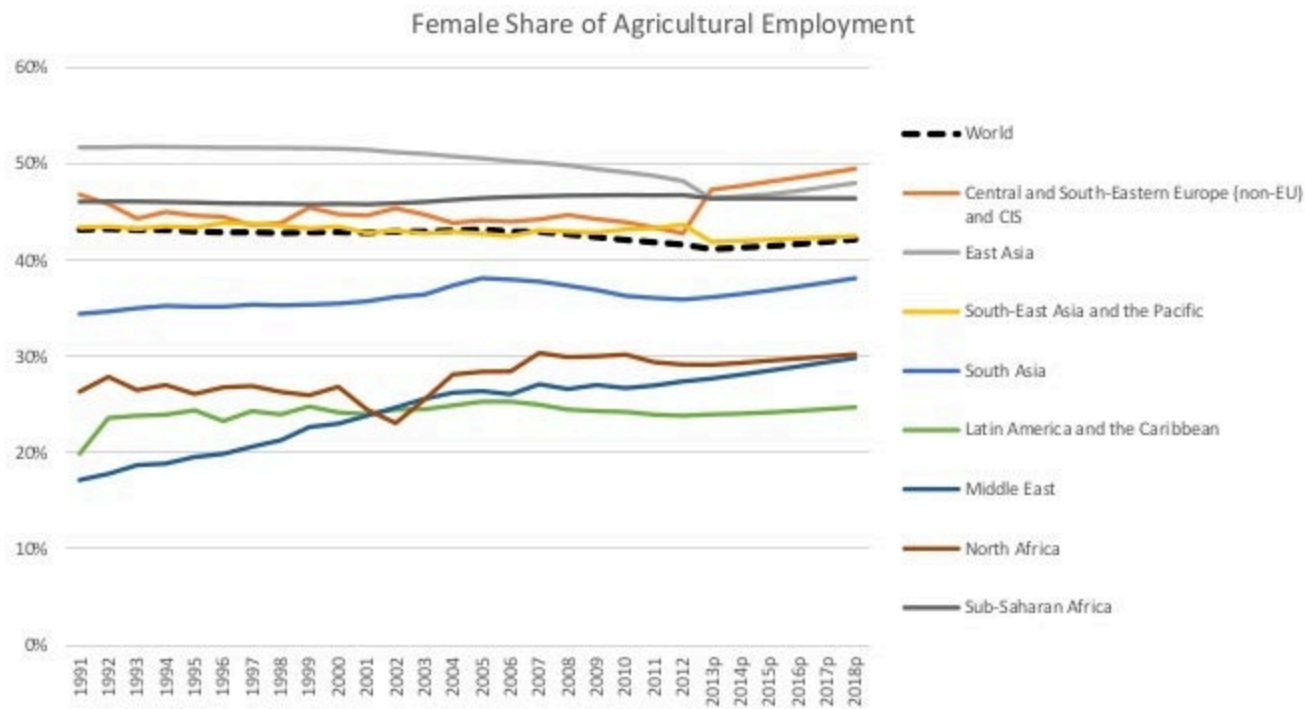# Male Out-Migration and Women's Work and Empowerment in Agriculture: the Case of Nepal

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Motivation

Female Share of Agricultural Employment

- - - World
—— Central and South-Eastern Europe (non-EU) and CIS
—— East Asia
—— South-East Asia and the Pacific
—— South Asia
—— Latin America and the Caribbean
—— Middle East
—— North Africa
—— Sub-Saharan Africa

- In many global regions, the female share of agricultural employment has been rising due to:
  - **Male outmigration**
  - Globalization of agri-food systems
  - Better statistics and awareness about rural women's work
  - Other factors (climate change, conflict, disease, technologies, etc.)

Rural outmigration

- Rural outmigration, whether to domestic or international destinations, is an important component of migration flows.
  - 266 million international migrants in 2017 (UN DESA, 2017)
  - 763 million internal migrants in 2005 (UN DESA, 2013)

- Yet, it is not well accounted for in migration statistics and its drivers and consequences on rural areas are not adequately studied.

- Migration originating from rural areas is predominantly male (Mueller *et al.* 2015) raising concerns about the consequences of migration on sending rural communities in terms:
  - Women's work and empowerment; changes in traditional gender norms
  - Changes in household food security
  - Agricultural productivity and production, etc..

Research objectives:

Examine the linkages between **male-dominated outmigration** and **women's work** and **empowerment** in agriculture in Nepal:

In particular, the analysis aims to understand:

1. how outmigration influences women's work in agriculture;

2. the consequences of male-dominated migration on gender roles and women's empowerment.

Conceptual Framework

- Migration affects women's work mainly through:
  - the loss of migrants' labor, and
  - the remittance income -- the reservation wage hypothesis vs the investment hypothesis.

- Migration may also alter intrahousehold power relations and individuals' empowerment:
  - differential effects on the different domains of empowerment
  - the effect will likely be mediated by the receipt of remittances

Methodology – base model

- We model women's labor allocation and empowerment as a function of whether the woman lives in a household with an international migrant ($M1_h$) or internal migrant ($M2_h$), and her individual, household and community characteristics, X_{ih}:

$$Y_{ih} = \alpha + \beta_1 M1_h + \beta_2 M2_h + \gamma X_{ih} + \varepsilon_i \ (1)$$

where Y_{ih} is a set of different indicators for women's work in agriculture and outside of agriculture and ε_i is the error term.

- The same model is employed to study the impacts on women's empowerment in agriculture, where the indicators of empowerment are based on the five domains of the A-WEAI and include:
  - i) an indicator for whether the respondent is adequately empowered in the decisions about agricultural production;
  - ii) whether she has adequate control and access to resources;
  - iii) whether she has control of income;
  - iv) whether she is overworked (based on a 24-hour time-use recall module); and
  - v) whether she is an active group in the community.

Methodology – model with remittances

- To differentiate the labor effect of migration and the income effect of remittances received, model 1 is re-estimated using the following model:

$$Y_{ih} = \alpha + \beta_1 M1R1_h + \beta_2 M1R0_h + \beta_3 M2_h + \gamma X_{ih} + \varepsilon_i \ (2)$$

with the following indicators:

- (i) $M1R1_h$ - household has an international migrant who has sent any remittances in the last year;
- (ii) $M1R0_h$ - household has an international migrant but has not received any remittances in the past year; and
- (iii) $M2_h$ - household has at least one internal migrant (and no international migrants), regardless of whether the internal migrant has sent remittances.
- The base category includes women in households with no international or internal migrants and no remittances.
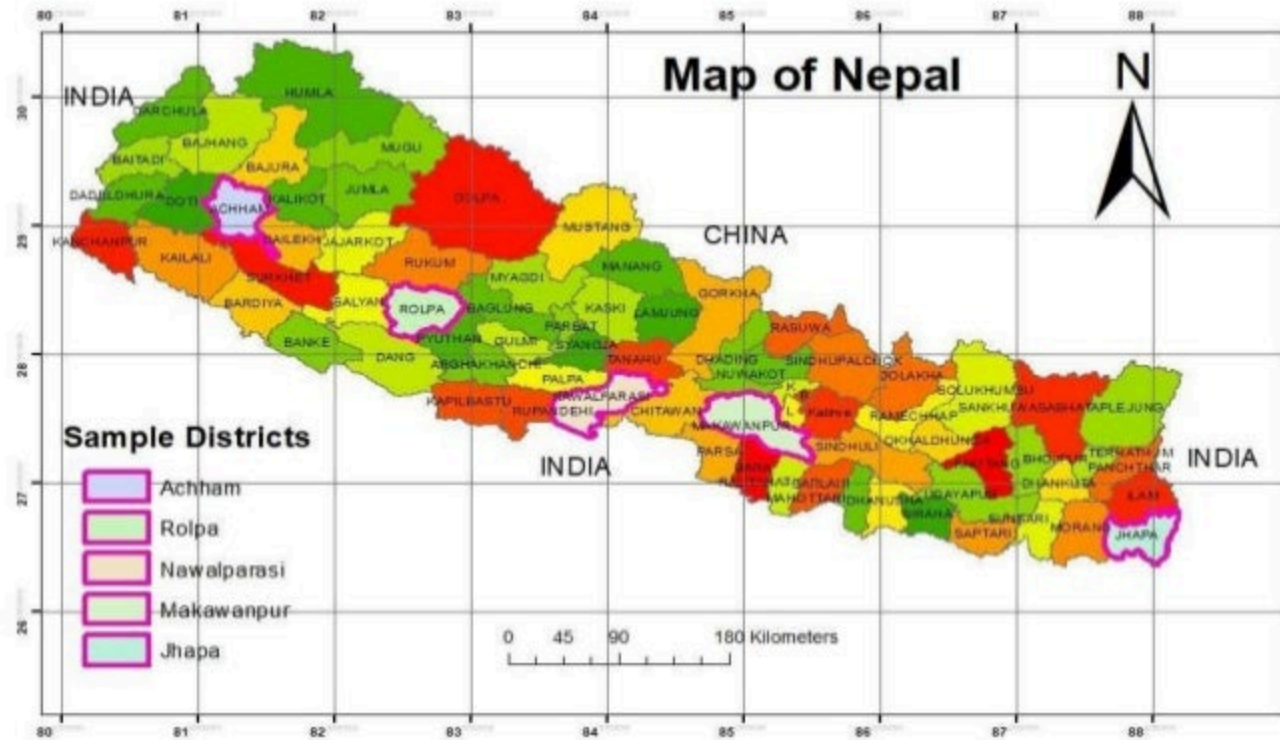
Methodology - Instrumental variable approach

- We use an instrumental variable (IV) approach to correct for the endogenous migration variable.

- The first stage regression is:

$$M_h = Z_h + T_h + \gamma X_{ih} + \varepsilon_{ih}$$

- Where: Z_h is the first instrument representing the **family migration history** (a dummy variable taking value 1 if the parents or the parents-in-law of the respondent have ever lived in another country), and

- T_h is the second instrument representing the **current migration network** (the fraction of households with an international migrant in a given ward based on the listing.

- Standard errors are robust (Huber-White).

Data details

Source: "Technical Report on Survey of Migration and Women's Empowerment in Agriculture" prepared by Nepa School of Social Sciences and Humanities, September 2, 2017.
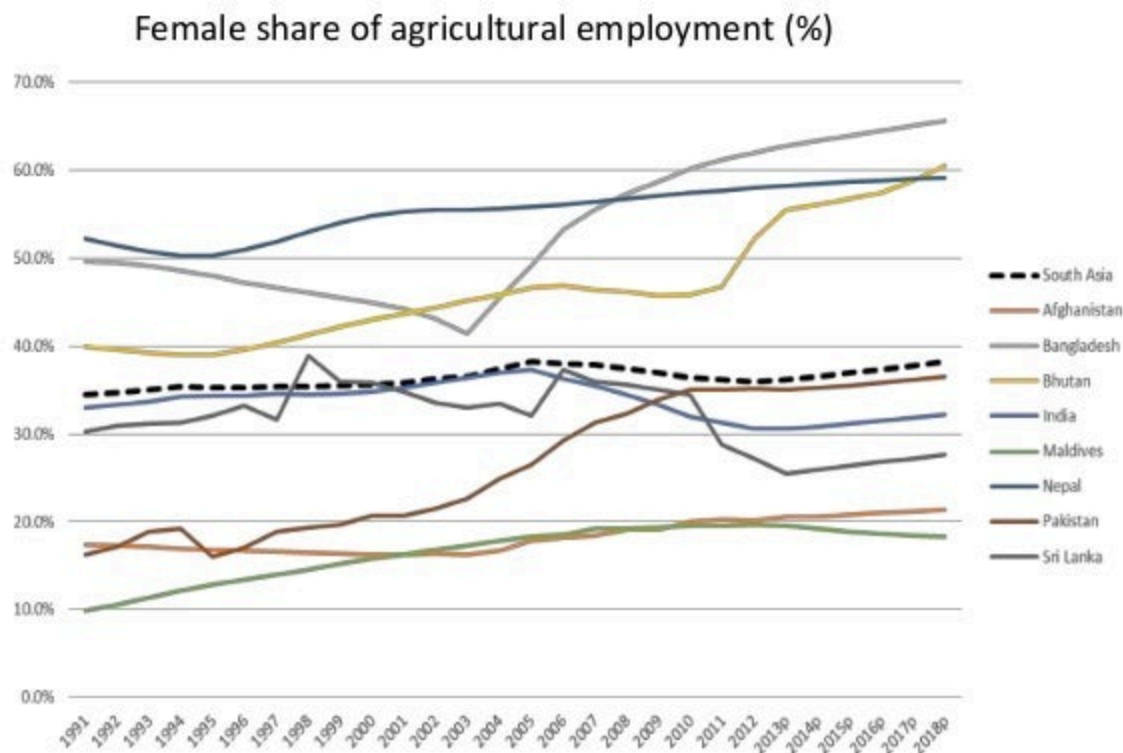
- **Primary survey data** collected August-September 2017
  - a sample of 1002 households
  - from 5 districts -- Achham, Rolpa, Nawalparasi, Makwanpur and Jhapa
  - representative at district-level

- Detailed **information on both migrants and non-migrant members** in rural households;

- modules on **crop production**, **livestock rearing**, **social protection** and **employment** of all household members.

- **The Abbreviated Women's Empowerment in Agriculture Index (A-WEAI)** questionnaire administered to **ONE** individual from each household.

- **The Food Insecurity Experience Scale (FIES).**

Country context – agriculture & migration

- Agriculture is the main sector of employment for most men and women, but it has become much more important for women in Nepal

- Agricultural work is the primary activity for almost 66% of working-age women (over 15 years) compared to 53% of working-age men.

Female share of agricultural employment (%)

Legend: South Asia, Afghanistan, Bangladesh, Bhutan, India, Maldives, Nepal, Pakistan, Sri Lanka

Nepali Migration

- International migration is an important HH livelihoods diversification strategy
  - Nepal has one of the highest shares of remittances in GDP – 29.2% (WDI)
- International migration has become more important than internal migration –
  - around 15% of working-age population in our sample are current international migrants
  - Less than 3% of working-age individuals in our sample are classified as current internal migrants
- Men dominate migration -- more than 93% of current migrants are men
- Migrants tend to be:
  - younger than the average working-age population; and
  - better educated – only 9% of migrants, compared to 29% of the working-age population, have no education.
- Destinations:
  - 35% of international migration to India
  - >60% to Malaysia and the Gulf countries
  - Internal migration – primarily to Kathmandu
- Main reasons for migration: economic (looking for better jobs)

Remittances

- 45% of all households in our sample receive remittances
- 87% of all households with a current international migrant receive remittances
- The median amount of the remittances sent by all migrants over the past year was 160,000 Nepali rupees (or around 1,555 USD)
- Almost 2/3 of remittance senders indicate how the remittances should be used

Characteristics of women in sending communities, by migration status of the HH

- Few noticeable differences in individual characteristics between women in international migrant HH and women in all other households
- Yet, significant differences in HH demographic structures:
  - more young children (under 5 years) in migrant HHs;
  - more adult women and men in migrant HHs
- Few clear difference in HH wealth:
  - Migrant households have better dwellings (proxied by the quality of roofs and floors)
  - Non-migrant and domestic migrant HH have better access to services (electricity and drinking water)
- No significant differences landownership

Labor market outcomes of women in sending communities, by HH migration status

- Women (and men) in international migrant households are just as likely to be economically active as women (and men) in non-migrant households.

- Nearly 90% of all adults participated in at least one employment activity in the year before the survey

- A significant share on women in migrant households engaged in agriculture as self-employed rather than as contributing family workers

The associations between migration and women's work in Nepal, OLS

	Employed (any)	Farm self-employed	Farm contributing family workers	Agricultural (wage) laborers	Processing (agricultural products)	Trading (agricultural products)	Nonagricultural workers	Professional
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
A. Base model - no controls for remittances (N=1667), OLS								
International migrant in household	-0.00508	0.167***	-0.177***	0.00199	-0.0332**	0.00309	-0.00604	0.00298
	(0.0174)	(0.0241)	(0.0274)	(0.0118)	(0.0168)	(0.00382)	(0.0124)	(0.00952)
B. Controlling for migration and remittances (N=1618‡), OLS								
Household with an international migrant, <u>with</u> remittances	6.71e-05	0.214***	-0.218***	-0.00104	-0.0400**	0.00311	0.000198	0.00227
	(0.0186)	(0.0252)	(0.0291)	(0.0134)	(0.0188)	(0.00419)	(0.0130)	(0.0103)
Household with an international migrant, <u>no</u> remittances	-0.0419	0.0745*	-0.135***	-0.0326	-0.00817	0.00372	0.00239	-0.00703
	(0.0427)	(0.0425)	(0.0512)	(0.0230)	(0.0268)	(0.00289)	(0.0203)	(0.00940)
Internal migrant in household	-0.0234	0.190***	-0.252***	-0.0320*	-0.0403	0.000553	0.0248	-0.00813
	(0.0382)	(0.0499)	(0.0589)	(0.0190)	(0.0337)	(0.00174)	(0.0278)	(0.00774)

Note: Robust standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1

The impact of migration on women's work in Nepal, 2SLS

	Employed (any)	Farm self-employed	Farm contributing family workers	Agricultural (wage) laborers	Processing (agricultural products)	Trading (agricultural products)	Nonagricultural workers	Professional
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
B. Women (obs. 1,667)								
International migrant in household	-0.136	0.253*	-0.427***	0.0596	0.108	0.0132	0.119	-0.0989
	(0.0924)	(0.135)	(0.151)	(0.0789)	(0.0863)	(0.0190)	(0.0734)	(0.0623)
F-test	20.90	20.90	20.90	20.90	20.90	20.90	20.90	20.90
Sargan-Hansen (p value)	0.9147	0.368	0.0540	0.246	0.00303	0.251	0.904	0.257

Note: Robust standard errors in parentheses; 2SLS = two-stage least squares.

*** p<0.01, ** p<0.05, * p<0.1

Land management and land ownership

	Male land manager(s) only	Female land manager(s) only	Joint land manager	Male land owner(s) only	Female land owner(s) only	Joint land owner
	(1)	(2)	(3)	(4)	(5)	(6)
International migrant in HH	-0.0550***	0.220***	-0.165***	-0.0384	0.0944***	-0.0560
	(0.0197)	(0.0329)	(0.0343)	(0.0362)	(0.0333)	(0.0342)
Observations	876	876	876	691	691	691

Robust standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

Migration and women's empowerment (based on A-WEAI modules), OLS

	# of activities in which individual participates (1)	# of AG activities in which individual participates (2)	Input in decisions in AT LEAST 2 domains (3)	Access info for at least 1 AG activity (4)	Solely or jointly owns AT LEAST two small assets (5)	Makes decisions about credit (6)	Access to a financial account (7)
A. Base model - no controls for remittances, OLS							
International migrant in household	-0.185*	-0.093	0.001	-0.008	2.16e-05	-0.025	0.039
	(0.097)	(0.096)	(0.018)	(0.021)	(0.005)	(0.049)	(0.042)
Observations	726	726	699	698	726	726	726
B. Controlling for migration and remittances‡, OLS							
Household with an international migrant, <u>with</u> remittances	-0.223**	-0.104	-0.013	0.002	0.005	0.008	0.084*
	(0.107)	(0.107)	(0.015)	(0.022)	(0.006)	(0.054)	(0.047)
Household with an international migrant, <u>no</u> remittances	-0.547**	-0.418*	-0.021	-0.14**	-0.022	-0.019	-0.063
	(0.230)	(0.218)	(0.041)	(0.07)	(0.035)	(0.087)	(0.079)
Internal migrant in household	-0.271	-0.118	-0.048	-0.034	0.013	0.086	0.080
	(0.179)	(0.179)	(0.046)	(0.056)	(0.011)	(0.093)	(0.010)
Observations	706	706	680	679	706	706	706

Migration and women's empowerment in Nepal, OLS

	Makes decisions about what to plant on ANY land	Resp. solely or jointly owns land	Decides about the use of AG income	Decides about the use of non-AG income	Member of at least 1 community group	Minutes spent on work	Respondent worked less than 10.5 hours in previous 24 hours
	(8)	(9)	(10)	(11)	(12)	(13)	(14)
A. Base model - no controls for remittances, OLS							
International migrant in household	0.070**	0.064	0.014	-0.089***	0.120***	-4.851	-0.032
	(0.031)	(0.043)	(0.022)	(0.034)	(0.046)	(12.59)	(0.045)
Observations	694	694	726	726	726	726	726
B. Controlling for migration and remittances‡, OLS							
Household with an international migrant, with remittances	0.084**	0.0679	0.031	-0.116***	0.153***	6.120	-0.066
	(0.034)	(0.0463)	(0.025)	(0.039)	(0.052)	(13.94)	(0.050)
Household with an international migrant, no remittances	0.074	-0.063	-0.083	-0.109*	-0.072	-26.68	0.056
	(0.074)	(0.070)	(0.060)	(0.063)	(0.084)	(26.36)	(0.091)
Internal migrant in household	0.059	-0.094	0.016	-0.145**	0.086	19.62	-0.085
	(0.049)	(0.067)	(0.050)	(0.059)	(0.081)	(25.20)	(0.091)
Observations	675	675	706	706	706	706	706

Conclusions

- This study adds to the scarce evidence on rural outmigration and its interlinkages with women's work and empowerment in agriculture.

- It finds that male outmigration from rural, primarily agricultural areas is not linked to a decrease in women's employment, but it is associated with significant changes in women's roles in agriculture.

- Male-dominated outmigration is associated with improvements in some domains of women's empowerment, but not all.

- Some evidence of a reduction of income from agriculture, but no impacts on food security.

- The effects are mediated by the receipt of remittances.

Next steps:

- Use climate data as instruments to isolate the causal effects of migration and remittances on the labor and empowerment outcomes of non-migrant women and men in sending communities

- Explore the heterogeneity of impacts depending on the characteristics of migrants (e.g. destination, length of migration, etc.) and the characteristics of women who stay behind (e.g. age, etc.)

- Assess the effects of migration on agricultural production and productivity

- Ideally, collect qualitative data for a mixed methods study of the linkages between migration and women's changing roles in agriculture