Women who do not migrate – Social interactions and participation in Western Nepal

Gitta Shrestha, Emily L. Pakhtigian, Marc Jeuland

Abstract

While evidence of a relationship between migration and agency among left-behind women exists, these linkages are not as straightforward as they may first appear. Oftentimes, it is the circumstances of migration, and particularly the complex and deeply-embedded socio-cultural dynamics that mediate this relationship, especially in the case of patriarchal institutions. Using quantitative and qualitative evidence from the Mid and Far-Western regions of Nepal—regions in which male migration is particularly common—we examine the correlations between migration and women's empowerment, specifically their abilities to interact and participate at both the household and community levels. Our data come from a representative survey of 3660 households living in the Karnali and Mahakali river basins, 18 focus group discussions held across locations in the same region, and 30 in-depth interviews from pilot study sites in the districts of Doti and Kailali. Our results indicate that migration may impact how women interact with their communities, in the sense that women from poor migrant nuclear families with fewer kinship and/or social ties suffer disadvantaged positions and face restricted access to spaces of empowerment. This is likely related to the highly structured patrilineal and male-centric social interactions within villages in this remote region.

Keywords: *Left-behind women, migration, social relations, gender, participation*

1. Introduction

Changes in the status-quo of the left-behind women in migrant households are central to debates in migration and gender research (Gartaula, Visser and Niehof 2012, Cortes 2016, Morokvašić 2014). There is growing recognition that the process of migration involves not only those who move, but also who stay behind – most often women, children, and the elderly (Ibid). Perhaps nowhere is the examination of migratory trends more relevant than in Nepal, where labour migration has become an increasingly prominent both economically, with roughly 30 percent of gross domestic product (GDP) coming from remittance payments, and socially, with migratory behaviours changing the age and gender compositions of rural communities across the country. Labour migration in Nepal is both age and gender specific, with the migrating population composed primarily of young males. According to the Central Bureau of Statistics (CBS, 2014), 47 percent of male migrants are between the ages of 15 and 34. This depicts an increasing trend of youth male migration, indicating an absence of agricultural labour in rural areas and changing social dynamics in migration-reliant regions. Given these trends, it is unsurprising that the feminisation of agriculture has been widely documented in Nepal (Gartaula, Niehof and Visser 2010). This has also been well recorded by national census which suggest an increase in the prominence and number of female-headed households from 15 percent in 2001 to nearly 26 percent in 2011(CBS 2014).

Studies indicate that while migration can help in improving the economic situation of the household (Dinkelman and Mariotti 2016, Theoharides 2017), it may also have negative repercussions on those left behind, especially on women (Maharjan, Bauer and Knerr 2012, Démurger 2015, Lokshin and Glinskaya 2008). While migration opens windows of opportunities for some women, these opportunities have not always translated into female empowerment (Lama, Kharel and Ghale 2017). Furthermore, there is evidence that the extent of improvements in female well-being and empowerment depends on the nature of migration itself—in terms of length and destination—and also on the socio-cultural context within which the migratory flows takes place (Kulczycka 2015, Gartaula et al. 2012).For example, Thieme and Boker-Muller (2009-2010) argue that women left-behind by migrating husbands actually become more dependent on their husbands' families due to the patrilineal and male-dominated networks that are dominant in those settings. Furthermore, they find that male migration does not increase bargaining power of left-behind women in the far-western region of Nepal. Thus, male migration need not be associated with female empowerment; rather, it is conditional on various factors such as the amount of remittances received, the duration of the migration, living arrangements in the home village, and other properties of the home production system, etc. (Gartaula et al. 2012, IBRD/WB 2018).

This paper examines the characteristics of households with migrating members as well as the relationships between migration and measures of social interaction and female participation We give particular attention to participation in natural resource management (NRM) groups, given the importance of these community groups in Nepal. In addition, we examine three mediating factors: (i) family structure, (ii) caste, and (iii) migration duration to provide a more nuanced discussion of relationships between migration and women's inclusion and participation at the household and community levels. The importance of social capital is widely acknowledged in shaping and sustaining migration, reducing risks, aiding accumulation of other types of capital, enhancing opportunities, increasing women's agency, and improving community well-being (Nega et al. 2010, Padmaja and Bantilan 2007, Dinda 2014, Thieme 2006). There is, however, less understanding of how social interactions and kinship networks, historically characterised as patrilineal and male-centric, shape the lives of women left behind by their migrating husbands, fathers, or sons. Social and kinship networks are forms of social capital acquired by individuals by virtue of their memberships in social institutions and structures. The benefits from such capital depend on the ability to mobilise networks and relationships, or members' abilities to maintain their networks through multiple forms of interactions (Bourdieu, 1983 in Thieme,2006). This paper's main contribution is in examining these gaps apparent in the literature.

The remainder of the paper is structured as follows. Section two provides additional background. Section three describes the conceptual framework. Section four outlines the study area and methodology used to collect and analyse data. Section five reports descriptive statistics and section six reports both quantitative and qualitative results. Finally, section seven concludes with a summary and discussion of policy implications.

2. Background

Several scholars have documented the positive impact of social capital on women's empowerment (Giraud et al., 2012).For instance, Maas et al. (2014) find that social capital enhances the legitimacy

of women as rural entrepreneurs, helping them overcome poverty. A recent review also argued that social capital increases women's access to other forms of capital, forming the basis for inclusive growth (Mozumdar, Farid and Sarma 2017). Alternatively, others argue that social capital may also constrain individual action (Thieme 2006), particularly as it relates to adaptation to changing conditions (Paul et al., 2016). Das (2004), for example, outlines how inequalities perpetuate within situations of deep poverty – work-related time constraints, unequal participation in associations and networks of reciprocal help. This shows that while interactions could enhance opportunities, the ability to benefit from social resources again is highly imbued with unequal power relations, causing unequal social interactions, access to information and opportunities (Portes and Sensenbrenner 1993b). Moreover, groups embedded in tight networks dictated by caste or relational structures can be supportive but also constricting. They may pose limitations by putting excessive claim on group members, restricting individual freedom, or demanding conformity, thus excluding those who act against the normative order of the group (Portes and Sensenbrenner 1993a, Thieme 2006).

There is a growing literature that examines the links between migration, social networks, and women empowerment (Hadi 2001, Lodigiani and Salomone 2015, Yabiku, Agadjanian and Sevoyan 2010). Hadi (2001) and Yabiku et al. (2010) find evidence of increased female autonomy in household decision making among migrant households in Bangladesh and Mozambique, respectively, and argue that these impacts often last beyond the migration period. Lodigiani and Salomone (2015) consider migratory impacts on social norms and values, finding higher rates of female political participation among migratory populations. Other research indicates that male migration significantly increases the role of women in maintaining and reproducing patrilineal networks (Ismailbekova 2013). Migration may also reflect the process of empowerment and relations of dependence simultaneously(Cortes 2016).

3. Framework of women's empowerment

Sustainable Development Goal number five sets gender equality as a top development priority; female empowerment is the basis for achieving this goal. Conceptually, empowerment is a multifaceted and context-specific process. Here, we draw on Kabeer (1999) theorisation of empowerment to examine the relationship between gender and migration in western Nepal. Specifically, we adopt her characterization of empowerment as the process by which disempowered individuals acquire the capacity to make strategic life choices and exercise influence over decision making processes. Accordingly, this framework posits empowerment as a dynamic process in which the initially unempowered party—in this case, women—expand their capabilities to enjoy choice, voice, and agency in their life. The framework identifies three interrelated dimensions of empowerment: (i) resources, (ii) agency, and (iii) achievements.

Resources range across human (education, skill, labour) to social (relationships, networks, information, contacts) to economic (earnings, property and land) aspects. Resources enhance the ability to exercise choice; that is, they catalyse and facilitate empowerment (Kabeer, 1999). In many contexts, institutional structures and norms disempower women from taking leading roles in decision-making and disallow access to valuable resources. The State, family, community, market and NGOs represents key institutional sites with rules of resource allocation and distribution, which influence the ability of different groups of people to achieve the goals of survival, security and

autonomy. Mobilisation of multiple social relations that people share in these key domains therefore facilitates an individual's access to resources, rights and responsibilities (Kabeer and Subrahmanian 1996).

Agency refers to the ability to define goals and act upon them (Kabeer, 1999). The framework presents a delicate connection between individual and collective agency, arguing that the latter would be more powerful to defy social norms subordinating women in a patriarchal system. It is measured through indicators including participation, decision-making, bargaining, negotiation, deception, manipulation, subversion and resistance. It also includes intangible, cognitive processes of reflection and analysis.

Finally, achievements demonstrate the extent to which an individual has been able to translate resources and agency into positive outcomes such as critical consciousness and control over resources.

4. Data and methods

The Karnali and Mahakali river basins in the mid and far-western development regions of Nepal (see Figure 1) were selected as the locations of this study due to their inclusion in the larger Digo Jal Bikas (DJB) research project, which aims at characterizing river-basin dependent activities in the region. [1] The study region covers 20 districts from three ecological regions (mountain, hill, and Terai). Livelihoods activities in these zones are dominated by farming, as well as high seasonal migration which provides supplemental income (CBS, 2011).

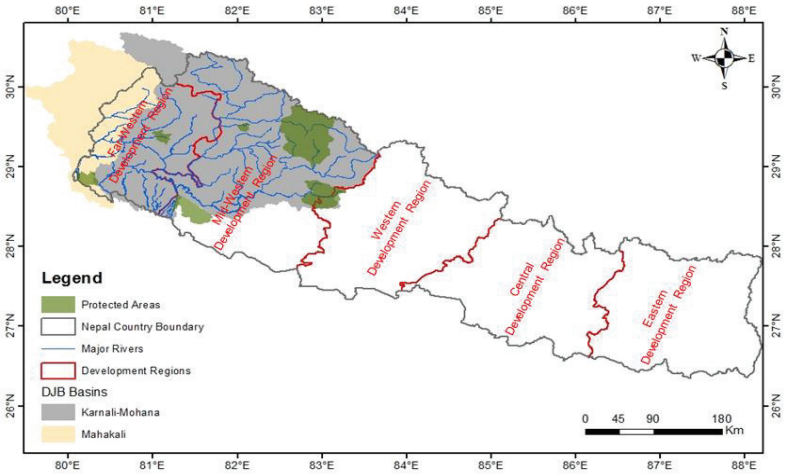

Figure 1: Locations of the Karnali and Mahakali River Basins in the Mid and Far Western Development Regions of Nepal. DJB is

This paper draws on both quantitative and qualitative data. The quantitative data come from a representative household survey implemented across the region in 2017. The survey elicited a variety of data from 3,660 sample households covering agricultural and other livelihood practices, natural resource use and valuation, community participation, asset ownership, and migration. The sample was constructed using a two-stage sampling method. In the first stage, primary sampling units' village development committee (VDC) were identified using probability proportional to size. In

the second stage, households in the selected primary sampling units were selected using systematic random sampling. Data were collected using a paper-based survey, and data entry was completed in CSPro 5.5. All quantitative data analysis was conducted using Stata statistical software.

The primary qualitative data were derived from focus group discussions (FGD), and semi-structured in-depth interviews (IDI). These qualitative data help to contextualize and understand the broader patterns observed in the quantitative data. Qualitative data collection was based on purposive sampling whereby selection criteria for participants were based on caste, gender, occupation, and economic well-being. While 18 FGD were conducted in 9 districts in the basin, the IDIs come from only 2 districts—Doti and Kailali, where pilot Digo Jal Bikas intervention sites were located. As such, the data from the latter should not be viewed as representative of conditions in the broader region. Qualitative data was translated, transcribed, and later coded using ATLAS.ti. Data were analysed using thematic analysis.

5. Quantitative methods

We examine the characteristics of households with migrating members as well as the relationships between migration and measures of social interaction and female participation using multivariate regression analysis. Specifically, we describe characteristics of households with migrant household members by implementing the following probit model

$$Y_i = \alpha + \beta X_i + \varepsilon_i \quad (1)$$

where Y_i is an indicator for a household with at least one migrant member and X_i is a vector of characteristics including respondent gender and age, household head gender, highest educational attainment within the household, monthly household income, household structure (i.e., nuclear family or extended family), caste, and geographical region. We also implement Equation 1 on a subset of the entire sample to characterize households with short term migrations. Here, $Y_i$indicates the household has a migrant member who migrates for a period less than six months; the model is only run among households with at least one migrant member.

Along with describing households with migrant members, we use OLS regression to estimate the relationships between migration and various measures of social interaction and female participation, controlling for household and respondent characteristics. We estimate

$$Y_i = \alpha + \beta M_i + \gamma X_i + \varepsilon_i \quad (2a)$$

where Y_i is an indicator of social interaction or female participation, M_i indicates the household has a migrant member, and X_i is a vector of controls. To gain further insight into how relationships may differ within the migrant household population, we implement equation 2b

$$Y_i = \alpha + \beta_1 M_i + \beta_2 P_i + \beta_3 M_i \times P_i + \gamma X_i + \varepsilon_i \quad (2b)$$

Here, all variables are defined as in equation 2a, and P_i is an indicator for nuclear family structure, Dalit caste, or migration lasting fewer than six months.

In equations 2a and 2b we consider multiple measures of social interaction and female participation. Importantly, they combine both revealed and as stated measures. Given the importance of agriculture and natural resources to the livelihoods of the population in our sample, most of the social interaction measures are tied to these concepts. We also measure female-specific outcomes including female participation in household and community decision making and collective action. We examine four measures of social interaction: (i) shock assistance, as indicated by a binary indicator for whether the household has received support for climate, disease, or market shocks in the past five years; (ii) NGO presence, as indicated by local NGO involvement in the community; (iii) NGO support, as indicated by a binary indicator for whether a household could go to a local NGO for support; and (iv) average trust in natural resource and other community groups among female respondents. We also analyse five measures of female participation: (i) agricultural participation, which indicates female participation in trainings or meetings with extension officers; (ii) NRM meeting attendance, which indicates female attendance at natural resource user group meetings; (iii) other meeting attendance, which indicates female attendance at other community group meetings; (iv) remittance decisions, which indicates female participation in household decisions about the use of remittances; and (v) irrigation negotiations, which indicates female participation in renting and lending of irrigation machinery. Finally, we examine female participation in collective action using one outcome which indicates female participation in community-benefiting activities in the past year.

6. Socio-demographic characteristics

We first consider socio-demographic characteristics of our sample (Table 1). Seventy-one percent of respondents were male, with the average age being about 43 years old. Within the sample, the mean household education was secondary school, although many households had members who had not attended school or had only primary school education. Over 80 percent of households had male household heads, and the mean monthly income was found to be about 2330 rupees. Nearly half of the sample lived in households with a nuclear family structure—parents living with their children—while the other half lived in extended family households. Almost half of the sample was from the hill geographical region, with about 30 percent from the Terai and 20 percent from the mountain region. Finally, nearly 60 percent of the sample belongs to either the Brahmin or Chettri caste; indigenous and the Dalit caste groups comprised 20 percent each; and less than 1 percent are Muslim or other unidentified caste groups.

Table 1: Socio-demographic characteristics

	Mean	Standard Deviation	Observations	Minimum	Maximum
Male	0.71	0.45	3660	0	1
Age	42.5	13.5	3660	14	90
Highest Education[a]	4.8	1.4	3659	1	9
Male Household Head	0.84	0.36	3660	0	1
Monthly Income (NRs[b])	2331	71380	3660	0	3143753
Nuclear Family	0.47	0.50	3660	0	1
Region					
Mountain	0.22	0.36	3660	0	1
Hill	0.46	0.50	3660	0	1
Terai	0.32	0.47	3660	0	1
Caste					
Brahmin/Chettri	0.59	0.49	3660	0	1
Indigenous	0.22	0.42	3660	0	1
Dalit	0.18	0.38	3660	0	1
Muslim	0.004	0.07	3660	0	1
Other/Unidentified	0.009	0.09	3660	0	1

Source: Authors' calculations.

[a]: Education ranges from illiterate to graduate level education. The mean of 4.8 indicates an average education level of secondary school.

[b]:Exchange rate at time of survey was 103 NRs to 1 USD.

7. Migration characteristics

Unsurprisingly, given trends in migration evident throughout Nepal, levels of migration among sample households are high (Table 2). Over 37 percent of households have at least one migrant member, with the vast majority of households citing temporary or seasonal migration of members rather than permanent migration; the mean duration of migration is just over one year. The distribution of migrant sending and receiving locations varies. The majority of migrant households are from the hill region (57 percent), followed by the Terai (28 percent), and lastly the mountain region (15 percent). In terms of destination, 70 percent of migrants go to India; 16 percent to Gulf

countries; 10 percent to domestic destinations; and 3 percent to non-India or Gulf-region countries. Within our sample, almost all sample migrants are men, with only 5 percent of households with migrants having female migrants and 98 percent of households with migrants sending male migrants. [2]

Table 2: Migration

	Mean	Standard Deviation	Observations	Minimum	Maximum
Migrant Member	0.37	0.48	3660	0	1
Seasonal Migrationa	0.98	0.15	1367	0	1
Permanent Migrationa	0.03	0.16	1367	0	1
Migration Durationa	13.86	10.47	1366	1	96
Male Migranta	0.98	0.13	1367	0	1
Female Migranta	0.05	0.21	1367	0	1
Regiona					
Mountain	0.15	0.36	1367	0	1
Hill	0.57	0.50	1367	0	1
Terai	0.28	0.45	1367	0	1
Destinationa					
Within Nepal	0.10	0.30	1367	0	1
India	0.71	0.45	1367	0	1
Gulf Countries	0.16	0.37	1367	0	1
Other International	0.03	0.16	1367	0	1

Source: Authors' calculations

a: All statistics calculated within migrating households

We also describe households with migrant members using multivariate probit regression; the marginal effects are reported in Table 3. Column 1 reports characteristics of households with at least one migrant member; column 2 describes households with migrant members who leave for six months or fewer. We find that migrant households are more likely to be male-headed and have an extended family structure. Additionally, they are more likely to be from the Dalit caste and the hill region. While these trends hold in describing short term migrant households as well we also find

evidence of a negative relationship between monthly income and short term migration and higher rates of short term migration from the Terai region.

Table 3: Characterizing households with migrant members

	Migrant HH member	Short term migrant
Male respondent	-0.28***	-0.06***
	(0.02)	(0.01)
Male HH head	0.12***	0.05***
	(0.02)	(0.02)
Respondent age	0.0022***	0.0005
	(0.0007)	(0.0004)
Highest HH education	0.002	-0.002
	(0.007)	(0.004)
Monthly income	-0.00000009	-0.0000009***
	(0.0000001)	(0.0000003)
Nuclear family	-0.20***	-0.05***
	(0.02)	(0.01)
Dalit	0.09***	0.007
	(0.03)	(0.02)
Regiona		
Hill	0.15***	0.10***
	(0.05)	(0.02)
Terai	0.04	0.05***
	(0.05)	(0.01)
Observations	3649	3659
Pseudo R2	0.11	0.06

Source: Authors' calculations. Marginal effects are reported. Standard errors, clustered at VDC level, in parentheses.

*p< 0.10, **p< 0.05, ***p< 0.01

a: Mountain region is omitted category.

8. Analysis and results

Multivariate regression provides key insights into the relationships between migration and social interactions, female participation, and collective action in western Nepal. We begin our analysis broadly, considering relationships between migration and social interactions at the household level. As the analysis progresses, we included gendered results, specifically examining migration within the context of gender. In the subsections to follow, we outline the descriptive statistics of our measures of social interaction, female participation, and collective action, respectively, as well as report regression results. Given the wealth of qualitative data available from FGDs and IDIs throughout the region, we contextualize our quantitative findings with qualitative evidence from the basins.

Social Interactions

Throughout the basins, social interactions that involve trainings and NGO interactions are uniformly low. As indicated in Table 4, only three percent of the sample had received assistance related to environmental, disease, or market shocks they had faced; the majority of this assistance is from government or NGOs. Given that over 80 percent of the sample experienced some type of shock in the previous 5 years, these rates of assistance are quite low. More of the sample had interacted with community NGOs, with 20 percent of the sample recognizing local NGO activity in their communities and 7 percent indicating that they personally know NGO staff to whom they could reach out for support if it were needed. While social interactions appear quite low on the indicators measured, we do find that female respondents exhibit high levels of trust in the NRM or community groups of which they are a part.

Table 4: Social interactions

	Mean	Standard Deviation	Observations	Minimum	Maximum
Shock assistance	0.03	0.18	3660	0	1
NGO presence	0.19	0.40	3652	0	1
NGO support	0.07	0.25	3660	0	1
NR group trusta	2.29	0.52	1134	0	3
Community group trusta	2.28	0.50	1509	0	3

Source: Authors' calculations

a: Trust measured on 0 to 3 scale with 0 indicating no trust and 3 indicating complete trust.

Panel A of table 7 reports multivariate regression results related to social interactions.

We find that households with migrant members exhibit negative relationships with each of these social interaction measures, indicating lower levels of social interaction compared to non-migrant households. While migrant households exhibit significantly lower levels of trust in natural resource groups and other community groups, the negative relationships with shock assistance, NGO presence, and NGO support are not significant at conventional levels. We also find that male respondents and households with male household heads exhibit positive relationships with our social interaction measures, providing suggestive evidence of a gendered component of social interaction within our sample. Thus, men may have access to the benefits of more social interaction relative to women.

FGDs and IDIs revealed that men, usually those who do not migrate, act as initial contacts for project staff, who, in rural areas, are primarily high caste men. This is largely because of the normative dimensions of social interactions, which dictate the tendency to interact with members of the same social group. This is particularly true in the case of NRM. Therefore, women's ability to access information on trainings, meetings, intervention programs, and services is shaped by their social positions and the natures of their social relationships. Our qualitative interviews further suggest that households without men have fewer interactions with project staff, unless women share strong social or kinship ties with the staff. While this is the dominant narrative, we do find that women in nuclear families with migrant members may have greater interactions with NGOs and their activities in the community than women in households without migrant members or in extended family structures. These women's increasing interactions with NGOs could also be attributed to project requirements of compulsory female participation.

Based on the qualitative evidence from the FGDs and IDIs, we suspected that different household and migration characteristics may mediate the relationship between migration and social interactions; we investigate three possibilities using multivariate regression methods—family structure, caste, and migration duration—in Tables A1, A2, and A3 (panel A). With regard to family structure, when considering the interaction between a nuclear family structure and a migrant household, we find that nuclear family-structured migrant households have received more assistance related to economic, disease, or climatic shocks and are more familiar with local NGOs and NGO staff, compared to others. While not all of these positive relationships are significant, we do find that migrant nuclear family households are significantly more likely to feel they can reach out to local NGOs for support if necessary. With regard to caste, we find that Dalit households demonstrate lower levels of social interaction on average. This trend is even more salient among Dalit households with migrant members. Finally, with regard to migration duration, we find largely positive relationships between short-term migrating household members and social interactions. None of the latter relationships are significant at conventional levels, however.

9. Female Participation and decision making

In addition to understanding the relationships between households' social interactions and migration, we investigated the correlations between migration and female participation. Table 5 reports the descriptive statistics from our sample. Overall, female participation and decision making is quite low. Only 19 percent of women are active participants in decisions around use of remittances, and only 2 percent participate in irrigation negotiations. Furthermore, only 3 percent

have attended agricultural trainings or met with extension officials [3]; while 13 percent regularly attend natural resource group meetings; and 19 percent regularly attend other community group meetings. This trend of unequal female participation in trainings and in meeting extension officers is also reflected in qualitative interviews. We found a few women attending several trainings while others had attended none. Furthermore, some households appear to meet extension officer several times, while other had never attended, which further demonstrates the inequitable distribution of resource and information access within a community.

Table 5: Female participation

	Mean	Standard Deviation	Observations	Minimum	Maximum
Agriculture participation	0.03	0.17	3660	0	1
NR meeting attendance	0.13	0.33	3660	0	1
Other meeting attendance	0.19	0.40	3660	0	1
Remittance decisions	0.19	0.40	3660	0	1
Irrigation negotiations	0.02	0.13	3660	0	1

Source: Authors' calculations

Panel B of Table 7 reports multivariate regression results for our participation variables. With the exception of agricultural participation, there are higher levels of female participation from migrant households, with the relationship demonstrating statistical significance for all outcomes except negotiation decisions. That is, women from migrant households are more likely to participate in natural resource and community group meetings as well as to make decisions regarding the use of remittance payments. Panels B of Tables A1, A2, and A3 (in the appendix) demonstrate, however, there is heterogeneity in female participation based on family structure, caste, and migration duration. First, we find that female household members of migrant nuclear families are less active in community groups (although the negative relationship is not significant) and more active in remittance decisions, a contrast to results found when not considering family structure explicitly. These trends are supported by our qualitative findings which indicate that women from nuclear families are more time constrained, and, accordingly, less able to allocate time to community groups. Second, we find that among Dalit households, the relationship between female participation and migration is less clear and imprecisely measured. Finally, we find that long term migration appears to drive the positive relationship between female participation and the presence of household migrants. Table A3, demonstrates that among households with migrants who leave for 6 months or less, female participation is lower, particularly with regards to participation in irrigation negotiations and community group meetings. This result is perhaps unsurprising. While long term migration may require women to participate more actively in the community, short term migration likely maintains traditional gender roles through frequent migrant return.

The qualitative data reveal that female participation is more common when groups are exclusively for women or when there is compulsory female participation. For example, some community forest user groups or savings groups are entirely composed of women. There are also NRM groups that require female membership and participation, with policies stipulating that, for example, a third of participants must be female to encourage a more equal gender distribution within the group. Furthermore, many NGOs in rural areas strive to reach women, targeting female-dominated groups for vegetable farm trainings and female empowerment.

While intentions to include women in community groups and decision making exist within many of the communities in our sample, our data show that compulsory participation does not always lead to transformative participation. Particularly in mixed NRM groups where women are selected from close relational network, exhibit tokenistic participation. For instance, in a hamlet in Kailali, we found four women with close kinship ties to men on the committee, who were also members of an irrigation user committee. None of these women irrigated fields themselves, whereas female irrigators, a majority of whom have smaller landholdings and migrant husbands or sons, were much less aware of the existence of the irrigation user committee. Accordingly, these women irrigators faced immense challenges in securing irrigation services. A widow with two migrant sons shared her hardships in these words:

> "It [busy schedules of men who help in operating engines] delays irrigation. The seeds don't sprout and dry in the absence of water. This year I could get no help. My son was far and he could not come. Crop in 10 khatta (3386.21 Sq meters) of land was destroyed. All men were busy. My plot is near Mohana river and at comparatively higher elevation. The road is uneven and the engine was heavy. It is difficult for me to carry it alone in the 'dunlop (bullock cart)'. I could not water my fields."
>
> (In-depth Interview, Kailali, 30.10.2017)

As this interview excerpt illustrates, gender relations play a role in irrigation negotiations and determine access to irrigation equipment. While these challenges are faced by many women, they are particularly burdensome for women from migrant nuclear families. In the case of joint families, many women receive assistance in negotiating irrigation equipment from their fathers-in-law or other male relatives.

We observed similar arrangements in community forest user groups (CFUGs). In one mixed CFUG, the daughter of a local politician was nominated as a treasurer; however, this position was in name only and she was not informed about committee decisions. In two locations in the basin (Doti and Kailali), only one household member could be a member of the CFUG, and male household members generally hold this role. Sometimes women attended meetings if men were temporarily away from the community; however, upon their return, men would typically resume their participation.

Women acknowledged that family structure was important in their participatory activities. For example, in extended family structures, mothers-in law often take responsibility for caring for infants and young children, while daughters-in-law take responsibility for other household and farm tasks. Accordingly, mothers-in-law have more time to attend community meetings and trainings.

Interviews indicated that traditional gender roles and conceptions of work thus continued to act as an obstacle to women's participation. For example, male focus group participants in Jumla shared:

> "In each committee if the president is a male then the vice president is a female. Comparatively the participation has increased but it is not equal to the men yet. The other thing is they are too busy with their household work to participate in such committees."
>
> (FGD, Jumla, 14.2.2017)

Women-only savings groups were among the most popular groups in which women in the Karnali and Mahakali River Basins participate. These groups facilitate women's access to finance; however, since a majority are illiterate and immobile, financial inclusion and empowerment varies based on other characteristics as well. For example, in the mountains and the Terai, women-only savings groups usually form along caste/ethnicity lines, and membership for women from other castes is seldom acceptable. For example, in one village there was a Dalit woman from a migrant family who had been removed from the saving group because her brother-in-law's son had married a non-Dalit girl.

In addition, remittances from migration do enable women to more actively participate in these groups; however, their participation may remain constrained by family structure. In Kailali, where large joint family structures are dominant, female savings group participants were primarily older women. Here we observed a monthly meeting of a women's' savings group and found that few young women with infants participated. Intra-household gender dynamics, therefore, are an important factor determining women's participation in savings groups and their financial empowerment.

10. Female participation in collective action

Finally, we consider individual participation in collective action, as indicated by a binary variable for whether the female respondent participated in community efforts in the year prior to the survey (Table 6). Overall, collective action is quite low in the sample, with only 17 percent of female respondents indicating they had participated in at least one such activity in the prior year, compared to 28 percent among male respondents. In the sample of female respondents as well as the entire sample, the most common form of collective action was contribution to road improvement.

Table 6: Collective action

	Mean	Standard Deviation	Observations	Minimum	Maximum
Female participation	0.17	0.37	1053	0	1

Source: Authors' calculations

Table 7: Multivariate regression

	Panel A: Social Interactions					Panel B: Female Participation					Panel C: Collective Action
	Shock assistance	NGO presence	NGO support	NR group trust	Community group trust	Agriculture participation	NR meeting attendance	Other meeting attendance	Remittance decisions	Irrigation negotiations	Participation
Migrant HH	-0.0013	-0.0008	-0.0083	-0.13***	-0.13***	-0.012	0.054***	0.055**	0.48***	0.0052	-0.057**
	(0.01)	(0.02)	(0.01)	(0.04)	(0.04)	(0.01)	(0.02)	(0.02)	(0.02)	(0.00)	(0.03)
Male	0.0011	-0.020	0.033***			-0.016	-0.14***	-0.064**	-0.14***	-0.023***	
	(0.01)	(0.02)	(0.01)			(0.01)	(0.02)	(0.03)	(0.02)	(0.01)	
Male HH head	0.0067	-0.0050	0.0022	0.0069	0.031	-0.011	-0.084***	0.034	-0.052***	-0.031***	0.089***
	(0.01)	(0.02)	(0.01)	(0.05)	(0.05)	(0.01)	(0.02)	(0.03)	(0.01)	(0.01)	(0.03)
Nuclear family	-0.0043	-0.023	-0.0056	0.036	0.035	-0.0072	0.021*	-0.047**	0.049***	0.0082	-0.029
	(0.0`)	(0.01)	(0.01)	(0.03)	(0.03)	(0.01)	(0.01)	(0.02)	(0.01)	(0.01)	(0.02)
Constant	0.056	0.083	-0.020	2.01***	2.27***	0.043**	0.22***	0.53***	0.30***	0.031**	0.056
	(0.04)	(0.05)	(0.03)	(0.12)	(0.13)	(0.02)	(0.04)	(0.08)	(0.04)	(0.01)	(0.11)
Observations	3649	3641	3649	1129	1506	3649	3649	3649	3649	3649	1050
R^2	0.02	0.06	0.03	0.04	0.05	0.02	0.08	0.04	0.45	0.06	0.05

Source: Authors' calculations. Standard errors, clustered at VDC level, in parentheses. All regressions control for respondent age, household education, monthly income, caste group, and geographical region. NR group trust, community group trust, and collective action participation are measured at the respondent level; all other outcomes at the household level.

$^{*}p< 0.10$, $^{**}p< 0.05$, $^{***}p< 0.01$

With regards to migration, Table 7 (panel C) demonstrates that female respondents from households with migrant members less commonly participate in collective action; this result is significant at the 5 percent level. We again find some heterogeneity within our sample with regard to this relationship, as demonstrated by Panels C in Tables A1, A2, and A3. First, we find that female respondents from migrant nuclear families and female respondents from migrant Dalit households are more likely to participate in collective action, although these results are not significant at conventional levels. Second, we find that the negative result observed in the entire sample is driven by long-term migration; women in households with migrants who are gone for less than 6 months are more likely to participate collectively although this result is also not significant at conventional levels.

11. Discussion and conclusion

This study examines the relationships between social interactions and women's participation at household and community levels, within a context of very prevalent, male-dominated migration. We consider a variety of indicators that represent social interaction, female participation, and collective action. Our results indicate that migration may impact how households and individuals interact with their communities. Migration not only reconfigures gender roles and relations, it also interacts with local norms and networks within and beyond the community, therefore playing an important role in access to resources, information, training, services, and income opportunities among left-behind populations. In our study context in western Nepal, these left-behind individuals are primarily women. Our results suggest that women from poor migrant families with fewer kinship and social ties owing to their subordinate structural position (caste, class, ethnicity) may face restricted access to spaces of empowerment. This restricted access may stem from the fact that social interactions in the villages are highly structured by patrilineal and male-centric networks that exclude households with male migrants, although it is also possible that households with migrants begin with reduced social capital and empowerment independent of the migration status of their members. While migration and gender have this interconnected role, we also find that other household and migrant characteristics are related to women's interactions in community participation and decision-making. Indeed, our qualitative evidence suggests that family structure often dictates the time female household members have to dedicate to non-household responsibilities, such as participation in community groups.

Unequal social interactions shaped by gender and social norms are key components of many social theories. Consequently, men, who often enjoy positions of power based on social and cultural norms, are able to seize more opportunities from their social relationships (Smith-Lovin and McPherson 1991, Lin 1999, Ridgeway and Smith-Lovin 1999). Our study confirms this finding and suggests patterns of unequal gender interactions, opportunities, and participation. Low levels of social interactions by female household members echo gendered and male-centric interactions, as also observed by previous studies. Furthermore, the difference in interactions is also stark along caste/ethnicity lines, as social spaces are generally dominated by high caste men (Lin 2000). In this context, as our qualitative data indicates, dependency on men may be amplified among left-behind women from marginalised groups.

Considering the NRM sector more specifically, we observed in our data and fieldwork that resource management in rural Nepal is highly male dominated, particularly in more remote areas where male community members enjoy stronger social bonds and networks with project staff. There are two sides to this: female staff is also less likely to be involved in project interventions in remote areas, and where traditional gender roles are also much stronger. Influential men, mainly from higher castes, thus act as particularly strong gate keepers and play vital role in disseminating information on projects, trainings, and meetings in these settings (Lama and Buchy 2002, Agrawal 2001). Consequently, unless women from migrant households share strong kinship relations with men, they have lower access to information about trainings, opportunities, and are less involved in NRM executive committee (Lin 2000, Nightingale 2002). This is clearly evident in our data, which indicates that higher caste women from migrant household demonstrate higher rates of NRM group participation compared to women of lower castes. Furthermore, consistent with existing findings (Subedi, 2008), our results show mobile, less burdened, and rich women participating more than those who are immobile, busy, and poor. In both Doti and Kailali, the majority of women from marginalised groups, particularly those in nuclear families, are not educated, and busy with household and agricultural responsibilities. Accordingly, when these women are left behind by (primarily male) migrating household members, they experience increased responsibilities at home, reducing the time they have to participate in trainings and community groups. Unsurprisingly then, women who do participate are close relatives of influential men, who themselves do not migrate. The participation of these more highly-connected women is often tokenistic and not transformative, since it mostly benefits specific ethnic groups and disregards the needs and experiences of the marginalised groups of women (Tamang 2011, Shrestha Forthcoming.). In our qualitative data, we observed the exclusion of women irrigators from irrigation user groups at the expense of well-connected women who were not involved in irrigation. As such, women's irrigation needs are not reflected in user group decisions and women face challenges in accessing irrigation equipment, meaning they are often the last to irrigate their fields. As argued by Mehta (2014),formal and informal rules and norms support powerful groups' interests, rather than those of the weak and marginalised.

Our study also aligns with other research that argues that women participate most in issues surrounding children's education and nutrition (Quisumbing, et.al., 1995; Khalaf, 2009). Scholars argue that improvements in these spheres are evidence of increased efficacy in pre-assigned roles rather than of female agency or empowerment (Kabeer 1999). Even when structure is imposed on community groups to expand women's roles in the community, the outcomes do not always meet these objectives. In Kailali, for example, a registered women's savings group had a formal rule that members could loan money only against agriculture expenses. While members do officially state agriculture related expenses as loan rationale, they often use the funds for other purposes including household necessities, education, marriage, and even to repay migration debt. Although such savings groups may provide women with the ability to support family needs when male household members migrate, they often increase debt liabilities, leading to future financial challenges. Moreover, these groups do not challenge the status quo of unequal gender relations because these responsibilities fall firmly within the realm of domestic boundaries.

Second, while participation provides an opportunity to work towards shared goals and objectives, without literacy skills and required capabilities to maintain records, women remain largely dependent on men. In Doti, we met the chairwoman of a woman's savings groups who was part of a

migrant, nuclear family. She was a close relative of the secretary of men's savings group, who would advise and help her with accounts. Her ability to maintain these accounts depended on her male family member's assistance, demonstrating the dependence of female groups on men in the community.

Finally, challenges remain regarding the reliability of these groups, as their ability to provide loans depends on active member participation and savings. When this participation is not maintained, members must turn to other sources for loans such as relatives and friends. As shown by our quantitative data, decisions regarding expenses are determined by family structure. Women from migrant households who live with their-in-laws are less likely to exercise agency owning to position subordinate to senior female members (Kabeer 1999).

Migration is an increasingly dominant feature of the Nepali economy, particularly in western Nepal. As migration becomes more commonplace, policy concerns arise regarding both migrants themselves and the families they leave behind. In Nepal, left-behind family members, who are primarily female, face many challenges; however, migration also offers a potential pathway for women's empowerment as women step in to fulfill the roles and responsibilities of migrating men. Still, many societal and household characteristics play a role in the relationship between migratory households and female empowerment, and empowerment should therefore not be assumed. In this paper, we examined three mediating factors: (i) family structure, (ii) caste, and (iii) migration duration, and found that increases in female participation at both the household and community levels are largely driven by women living in joint families, women of higher caste, and women who are left-behind for longer durations. These patterns reinforce and reproduce social and gender inequalities. With regard to policy, this study highlights the need to go beyond measurement of the direct impact of male migration on migrants themselves, and instead calls for examination of patterns and processes of social interactions that may restrict or facilitate the abilities and agency of left-behind women to participate in spaces of empowerment. This requires recognising women as heterogeneous group with unequal links, capabilities, and access. It also points to a particular need for supporting interventions that help lower status left-behind women. Accordingly, advancing women's empowerment will entail intentional, policy efforts that address gender and social inequalities.

Acknowledgements: This study is made possible by the generous support of the American people through the United States Agency for International Development (USAID) under Digo Jal Bikas (DJB) project.

Disclaimer: The contents are the responsibility of the authors and do not necessarily reflect the views of USAID or the United States Government. All research conducted with permission of the Institutional Review Board (IRB) of Duke University.

Endnotes

[1]More information about the Digo Jal Bikas project is available at http://djb.iwmi.org/.

[2] Some households send more than one migrant, which is why the sum of the percentages of migrants who are male and female is greater than 100 percent.

[3] Attending agricultural trainings and meeting with extension officers is quite rare within our sample. In fact, while slightly more than 3 percent of men in the sample participated in these activities, there is no statistically significant difference in participation between genders

References

Agrawal, B. (2001). Participatory Exclusions, Community Forestry, and Gender: An Analysis for South Asia and a Conceptual Framework. World Development, 29, 1623-1648.

CBS. (2014). Population Monograph of Nepal. Retrieved from Kathmandu:

Cortes, G. (2016). Women and Migrations: Those Who Stay. from Pole de recherche pour l'organisation et la diffusion de l'information geographique (CNRS UMR 8586)

Das, R. J. (2004). Social capital and poverty of the wage-labour class: problems with the social capital theory. Transactions of the Institute of British Geographers, 29(1), 27-45. doi:10.1111/j.0020-2754.2004.00112.x

Démurger, S. (2015). Migration and families left behind. from IZA World of Labor

Dinda, S. (2014). Inclusive growth through creation of human and social capital. . International Journal of Social Economics, 41(878-895.).

Dinkelman, T., & Mariotti, M. (2016). The long-run effects of labor migration on human capital formation in communities of origin. American Economic Journal: Applied Economics, 8(4), 1-35.

Gartaula, H. N., Niehof, A., & Visser, L. (2010). 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), 565-577.

Gartaula, H. N., Visser, L., & Niehof, A. (2012). Socio-Cultural Dispositions and Wellbeing of the Women Left Behind: A Case of Migrant Households in Nepal. Social Indicators Research, 108(3), 401-420.

Giraud, G. C., H. Renouard, R. D. L'Huillier, L. Martini`ere & C. Sutter. 2012. Relational capability: A multidimensional approach., ed. H. Universit´e Paris1 Panth´eonSorbonne (Post-Print and Working Papers) halshs-00827690.

Hadi, A. (2001). International migration and the change of women's position among the left-behind in rural Bangladesh. International Journal of Population Geography, 7(1), 53-61.

IBRD/WB. (2018). Male outmigration and women's work and empowerment in agriculture: the case of Nepal and Senegal. 2018. . from The international Bank for Reconstruction and development/ The world Bank

Ismailbekova, A. (2013). Migration and patrilineal descent: the effects of spatial male mobility on social female mobility in rural Kyrgyzstan. In: .

Kabeer, N. (1999). Resources, Agency, Achievements: Reflections on the Measurement of Women's Empowerment. . Development and Change, 30, 435-464.

Kabeer, N., & Subrahmanian, R. (1996). Institutions, Relations, and Outcomes: Framework and Tools for Gender Aware Planning. from Institute of development Studies

Kabeer, N. (2005). Gender equality and women's empowerment: A critical analysis of the third millennium development goal. Gender & Development, 13(1), 13-24.

Khalaf, M.C., 2009. Male Migration and the Lebanese Family: The Impact on the Wife Left Behind. Journal of Middle East Women's Studies 5, 102–119. doi:10.2979/MEW.2009.5.3.102

Kulczycka, K. (2015). Left behind women and empowerment: consequences of male labour migration on the economic and social polistion of left behind women in Nepal. (Bachelor of Science in Development Studies), Lund University, Sweden.

Lama, A., & Buchy, M. (2002). Gender, Class, Caste and Participation: The Case of Community Forestry in Nepal Indian Journal of Gender Studies, 9.

Lama, A. S., Kharel, S., & Ghale, T. (2017). When the Men Are Away Migration and Women's Participation in Nepal's Community Forestry. Mountain Research and Development, 37(3), 263-270.

Lin, N. (1999). Social Networks and Social Attainment. Annual Review of Sociology, 25, 467-487.

Lin, N. (2000). Inequality in Social Capital. Contemporary Sociology, 29(6), 785-795. doi:10.2307/2654086

Lodigiani, E., & Salomone, S. (2015). Migration-Induced Transfers of Norms. The Case of Female Political Empowerment (June 23, 2015). (Publication no. http://dx.doi.org/10.2139/ssrn.2622394). (19/WP/2015). from University Ca' Foscari of Venice, Dept. of Economics https://ssrn.com/abstract=2622394

Lokshin, M., & Glinskaya, E. (2008). The effect of male migration for work on employment patterns of female in Nepal. from The world bank

Maas, J., Seferiadis, A., F. G. Bunder, J., & Zweekhorst, M. (2014). Bridging the disconnect: how network creation facilitates female Bangladeshi entrepreneurship. International Entrepreneurship and Management Journal, 10(3), 457-470.

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. doi:10.1177/097185241101600105

Mehta, L. (2014). Water and Human Development World Development, 59, 59-69.

Morokvašić , M. (2014). Gendering Migration. Migracijske i etničke teme, 30(3), 355-378. doi:10.11567/met.30.3.4

Mozumdar, L., Farid, K. S., & Sarma, P. (2017). Relevance of social capital in women's business performance in Bangladesh (Vol. 15).

Nega, F., Mathijs, E., Deckers, J., & Tollens, E. (2010). Gender, social capital and empowerment in northern Ethiopia. from MPRA

Nightingale, A. J. (2002). Participating or Just Sitting In? The Dynamics of Gender and Caste in Community Forestry Journal of forest and livelihood, 2.

Padmaja, R., & Bantilan, C. (2007). Empowerment through Technology: Gender Dimensions of Social Capital Build-up in Maharastra, India. . from CAPRi

Paul, C. J., Weinthal, E. S., Bellemare, M. F., & Jeuland, M. A. (2016). Social capital, trust,

and adaptation to climate change: Evidence from rural Ethiopia. Global Environmental Change, 36, 124-138.

Portes, A., & Sensenbrenner, J. (1993). Embeddedness and Immigration: Notes on the Social Determinants of Economic Action. American Journal of Sociology, 98(6), 1320-1349.

Quisumbing, A. R., Brown, L. R., Feldstein, H. S., Haddad, L., & Pena, C. (1995). Women: The key to food security (p. 22). Washington, DC: IFPRI.

Ridgeway, C. L., & Smith-Lovin, L. (1999). The Gender System and Interaction. Annual Reviews, 25, 191-216.

Shrestha, G. (Forthcoming.). Our women are not yet ready: An Ethnography of emerging.female leadership in transitional Nepal – A Local Perspective. Chakra: A Nordic Journal of South Asian Studies. Under Review

Smith-Lovin, L., & McPherson, J. M. (1991). You are who you know : a network perspective on gender. In P. England (Ed.), Theory on Gender/Feminism on Theory (pp. 223-251). New York: Aldine.

Subedi, R. (2008). Women Farmer's participation in agriculture training in Kavre District of Nepal. . (Degree of Master in Training Rural Extension and Transformation.), Larenstein University of Applied Sciences, Wageningen, The Netherlands.

Tamang, S. (2011). The politics of developing nepali women: Wiley-Blackwell.

Theoharides, C. (2017). Manila to Malaysia, Quezon to Qatar: International migration and its effects on origin-country human capital. Journal of Human Resources(0216-7714R1).

Thieme, S. (2006). Social Networks and Migration: Far West Nepalese Labour Migrants in Delhi. Münster.

Thieme, S., & Boker-Muller, U. (2009-2010). Social Networks and migration: Women's livelihoods between Far West Nepal and Delhi. European Bulletin of Himalayan Research, 35-36, 107-121.

Yabiku, S. T., Agadjanian, V., & Sevoyan, A. (2010). Husbands' labour migration and wives' autonomy. . Population studies, 64(3), 293-306.

Appendix

Table A1: Nuclear family interactions

	Panel A: Social Interactions					Panel B: Female Participation					Panel C: Collective Action
	Shock assistance	NGO presence	NGO support	NR group trust	Community group trust	Agriculture participation	NR meeting attendance	Other meeting attendance	Remittance decisions	Irrigation negotiations	Participation
Migrant HH	-0.0076	-0.015	-0.020	-0.10**	-0.10***	-0.012	0.058***	0.057**	0.40***	0.0042	-0.082**
	(0.01)	(0.02)	(0.01)	(0.04)	(0.04)	(0.01)	(0.02)	(0.03)	(0.02)	(0.01)	(0.03)
Nuclear family	-0.0094	-0.035**	-0.015	0.058	0.054	-0.0075	0.024*	-0.045*	-0.015**	0.0074	-0.055
	(0.01)	(0.02)	(0.01)	(0.04)	(0.03)	(0.01)	(0.01)	(0.02)	(0.01)	(0.01)	(0.04)
Migrant × NF	0.015	0.034	0.027*	-0.080	-0.073	0.0010	-0.0093	-0.0059	0.19***	0.0025	0.047
	(0.01)	(0.03)	(0.02)	(0.08)	(0.06)	(0.01)	(0.03)	(0.04)	(0.03)	(0.01)	(0.05)
Male	-0.00021	-0.018	0.035***			-0.015	-0.14***	-0.065**	-0.13***	-0.023***	
	(0.01)	(0.03)	(0.01)			(0.01)	(0.02)	(0.03)	(0.02)	(0.01)	
Male HH head	0.0063	-0.0059	0.0015	0.0041	0.028	-0.011	-0.083***	0.034	-0.057***	-0.031***	0.087***
	(0.01)	(0.02)	(0.01)	(0.05)	(0.05)	(0.01)	(0.02)	(0.03)	(0.01)	(0.01)	(0.03)
Constant	0.057	0.087*	-0.017	2.01***	2.27***	0.043***	0.22***	0.53***	0.32***	0.032**	0.071
	(0.04)	(0.05)	(0.03)	(0.12)	(0.13)	(0.02)	(0.04)	(0.08)	(0.04)	(0.01)	(0.10)
Observations	3649	3641	3649	1129	1506	3649	3649	3649	3649	3649	1050

R2	0.02	0.06	0.03	0.04	0.05	0.02	0.08	0.04	0.46	0.06	0.05

Source: Authors' calculations. Standard errors, clustered at VDC level, in parentheses. All regressions control for respondent age, household education, monthly income, caste group, and geographical region.NR group trust, community group trust, and collective action participation are measured at the respondent level; all other outcomes at the household level.

*p< 0.10, **p< 0.05, ***p< 0.01

Table A2: Dalit interactions

	Panel A: Social Interactions					Panel B: Female Participation					Panel C: Collective Action
	Shock assistance	NGO presence	NGO support	NR group trust	Community group trust	Agriculture participation	NR meeting attendance	Other meeting attendance	Remittance decisions	Irrigation negotiations	Participation
Migrant HH	0.00019	0.0020	-0.0042	-0.13***	-0.11***	-0.013	0.048**	0.066***	0.47***	0.0078	-0.067**
	(0.01)	(0.02)	(0.01)	(0.01)	(0.04)	(0.01)	(0.02)	(0.02)	(0.02)	(0.01)	(0.03)
Dalit	0.053	-0.022	-0.0086	0.012	0.11	-0.020**	-0.015	-0.0052	-0.021**	0.013**	-0.012
	(0.05)	(0.03)	(0.02)	(0.08)	(0.08)	(0.01)	(0.02)	(0.04)	(0.01)	(0.01)	(0.05)
Migrant ✕ Dalit	-0.016	0.0078	-0.011	-0.047	-0.14*	0.015	0.034	-0.061	0.031	-0.0069	0.042
	(0.03)	(0.04)	(0.02)	(0.11)	(0.08)	(0.01)	(0.03)	(0.05)	(0.03)	(0.01)	(0.05)
Male	-0.00083	-0.020	0.033***			-0.016	-0.14***	-0.064**	-0.14***	-0.023***	
	(0.01)	(0.02)	(0.01)			(0.01)	(0.02)	(0.03)	(0.02)	(0.01)	
Male HH head	0.0077	-0.011	-0.0005	0.029	0.051	-0.012	-0.084***	0.032	-0.052***	-0.033***	0.091***
	(0.01)	(0.02)	(0.01)	(0.05)	(0.05)	(0.01)	(0.02)	(0.03)	(0.01)	(0.01)	(0.03)

Constant	0.060*	0.060	-0.030	2.08***	2.33***	0.038**	0.22***	0.53***	0.30***	0.027*	0.062
	(0.04)	(0.05)	(0.03)	(0.12)	(0.13)	(0.02)	(0.04)	(0.08)	(0.04)	(0.01)	(0.11)
Observations	3649	3641	3649	1129	1506	3649	3649	3649	3649	3649	1050
R2	0.02	0.06	0.02	0.03	0.04	0.01	0.08	0.04	0.45	0.06	0.05

Source: Authors' calculations. Standard errors, clustered at VDC level, in parentheses.All regressions control for respondent age, household education, monthly income, caste group, and geographical region.NR group trust, community group trust, and collective action participation are measured at the respondent level; all other outcomes at the household level.

*p< 0.10, **p< 0.05, ***p< 0.01

Table A3: Short-term migration

	Panel A: Social Interactions					Panel B: Female Participation					Panel C: Collective Action
	Shock assistance	NGO presence	NGO support	NR group trust	Community group trust	Agriculture participation	NR meeting attendance	Other meeting attendance	Remittance decisions	Irrigation negotiations	Participation
Migrant HH (short term)	0.020	0.0055	0.0093	-0.027	0.018	0.0016	-0.023	-0.071**	-0.035	-0.015*	0.034
	(0.02)	(0.03)	(0.02)	(0.07)	(0.06)	(0.01)	(0.03)	(0.04)	(0.03)	(0.01)	(0.04)
Male	-0.0022	-0.050	0.035**			-0.011	-0.17***	-0.051	-0.27***	-0.019*	
	(0.01)	(0.03)	(0.02)			(0.02)	(0.03)	(0.04)	(0.04)	(0.01)	
Male HH head	0.013	-0.035	-0.027	0.016	0.087	-0.025	-0.098**	0.0079	-0.16***	-0.037**	0.025
	(0.01)	(0.03)	(0.02)	(0.09)	(0.11)	(0.02)	(0.04)	(0.04)	(0.03)	(0.02)	(0.03)
Constant	0.060	-0.034	-0.039	1.71***	1.85***	0.040	0.37***	0.64***	1.12***	0.0089	-0.063
	(0.04)	(0.09)	(0.04)	(0.22)	(0.22)	(0.04)	(0.09)	(0.11)	(0.09)	(0.02)	(0.12)

Observations	1367	1364	1367	384	479	1367	1367	1367	1367	1367	590
R2	0.03	0.07	0.03	0.04	0.06	0.02	0.09	0.02	0.23	0.08	0.03

Source: Authors' calculations. Standard errors, clustered at VDC level, in parentheses.All regressions control for respondent age, household education, monthly income, caste group, and geographical region.NR group trust, community group trust, and collective action participation are measured at the respondent level; all other outcomes at the household level.

*p< 0.10, **p< 0.05, ***p< 0.01