



Labor scarcity and women's role in agricultural production: Evidence from Bangladesh

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Seeds of Change Conference: Gender Equality Through Agricultural Research for Development

Canberra, Australia. April 3, 2019

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Introduction

- Increasing rates of (particularly male) outmigration are reducing the availability of household labor in rural areas (Mueller *et al.*, 2015).
- This can pose a major challenge to smallholder farmers in developing countries, particularly to the women 'left behind', but can also create opportunities for more equitable empowerment (Paris *et al.*, 2009; Maharjan *et al.*, 2012)
 - Increased workload for household labor, or higher wages for hired labor, in response to reduced labor availability
 - Potential increase in autonomy and control over income due to increased participation of women in agricultural value chains
 - Remittances from migrants' more diversified income-generating activities
- This paper analyzes the relationship between labor availability, women's role in agriculture and empowerment, in the context of a value chains intervention in Bangladesh

METHODS

Context: Bangladesh Agricultural Value Chains (AVC) project

- Agricultural value chains in Bangladesh are typically fragmented, lack investment, and tend to exclude vulnerable groups.
- Funded under the Feed the Future (FTF) Initiative, the AVC project aimed to improve food (+ nutrition) security through strengthened agricultural value chains.
- AVC focused on a portfolio of food and non-food crops to facilitate growth in the agricultural sector: six classes of food crops and two classes of non-food crops (natural fibers and floriculture).
- Geographically, the AVC project worked in 20 southern districts (“Feed the Future zone”) in Barisal, Dhaka, and Khulna Divisions.
- This paper: Focus on jute value chains, which is a **cash crop** grown by a large number of farmers in the Feed the Future zone.

Data collection

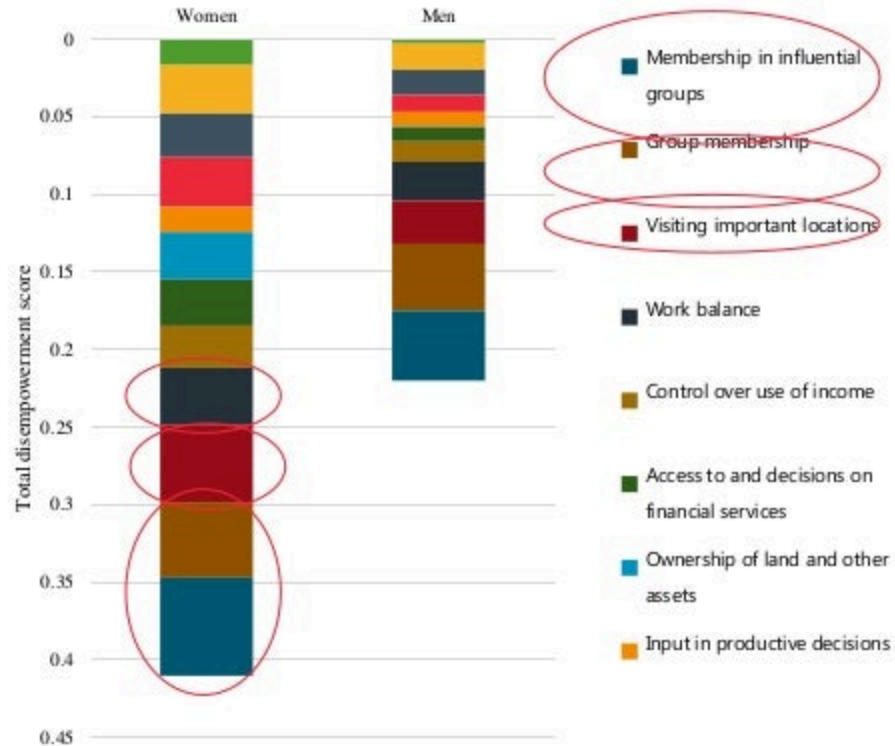
- Rich panel data including measures for labor availability, empowerment and for a sample of 1,500 households from 50 villages collected over three survey rounds.
 - Group 1 (1,000 households): Baseline (2016), Midline (2017) and Endline (2018), including the A-WEAI modules at baseline
 - Group 2 (500 households): Midline (2017) and Endline (2018) including the Pro-WEAI modules in both rounds
- Interviews with both the main farmer and his/her spouse if available
 - In nearly all households, the main farmer was male (despite sampling of all female-headed households that we could find)
 - Main farmer completed WEAI + questions about agricultural production and marketing (incl. labor usage)
 - Female respondent completed WEAI + questions about household composition (incl. migration)

Research question: What are the linkages between labor availability, women's participation in the value chain, and empowerment?

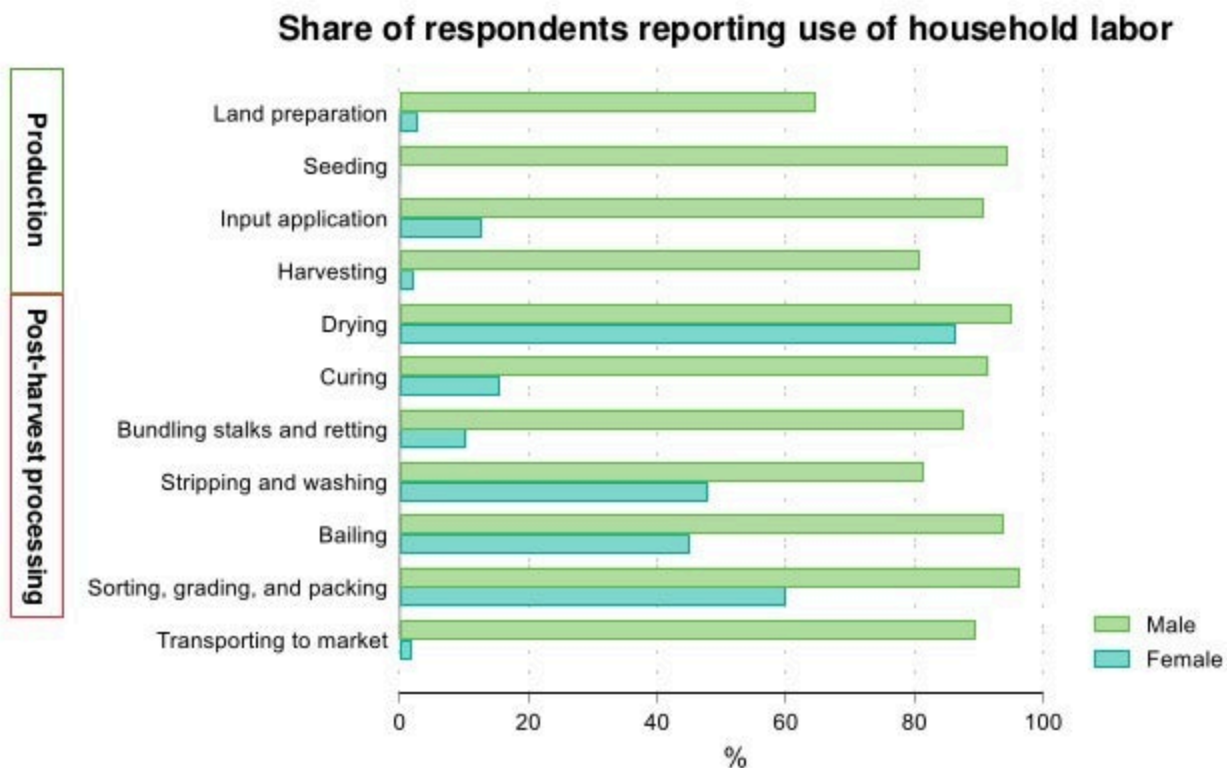
RESULTS I: Descriptive statistics on women's empowerment, participation in jute value chains, and labor availability

Women are disempowered relative to men

Proportional contribution of Pro-WEAI indicators to disempowerment at endline



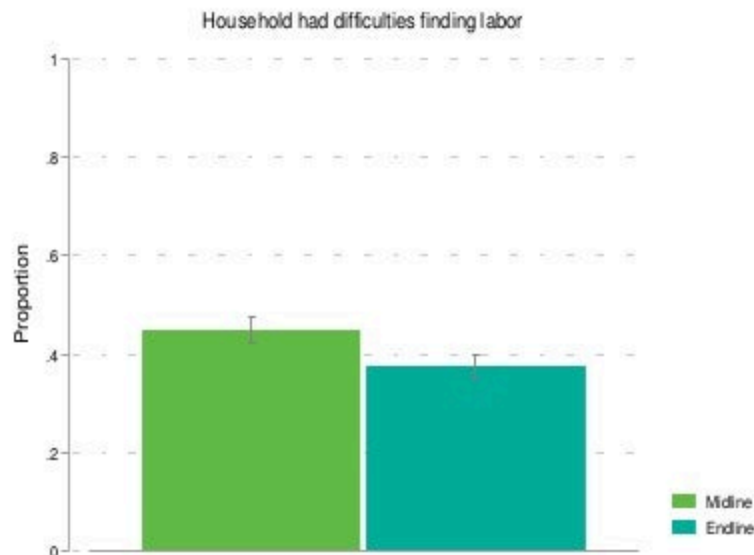
Female household labor rarely used in production or marketing



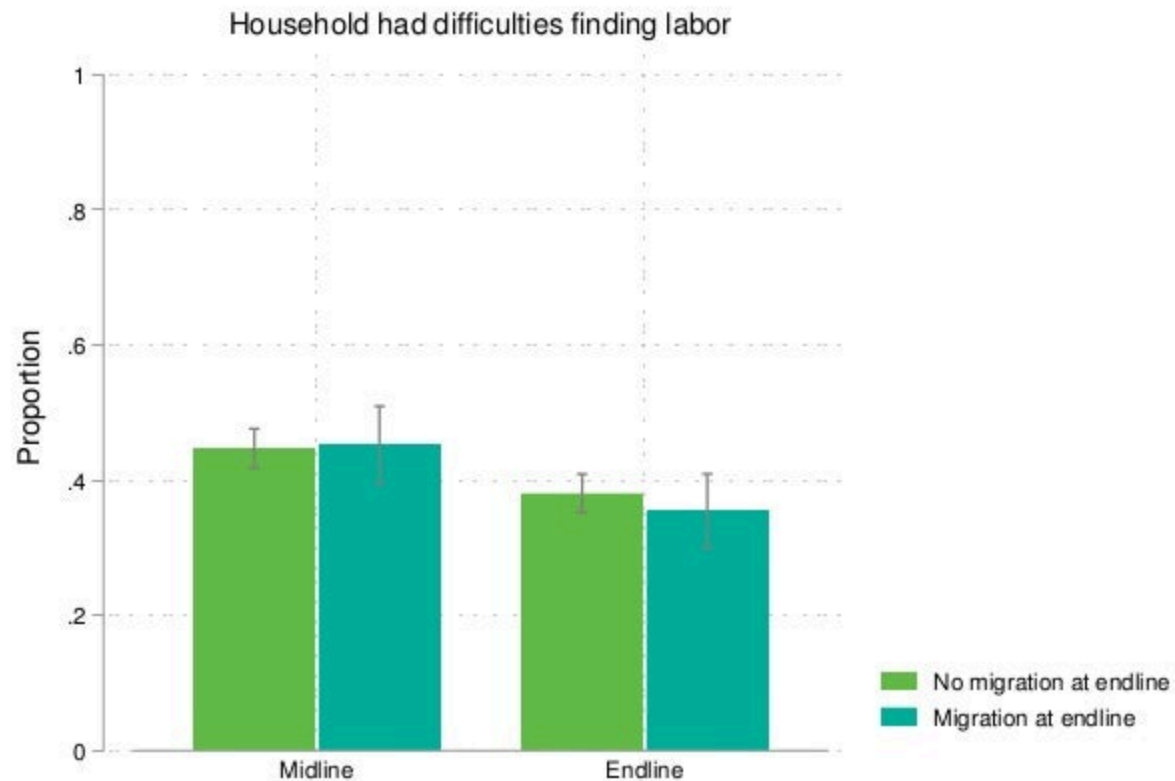
Gender segmentation despite migration and labor scarcity

| Households reporting at least one... | Group 1 | | Group 2 |
|--------------------------------------|---------|---------|---------|
| | Midline | Endline | Endline |
| Member migrating | 18.2% | 21.5% | 20.0% |
| Member migrating temporarily | 9.52% | 8.87% | 7.82% |
| Member migrating permanently | 8.98% | 13.6% | 13.4% |

| Characteristics of migrants | Group 1 | | Group 2 |
|--------------------------------|---------|---------|---------|
| | Midline | Endline | Endline |
| Median age at which migrated | 21 | 21 | 21 |
| Proportion temporary migration | 27.7% | 28.3% | 27.9% |
| Proportion female | 44.5% | 39.1% | 40.0% |
| Completed primary education | 74.0% | 60.7% | 69.2% |
| Completed secondary education | 29.1% | 18.3% | 20.1% |
| Married prior to migration | 43.2% | 46.9% | 36.8% |



Labor scarcity is also not linked to migration

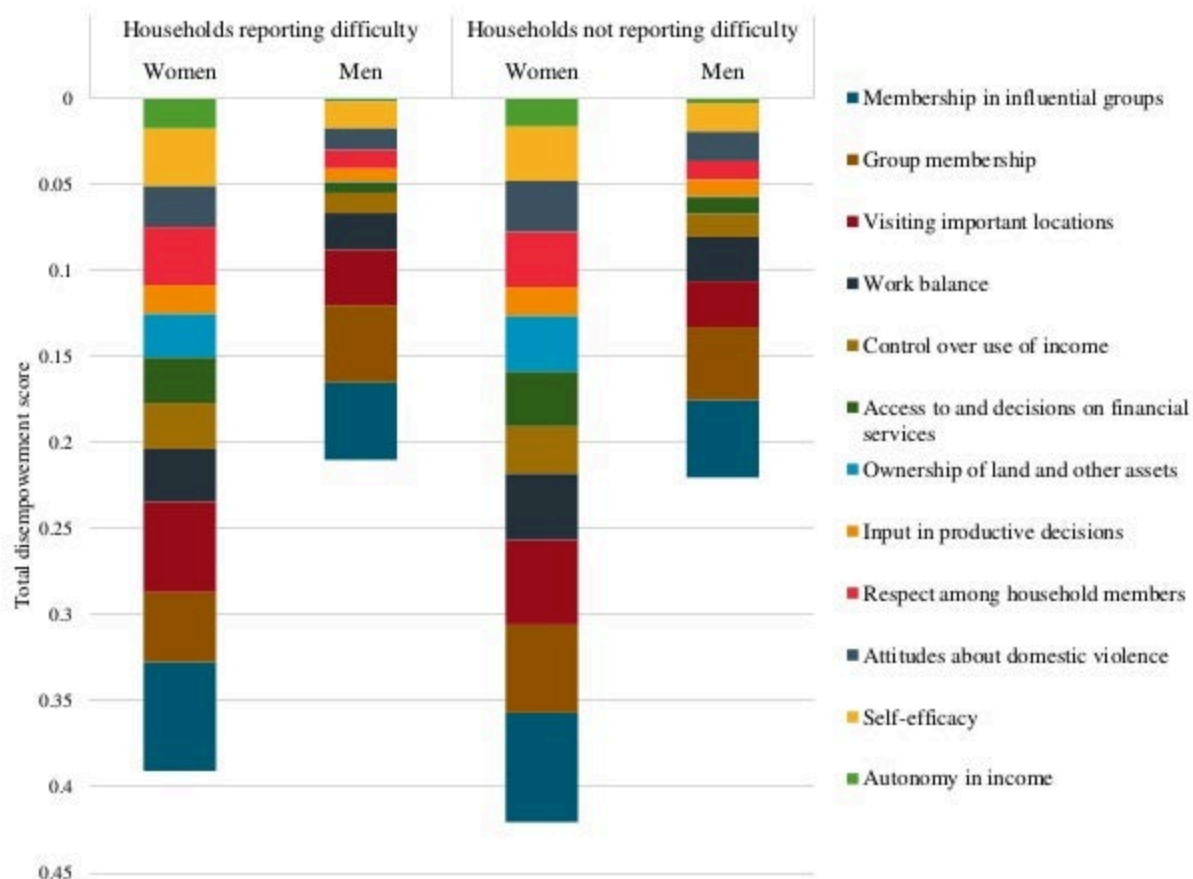


RESULTS II: Empowerment and Participation in jute value chains by labor availability

Labor scarcity is not related to empowerment outcomes

| Indicator | Households reporting difficulty finding labor | | Households not reporting difficulty finding labor | |
|--|---|-------------|---|-------------|
| | Women | Men | Women | Men |
| Number of observations | 190 | 180 | 290 | 280 |
| 3DE score | 0.60 | 0.79 | 0.58 | 0.77 |
| Disempowerment score (1 – 3DE) | 0.40 | 0.21 | 0.42 | 0.23 |
| % achieving empowerment | 0.20 | 0.47 | 0.17 | 0.42 |
| % not achieving empowerment | 0.80 | 0.53 | 0.83 | 0.58 |
| Mean adequacy score for not yet empowered | 0.51 | 0.60 | 0.49 | 0.61 |
| Mean disempowerment score (1 – adequacy) for not yet empowered | 0.49 | 0.40 | 0.51 | 0.39 |
| Gender Parity Index (GPI) | 0.80 | | 0.78 | |
| Number of dual-adult households | 180 | | 280 | |
| % achieving gender parity | 0.32 | | 0.29 | |
| % not achieving gender parity | 0.68 | | 0.71 | |
| Average empowerment gap | 0.30 | | 0.32 | |
| Pro-WEAI score | 0.62 | | 0.60 | |

Empowerment sub-indices by labor scarcity



- Contributors to disempowerment are similar between households who do/do not report labor scarcity
- Slightly higher overall rate of disempowerment among women in households not reporting scarcity

Increasing labor scarcity associated with female labor use

| | Rate Used | | | | Days Worked | | | |
|---|-------------------|-------------------|---------------------|--------------------|-------------------|-------------------|------------------|------------------|
| | Household Labor | | Hired Labor | | Household Labor | | Hired Labor | |
| | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) |
| Labor became scarce from base- to midline | 0.005 (0.024) | 0.006 (0.024) | 0.075*** (0.029) | 0.069** (0.029) | 3.80*** (1.30) | 3.42*** (1.26) | 5.42** (2.21) | 4.82** (2.32) |
| Labor scarce at base- but not midline | -0.032 (0.034) | -0.034 (0.034) | -0.024 (0.040) | -0.019 (0.041) | -1.673 (1.33) | -1.477 (1.32) | -0.428 (2.23) | -0.267 (2.10) |
| Baseline controls | N | Y | N | Y | N | Y | N | Y |
| Mean (No change) | 0.877 | 0.877 | 0.529 | 0.529 | 11.5 | 11.5 | 12.8 | 12.8 |
| Observations | 924 | 924 | 924 | 924 | 924 | 924 | 924 | 924 |

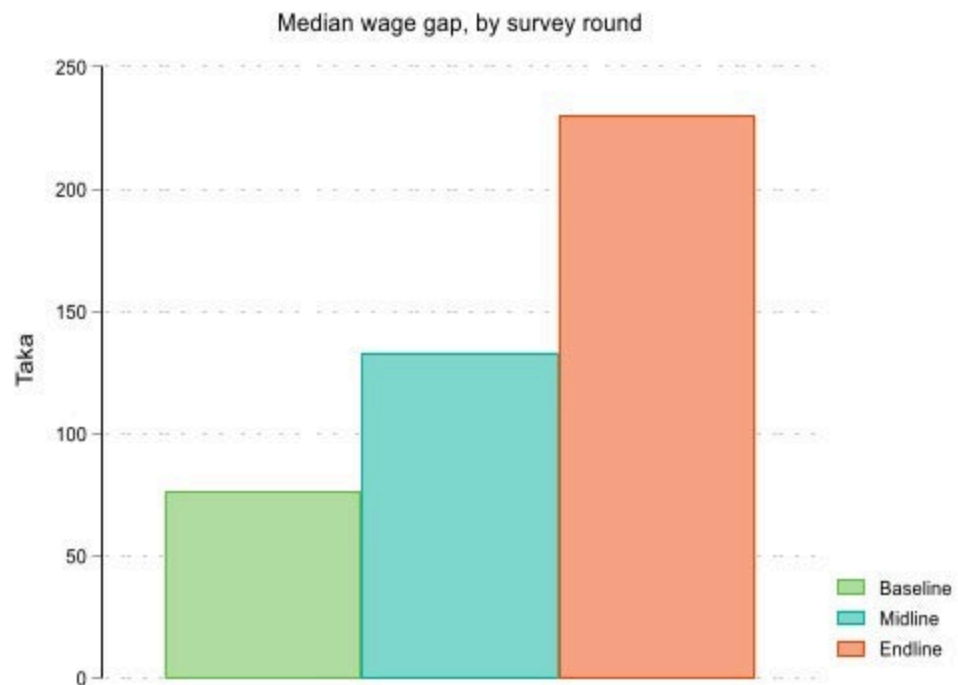
Notes: OLS regression with village-level fixed effects of female labor outcomes on changes in reported difficulty in finding labor from baseline to midline. Excluded category is households reporting no change. Standard errors are clustered at the village level. Asterisks *, ** and *** denote significance at the 10%, 5% and 1% levels respectively

This same result does not appear from midline to endline

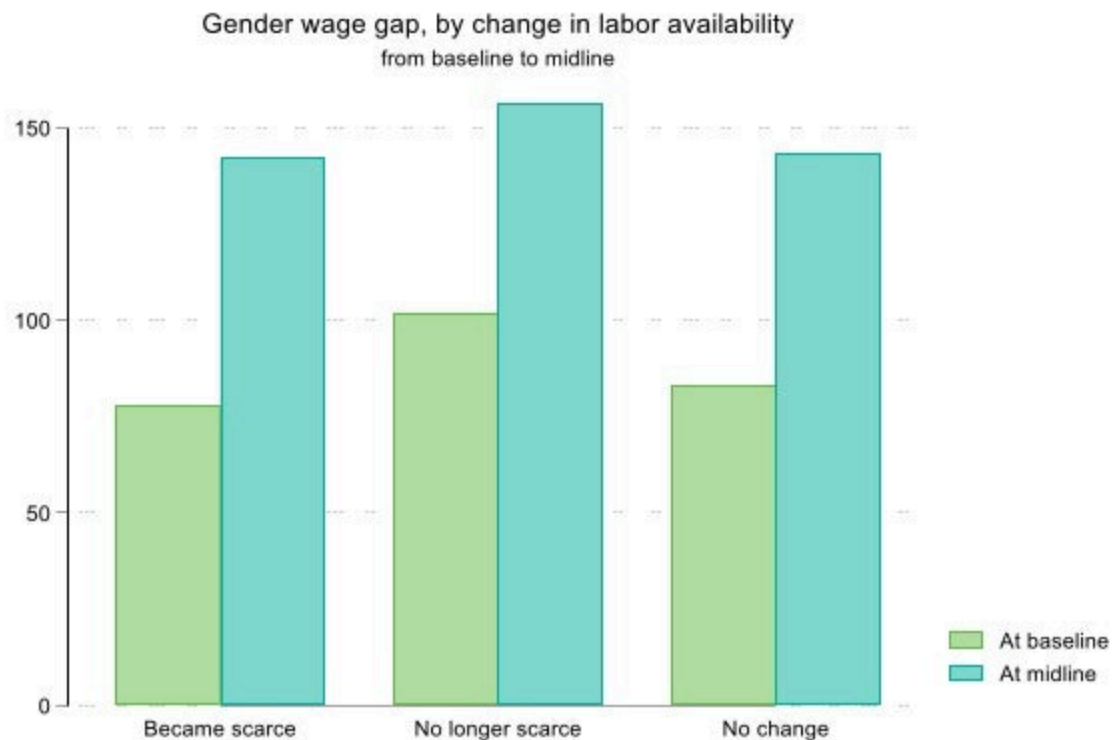
| | Rate Used | | | | Days Worked | | | |
|--|------------------|------------------|-------------------|-------------------|------------------|------------------|------------------|------------------|
| | Household Labor | | Hired Labor | | Household Labor | | Hired Labor | |
| | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) |
| Labor became scarce from mid- to endline | 0.010 (0.016) | 0.011 (0.016) | 0.020 (0.032) | 0.024 (0.032) | 0.453 (1.35) | 0.701 (1.30) | -0.859 (1.49) | -0.615 (1.41) |
| Labor scarce at mid- but not endline | 0.020 (0.014) | 0.022 (0.014) | -0.042 (0.029) | -0.039 (0.029) | -0.718 (1.16) | -0.542 (1.11) | -0.472 (1.32) | -0.481 (1.31) |
| Baseline controls | N | Y | N | Y | N | Y | N | Y |
| Mean (No change) | 0.942 | 0.942 | 0.482 | 0.482 | 10.1 | 10.1 | 11.8 | 11.8 |
| Observations | 1410 | 1409 | 1410 | 1409 | 1410 | 1409 | 1410 | 1409 |

*Notes: OLS regression with village-level fixed effects of female labor outcomes on changes in reported difficulty in finding labor from midline to endline. Excluded category is households reporting no change. Standard errors are clustered at the village level. Asterisks *, ** and *** denote significance at the 10%, 5% and 1% levels respectively*

Gender wage gap increases over time



Wage gap does not improve when labor is more scarce



CONCLUSIONS

Discussion

- We studied linkages between labor availability, women's role in agriculture and empowerment in jute value chains in the Southern Delta region of Bangladesh
- Key findings: Limited empowerment and participation in production and marketing of jute
 - From baseline to midline, labor shortages resulted in increased participation of women in the jute value chains but without closing a large gender wage gap.
 - From midline to endline, we did not replicate this result, suggesting limited scope for worsening labor availability to enhance women's role in the commercialization of this cash crop.
- Qualitative interviews are suggesting that this is in part related to different interpretations of empowerment; local norms and mobility constraints; and strict gender differentiation of tasks.
- Value chains or market systems interventions: Don't expect that improvements in women's empowerment and involvement will materialize by themselves (also see Parallel Session 2 – AH Conference)

We would like to acknowledge all CGIAR Research Programs and Centers for supporting the participation of their gender scientists to the *Seeds of Change* conference.



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ANNEX - LITERATURE

Cluster randomized trial in the jute value chain

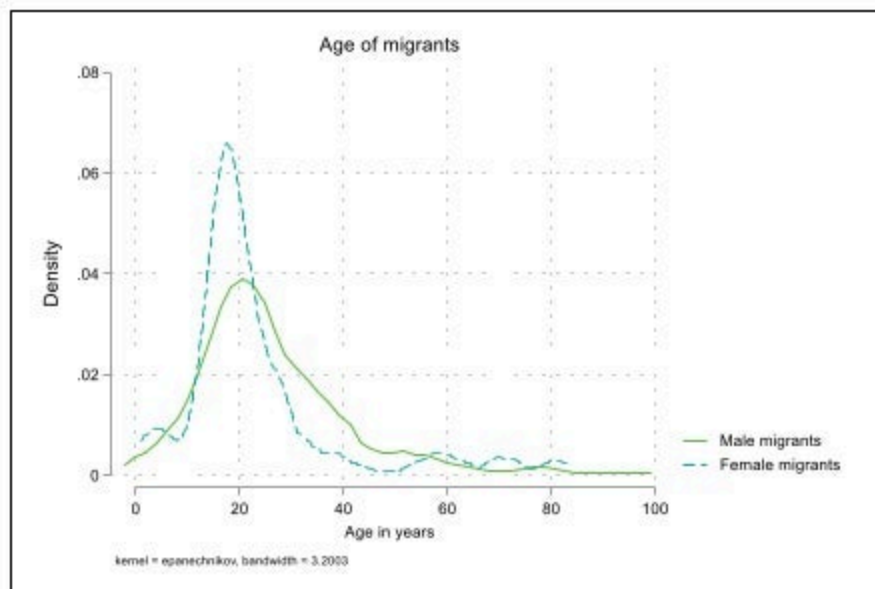
- Between baseline and midline, villages were randomly assigned to one of four treatment arms:
 - Private sector promotions of fertilizer (fairs organized by major input company and promotional discounts)
 - NGO trainings on production and post-harvest management practices and technologies, **including modules around gender** and nutrition
 - Private sector promotions + NGO trainings
 - Neither of the two (control group)
- De Brauw *et al.* (2019): Private sector promotions led to increased knowledge and take-up of fertilizer; NGO trainings led to improved general knowledge but no impact on management practices and technologies.

What are the impacts of these interventions on women's empowerment?

No changes in empowerment associated with training

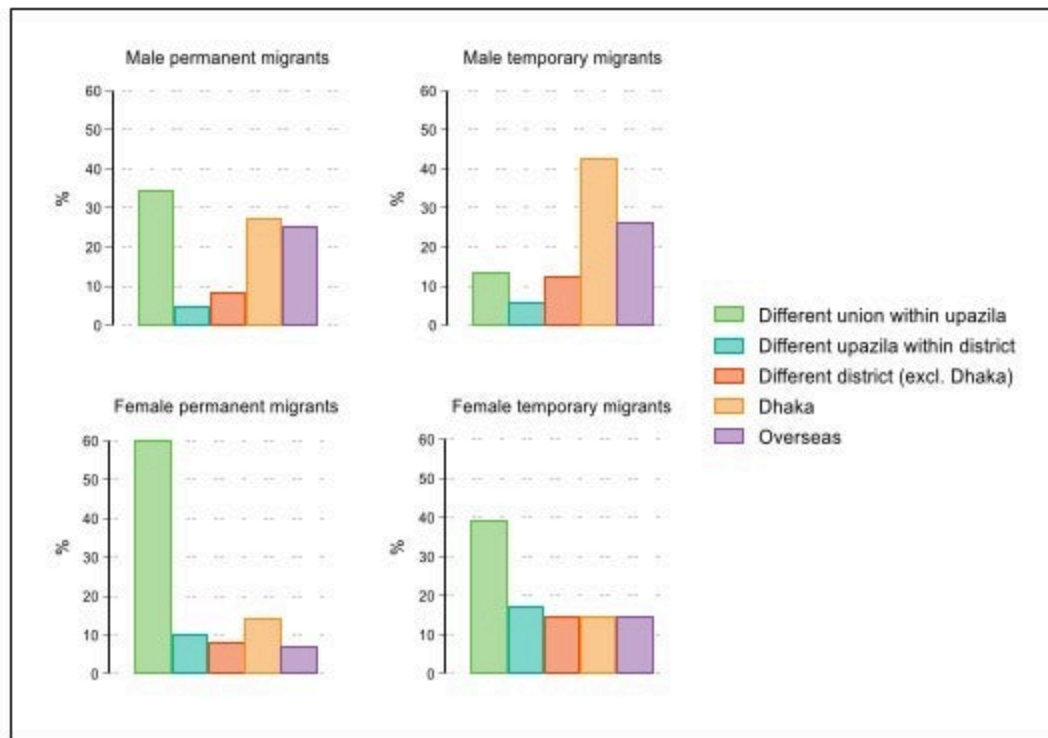
| | Empowerment Score (Male Respondents) | | Empowerment Score (Female Respondents) | | Difference in empowerment score (Female - Male) | | Intrahousehold Parity (Proportion female as empowered as male) | |
|--|---|-------------------|---|------------------|---|-------------------|--|-------------------|
| | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) |
| NGO trainings only (gender component) | -0.007 (0.021) | -0.002 (0.021) | 0.016 (0.027) | 0.019 (0.025) | 0.025 (0.027) | 0.019 (0.027) | 0.100 (0.061) | 0.117* (0.061) |
| NAAFCO promotions only (no gender component) | 0.032* (0.017) | 0.020 (0.019) | 0.033 (0.020) | 0.015 (0.020) | -0.002 (0.024) | -0.011 (0.029) | -0.041 (0.048) | -0.051 (0.045) |
| Trainings + Promotions | -0.017 (0.020) | -0.022 (0.016) | 0.012 (0.018) | 0.010 (0.017) | 0.023 (0.024) | 0.022 (0.022) | 0.015 (0.052) | 0.016 (0.045) |
| Baseline Controls | No | Yes | No | Yes | No | Yes | No | Yes |
| District Controls | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Mean (No Interventions) | 0.184 | 0.184 | 0.534 | 0.534 | -0.152 | -0.152 | 0.310 | 0.310 |
| N | 480 | 480 | 480 | 480 | 457 | 457 | 457 | 457 |

Migrant Age



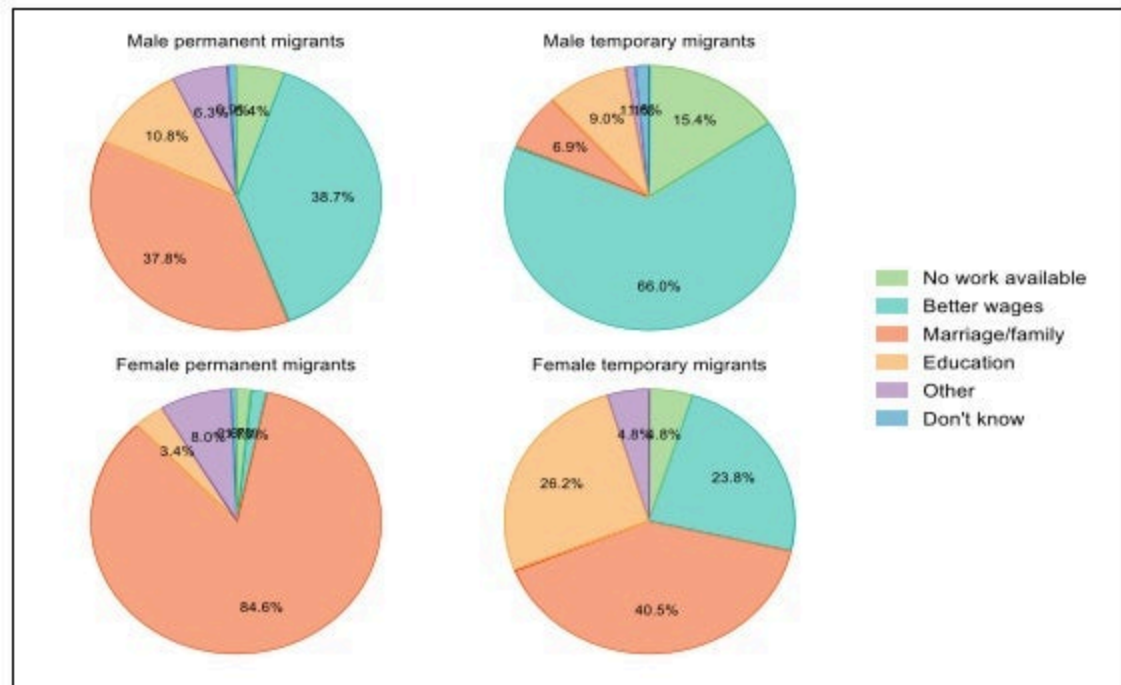
- Male migration heavily concentrated around late-teens/early twenties
- Median age slightly higher for female migrants, and greater variation

Migrant Destinations



- Women leaving households temporarily or permanently much more likely to relocate within same region
- Men are much more likely to relocate to Dhaka or overseas (primarily to Gulf States)

Reasons for Migration

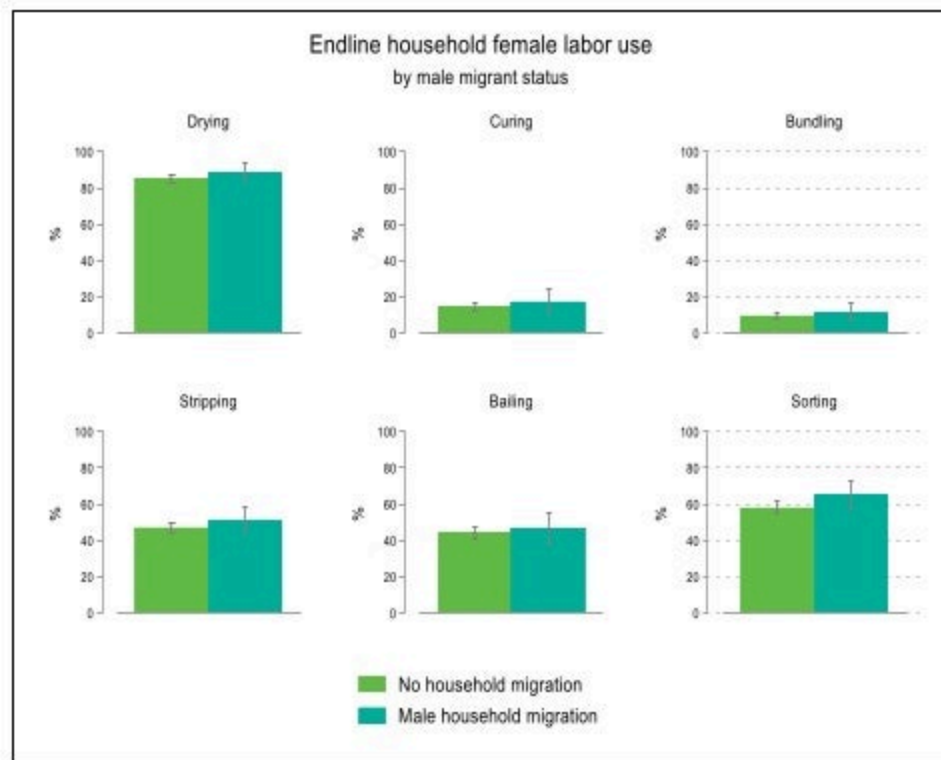


- Females leave permanently for family reasons
- But almost 30% who leave temporarily do so for economic reasons
- Economic reasons main driver of male temporary migration

Female labor used more often when labor becomes scarce

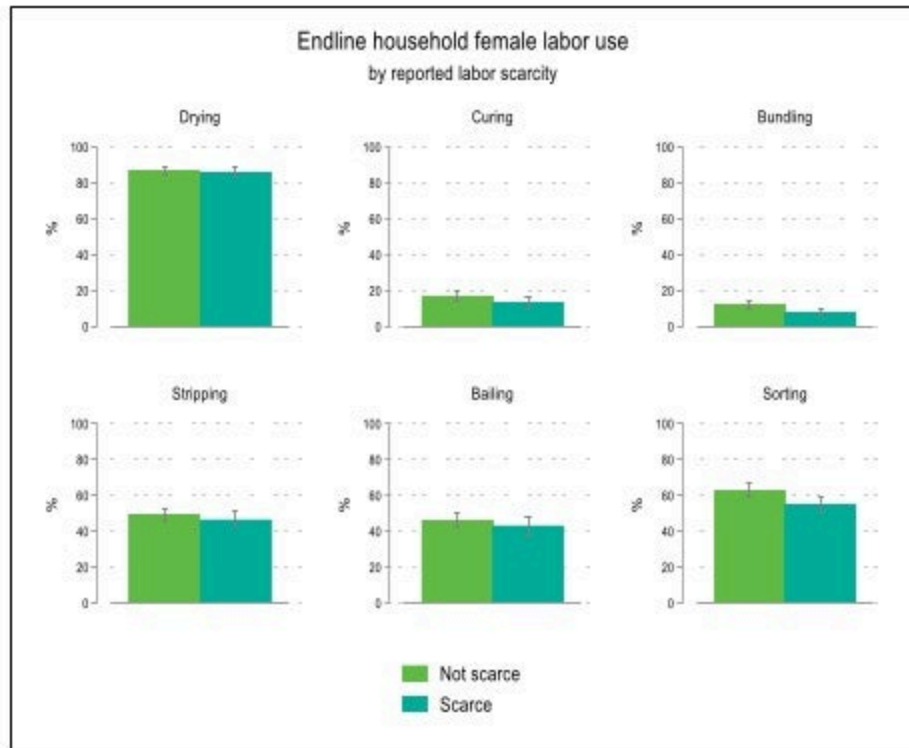
| | Days female HH labor used | | Any female hired labor used | | Any female migrant labor used | |
|---|---------------------------|------------------|-----------------------------|-----------------|-------------------------------|------------------|
| | (1) | (2) | (3) | (4) | (5) | (6) |
| Reports difficulty finding labor | 2.00** (0.99) | 2.08** (0.98) | 0.06** (0.03) | 0.06* (0.03) | 0.05** (0.03) | 0.05** (0.03) |
| Reports male migration | 0.27 (1.50) | -0.17 (1.41) | 0.04 (0.05) | 0.04 (0.05) | 0.02 (0.03) | 0.02 (0.04) |
| Reports difficulty x Male migration | 0.59 (2.04) | 0.86 (1.98) | 0.08 (0.07) | 0.09 (0.07) | 0.10 (0.08) | 0.10 (0.07) |
| Household demographic controls | No | Yes | No | Yes | No | Yes |
| Mean (No difficulty, no male migration) | 9.52 | 9.52 | 0.46 | 0.46 | 0.08 | 0.08 |
| Adjusted r-squared | 0.035 | 0.041 | 0.157 | 0.157 | 0.027 | 0.025 |
| Observations | 1410 | 1409 | 1410 | 1409 | 1410 | 1409 |

Female labor utilization by task & migration status



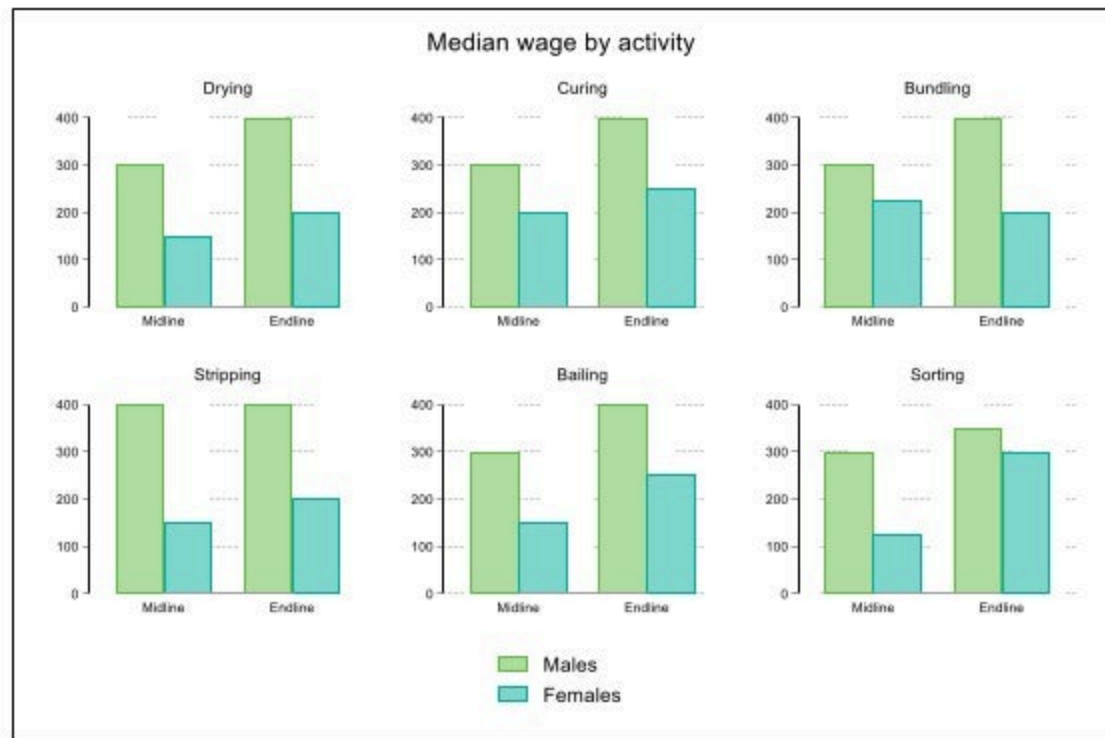
- Gendered labor allocation remains similar in households where a male member migrated
- No evidence of sig. increases in male dominated tasks, nor in transportation/marketing activities

Female labor utilization by task & labor scarcity



- Similar results for households who do/do not report difficulty finding enough labor
- No sig. increases in the women's participation rates, across all tasks

Female versus male wages by task



- Wages generally stable across different activities at midline & endline
- Large wage gaps between male and female hired workers are present in both rounds

Mueller, Valerie, et al. "Migration, gender, and farming systems in Asia: Evidence, data, and knowledge gaps." (2015).

Limited statistics on internal migration, international migration, and remittances worldwide prohibit understanding of migration's role in the agricultural transformation process. Insights from the qualitative literature suggest the migrant's gender and household decisionmaking dynamics may influence future investments in agriculture. This paper reviews the literature on migration in Asia, with specific attention given to how gendered migration may influence future agricultural productivity. The first section examines the current body of evidence on the state of international and internal migration, using largescale datasets that cover several Asian countries. The second section summarizes the findings of an extensive literature review on gendered determinants of migration, employment, and remittances. The third section lays out the gains and losses of migration and discusses the evidence on possible changes in gender roles owing to migration. Global statistics and evidence from the qualitative literature challenge the traditional narrative of male migrants as breadwinners. Even among studies that focus on male employment migration, women have an increasing role in the investment of remittances. What remains unclear is whether women who are migrant breadwinners, decisionmakers, or both regarding the end use of remittances favor investments in agriculture. Adding migration questions to existing nationally representative surveys would shed light on the significance of gendered migration patterns in Asia and its associated consequences on rural livelihoods.

Maharjan, A., Bauer, S., & Knerr, B. (2012). Do rural women who stay behind benefit from male out-migration? A case study in the hills of Nepal. *Gender, Technology and Development*, 16(1), 95-123.

This article examines the impact of male out-migration on the workload and status of the women left behind in rural Nepal. The study uses primary data collected through household surveys from two districts in the mid-hills of Nepal to analyze aspects of women's roles and responsibilities that are expected to change in the absence of male household heads. Specifically, the study focuses on the change in women's workload, the expansion of their roles, their ownership and access to productive resources, and the part they play in household decision making. The results suggest that women have broadened and deepened their involvement in rural society as a result of male out-migration, which could lead to either the empowerment or disempowerment of women. The nature and extent of this impact was conditional on the migration pattern and the remittances received by the households. Larger remittances generally helped to reduce the physical work burden and to increase decision-making roles, thus empowering the women left behind. But low remittances had the opposite impact, and saddled them with greater physical workload.

Tamang, Sujata, Krishna P. Paudel, and Krishna K. Shrestha. "Feminization of agriculture and its implications for food security in rural Nepal." *Journal of Forest and Livelihood* 12.1 (2014): 20-32.

The rural Nepal is going through unprecedented demographic, socioeconomic and environmental changes. There is a growing pattern of outmigration of male population from villages to urban areas and overseas in search of better opportunities. This is mainly due to the poor economic development processes that could not generate adequate income and employment opportunities at home, political and economic changes, and globalization, concomitant with attractive employment opportunities offered outside the country. Simultaneously, rural communities are facing the disincentives of worsening security in villages, employment opportunities, and subsistence farming becoming less and less rewarding and unable in meeting their basic needs. This has led to a situation where women, in addition to looking after children and the elderly, have to take additional responsibilities in farming within the traditionally male-dominant farming practices. This is not only inappropriate and unfriendly to women, but also has lowered the use and productivity of land; hence perpetuating, if not exacerbating, food insecurity. Women are increasingly adopting less intensive farming practices as well as abandoning agricultural lands. As a result, there is reduction in food production. Therefore, there is need for revisiting the agro-ecological practices to explore the possibility of reintroducing low input and less labour-intensive agro-forestry practices which can substantively reduce the workload of women, as well as ensure food security at local level.

Gartaula, Hom Nath, Anke Niehof, and Leontine Visser. "Feminisation of Agriculture as an Effect of Male Out-migration: Unexpected Outcomes from Jhapa District, Eastern Nepal." *International Journal of Interdisciplinary Social Sciences* 5.2 (2010).

In Nepal, male out-migration is an important factor to contribute to GDP through regular remittances. This paper looks at the effects of male out-migration on the women left behind in relation to labour participation and decision-making in agriculture. The literature speaks of feminisation of agriculture as a positive development for women's empowerment. A distinction is made between labour feminisation and managerial feminisation. As the two concepts indeed refer to two different roles, power positions and managerial practices, the paper separately explores these practices and actors involved. Data were collected for a doctoral study in Jhapa District, Eastern Nepal; a lowland area from where much male out-migration is taking place. The study shows a higher level of feminisation in a situation where de-facto autonomous female heads-of-household are decision makers and less in case of women who stay within the patrilineal household of their parents-in-law. Moreover, feminisation in the first case has the unexpected outcome that women seem to be moving away from agriculture. An interdisciplinary approach using anthropological in-depth interviews and demographic survey data shows that a concept like feminisation of agriculture needs to be considered and understood in the wider social and cultural context of an expanding rural space.

McEvoy, Jamie P. "Male out-migration and the women left behind: A case study of a small farming community in southeastern Mexico." (2008).

Until recently, rural households in southeastern Mexico have survived on subsistence and chili farming. But over the last decade, male out-migration to the United States has also become a popular livelihood strategy. This case study used data from semi-structured qualitative interviews to assess the effects of male out-migration on women's lives in three areas: households' financial and material situation, issues of infidelity and women's vulnerability to abandonment, and the gendered division of labor.

Overall, this study found that male out-migration had both positive and negative effects on the women left behind. First, the financial outcomes of migration were mixed. A few women received large, steady remittances while the majority received minimal, sporadic remittances. These various financial outcomes had different effects on women's lives. Second, some women experienced marital separation or abandonment, and many others feared this could happen to them. Women also experienced increased 'policing' of their actions. These outcomes had a negative effect on most women by placing them in a financially precarious position and limiting their freedom and mobility. Third, women's roles in agricultural production changed in two ways: 1) increased attendance at the monthly community meeting and 2) increased contracting and supervising of day laborers. For most women, however, their agricultural field labor participation did not increase.

Women's new roles created a shift in gender relations, but most women said that they were more 'uncomfortable' with, than empowered by, these new roles. Despite the lack of empowerment noted by the women themselves, it is important to consider that, over time, these changes in gender roles and gender relations may influence gender ideologies (e.g., perceptions of what women can and should do) and increase women's empowerment. The contributions of these findings to the literature and policy are discussed in the conclusion.

Paris, Thelma R., et al. "Effects of out-migration on rice-farming households and women left behind in Vietnam." *Gender, Technology and Development* 13.2 (2009): 169-198.

Vietnam is one of the major rice-producing countries in Asia, and since 1989 it has been a rice-exporting country. However, poor rice-farming households that depend primarily upon their own labor for farming face significant constraints on production that push members to migrate. Out-migration could have effects on agricultural production and household welfare. This study was conducted to draw correlations across migration, livelihoods, farming outcomes, and gender roles to derive gender-responsive policy recommendations for action in rice-producing villages of the Mekong Delta in the south and Red River Delta in the north. Results revealed that labor out-migration was highest in the rainfed villages in the south where the poor are located. Remittances comprised significant proportions of total household income, often more important than rice income, as was the case in the north. The effects of out-migration on family members left behind, particularly women, depend on the characteristics of the migrant, the duration of absence of the migrant, use of remittances, and women's access to productive resources. The findings of this study have far-reaching implications for gender-responsive research and extension programs dealing with ricebased farming systems in Vietnam and other Asian countries that face labor shortages due to out-migration from rural areas.

Malapit, Hazel Jean L., et al. "Women's empowerment mitigates the negative effects of low production diversity on maternal and child nutrition in Nepal." *The Journal of Development Studies* 51.8 (2015): 1097-1123.

We use household survey data from Nepal to investigate relationships between women's empowerment in agriculture and production diversity on maternal and child dietary diversity and anthropometric outcomes. Production diversity is positively associated with maternal and child dietary diversity, and weight-for-height z-scores. Women's group membership, control over income, reduced workload, and overall empowerment are positively associated with better maternal nutrition. Control over income is positively associated with height-for-age z-scores (HAZ), and a lower gender parity gap improves children's diets and HAZ. Women's empowerment mitigates the negative effect of low production diversity on maternal and child dietary diversity and HAZ.

Pattnaik, Itishree, et al. "The feminization of agriculture or the feminization of agrarian distress? Tracking the trajectory of women in agriculture in India." *Journal of the Asia Pacific Economy* 23.1 (2018): 138-155.

The rising share of farm work in India undertaken by women – a phenomenon commonly referred to as the feminization of agriculture – raises questions about the changing character of rural India, particularly with regards to women's social and economic roles. Based on an analysis of four sets of occupational data drawn from the Indian Census (1981, 1991, 2001 and 2011), this paper demonstrates that, as a process driven largely by the outmigration of men from rural areas, the feminization of agriculture has no necessary relationship with wider INDICATORS of women's social or economic empowerment. Instead, women's growing participation in agriculture appears to be strongly related to several indicators of poverty. This paper concludes that women's growing contribution of labour in agriculture adds to the already heavy work burdens of most rural women, thereby further undermining their well-being, and suggests that the feminization of agriculture may better be described as the feminization of agrarian distress.

Background slides

Attention to the implications of rural outmigration is growing, but little evidence exists on its association with women in agriculture. In 2017, there were 266 million international migrants, up from 220 million in 2010 and 173 million in 2000 (UN DESA 2017). Internal or domestic migration, generally from rural to urban and peri-urban areas, is an even larger phenomenon—in 2005, there were 763 million internal migrants worldwide (UN DESA 2013). Most migration flows originate from rural areas, which raises concerns about their consequences on rural communities. The limited available evidence suggests that across the globe, migration originating from rural areas is predominantly male (Mueller et al. 2015). Hence, this type of migration could lead to significant socioeconomic changes in rural areas, including changes in traditional gender norms. While in a great number of developing countries women's share of the agricultural labor force (relative to that of men) increased significantly over the past few decades, including in response to male outmigration (Slavchevska, Kaaria, and Taivalmaa 2016), there is limited rigorous evidence on the direct impacts of male outmigration on women's work in and outside of agriculture, and even less evidence on its consequences for intrahousehold decision-making and women's empowerment. These gaps in the literature are largely attributed to limited data, as most existing surveys focus on either migration or women's empowerment but rarely on both issues (with the exception of Stanley's 2015 small-scale study of migration and women's agency in Guatemala).

Migration affects women's work and empowerment mainly through the loss of migrants' labor and through the flow of remittances. In response to the absent migrant labor, women may increase their labor allocation to the family farm to keep agricultural production at the same level. (Alternatively, migrant households may change or reduce agricultural production.) Remittances have a separate effect on women's labor supply—they may raise women's reservation wages, resulting in reduced time in remunerated employment; or they may relax growth constraints for family farming, making family farming more attractive than other paid or unpaid activities. These hypotheses have been tested in various studies, though with little attention to the types of paid and unpaid work performed by women. Much less attention has been paid to the fact that migration also alters intrahousehold decision-making processes. In the absence of their migrant husbands, women may increase their roles in decision-making around a range of household and farm activities, partly because remote monitoring of rural household and agriculture activities can only be done imperfectly.

The fact that migration may alter women's intra-household decision-making processes has received limited coverage and attention. The only study that provides a detailed account of the linkages between migration and women's empowerment in agriculture is the work done by Stanley (2015) for Guatemala: despite migration, women who stay behind continue to farm even though farming is traditionally seen as men's work in Guatemala. Women must overcome various constraints, including the challenge of hiring and managing male labor, but they do see an improvement in their decision-making power.

It is also important to distinguish between the various aspects of empowerment. Autonomy in decision-making is only one aspect of empowerment. In their study of migration and women's autonomy in Mozambique, based on data for 2000-2006, Yabiku, Agadjanian, and Sevoyan (2010) found that both successful and unsuccessful cases of male outmigration are linked to significantly higher autonomy for wives who stay behind, and the gains in autonomy persist after husbands return. At the same time, although unsuccessful migration increases women's autonomy, it may have disempowering effects on women. Unsuccessful migration itself can be a strain on women's time, as they have to assume the work of their migrant husbands and deal with the financial difficulties that accompany unsuccessful migration experiences.

The complex issue of rural outmigration also has implications for household food security. First, family members who stay behind may struggle to compensate for the lost income from the migrant labor. Second, remittances may have a separate effect on household food security. Empirical studies generally find a positive relationship between migration and food security, largely attributed to remittances (Zezza et al. 2011). Third, several studies raise the issue of changing agricultural practices, which may negatively affect food security. Small-scale studies from Nepal suggest that at least in some regions women who stay behind and take over the farm management adopt less labor-intensive crops, shorten cropping cycles, reduce the diversity of crops they grow, and even abandon agricultural land (Paudel, Tamang, and Shrestha 2014; Tamang, Paudel, and Shrestha 2014). A more standardized approach and a comparable indicator are required, which is applicable in a cross-country analysis.

- (i) how outmigration influences women's work in agriculture;
- (ii) the consequences of male-dominated migration on gender roles and women's empowerment;
- (iii) whether and how outmigration impacts household food security.