labor in Nepal, though, is well-attested (Aly and Shields, 2010; Suvedi et al., 2017). Women conduct most crop production and post-harvesting work, and are increasingly performing work previously conducted by men, including plowing (Aly and Shields, 2010; FAO, 2019). Women's strong contribution to fieldwork is not necessarily new. A study conducted in a village near Kathmandu shows that in the year 2000 women provided twice as much work to cereal crops than men (Joshi, 2000), and FAO (2010) found that women provided 50% more work in one study location. In another study a woman explained that, “We do not have such a thing as men working on men's plots and women working on women's plots. All tasks are done together” (Farnworth et al., 2018a). In Chitwan, where communities previously exhibited a relatively rigorous gender division of labor, women are still conducting tasks associated with women, such as weeding, sowing and livestock care but they are also taking on tasks normatively ascribed to men (Dhakal et al., 2018). In several locations women are experiencing intensified workloads. This is leading them to make the strategic decision to adopt less intensive farming practices, abandon some agricultural land, and to select less labor-intensive crops (Tamang et al., 2014; FAO, 2019).

Which women do this work?

Household structure and location within household structures affect the GDL. Daughters-in-law in extended households generally experience the heaviest labor burdens along with low decision-making power. Women who co-head households or head female-headed households usually have more decision-making power and often high labor burdens (Pradhan et al., 2019). Hindu women experience seclusion and exclusion during their menstruation. They are not permitted to perform many agricultural tasks or collect water. Their bodies are considered to damage the environment; crops will not yield properly if they harvest them while ‘polluted’ (Nightingale, 2011).

Pakistan

Are women working more in agriculture?

Wheat is the most important crop in Pakistan. Among people working in agriculture, women work longer hours than men, with approximately 59.9% of women in the paid agricultural labor force spending over 50 h per week in agricultural activities compared to 26.6% of men (Sohail, 2017).

What are women doing?

Pakistan features considerable cultural and socio-economic diversity. Women's agricultural activities vary substantially across the

countryside, according to a study of [FAO \(2019\)](#) of women's work in agriculture across the four provinces and three regions of the country. In Azad Jammu and Kashmir, women are primarily involved in livestock and vegetable production. A focus group discussion showed that men conduct all land preparation for wheat, and predominate in fertilizer application, harvesting, threshing, and storing wheat straw. Women's tasks in wheat include applying farmyard manure, cleaning seed, weeding, thinning, hoeing, and producing green fodder (some women help men with typically male tasks, and *vice-versa*). In Baluchistan, women are strongly involved in wheat and cotton production. They are solely responsible for weeding, seed cleaning, drying, and the storage of crops. In Federally Administered Tribal Areas, women are involved in land preparation, seed cleaning, sowing, applying manure, fertilizers, pesticides, weeding, transplanting, threshing, harvesting, cleaning, and storing food grains. In Gilgit Baltistan, women are major producers of food in terms of value, volume and number of hours worked. Women perform 25% of tasks in cereal crop production alone, with men taking 26%, and the remainder of tasks are shared. In wheat, women remove stones from the field before sowing, weed, bundle, collect grain and straw after threshing, and clean and grind grains ([FAO, 2019](#)). In Khyber Pakhtunkhwa in the Central Zone, women experience strong mobility constraints and work mainly from homesteads, particularly with livestock ([Samee et al., 2015](#)). In the North, women sow, hoe, transplant, weed, harvest, thresh, and winnow. In Punjab, women spend around 12–15h per day on agricultural activities, including field crops. Women in Sindh are involved in crop production from sowing to harvesting, with labor particularly high in rice and cotton. Disparities in daily wage rates and working hours of women are high in all areas (*ibid.*). A study by [Balagamwala et al. \(2015\)](#) shows that although the gender division of labor (GDL) varies across the country, it is important in defining a sense of masculinity or femininity, and as a result, local GDLs are often followed strictly.

Recent developments, particularly mechanization and some other technologies, are reducing the need for labor. A study conducted in four districts in Punjab ([Mohiuddin et al., 2020](#)) found women's bargaining position in areas experiencing mechanization is negatively affected. Men now dominate field activities benefiting from labor-saving technologies while women are restricted to conducting hard manual tasks, including harvesting and post-harvesting activities. A qualitative study conducted in 12 villages across Punjab, Sindh, Baluchistan, and Khyber Pakhtunkhwa similarly finds that mechanization and new soil management practices are reducing labor requirements ([Petesch et al., 2022](#)). This change affects young women differently than it affects young men because the latter are generally expected to migrate elsewhere, usually to urban centers within Pakistan. Young women can become yet more restricted to homesteads and reproductive roles (*ibid.*).

[Jafry \(2013a\)](#) notes that heavy workloads for low pay or no pay combined with lack of social recognition in their workplaces place many farming women in Pakistan under severe stress, resulting in negative health, nutrition, and overall wellbeing outcomes. This finding is seconded by [Jabeen et al. \(2020\)](#), who find that of rural women who had started their own small business (agriculture, livestock, and handicrafts), around 70% reported physical and mental stress due to time poverty and increased workload.

Which women do this work?

Cultural norms that reward the practice of purdah, household circumstances, and stages in the life cycle play a role in shaping women's livelihood opportunities ([Kabeer, 1999](#); [Critelli, 2010](#)). [Druzca and Peveri \(2018\)](#) note that purdah is often relaxed for poor women who must work. [Mohiuddin et al. \(2020\)](#) find that women working in wheat are more likely to reside in extended households, as there are more household members to manage housework and care needs. They also find that women working in agriculture are more likely to be paid laborers than family workers.

[Petesch et al. \(2022\)](#) find that though cultural norms discourage women from working in visible economic roles in most of their 12-village sample, it is nevertheless common for older women and widows in more than half the communities surveyed to generate income from home or to earn money in fieldwork under the supervision of husbands or other male family members. Such practices are reported for young married and young single women in a smaller number of villages. One young woman from a Sindh province village explained, "Women bring grass. They bring water. They bring wood and also work in farming with sowing, weeding, and cotton picking. They help with sprays and fertilizer." In almost all study villages, whether working for pay or not, young women generally experienced limited agency. [Jabeen et al. \(2020\)](#) found that older women, or poor women who lack male household members, in Khyber Pakhtunkhwa engage in economic activities conducted from home. About 25% of such women work in nursery raising, weeding, seed sowing, and fodder cutting on family farms.

Managerial feminization

Our question here is: who decides? We analyze this through two lenses: (1) Are women increasing their influence over intra-household farm decision-making processes? and (2) Which women influence decision-making processes, and how?

Bangladesh

Are women increasing their influence over intra-household farm decision-making?

[Kelkar and Nathan \(2004\)](#) report on women's desire to come out of purdah to actively participate in agriculture and agricultural decision-making and to redefine what "dignity" means to them. Yet progress on realizing this ambition has been slow due to women's poor access to productive resources and a broader lack of acknowledgement of the validity of women's aspirations ([Khan et al., 2017](#)).

Even so, some progress is being made. [Sen et al. \(2020\)](#) observe that in some locations, wives enact their migrant husbands' roles through managing family farms and other businesses, managing remittances, hiring, supervising, feeding, and paying male fieldworkers. [Jaim and Hossain \(2011\)](#) also find that women's roles in agriculture are transitioning from being unpaid family workers to farm managers to some degree. They cite data (2000–2008) from the Bangladesh Bureau of Statistics showing that women's participation in farm decision-making in 2000 was 58%, whereas in 2008, it had increased to 66%.

Rahman et al. (2020) find that men generally claim decision-making authority in farming households. However, several variables (including a woman's educational level and age, for example) affect the likelihood of men conferring with their spouses. Women who spend more time in on-farm activities and are active in NGOs are more likely to experience stronger decision-making power.

Which women influence decision-making processes, and how?

In some cases, women are accessing resources and opportunities through collective action that builds on and broadens their shared identities and interests. Indigenous Santal women in a community in northern Bangladesh were able to overcome deeply ingrained marginalization processes to seize control of improved wheat-maize technologies (Farnworth et al., 2020a,b,c). They achieved this by taking control of a hitherto tokenistic women's organization and demanding technical training from agricultural technology providers. A strong woman Santal leader was pivotal to leading and accelerating this process. Santal women have always worked in the fields in the study location, as have low-income Muslim ethnic Bangladeshi women. Santal women reached out to the latter, encouraging them to join the organization. They did so and these women then set up learning networks to reach other Muslim women. It was not possible, though, for them to reach middle-income women in purdah, despite the express wish of the latter to understand farming processes better and to become part of intra-household decision-making processes around agricultural investments (*ibid.*).

India

Are women increasing their influence over intra-household farm decision-making processes?

Pattnaik et al. (2018) find no correlation between men leaving agriculture and higher decision-making capacity among women left behind to work on the farm in India. Other researchers find that women in households with a higher share of remittance income are more likely to participate in decision-making (Aryal et al., 2013). In Karnataka, Goudappa et al. (2012) find that women are increasingly participating in agricultural decision-making though the "final decision" rests with men. Srivastava (2011), though, finds that women are more likely to manage small, marginal farms and therefore must handle problems associated with small farms, such as weak market linkages, low productivity and weak access to credit and training. Women from scheduled castes and scheduled tribes are further marginalized within this group (*ibid.*).

Farnworth et al. (2020a,b,c) analyzed data on decision-making in six wheat-based farming communities in four Indian states: Bihar, Haryana, Uttar Pradesh, and Punjab. Each community was defined as "high" or "low" gender gap based on indicators relating to women's typical mobility, schooling, health, participation in businesses, and fieldwork outside the home, etc. This resulted in three high and three low gender gap communities. The study found that women in all communities exercise some decision-making power. These were classified into six typologies. In the high gender gap communities, women choose to acquiesce to men's decisions (itself a choice albeit limited), to engage in quiet protest (which the authors term "murmuring") or to "co-perform." The latter strategy involved women quietly supporting men in various ways but with an eye to securing

their own gender interests. For instance, women may start a home business to help co-finance their husband's work but this also serves to provide them with income which in turn helps strengthen their agency in intra-household decision-making. In low gender gap communities, couples actively consulted with each other with men taking the lead, or men took decisions according to community norms—but behind the scenes women were lead decision-makers (a phenomenon Galiè and Farnworth, 2019, term a gender norms façade), and in some cases women exercised full control. This included decisions on whether to hire agricultural machinery and, in some cases, driving it themselves. The latter three strategies were particularly strong in communities experiencing strong male outmigration. The study further found that external actors, ranging from the rural advisory services to farmer organizations, village heads and researchers, generally make few efforts to include women in wheat information dissemination and training events despite evidence of women taking managerial roles in some communities. This finding echoes the study of Jafry (2013a), which suggests that such actors tend to assume that "men are farmers and decision-makers" for far longer than farmers themselves.

Which women influence decision-making processes, and how?

Rao (2014) offers an intersectional analysis of women's agency in her mixed-methods study of lower and upper-caste women in Tamil Nadu, India. Dalit (Scheduled Caste) and poor women typically end their education early to begin working by age 14, yet "the experience of work and earning gives them a say in decision-making in their parental homes, a degree of marital choice, and recognition from their husbands" (*ibid.* p. 70). Furthermore, some Dalit women are able to expand their agency, through their participation in social protection programs to resist, "harsh and degrading [paid work] ... This enhances ... women's bargaining power vis-à-vis their potential employers and their husbands" (*ibid.* p. 98). By way of contrast, women from the wealthy landowner caste in the same community are much better educated and experience potentially more choice about their economic opportunities than Dalit women. Nevertheless, they face rigid gender norms that emphasize women's household and care roles at the expense of their economic empowerment. These restrictive norms ease slightly as women in the land owner caste get older—they are awarded higher status especially if they have sons.

Finally, a study conducted in a wheat-growing community in Madhya Pradesh found that some women (OBC and GC) claim the mantle of "farmer" and some degree of decision-making power. Some women said, "We all work on the land. Why would only a man be a farmer? Why would not I be a farmer?" Women reported very different experiences in intra-household decision-making. For instance, in relation to wheat varietal selection one woman said, "If I try to influence my husband's selection of wheat variety, I will be hit," but another reported that, "For me, it's an equal decision. No one has a greater say. I also help to buy wheat seed." Men, however, were very reluctant to award women any agency in decision-making processes around wheat farming. One OBC man explained, "Women do not take decisions in farming. Farmers are men. Farming is a man's job. We do farming. We make decisions." Regardless of caste, however, all women are excluded from any kind of agricultural information networks, whether formal extension or informal men's networks (which are themselves caste-based). Rather, women share knowledge

between themselves or try to elicit it from husbands and the local input supplier. A fascinating finding is that the local smallholder wheat production is funded primarily by women through self-help groups (SHG). This forms almost the entire source of capital available to smallholder farmers, and even private lenders expect men to provide evidence of their wife's membership in an SHG as collateral.

Nepal

Are women increasing their influence over intra-household farm decision-making?

Research conducted in Jhapa District, an area that experiences high levels of male outmigration, indicates higher levels of managerial feminization among *de facto* autonomous female heads-of-household, and less in the case of women who stay within the patrilineal household of their in-laws (Gartaula et al., 2012). Managerial feminization among female-headed households has the unexpected outcome that some households appear to be moving out from agriculture altogether (Gartaula et al., 2010). Slavchevska et al. (2020) similarly observe that rather than using remittances to diversify agriculture—to invest, for instance, in higher value crops or livestock, many *de facto* women-led households, which rely on male remittances, are investing in non-agricultural businesses instead.

A study carried out in Ilam district of eastern Nepal (Upreti et al., 2018) observes that after the peace agreement of 2006 following the post-Maoist insurgency, more women have become involved in the production of high-value cash crops such as cardamom and ginger. This is increasing community-level recognition of women's social, economic, and political achievements and broadening their decision-making space.

Maharjan et al. (2012) find that in households where men have out-migrated, married women tend to have a greater role than in the past regarding operational decisions such as crop and variety selection but they must seek approval from the male household head for larger strategic decisions like non-farm investments.

Women taking control over agricultural innovation processes

Research conducted in the Terai Plains in 2014–2015 showed that women are innovating in wheat to the extent that wheat farming is experiencing a shift from the feminization of agricultural labor toward women taking control over decision-making in both nuclear and extended households (Farnworth et al., 2018a,b). Male outmigration is one reason, but other factors include efforts by non-governmental organizations (NGOs) on promoting women's equality in all domains. Another important factor has been individual support by male extension agents to women farmers, as has women to women support to foster each other's "innovation journeys" in wheat. Women who lived in seclusion only a decade ago are now recognized as wheat farmers by their families and their communities. This said, the extension services as an institution still fail to recognize this shift in decision-making power and fieldwork and continue to primarily target men. An important finding of this study is that young women are very much "left-behind" since very few are expected to out-migrate. These women are Nepal's current and future farmers yet receive no institutional recognition nor research attention.

Acharya et al. (2020) urge caution, though, when attempting to interpret evidence for managerial feminization. For example, they

contest narratives that associate women's increased market participation with women's empowerment. Rather, they say, this is simply an indication of male outmigration and does not necessarily mean that women have more agency.

Which women can engage in agricultural decision-making?

Caste and ethnicity influence the degree of women's empowerment, especially in indicators such as physical mobility, choice of spouse, and divorce, but these factors do not necessarily create a significant difference in empowerment (Pradhan et al., 2019). Pradhan et al. (2019) reports that location within the household (as mother-in-law, daughter-in-law, or daughter) matters more than caste/ethnicity in household decision making. Women in nuclear households or senior women (mothers-in-law or elder daughters-in-law) have more say in important decisions (Pradhan et al., 2019). Women in migrant households have a stronger role in household decision making than women in non-migrant households; women in nuclear households are generally more autonomous than women in joint households with parents-in-law or adult men present (*ibid.*).

Male outmigration is offering culturally marginalized women new opportunities. Discussions held between one author to the current study and Dalit women in Dhikur Pokhari in 2012–2014 showed that many Dalit women plan to buy land with their husband's remittances. Other Dalit women planned to spend the remittances on opening businesses in town (pers. comm.). This observation is supported by Pradhan et al. (2019), who find that Dalits and Janajatis experience higher mobility and decision-making power than women of other castes and ethnic groups when their husbands migrate.

Pakistan

Women are increasing their participation in intra-household farm decision-making processes

In Pakistan, researchers generally concur that women's participation in agricultural decision-making is low. Although the Constitution pledges equal rights to women, cultural norms and laws promulgate lower status to women (Jafry, 2013b). The FAO (2019) study discussed under labor feminization finds that despite great diversity in what women do across the country, women generally experience weak agency everywhere. It attributes this to cultural norms in part, but far more to the almost complete neglect of any form of recognition or support to rural women in their capacity as farmers (see also Lamontagne-Godwin et al., 2019). Nevertheless, there is an increasing body of evidence that women are beginning to take more control over decision-making.

A purposive study of 480 women engaged in business in Khyber Pakhtunkhwa found that "though [women] were illiterate, they were not content with their subordinate position, and they wanted to break these discriminatory locks and were also desperate to quit the vicious circle of poverty" (Jabeen et al., 2020). To this end the women had started their own small income-generation businesses in agriculture, horticulture, livestock, sericulture, apiculture, and traditional handicrafts. The authors observe these options were primarily open to women in larger households since labor for women's household and care work is very limited in smaller or nuclear households. The findings show that these businesses provided around two-thirds of participating women with some economic independence and ability

to meet their own basic needs. Over half valued the contacts they made within the community through selling their own produce, and around 45% felt they contributed to an improved standard of living in their home. Fifty percent argued they were providing for a better education for their children. Normatively, men (fathers, husbands, brothers, and sons) are considered responsible for virtually all decisions, including those that relate directly to women themselves. In about one third of households, women reported that men had started to value them more following the establishment of their business. Just over 20% of women reported improved decision-making power but this was related only to dependents (children and elders) and did not extend to decision-making power over themselves or other domains (*ibid.*).

Which women engage in agricultural decision-making?

Little evidence could be found for differences in women's decision-making power by ethnicity, age, or other indicators. Limited research suggests some spaces for cooperative gender relations within marriage. [Badstue et al. \(2017\)](#) present the case of a 45-year-old mother of six in a village in Baluchistan. She has worked in agriculture her entire life and, following marriage, alongside her husband as tenant farmers. She displayed detailed knowledge of new farming practices and indicates that she and her husband currently use plows, drills, fertilizers, pesticides, and improved wheat varieties. In a diversifying village of Punjab, [Petesch et al. \(2022, p. 277\)](#) document significant agency reported by diverse types of women, including youth but also adult women of low- and middle-income households. In addition to expanded agricultural opportunities, they testify to growing jobs with factories, shops, and in construction and access to loans for their farming and small businesses, "so there is sufficient space for women to get involved in different sectors." Young women refer to their parents supporting their education and employment, and the adult women observed husbands had become less strict than in the past. These testimonies of more equitable household relations and roles, however, really set this village apart from the 11 others in their sample.

Discussion

We split our Discussion into two parts. The first part comments upon our findings. The second part explores methodological challenges to capturing feminization of agriculture processes with a particular reference to South Asia.

Observations upon the findings

The Introduction acknowledged that multiple, large-scale processes of change are at work across the four countries under study. These interact in complex, dynamic ways to produce systemic change in gender relations in agrarian societies. We did not attempt to analyze these forces, nor did most of the literature we examined attempt to pull out causative processes. We do refer to major macro forces such as demographic shifts in women's household headship and livelihood activities associated with men's migration where the literature discusses these; however, our focus was rather on assessing the impacts of broader change processes on gender roles and relations in

wheat-based farming systems. Yet, the fact that many of these processes—including agricultural mechanization, climate change, and laws provide for gender equality (discussed more below)—are transnational mean that there are certain commonalities to the experience of feminization across all four countries. Furthermore, cultural norms, though diverse in many ways, are similar in some respects. For instance, purdah and other social rules that provide for men to be the farmers and decisionmakers affect the lives of many rural women in each country, even as many men may be absent and actual roles and practices less gender-differentiated. Intersectionalities constructed from intersections of gender with caste, ethnicity, marital status, age, household position, education, and other identities shape the spaces wherein women attempt to exercise their agency. Male outmigration and off-farm work appears much more common than female outmigration (though we do not analyze comparative data on outmigration and off-farm work).

Nevertheless, our review allows to make some observations on feminization processes at the national level. Turning to labor feminization first, women's presence in fieldwork in Bangladesh seems relatively low compared to the other three countries though there are indications that it is increasing slowly. This appears to be partly as a response to a reduction in off-farm opportunities for women, and, to a minor degree, slowly strengthening acceptance of women working as paid farm laborers. In India, the picture is mixed. Although the overall economy is masculinizing, the agricultural labor force remains dominated by women. However, over time women appear to be losing paid work. This does not necessarily mean they are exiting farming but may mean they are being pushed into unpaid farm work primarily on family farms. In Nepal, labor feminization is occurring across much of the country. In Pakistan, the participation of women varies strongly by region. However, almost everywhere women conduct field tasks, and in some locations provide more labor than men. In all four countries, women are strongly active in homestead gardening, livestock management, and crop processing.

With respect to managerial feminization, it appears that some women in Bangladesh are becoming more involved in intra-household farm management processes over time. However, it is not possible to draw a general picture. In India, the nature and extent of women's involvement is similarly hard to decipher. Some data suggests increasing involvement but broadly most data indicates that women's agency is generally rather weak. There is limited evidence, though, that gender norms may be changing to accommodate the reality of male absence, and that women are exploiting these changes to further their agency. In Nepal, the evidence that women are taking a stronger role in decision-making in farming is stronger than for the other countries surveyed. In Pakistan, very limited data indicates that women do take some decisions. In general, though, women appear to be far less involved in agricultural decision-making than in the other three countries studied.

We also asked: which women? Intergenerational norms governing household status and other intersectional identities—particularly caste in India and Nepal—with respect to who works in the field appear to play a prominent role. Older women, poorer women, and young married women living with in-laws (at least in Nepal) are frequently more involved in fieldwork. There is limited evidence in the literature reviewed, though, on how intersectional identities in any country shape women's ability to express their agency within their households and in broader society in relation to agriculture.

Women's pathways for accessing, owning, and, most challenging, controlling arable land in South Asia are diverse, with family inheritance the most significant (Agarwal et al., 2021, p. 1808; Agarwal, 1994, 2003). National laws have generally supported women's inheritance rights, including the Hindu Succession Act in 2005 that greatly strengthened women's inheritance rights in India, for instance; but a decade later women individually owned just 10.2 percent of India's agricultural lands (joint ownership is uncommon in India; Agarwal et al., 2021, p. 1816; also see Bose and Das, 2021). The myriad barriers to women exercising their right to land include the risk of violence and banishment should they contest an inheritance, an exclusionary and costly legal system, and the persistence of gender norms that entitle men as the strongly preferred heirs (Agarwal, 1994, 2003; Jackson, 2003; Rao, 2017a,b; Chakrabarti, 2018; Agarwal et al., 2021).

Nevertheless, women's non-exercised claims to parental property appear to strengthen their intrahousehold bargaining in other consequential ways, such as decision affecting age of marriage, educational investments, and ability to resist violence (Rao, 2017a,b). Widows remain better positioned than daughters to inherit as they can align with their eldest son to make their case—even though laws now explicitly favor family asset transfer to younger generations (Agarwal et al., 2021). Acknowledging the stickiness of household gender and generational hierarchies, Agarwal et al. (2021) and Agarwal (2003) highlight the work of NGOs and women's organizations to mobilize landless poor Indian women, often also from scheduled castes or tribes, into farming groups which then manage their own plots, including by sharecropping in and pooling labor and input expenses.

Methodological challenges to capturing feminization of agriculture processes

As highlighted in the Introduction, Jiggins (1998, 251) argued that the challenge to men and male-dominated agricultural professions is in “defining who is a farmer, what farming is about, and what progress and modernization within the agricultural sector might mean.” Our literature review shows that this remains a challenge for several reasons.

First, it can be difficult to draw strong conclusions on feminization processes because the “thing to be measured” is unclear. Many of the papers we examined highlight the current situation at the time of fieldwork. This therefore produces a snapshot of what is happening in a specific location at a specific point in time. Comparability between studies is difficult because the studies we examined pose different questions, are conducted in different parts of the country, and engage with different target respondents. This inevitably leads to the production of a range of “answers” to the question of feminization. Is the heterogeneity we see in the data a reflection of what is really happening, a chimera produced primarily by the application of different research methodologies, or is in fact heterogeneity a fair representation of what is happening?

Second, few studies explicitly embraced the idea of feminization as being a process. Yet process would seem intrinsic to the very definition of feminization, or masculinization. The “culture” in agriculture is embodied in the name (Pretty, 2002); agriculture is a cultural phenomenon. It self-evidently undergoes continual processes

of change in iterative dynamic association with the human systems which manage it. Measuring “processes” is more difficult than establishing “facts.” Yet measuring processes would seem to be the only way to develop a deep understanding of whether feminization is actually occurring.

Third, and building on these remarks, our understanding of feminization is dependent on the strength of the research processes employed. In some cases, we wondered whether research evidence for the feminization of labor and decision-making is genuinely an outcome of current processes of change, or rather an outcome of the quality of research methodologies, methods and analyses deployed. Our review found important constraints to obtaining good data. We agree with Druzca and Peveri (2018, 187) and Mehrotra and Sinha (2017) who remark that research design frequently reasserts “cultural norms and gender roles, rather than question their persistence or attempt to examine them. The binary thinking which simplistically identifies men with technology and farming, and women with tradition and home, accompanies much gender-blind work.” This is part of a broader global consensus which still considers men as primary farmers, a phenomenon Farnworth and Colverson (2015) term “conceptual lock-in.” Across South Asia specifically, the imagery of the farmer—*kisan*—as male, permeates agricultural discourse. Biophysical scientists typically refer to farmers as “he” and designers of agricultural machinery and other technologies almost always have men in mind. The term *kisan* helps legitimize men's rights over physical and financial capital, including control over and access to land, as well as less tangible capitals such as decision-making power and the right to participate in information networks (Agarwal, 1997; Landsea and Oxfam, 2013; Aryal et al., 2020).

Fourth, cultural perceptions of honor and dignity are integral to the construction of *kisan*, and this can create a situation where both enumerator and respondent, perhaps unconsciously, collude in effacing women from data sets. Information on women's work in Pakistan, for instance, is often collected by male enumerators from male heads of household. Yet there can be a “reluctance [by men] in admitting to women working because it may be associated with a loss of status” and enumerators may well not pursue the question further (Sathar and Kazi, 2000, 897–909). Although women's status as successful managers of housework and care affords them greater status and influence as they grow older, these very privileges can discourage them from supporting the claims of their daughters and daughters-in-law to similar benefits (see Kabeer, 2000).

Fifth, invisibility may not be deliberate. Rao (2012) argues that a lack of data on women's work outside the home may sometimes occur because women's work is literally not perceived. She recollects seeing women in Uttar Pradesh, India, working in the wheat fields from the early hours, yet neither men nor women acknowledging this as happening in her fieldwork interviews. “What one saw seemed almost the opposite of what one heard.” A different nuance on this is how respondents refer to themselves. Discussing fieldwork conducted in Pakistan, Badstue et al. (2017) found that women respondents almost never used the word “I” but rather “we” whether referring to themselves, the family, the husband and children and even to farmers in general” (*ibid.* 31). It is clearly difficult for researchers to ascribe women agency when they do not claim it openly for themselves. This is not to say, of course, that such women do not exercise agency (Jackson, 2003).

Sixth, conceptual biases around what counts as “agricultural work” often seems to depend on who does the work, where it is located, and whether it is paid. Mehrotra and Sinha (2017) explain that in India farming women devote considerable labor to agricultural work yet this work is rarely captured in national statistics. Women’s work typically includes working in the kitchen garden, orchards, processing of primary agricultural products, collecting firewood, tending livestock, and preparing livestock products, and much else. Zaidi and Farooq (2018) argue that many survey questionnaires are simply incapable of capturing women’s agricultural work. Their own expanded survey, conducted in Pakistan, finds a much larger share of women and girls working in agriculture than the PDHS, with a clear majority doing so unpaid.

Seventh, critically analyzing agency is integral to understanding whether apparent feminization of decision-making is the outcome of a positive choice or forced upon women. According to Ortner (2006), it is necessary to consider whether individual agency inherently involves intentions. Women’s participation in fieldwork can be both intentional (to have access to income from agriculture that may—or may not—lead to their empowerment) and unintentional (in the absence of men who migrated to different destinations), for example. In this paper we have generally assumed that evidence for women’s stronger decision-making power is a “good thing,” but women themselves may find it a burden to take on responsibility for the farm as well as everything else in their lives.

As part of this, it is useful to consider that feminization is not something that simply “happens” to people. Large-scale processes of change create situations that people must manage, but decisions as to whether to send women, or men, away to secure work elsewhere is also an outcome of the multiple choices families and individuals make. It may be more constructive to consider women as “active stayers” rather than as passive victims who have been “left behind” by vigorous entrepreneurial men. In Senegal, Mondain and Diagne (2013), for instance, note that women mobilize financial resources for a selected male migration candidate within their extended families. In turn, women expect to benefit from the male migrant in the future *via* remittances. Feminization may therefore be a strategic choice by women rather than one imposed upon them (Kawarazuka et al., 2021). And as family laws and other policies and programs are now increasingly encouraging women’s agency and strengthening their negotiating position in their households and villages, the literature makes plain that these processes play out in ways that are highly contextual and varied for different categories of women.

We conclude this section by dissolving the dichotomy that we have set up for research purposes. Our literature review shows us that labor and managerial feminization are not disassociated phenomena. It is preferable to consider them as part of a messy continuum. A deliberate choice to engage in paid field labor, for instance, can be expressive of a woman’s strengthened decision-making power and her willingness to cast aside cultural norms which marginalize them from the economy.

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Conclusion

We opened our review by saying that in 2013 evidence for feminization processes in wheat-based systems in South Asia was sparse. In 2023 we find that the knowledge base has improved but that it remains challenging to make clear statements on the degree, and type, of labor and managerial feminization being experienced in each country. It is certain, though, that in all four countries studied, agricultural systems are undergoing considerable change in relation to “who does what” and “who decides.” However, while a focus on labor feminization and managerial feminization can help shed light on this, these are not disassociated concepts or isolated phenomena, and cannot alone account for the changes that are currently happening. Rather, feminization involves multiple levels of identity, intersectionality, and power relations, and should be understood as a complex, multi-dimensional process shaped by multi-level contextual factors. As our review indicates, a reconceptualization of feminization processes is called for. Much more research is needed to help policymakers develop effective strategies for gender-equitable agricultural development. Much more needs to be done to support women in realizing their aspirations for empowerment in ways that they themselves value.

Author contributions

CF, HG, and LB conceptualized the paper. CF analyzed data. CF and HG prepared the first draft. CF, HG, LB, LR, PB, SR, PP, and TJ revised and added insights to the manuscript. All authors contributed to the article and approved the submitted version.

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Conflict of interest

All authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

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