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Labor Migration from Two Villages in Rural Bihar

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1. Introduction

Population mobility in India has historically been much lower than migration has been in developed countries going through industrialization. Predictably, income differences across Indian states are only weakly correlated with interstate labor mobility from lower- to higher-income regions (Cashin and Sahay, 1996). Arguably, income growth could be higher in India if migration rates from the lowest income states (including Bihar, Uttar Pradesh, and Odisha) to the highest income states (Clark and Wolcott, 2003) were greater.

Previous observations notwithstanding, out-migration from underdeveloped regions has begun to increase significantly in recent years. The outflow of labor has risen sharply from underdeveloped states, such as Bihar and Uttar Pradesh, since the 1990s (Tsujita, 2014). In fact, some areas of Bihar have had a tradition of out-migration since the colonial period (De Haan, 2002), but longitudinal village surveys have found that both the volume and length of migration have lately escalated (Rodgers and Rodgers, 2011; Sharma, 2005).

The destinations of Bihari migrants have changed, from east to west, where traditionally, Bengal (including most of what is now Bangladesh) was the primary destination. This is consistent with population flows during the colonial period throughout the Indian subcontinent, which tended to be from west to east (Davis, 1951). However, since the 1990s, Delhi has emerged as the main destination from Bihar and Uttar Pradesh; the capital has also been one of the most popular destinations for migrant labor from these states in recent decades. Although there is no recent secondary data on migration in India, our anecdotal evidence suggests that migrants' destinations are diverse.

Against this same background, our previous analysis based on 1,000 households in 20 villages in five districts of rural Bihar concluded that: a) Migration has increased since the 1990s, and drastically accelerated in the 2000s. b) The recent acceleration of migration has occurred mainly because of increasing population pressures on agriculture land. Moreover, job recruiting agents seek villages to fill labor needs. c) There is a non-linear relationship between landholdings and the decision to migrate. d) Lower castes used to be less likely to migrate compared with other castes; however, their past immobility has mostly disappeared in recent years (Tsujita and Oda, 2014).

As an extension of the analysis above, this study examines how household socio-economic characteristics correlate with household migration in underdeveloped areas. In recent years, as we discussed, migration from Bihar has significantly increased; however, economic disparity has not reduced in India or within Bihar. Migration is an option that may allow rural households to escape poverty and possibly climb the socio-economic

ladder in rural society. Indeed, migration is a household strategy to maximize earnings and overcome risks and constraints faced by households. By analyzing migration from economically disadvantaged areas, we offer insights on migration and its implications for redressing economic disparity.

The structure of the paper is as follows. Section 2 provides the background of this study, as well as the data collection. Section 3 reports the findings from all households in our sample villages. Section 4 discusses the findings from the household survey. Section 5 summarizes our findings and presents our conclusions.

2. Background and Data Collection

2.1.Background

Bihar has a population of 103.8 million (Census of India, 2011); it is also one of the most underdeveloped states in India. Its per capita net state domestic product in 2016–17 was the lowest in the country (INR 34,409), amounting to a mere third of the national average (INR 103,870).[1]

Bihar suffers from growing intrastate economic disparity. The per capita gross domestic product for Patna district, where the state capital of the same name is located, is by far the highest of Bihar's 38 districts. Our survey sites, the Sitamarhi and Sheohar districts, are located in north Bihar; they are also economically backward districts: 31st and 38th among 38 districts in the state in terms of per capita gross district domestic product ranking (Government of Bihar, 2017). In terms of agriculture, the productivity of rice in 2015–16 was low in these districts: 964 kg/ha in Sitamarhi (34th district in the state), 550 kg/ha in Sheohar (38th district in the state), and 2104 kg/ha on average in the state (ibid.)

2.2.Data Collection

There are two types of secondary data on migration in India. Migration data from the Census of India tends to underestimate short-term and seasonal migration. While National Sample Surveys (NSSs) catch short-term and seasonal migration, they tend to underestimate long-term migration.[2] To more fully understand out-migration, we conducted village- and household-level surveys.

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[1] Reserve Bank of India website: https://rbi.org.in/Scripts/PublicationsView.aspx?id=18474 (accessed on December 20 2018)

[2] The last NSS migration survey was carried out in 2007–08, and the Census of India in 2011.

This analysis is part of a larger survey; its primary data were collected in 2012–13 from the most backward districts in Bihar, namely, Sitamarhi and Sheohar. In the larger sample household survey we conducted in 2011–12, we noticed the presence of intra-state migrants for agriculture and non-agriculture work in a relatively advanced district in Bihar. In fact, some villages have had migrants since the 1960s or even earlier. In 2012, we identified intra-state migrants' place of origin in the northern parts of Bihar and Jharkhand, and visited the 17 villages where these migrants resided. Three villages were selected because they were located in the most economically backward districts.

In a door-to-door survey, we listed all households in two villages in Sitamarhi and one village in Sheohar in 2012–13. In this analysis, we use one village in each district where we carried out the household survey as well. Basic information on the sample villages is shown in Table 1.

Table 1: Overview of Sample Villages

The list of all households includes the household head's name, his/her age, size of the households, religion, caste, agriculture landholdings, and whether any household member has ever migrated outside or within Bihar for agriculture or non-agriculture work. In the sample village of Sheohar, first-year migration was also recorded. Migration is defined as working for more than one month consecutively by living outside the village, but including agriculture labor in Bihar, for more than 15 days. Migrant households are defined as households that have had one or more migrants in the past.

The definition of a household member in this survey includes not only those who eat from the common *chulha* or kitchen, as the Census of India and NSS define household members, but also those who reside elsewhere for education or employment purposes, and either return home at least once a year or have sent remittance in the preceding year. These criteria are employed to establish a comprehensive picture of the migrant members of the household. In other words, unmarried or married person who are living away from the village and whose spouse and/or children live in the surveyed village are regarded as household members if they return at least once a year or send money. However, married persons who live away from the village, but return at least once a year or send money, are not regarded as household members if their spouse and/or children live elsewhere.

It should be noted that households in which all members have migrated somewhere are not included in the list of households. The total number of such households is only one in the sample villages. This implies that the number of definitive departures from the villages remains low. There is a low possibility of a sampling bias,

which could be caused by the exclusion of households that had already left the village.

After listing all households, we randomly selected 217 out of the total 1,357 households in Sitamarhi and 378 out of 403 households in Sheohar. The household questionnaire included items on household roster, land and agriculture, labor and migration, physical infrastructure, access to various government programs, and participation in and perception of the *panchayat*.

This household survey was followed in non-surveyed villages in 2017 to triangulate our quantitative findings. We thus visited 22 villages in various parts of the state. Though the qualitative survey took a number of years to complete, we still found similar characteristics of labor migration as discussed herein.

3. Findings from all the households in sample villages

Among the 1,762 households in the two sample villages, 1,090 households have had no migrants in the past. Two hundred and twenty households have had agriculture labor migrants outside Bihar, 426 have had non-agriculture migrants outside Bihar, 101 have had agriculture labor migrants within Bihar, and only 14 have had non-agricultural migrants within Bihar. That is, the overwhelming majority of migration is engaged in non-agriculture work outside the state. Interestingly, 89 households have had agriculture labor migrant(s) both in and outside Bihar. In a village of Sheohar, we asked households with migrants which year their household member migrated for the first time. Figure 1 indicates that agriculture labor migration within the state has had the longest tradition, followed by agriculture labor migration outside the state. In recent years, non-agriculture migration outside states has significantly increased.

Figure 1 First year of migration in a sample village

Using all households in two villages, we analyzed the correlation between household characteristics and migration pattern. A multinomial logit technique was employed. The dependent variable was set to 0 if households had no migrants in the past, 1 if households had agriculture migrants only, 2 if households had non-agriculture migrants only, and 3 if households had both agriculture and non-agriculture migrants. The explanatory variables include the household head's age, household size, religion and castes (base category is Hindu general castes, and dummy variables are Hindu Other Backward Classes [OBCs], Hindu Extremely Backward Classes [EBCs] and Scheduled Castes [SCs] and Muslim), landholding size (acre), landholding square, and district

dummy (Sheohar=1, Sitamarhi=0). Descriptive statistics are shown in Table 2.

Table 2 Descriptive statistics

Table 3 shows the results. Households headed by an older person are less likely to have migrated, for both agriculture and non-agriculture migration. This is consistent with recent significant increases in migration, which imply that younger generations tend to migrate (Figure 1). Households with larger number of members are more likely to migrate. Our previous survey in Bihar and extant literature suggest that the likelihood of having migrant household members is higher in larger household because the migration of household members does not result in a reduction in domestic production (Connell et al., 1975; Hampshire, 2002). The work that would have been done by the migrants can be easily be shared by the remaining members.

A difference in terms of caste and religion exists for non-agriculture migration. Muslims and Hindu EBCs are more likely to migrate. However, no such difference is observed in terms of agriculture migration from the sample villages.

The estimated coefficient on landholding size is significantly negative in both agriculture and non-agriculture migration. This implies that the probability of migration is high for the landless and for smaller land households. At the same time, in the case of non-agriculture migration, the landholding size increases further; yet there is no correlation between migration and landholding size.

The Sheohar dummy is positive and significant for all migrations. As the economic indicators of Sheohar are worse than those of Sitamarhi, villagers in the former district tend to seek more employment opportunities outside the village. Overall those who belong to the underclass and underdeveloped areas tend to migrate.

Table 3 Correlations of household migration and household socio-economic characteristics

Though mechanization in agriculture, particularly harvesting, has diminished employment opportunities, agriculture labor migration is still observed from Bihar. In the sample villages, 89 households have agriculture labor(s) who migrated both in and outside Bihar. Indeed, some villagers go to two regions: Punjab, an agriculturally advanced state in India, and southwest Bihar, where agriculture production is relatively higher within the state. Transplanting times are often slightly different, from mid-June in Punjab/Haryana and from late-June to July/early August in southwest Bihar.

Our previous study in southwest Bihar villages suggests that agriculture labors in the area had begun to migrate to other parts of India. This large male out-migration from these villages resulted in not only the slight shortage of male agriculture labors but also the withdrawal of some labor class work in imitation of upper-caste norms for women in some villages (Tsujita and Oda, 2014). This leads to a slight difficulty in recruiting female agriculture labor in local areas, such as for transplanting. Thus, large landholding households in southwest Bihar travel to north Bihar villages to recruit new labors, though some households in north Bihar go to southwest Bihar to transplant paddy and other agriculture works over a long period, even generation to generation. Once new groups of labors arrive, a contract is made over mobile phones every year. At the same time, large landholders in neighboring villages recruit north Bihar villagers working in nearby villages for work. North Bihar groups thus work in southwest Bihar villages at the peak transplanting season.

Large landholders in the southwest Bihar prefer north Bihari groups, as their payment can be made at piece rate. They think north Bihari groups are more effective than local female labors, where remuneration is paid daily. For example, in a village A in Patna district in 2017, local women receive 5 kg in kind (rice), while migrant male groups receive INR 1,000 per bigha (1.6 acre). In villages in Rohtas district in 2011–12, local women earned INR 80–100 day, while migrant male workers earned INR 500 per bigha (1.6 acre). According to large landholders, one of the minor reasons why they prefer migrant workers is that they do not steal seedlings. Interestingly, north Bihar migrant workers brought unexpected effects. Large landholders in southwest Bihar stated the following: “We learnt how to transplant paddy from north Biharis. Our labors used to throw them before those labors came to our village. This method turns out to be much higher in yield.” In fact, they would like to hire more migrant workers; however, according to large landholders in southwest Bihar, north Biharis are not always available on time when agriculture labor is desperately needed.

4. Findings from Household Surveys

While the household lists from the two sample villages can provide limited information on migration, though it is useful to understand the overall situation of migration from sample villages. This section further analyzes agriculture and non-agriculture migration based on the household survey.

Table 4 shows the socio-economic characteristics of the sample migrants. Non-

agriculture migrants tend to be younger than agriculture migrants, as expected. Regardless of agriculture or non-agriculture migration, more than 70% of the sample migrants are from landless households. A few Hindu general castes migrate, while Muslims are more likely to be engaged in non-agriculture work, as the previous section indicated.

Table 4 Socio-economic characteristics of sample migrants

We found migrants often return to the village, especially during harvest periods and festival seasons. Seemingly, regular short-term migration, in which migrants go to the same place and engage in the same work, is prevalent among the sample migrants. In fact, one of the characteristics of migration is that migrants do not change their occupation at their destinations. In particular, we found only seven cases of migrants who were engaged in non-agriculture work after having experienced agriculture work; Table 5 shows the examples of this shift. Non-agriculture work includes construction work, rickshaw pulling, cleaning, and factory work. In this case, the age group tends to reflect a younger generation. Except for one person, all are less than 40 years old, and the educational level is either illiterate or primary education. This implies that agriculture labor migration does not enhance migrants' employment opportunities in the non-agriculture sector. Lack of education is one of the factors that contributed to difficulties in changing occupations from agriculture.

Table 5 Example of shift from agriculture to non-agriculture work

Table 6 shows destinations of migration outside Bihar. The overwhelming agriculture migration is to Punjab, while migrants who are engaged in non-agriculture work go to Delhi, followed by Maharashtra. This is consistent with our previous survey on migration from rural Bihar. It is worth mentioning that migrants do not change their destinations. The few exceptions are as noted above (Table 5).

To examine non-agriculture work, Table 7 shows the specific occupations of non-agriculture work. Each occupation of each person is recorded as one occupation. We see that migrants are engaged in a wide range of occupations. In the sample villages, tailoring, stitching, embroidering, saree and or clothes making are the most popular occupations, followed by bag or pulse stitching/making, construction labor, factory labor, and rickshaw pulling. In contrast, only few are engaged in public or professional services.

Table 6 Migrants' destinations
Table 7 Non-agriculture work

Interestingly, 72.7% of agriculture labor migrants arranged their work prior to migration, while the corresponding figure for non-agriculture labor migrants is 53.6%. Nearly half of the latter migrant group reached their destinations, and then sought a job. As shown in Table 8, agriculture migration was arranged by villagers/neighbors. As agriculture involves collaborative efforts that consist of multiple labors, it is logical that migration is organized before migrants move to their destination. As far as non-agriculture work is concerned, migrants' work is usually arranged either by villagers/neighbors or family/relatives. Members in families and relatives, particularly brothers and brothers-in-law, play an important role in finding a non-agriculture job. Even if male relatives, such as a father or uncle, migrate for agriculture work, their younger relatives, such as sons or nephews, no longer choose the same destination.[3]

Table 8 Arrangement of migration

Thus, we present the question: What is the economic impact of the increase in migration in the sample villages? This question is particularly important as the sample villages are located in poorer districts of Bihar. We collected data on earnings from migration for the year prior to the survey and on how remittances have been used. The average monthly earnings of workers engaged in agriculture amount to INR 11,779, which is higher than that for non-agriculture workers (INR 6,142). Agriculture migrant labor tends to spend less at destinations, since housing and food are often provided. However, the agriculture work is seasonal, generally up to six months at the longest. The annual earnings are likely lower than the earnings from non-agriculture work, for which most migrants may work for longer terms.

In our household survey, we listed certain items in our questionnaires to query households on their remittance use. The number of households in Table 9 corresponds to the number of households who indicated primary, secondary, and tertiary use of remittance. We assume the preference of villagers' expenditure from remittance is not a major problem in this context because villagers migrate mainly for economic reasons. Table 9 shows that a large number of households used their remittances primarily for daily

[3] Some young villagers pointed out that they did not want to work with their father, uncle, senior members of the family, or a relative at destinations, because they could not enjoy drinking and smoking in front of them.

expenses, mainly food and clothes, among others. The number of households that used the money for healthcare is also high. In the sample areas, people tend to approach private medical facilities for medical treatment rather than public sector facilities, which often do not properly function in the same villages. Thus, villagers pay higher health and medical costs. The tertiary use of remittance is to pay off debts. However, the remittances are generally not large enough to improve their landholding status or to change their position in the village socio-economic hierarchy, irrespective of whether the sample households have agriculture and/or non-agriculture migrants.

Table 9 Use of remittances

Finally, we asked sample households with no migrants in the past why they had not migrated. An overwhelming majority of households answered that there are enough employment opportunities in/around the sample villages, or enough land/shops to sustain their livelihood. Very few households stated other reasons, such as family and health, among others. As most of these households could sustain their livelihood without migration, migration alone has not redressed the gap in the socio-economic strata in rural Bihar at least in the short run.

Table 10 Reasons of no migration

Concluding Remarks

This study focused on migration from underdeveloped areas in one of the poorest states in India. The results indicate larger households and landless/smaller-holder households tend to migrate more. The recent significant increase in migration is mainly led by a younger generation that is engaged in non-agriculture work in different destinations. Migrants do not often change their occupations and destinations. Moreover, the economic impact of non-agriculture migration is not as large as that of agriculture work. The use of remittance is also similar between agriculture and non-agriculture migrants. Given this situation, it is not easy for poorer households to improve their livelihood by migration alone.

However, the result does not detract from the importance of migration. The underclass largely depends on labor, rather than assets, for their livelihood. Migration is one of the few options for them to, at least potentially, escape poverty, so it may have a longer-term direct impact. One of the potential direct impacts can be investing in the

education of children, which may lead to their engagement in higher paid jobs. Currently, very few migrant households can invest in the second generation's education simply from remittances. If the opportunities for education as a means of escaping from poverty are still limited, then the current situation, such as public work and distribution, is all the more important for the underclass for improving their livelihood.

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Table 1: Overview of Sample Villages in 2012-13

Socio-economic indicators	Village A in Sitamarhi	Village B in Sheohar
Distance from district/block headquarter	5km/5km	6km/7km
Distance from railway station	5km	20km
No. of voters	2851	825
No. of households	1362	380
No. of Hindu households	1362 (100%)	227 (59.7%)
No. of Muslim households	0 (0%)	153 (40.3%)
No. of landless households	618 (45.4%)	267 (70.3%)
Electrified in 2012/13	Yes	No
Agriculture land in acre		
Agriculture land in *kharif*	225	250
Agriculture land in *rabi*	225	250
Agriculture land in other seasons	200	60
Standard yield per acre (in quintal)		
Rice in *kharif*	11	8
Wheat in *rabi*	11	8
Wage level		
Transplanting paddy	INR100/day or 5kg in kind	Male: INR 150/day Female INR100/day
Harvesting paddy/wheat	1/16	1/16
General agriculture work (male)	INR100/day	INR120/day
Construction work (male)	INR 150/day	INR 150/day
Expert mason (*rajmistri*) (male)	INR 300/day	INR 300/day
MGNREGA (official)	INR144/day	INR144/day

Table 2 Descriptive statistics

Variable	Obs	Mean	Std. Dev.	Min	Max
Dependent variables					
Migration work type	1762	0.6311	0.8599	0	3
Explanatory variables					
Age	1762	43.4376	14.4796	18	95
Household members	1762	4.6419	2.1896	1	36
Muslim	1762	0.1226	0.3281	0	1
General castes	1762	0.0857	0.2800	0	1
Other Backward Classes	1762	0.5062	0.5001	0	1
Extremely Backward Classes	1762	0.1742	0.3794	0	1
Scheduled Castes	1762	0.1112	0.3145	0	1
Landholding (acre)	1762	0.5807	1.6663	0	18.18
Landholding square	1762	3.1121	19.1952	0	330.5124
Sheohar district	1762	0.2287	0.4201	0	1
Sitamarhi district	1762	0.7713	0.4201	0	1

Table 3 Correlations of household migration and household socio-economic characteristics

	Agriculture migration		Non-agriculture migration		Both migration	
Head's age	-0.0102	*	-0.0223	***	0.0145	
	(0.0058)		(0.0044)		(0.0360)	
Household size	0.1071	***	0.0679	**	0.1218	***
	(0.0344)		(0.0284)		(0.2441)	
Muslim	18.4439		1.1845	***	15.7004	
	(4354.4550)		(0.2749)		(22941.1900)	
OBC	19.3780		-0.0523		17.0698	
	(4354.4550)		(0.2167)		(22941.1900)	
EBC	19.7655		0.4090	*	-3.4780	*
	(4354.4550)		(0.2480)		(29587.6500)	
SCST	20.9479		0.1148		17.4449	
	(4354.4550)		(0.2854)		(22941.1900)	
Landholdings	-0.4620	***	-0.1927	*	-149.2956	
	(0.1468)		(0.1038)		(13686.0400)	
Landholdings square	0.0235	**	0.0072		8.1536	
	(0.0102)		(0.0094)		(763.7053)	
Sheohar	2.4330	***	0.7639	***	3.5757	**
	(0.2117)		(0.1770)		(1.4779)	
Constant	-21.7514	**	-0.5880	**	-24.1348	
	(4354.4550)		(0.2816)		(22941.1900)	
Pseudo R^2	0.1443					
Log pseudolikelihood	-1384.17					
N	1762					

Notes: Base is zero, i.e. households have no migrant in the past. ***, **, * indicate 1%, 5% and 10% significance, respectively. Figures in parentheses indicate standard errors.

Table 4 Socio-economic characteristics of sample migrants

	Agriculture		Non-agriculture	
	N	%	N	%
No. of observations	168		255	
Mean age	42.58		30.53	
	(15.16)		(12.22)	
Landholdings				
Landholding (acre) mean	0.32		0.26	
	(0.98)		(0.91)	
landless	117	70.06	187	73.90
Caste categories				
Hindu General castes	1	0.60	9	3.53
Hindu OBCs	32	19.05	61	23.92
Hindu EBCs	77	45.83	53	20.78
SCs	33	19.64	13	5.10
Muslim	25	14.88	119	46.67

Notes: parentheses show standard deviation.

Table 5 Example of shift from agriculture to non-agriculture work

	Agriculture work	Non-agriculture work	Age	Education level	Caste
1	Punjab	Labor in plywood factory in Gujarat	40	Illiterate	Brahman
2	Punjab	Water supply work in Punjab & Brick Kiln in Assam	35	Primary education completed	Brahman
3	Punjab	Construction work in Maharashtra	22	Illiterate	Dusadh
4	Punjab	Blooming & cleaning in mosque in Delhi	40	Illiterate	Sheikh
5	Punjab and Bihar	Construction work in Uttar Pradesh	35	Primary education completed	Nonia
6	Punjab	Construction work in Maharashtra	38	Illiterate	Dhobi
7	Punjab	Rickshaw puller in Delhi	63	Illiterate	Kumhar

Table 6 Migrants' destinations

Agriculture work		**Non-agriculture work**	
Punjab	151	Delhi	148
Haryana	5	Maharashtra	41
Maharashtra	1	Uttar Pradesh	14
Chandigarh	1	Gujarat	12
		Punjab	12
		Haryana	3
		Assam	2
		Himachal Pradesh	2
		Jammu & Kashmir	2
		Karnataka	2
		Nepal	2
		Chandigarh	1
		Kerala	1
		West Bengal	1

Table 7 Non-agriculture work

	Within Bihar	Outside Bihar
Unskilled manual labor		
Construction labor	3	26
Brick kiln	0	3
Soil cutter	0	1
Polishing kitchen ware	0	1
Water supply	0	1
Domestic servant	0	3
Any labor	0	2
Skilled manual labor		
Mason	3	11
Carpenter	1	8
Tile fitter	0	4
Painter/painter's helper	0	3
Car mechanic	0	1
Auto rickshaw maker/repair	0	2
Electrician/electric fitter	1	2
Lathe machine operator	0	4
Mechanic	0	2
Casting iron/iron factory	0	6
Barber	0	1
Cook	2	2
Tailor/stitching/embroidery/saree and/or clothes making	1	76
Bag/pulse manufacturing/stitching	0	27
Cap manufacturing	0	1
Nursery	0	1
Factory labor (shoe, metal sheet, plastic, plywood, leather, printing press, carton boxes, files)	0	18
Mill workers/oil manufacturing workers	0	4
Transportation		
Goods driver in railway	1	0
Rickshaw puller	0	10
Truck driver	0	3
Car/taxi Driver	0	4

Tire puncture repair	0	1
Sales and trade		
Shoe shop	0	1
Small grocery shop	1	2
Selling food/snacks on street	0	5
Hotel worker	0	1
Mobile shop	0	1
Public services		
Government services	1	0
Professional/semi-professional		
Supervisor in a company	1	0
Contractor	1	0
Computer operator	0	1
Foreman	0	1
Daily cooperation worker	0	1

Table 8 Who arrange migration?

	Agriculture migrants		Non-agriculture migrants	
Family/relatives	6	3.57	58	22.75
Villagers/neighbors	85	50.60	60	23.53
Friends	18	10.71	18	7.06
Myself	24	14.29	9	3.53
Contractor/company	1	0.60	3	1.18
Government/company	1	0.60	2	0.78
Missing	51	30.36	113	44.31
Total	168	100.00	255	100.00

Table 9 Use of remittances

	Agriculture Migrant households	Non-agriculture Migrant households
Primary use		
Daily expenses (food, clothes, etc.)	63	124
Pay off debt	1	0
Medical expenditures	0	1
Others	3	5
Secondary use		
Medical expenditures	47	97
Daily expenses (food, clothes, etc.)	4	6
Construction/renovation of house	1	7
Finance marriage, ceremony	2	3
Pay off debt	1	3
Starting new business	1	0
Purchasing big animals	1	0
Pay for school/training for household member(s)	0	1
Working capital for agriculture	0	1
Tertiary use		
Pay off debt	22	29
Help family/relatives' migration	9	11
Working capital for agriculture	7	10
Medical expenditures	3	5
Construction/renovation of house	1	4
Bring back mortgage-out land	0	2
Purchase land	1	0
Pay for school/training for household member(s)	0	1

Notes: The number of responded agriculture migrant households and responded non-agriculture migrant households are 143 and 203, respectively. We exclude 25 responded households which have both agriculture and non-agriculture households.

Table 10 Reasons of no-migration

Reasons	No. of responded households
Enough work/land/income is available	200
Family reasons	4
Health problems	3
Retired	2
Lack of job information	1
Not interested in migration	1

Figure 1: First year of migration