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OCCURRENCE AND EXTENT OF MIGRATION IN RICE-BASED FARMING SYSTEM IN VIETNAM

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ABSTRACT

The investigation of 3135 households in forty two hamlets in the South and North of Vietnam shows that the migration rate in the North is higher than those in the South and it is higher in the rainfed ecosystem than in the irrigated ecosystem. In the area where people easily access to labor market, short term migration is likely occurred than long term. On the other hand, in the low accessing to labor market area, people tend to migrate for long term. The migrants are mostly male. In the South, the husbands involved in various occupations at the destination meanwhile the sons and daughters like to work as factory workers. Daughters in the South like to work in city as Ho Chi Minh city. The migration rate of daughters in the South is higher than in the North. The husbands and sons in the North mainly work as masons or mason assistants.

The important push factors for migration include small rice land area, less female adults in labor age (less economy contribution for the family), land tenure, and zone. Migration in the North is higher than in the South because of smaller land and populated. The good road as cemented increased the labor movement. Female migration increased in the rainfed area.

The positive impacts of migration comprise of improvement of family life, houses, and reducing poverty. The important negative impact of adult migration is not caring and disciplining children well.

INTRODUCTION.

Vietnam, an S-shaped country with more than 80 million people, is one of the major rice-producing countries in Asia. It stretches from the mountainous north and the Red River Delta to a narrow central belt snaking down to the fertile southern Mekong Delta. It has a total agricultural land of 9.4 million ha, 43% of which is for rice cultivation (Statistical Year Book 2004). Vietnam has become one of major exporting rice countries, in 2005 Viet Nam exported 5,2 million tons of rice (Tran Le 2005) due to its increase of rice crop intensity. This requires more intensive rice management in the rice based –farming system. However, the fast process of urbanization and industrialization under the transition of Vietnam economy has been withdrawing rural labor to participate in non-farm and off-farm activities leading to burden to whom left behind. While adult men as husbands and son as well as adult daughters increasingly work outside the home to earn higher wages, wises have to take multiple responsibilities on the farm. Dao (2002) reported that in Viet Nam, female occupies 51.5% of total population and 52% total labor force of society, 80% of them live and work in rural area. There are few documents, which deal with the consequence of migration on people who left behind. Thus, to have data to support this contention, investigation on incidence of migration in the rice-based farming system was conducted to answer the following questions:

- What is the extent of migration and work related migration in major rice –based farming system in Vietnam,

- Who are migrants from the rice –based farming system, and

- What are the push factors for migration from major rice –based farming system.

METHODOLOGY

To answer the above questions, we conducted Rapid Rural Appraisal (RRA) at 42 hamlets which are located in 15 communes of 5 districts in 4 provinces in Vietnam to collect the basic information as well as perception related to migration at hamlet level and incidence of migration in the rice farming household. Me Linh district of Vinh Phuc province in the North of Vietnam; Tan Tru and Can Duoc districts in Long An, Ba Tri district in Ben Tre and Go Cong Dong district in Tien Giang in the South Vietnam were selected in this study. The sites were included rainfed and irrigated ecosystem as well as low and high labor market. The low or high labor market was classified based on the easiness in access to market of job as far or near to industrial zone or metropolitan.

Summary table of the sites.

Province	District	Commune	Hamlet	Ecosystem	Access to labor market
Vinh Phuc	Me Linh	Chu Phan	Chu Phan, Nai Chau, and Xa khuc	Irrigated	Low
		Hoang Kim	Hoang Kim, Hoang Xa, and Tay Xa	Irrigated	Low
		Lien Mac	Bong Mac, Xa Mac, and Yen Mac	Irrigated	Low
		Tam Dong	Cu An, Nam Cuong and Van Loi	Irrigated	Low
		Thach Da	Ap 1, Ap 2, Ap 3, and Ap 4	Irrigated	Low
Long An	Tan Tru	Binh Lang	Binh An, Binh Hoa, and Thanh Phong	Irrigated	High
		Binh Trinh Dong	Binh Dong, and Binh Hoa	Irrigated	High
		Duc Tan	Tan Hoa	Irrigated	High
		Tan Phuoc Tay	Ap 1, Ap 3, Ap 4, Ap 5, and Ap 6	Irrigated	High
	Can Duoc	Tan Lan	Ba Thoai	Rainfed	High
Ben Tre	Ba Tri	An Hiep	Ap 4, and Ap 8	Rainfed	Low
		Phu Le	Ap 2 and Ap 3	Irrigated	Low
		Tan Xuan	Tan Thanh 1, Tan Thanh 2, Tan Thi, and Tan An	Irrigated	Low
Tien Giang	Go Cong Dong	Phu Dong	Ganh, Ly Quan 1 , Ly Quan 2, and Ba Tien 1	Rainfed	Low
		Tang Hoa	Ba Lay 2, and Giong Tan	Irrigated	Low

Data collection.

To collect the general information, perception related to migration, and incidence of migration in each hamlet, we had discussion with key informants who have knowledge about the people and the hamlet. Our key informants included hamlet leader, vice hamlet leader, hamlet leader of Women's Association, hamlet police officer, leader of farmers' association and relative old person in the hamlet.

The general information of hamlet was collected by using the form of questionnaire, which were carefully discussed with the stakeholders of the project. The perceptions related to migration were collected by discussing with the key informants.

Regarding to sample size for incidence of migration data, the number of households was determined based on the total number of rice farming households in the hamlet as following:

Total number of rice farming households/ hamlet	Percentage of households for RRA survey
< 30	100%
30 - 50	80%
51 - 100	60%
101 - 150	50%
151 - 200	30%
201-500	25%
> 500	20%

A total of 3135 rice farming households were randomly selected to ask information on total land holding, rice land area, total family male and female labors, migration status, and characteristic of migrants.

Data analysis

General information of the hamlet and perception related to migration was summarized in the form of frequency, means and percentage. Multiple regression analysis was used to determine the push factors for migration.

The model employed was $Y = X\beta + e$

where,

Y is the vector of dependent variables (adult migration prevalence rate –MPR, adult migration prevalence rate for long term – MPRLT, household migration rate–HMR, household migration rate for long term– HMRLT, male migration rate – MMR, male migration rate for long term- MMRLT, female migration rate – FMR and female migration rate for long term- FMRLT);

X : Included X1 and X2

X1 is the matrix of independent variables (rice area, proportion of farmers owning land, proportion of tenant farmers, male population in the hamlet, female population in the hamlet, total male adults, total female adults and total hamlet area);

X2 is the matrix of independent dummy variables (zone: South = 0 and North=1, Road: rough =0 and paved=1, ecosystem: rainfed = 0 and irrigated =1, labor market: low=0 and high =1)

β is the vector of parameters representing the partial effect of each of the independent variables; and

e is the error vector which represents the amount of variable unaccounted for by the independent variables. Elements of e are assumed to have zero mean, constant variance, σ^2, and to be uncorrelated.

The incidence of migration was calculated as following:

1/ The prevalence of migration in an area can be measured by the migration prevalence rate (MPR) and the household migration rate. Since our data are only available adult migration, thus this rate is only for adult migration. Therefore we called this rate is adult migration prevalence rate (MPR).

$$MPR = \frac{mx100}{n}$$

where:

MPR = adult migration prevalence rate

m = no. of migrants in the area (based on sample)

n = sample size (adult population in the sample)

Since household were randomly selected, there were the data with short term migration (less than 3 months). Thus we selected the migrants as well as households with migration for long term (three months and longer) to calculate the incidence of migration for long term.

2/ Adult migration prevalence rate for long term (MPRLT).

$$MPRLT = \frac{mx100}{n}$$

where:
MPRLT = adult migration prevalence rate for long term
m = no. of migrants for long term (three months and longer) in the area (based on sample)
n = sample size (adult population in the sample)

3/ The household migration rate (HMR) can be calculated as follows:

$$HMR = \frac{hx100}{n}$$

where:
HMR = household migration rate
h = number of rice farming households with migrants (based on sample)
n = number of rice farming households in the area (based on sample)

4/ The household migration rate for long term (migrate for three months and longer) (HMRLT) can be calculated as follows:

$$HMRLT = \frac{hx100}{n}$$

where:
HMR = household migration rate for long term
h = number of rice farming households with migrants for long term (three months and longer) (based on sample)
n = number of rice farming households in the area (based on sample)

5/ The male migration rate (MMR) can be calculated as follows:

$$MPR = \frac{mx100}{M}$$

where:
MMR = male migration prevalence rate
m = number of male migrants in the area (based on sample)
M = number of total males in the area (based on sample)

6/ The male migration rate for long term (three months and longer) (MMRLT) can be calculated as follows:

$$MPRLT = \frac{mx100}{M}$$

where:
MMR = male migration prevalence rate for long term
m = number of male migrants for long term (three months and longer) in the area (based on sample)
M = number of total males in the area (based on sample)

7/ The female migration rate (FMR) can be calculated as follows:

$$FMR = \frac{fx100}{F}$$

where:
FMR = female migration prevalence rate
f = number of female migrants in the area (based on sample)
F = number of total females in the area (based on sample)

8/ The female migration rate for long term (three months and longer) (FMRLT) can be calculated as follows:

$$FMRLT = \frac{fx100}{F}$$

where:
FMRLT = female migration prevalence rate for long term
f = number of female migrants in the area for long term (three months and longer) (based on sample)
F = number of total females in the area (based on sample)

RESULTS AND DISCUSSION.

1. Hamlet information:

The land area per hamlet in the South (223 ha) is larger than in the North Vietnam (158 ha). Similar trends are found for total cultivated area (181 ha in the South and 103 ha in the North) and rice area (168 ha in the South and 89 ha in the North) per hamlet. The triple rice system is practiced in the irrigated rice area in the selected sites in the South regardless low or high market meanwhile double rice systems is used in irrigated area in the North. Farmers in selected rainfed area with high market practiced 2 rice crops per year meanwhile one rice crop per year is practiced in rainfed area with low market in the South. The proportion of rice area over cultivated area is high in both

South and North zones (from 86 to 94 percent). The selected sites are mostly devoted for low land rice cultivation (93 % and 82 % in the South and North, respectively).

More than 90 % of farmers own their land in the South. All farmers in the North have right to use land. In additional, 8% of farmers in the North rented additional land parcels for cultivation aside from their land. Though the land in the North is smaller than those in the South, the number of agricultural households per hamlet in the North (482) is higher than in the South (293). The average rice farming households per hamlet in the North is 400 meanwhile this is 253 in the South. The proportion of landless households in the South is relatively higher (16 %) than in the North (0.4%)

Regarding to the facility and infrastructure in the hamlet, the road is mostly rough in the South because only one third of them (31%) is paved road. Most of hamlet roads (72%) in the North is paved. In the South Vietnam, there are 3 to 10 threshing machines per hamlet, and this is negligible in the North. However, farmers in the North mostly have threshing tools, which is operated by hands. Tractors used in the South are usually big, the number varied from 0 to 9 per hamlet. In the North, there are 11 smaller tractors per hamlet.

In the South of Vietnam, each hamlet has 7 organized groups in irrigated area and 5 in rainfed area. In the North Vietnam, 6 organized groups in each irrigated hamlet were found. These are formal organizations organized by either State or Central government or by local government. All hamlets have Communist Party branch, Women's Association, Veteran's Association, Farmers' Association, Youth Union, and Aging Club. Some hamlets in the South have Red Cross organization (74% of the hamlets in irrigated area and 29 % of the hamlets in rainfed area). Education Motivation Club to help the poor children in education is only present in irrigated hamlet (5% of the hamlets) in the South.

Women are chairpersons of Women's Association in all hamlets. Women as chairpersons in Communist Party branches are only 2 % in irrigated hamlets in the South and 38% in the irrigated hamlets in the North. Women are chairpersons in Youth Union (11%) and Red Cross organization (16%) in irrigated hamlet in the South. Women are also chairpersons in Farmers' Association only in the North.

The key informants in all hamlets reviewed that labor out-migration is happening and this phenomenon is increasing in both irrigated and rainfed area regardless North and South Vietnam. Mostly men are migrants (the mode is 70% of men and 30% of women). In irrigated area in both zones, 88 % of migrants went to other provinces followed by going to Ho Chi Minh city (51%), other districts and Hanoi. In rainfed area in the South, the migrant mostly went to Ho Chi Minh city (71%), followed by other provinces. People migrate regardless wet or dry season. The key informants reported that there are both positive and negative consequences of migration. The important positive consequence of migration is improving household economy (as repairing or building house, buying television, motorcycle, and food). Migration contributed to local economy and beautifulness of the hamlet because the bad houses of the poor were renewed, and the poverty in the hamlet is reduced. The life of the migrant family is more stable. Migration out to work also stabilized the local peace and security because the jobless people who usually were drunk and did stealing involved in out-migration to find jobs. In irrigated area, some of migrants accumulated the money earned from out-migration to invest for crop and animal production. Migrant had chance to learn how to do these enterprises during time of out-migration. In the rainfed area, out-migration is way to survive because of adverse conditions of soil (acid sulfate and saline soil) with only one rice crop per year.

The negative consequence of migration is the education and discipline of children. The young and teenage children also involved in the work at the destination places to earn money. Some of migrant infested with bad behavior and brought the bad thing back to the home place. They were drugged and did gambling leading to stealing. Some of men had ex-wife in the destination places.

The people in most of hamlets perceived that the trend of labor out-migration is increased in the future (77% of irrigated hamlets and 43% of rainfed hamlets).

2. Incidence of migration

The migration prevalence rate in the North is higher than in the South, and the trend is similar to household migration rate, male and female migration rate. The adult migration prevalence rate in the rainfed area (19%) is higher than those in irrigated area (16%) in the South. The long-term migration prevalence rates in low market area are relatively higher than those in the high market area regardless irrigated or rainfed areas. In high market areas, people tend to migrate for short term (less than 3 months) due to the improved transportation roads. This happens due to rapid change in road construction and new establishment of industrial zone in the countryside by the government and private companies in recent years. The household migration rate is 14.2 % in the South and 22.8% in the North. The long-term household migration rate in the North is also higher (17.3%) than in the South (5.4%). The male migration rate is higher than the female migration rate. The male migration rate for long term in low market and rainfed areas was 12.7% and in low market and irrigated areas was 8.2% in South. The long-term male migration in the North was 34.2%. However, the long-term female migration rate is low (3% in the North and 3.9% in the South) (table 1).

Table 1: General migration rate and rate of migration for long term (three months and longer)

Area	Adult migration prevalence rate (%)	Adult migration prevalence rate for long term (%)	Household migration rate (%)	Household migration rate for long term (%)
	(MPR)	(MPRLT)	(HMR)	(HMRLT)
South Vietnam				
Irrigated (n=19)	16	5	12.7	3.9
Rainfed (n=7)	19	8	18.1	9.5
Low market (n=14)	16	8	12.6	7.7
High market (n=12)	17	3	16.0	2.6
Irrigated and low market (n=8)	18	7	11.1	5.2
Irrigated and high market(n=11)	14	3	13.9	2.9
Rainfed and low market (n= 5)	15	11	16.2	12.3
Rainfed and high market (n=1)	52	0	39.2	0.0
Total mean in South Vietnam (n=26)	17	6	14.2	5.4
North Vietnam				
Mean in North Vietnam (Irrigated & low market) (n=16)	24	19	22.8	17.3

n= Number of hamlets

Table 1: continue …

Area	Male migration rate (%)	Male migration rate for long term	Female migration rate (%)	Female migration rate for long term (%)
	(MMR)	(MMRLT)	(FMR)	(FMRLT)
South Vietnam				
Irrigated (n=19)	24.6	6.9	6.2	2.6
Rainfed (n=7)	25.3	9.7	13.1	7.3
Low market (n=14)	23.9	9.6	7.7	6.3
High market (n=12)	25.8	5.4	8.5	1.2
Irrigated and low market (n=8)	28.6	8.2	5.9	4.5
Irrigated and high market(n=11)	21.7	5.9	6.5	1.3
Rainfed and low market (n= 5)	19.8	12.7	11.1	9.1
Rainfed and high market (n=1)	70.9	0.0	30.6	0.0
Total mean in South Vietnam (n=26)	24.8	7.6	8.1	3.9
North Vietnam				
Mean in North Vietnam (Irrigated & low market) (n=16)	45.3	34.2	3.2	3.0

3. Factors affecting incidence of labor out-migration

Rice area per household negatively and significantly influenced the adult migration prevalence rate. Small rice area increased the adult migration prevalence rate. The farmers who have small land rice area would have less income from rice leading to migration. Higher proportion of tenant farmers increased the migration rate. The small land holding farmers and landless farmers usually rent in the land for cultivation. These households are poor, thus more migration occurred. Higher male adults in labor age (15 to 65 years old) increased the migration prevalence rate. Male population in the hamlets included all male children and male aged persons who are dependent people. The high male population in the hamlet reduced the migration rate. Lower number of female in labor age (15 to 65 years old) increased the migration. This is because less economy contribution of female for the family, thus others have to involve in migration for family income (table 3).

Table 2. Characteristics of the household used in the regression analysis

Item	South		North	Total
	Rainfed	Irrigated	Irrigated	
Cultivated area/household (ha)	0.837	0.596	0.189	0.448
Rice area/ household (ha)	0.716	0.582	0.186	0.423
Total labor age members (15-65 years old) /household	5	4	4	4
Male labor age members (15-65 years old) /household	2	2	2	2
Female labor age members (15-65 years old) /household	2	2	2	2

Analysis the affect of dummy variables (South and North zone, rough and paved road, rainfed and irrigated ecosystem, high and low access to labor market) showed that the zone

significantly affected migration. The adult migration prevalence rate in the North was higher than in the South though this affect was weak. This may be related to the other condition in the North such as smaller land holding households

We define that the people who involved in long-term migration go out to work without going home straightly from 3 three months and longer. The adult migration prevalence rate for long term was influenced by rice area per household, total hamlet area, land tenure and female population in the hamlet. The small rice land per household increased the adult migration prevalence rate. The larger total hamlet area increased adult migration prevalence rate because larger hamlets have not good condition for intensive rice practices due to larger hamlets falling into rainfed ecosystem leading to migration. Tenant land is not stable for the living but is temporary to have additional income for the family, thus more proportion of tenant farmers increased adult migration prevalence rate for long term. On the other hand, more proportion of farmers owning land also increased adult migration prevalence rate for long term because the land, which they own, is only small. The adult migration prevalence rate for long term (three months and longer) was affected by zone and it was higher in the North than in the South Vietnam

Table 3: Regression analysis for factor affecting adult migration prevalence rate and for long term (three months and longer)

Factor	Adult migration prevalence rate		Adult migration prevalence rate for long term	
	Coefficients	T-value	Coefficients	T-value
Model 1				
(Constant)	-11.2466	-0.3798	-55.5219	-2.5701**
Rice area (ha)	-0.0722	-2.0570**	-0.0901	-3.5162***
Proportion of farmers owning land (%)	0.2021	0.6697	0.7346	3.3371***
Proportion of tenant farmers (%)	0.3318	2.0059*	0.3915	3.2437***
Male population in the village/hamlet	-0.0815	-2.8254***	-0.0305	-1.4471
Female population in the village/hamlet	0.0816	3.0793***	0.0336	1.7403*
Total male adults (15-65 years old)	0.2706	2.3063**	-0.1286	-1.5028
Total female adults (15-65 years old)	-0.2476	-2.2188**	0.0728	0.8939
Total hamlet area (ha)	0.0447	1.7986*	0.0374	2.0623**
	R^2= 0.48	Adjusted R^2 =0.36	R^2= 0.65	Adjusted R^2 =0.57
	F=3.850; Sig. =0.003		F=7.765; Sig.=0.000	
Model 2				
(Constant)	18.9056	4.2205***	9.0777	2.7828***
Zone (South = 0; North = 1)	11.4727	1.8195*	14.3988	3.1358***
Road (Rough = 0; Paved/cemented=1)	-1.7080	-0.3343	-3.8579	-1.0367
Ecosystem (rainfed = 0; Irrigated =1)	-4.9662	-0.8842	-1.9669	-0.4809
Market (Low = 0; High = 1)	4.2062	0.6619	-1.1899	-0.2571
	R^2= 0.12	Adjusted R^2 =0.02	R^2= 0.41	Adjusted R^2 =0.35
	F=1.254; Sig.=0.306		F=6.469; Sig.=0.000	

* Significant at 10% level, ** Significant at 5% level; *** Significant at 1% level

Table 4 indicates that more farmers have ownership of the land, the rate of household migration increased. This high rate of household migration mostly occurred in the rainfed areas. Though they have ownership of the land use but the land can cultivate only one rice crop per year. This production is not sufficient for the living, thus household migration rate increased.

The road, which is good as paved or cemented, will favor for migration. The household migration rate was higher in the hamlets with more roads paved or cemented. On the other hand, the unfavorable environment increased the household migration. In this study, the household migration rate in the rainfed area was higher than those in the irrigated area.

The household migration rate and adult male migration rate for long term (three months and longer) were also influenced by the tenure of the land. High proportion of tenant farmers increased household migration and adult male migration rates for long term. In addition, high proportion of farmers owning land also increased these rates because the lands that they own are small (less than one ha). Rice land area per household negatively and significant affected the adult male migration rate for long term. The households with smaller land, the adult male tended to migrate. Household migration rate, and adult male migration rate for long term (three months and longer) were higher in the North than in the South Vietnam (table 4 and 5).

Table 4: Regression analysis for factor affecting household migration rate and for long term (three months and longer)

Factor	Household migration rate		Household migration rate for long term	
	Coefficients	T-value	Coefficients	T-value
Model 1				
(Constant)	-40.7680	-1.4823	-67.0883	-2.4748**
Rice area (ha)	-0.0327	-1.0025	-0.0370	-1.1508
Proportion of farmers owning land (%)	0.5977	2.1327**	0.8781	3.1787***
Proportion of tenant farmers (%)	0.2582	1.6803	0.3847	2.5403**
Male population in the village/hamlet	-0.0214	-0.8003	-0.0017	-0.0636
Female population in the village/hamlet	0.0178	0.7252	0.0013	0.0526
Total male adults (15-65 years old)	0.1177	1.0801	-0.1323	-1.2317
Total female adults (15-65 years old)	-0.0673	-0.6492	0.1168	1.1430
Total hamlet area (ha)0.24	-0.0154	-0.6675	-0.0167	-0.7327
	R^2=0.39	Adjusted R^2 = 0.24	R^2=0.41	Adjusted R^2=0.27
	F=2.600; Sig.=0.025		F= 2.853; Sig.= 0.016	
Model 2				
(Constant)	16.9377	5.1015***	9.9056	3.1399***
Zone (South = 0; North = 1)	7.7038	1.6484	8.7632	1.9734*
Road (Rough = 0; Paved/cemented=1)	7.6663	2.0242**	3.2843	0.9126
Ecosystem (rainfed = 0; Irrigated =1)	-7.6326	-1.8334*	-3.8141	-0.9642
Market (Low = 0; High = 1)	0.2977	0.0632	-6.2259	-1.3911
	R^2=0.34	Adjusted R^2 = 0.26	R^2=0.40	Adjusted R^2=0.34
	F= 4.660; Sig.= 0.004		F= 6.282; Sig.= 0.001	

* Significant at 10% level, * Significant at 5% level; *** Significant at 1% level

Table 5 shows that the rice area negatively affected the adult male migration rate. The households with small rice land holding, the adult male tended to migrate more than the larger land-holding households. Tenant farmers usually already have a small piece of land, which is not sufficient for living, thus they rent in some more land for additional crop cultivation. Though they involved in the additional work from the rented- in land, the income is still not sufficient for the family living. Thus, they still migrate out to work. More female population in the hamlet increased adult male migration that means more female dependent population need to be fed and available females to manage the house and the farm. Less female adults in labor age (15-65 years old) in the family increased male migration because less female's contribution for the household economy.

The adult male migration rate was affected by the zone. Higher adult male migration occurred in the North than in the South of Vietnam.

Table 5: Regression analysis for factor affecting adult male migration rate and for long term (three months and longer)

	Adult male migration rate		Adult male migration rate for long term	
Factor	Coefficients	T-value	Coefficients	T-value
Model 1				
(Constant)	-42.9516	-0.8552	-106.2003	-2.7253**
Rice area (ha)	-0.1129	-1.8943*	-0.1252	-2.7086**
Proportion of farmers owning land (%)	0.6898	1.3477	1.4033	3.5336***
Proportion of tenant farmers (%)	0.6170	2.1991**	0.7431	3.4131***
Male population in the village/hamlet	-0.1062	-2.1702**	-0.0426	-1.1207
Female population in the village/hamlet	0.1143	2.5436**	0.0533	1.5289
Total male adults (15-65 years old)	0.3197	1.6065	-0.2471	-1.6002
Total female adults (15-65 years old)	-0.3250	-1.7169*	0.1347	0.9173
Total hamlet area (ha)	0.0242	0.5747	0.0157	0.4805
	R^2=0.50	Adjusted R^2=0.38	R^2=0.66	Adjusted R^2=0.57
	F= 4.198; Sig.= 0.001		F= 7.903; Sig.= 0.000	
Model 2				
(Constant)	25.0117	3.4742***	10.3488	1.8587*
Zone (South = 0; North = 1)	22.9066	2.2605**	27.9591	3.5675***
Road (Rough = 0; Paved/cemented=1)	-1.0594	-0.1290	-3.5883	-0.5650
Ecosystem (rainfed = 0; Irrigated =1)	-1.8713	-0.2073	-1.3883	-0.1989
Market (Low = 0; High = 1)	3.3177	0.3248	-0.9934	-0.1258
	R^2=0.24	Adjusted R^2=0.16	R^2=0.48	Adjusted R^2=0.42
	F= 2.961; Sig.= 0.032		F= 8.512; Sig.= 0.000	

* Significant at 10% level, ** Significant at 5% level; *** Significant at 1% level

Adult female migrants in our study are mostly the daughters in the family. They are mostly young. They tried to work outside the home because the wage is higher. They do not like to expose under sun or rain to work in the field as the mothers any more. Fieldwork is dirty and heavy. They migrate to seek the job with higher income to help the family, which has small land. Thus, the rice land area of the household negatively influenced adult female migration rate, and female population in the hamlet and proportion of tenant farmers

positively affected adult female migration rate. The total hamlet area is large; the female migration is increased because the larger hamlets are mostly in the rainfed area with very low rice and crops productivity (table 6).

The adult female migration rate was higher in unfavorable environment. In this study, the adult female migration rate was higher in the rainfed area than in the irrigated area.

Rice land area per household also negatively and significantly affected the adult female migration rate for long term (three months and longer). The households with smaller land, the adult female tended to migrate. The total hamlet area also affected the adult female migration rate for long term. Larger hamlet area increased the adult female migration rate for long term because larger lands are mostly in unfavorable rainfed area and the young daughters who are mostly migrants wants to change the life by leaving the hamlet to have better life by better income from the non-farm work. Female migration rate for long term was not affected by zone, condition of road and environment.

Table 6: Regression analysis for factor affecting adult female migration rate and for long term

Factor	Adult female migration rate		Adult female migration rate for long term	
	Coefficients	T-value	Coefficients	T-value
Model 1				
(Constant)	19.0825	1.0686	-0.6136	-0.0427
Rice area (ha)	-0.0317	-1.4942	-0.0559	-3.2845***
Proportion of farmers owning land (%)	-0.2606	-1.4319	0.0245	0.1672
Proportion of tenant farmers (%)	-0.0035	-0.0351	-0.0155	-0.1930
Male population in the village/hamlet	-0.0484	-2.7812***	-0.0173	-1.2394
Female population in the village/hamlet	0.0413	2.5832**	0.0133	1.0384
Total male adults (15-65 years old)	0.1344	1.8999*	-0.0522	-0.9182
Total female adults (15-65 years old)	-0.0883	-1.3126	0.0521	0.9637
Total hamlet area (ha)	0.0632	4.2175***	0.0591	4.9082***
	R^2= 0.49	Adjusted R^2=0.36	R^2= 0.47	Adjusted R^2=0.34
	F= 3.896; Sig.= 0.002		F= 3.693; Sig.= 0.004	
Model 2				
(Constant)	12.6571	5.1484***	8.0162	3.9327***
Zone (South = 0; North = 1)	0.8939	0.2583	0.7143	0.2489
Road (Rough = 0; Paved/cemented=1)	-2.2630	-0.8069	-3.4919	-1.5018
Ecosystem (rainfed = 0; Irrigated =1)	-8.6264	-2.7984***	-3.0798	-1.2050
Market (Low = 0; High = 1)	5.4448	1.5612	-1.4221	-0.4918
	R^2= 0.28	Adjusted R^2=0.20	R^2= 0.21	Adjusted R^2=0.12
	F= 3.508; Sig.= 0.316		F= 2.435; Sig.=0.064	

* Significant at 10% level, ** Significant at 5% level; *** Significant at 1% level

4. Additional information related labor out-migration given by hamlet people

The above information proved that labor-out migration happening in all places with different extent. The main reason for moving out to work is to improve the life. If the life in the origin places - where the people move out from – is good, migration will be limited. The group discussion with key informants in the local sites showed that hamlet people expected job availability at the village. The people expected to work at their home places to take care of the children and family. They expect that the State creates jobs by establishing the factories at local sites to employ the local labors including the illiterates. They expect good infrastructure as good road and electricity to attract investment for building the factories to reduce unemployment at local sites. The small land leading with low income from agriculture, no factory at local area with increasing population, high input cost with less return from rice production and chicken flu in recent years are the reasons for labor out-migration. The people now change their thought in increasing income by moving out to work. According to them, in the future, there will be many plants/factories in the industrial zones; the agricultural labors will shift to work outside the home. The youths also migrate out to look for the jobs, which are not available in the commune. The key informants also remarked that after the young migrants go out to work for 5 to 10 years and save some money, they will go back home to stabilize the life in the local place. The hamlet people perceived that migration is good because it contributes to economy of the family and the commune. Migrants accumulate capital; return home and use saving money for farm production as planting crops and animal raising. People in the hamlet are free to go out to work and they are expected to contribute in building better hamlet. However, they also mentioned about the negative impacts of migration such as the main labors' migration leading to weak group work in the hamlet. Many migrants who had low education cannot work in the industrial zone but only simple and heavy tasks. The adult migrants also let their children who followed them in the work places to work for earning. Thus, the children cannot go to school leading low education labor to meet the demand of high-tech in industrial zone in the future. Working in the industrial zone to have money is not easy because they have to work over time even up to 10 hours per day. Non-farm occupation as mason is not the task of all the youth, thus youth in some hamlets tried to study to have better jobs rather than mason because they saw many people working as masons and recognized that this is heavy. Generally, the husband migrates to earn money to feed the family. However, some of them cannot control themselves and bring the evil to the hamlet. Social evil now occurs in some hamlets because the people who live in other countryside sold their land to have money, they migrated and bring bad activities to hamlet and commune.

In the rainfed area, boundary is built to prevent brackish water and to keep fresh water in the fields, thus the people thought that migration would reduce in the future because acidity and saline soil can be improved. Then, they can plant more than one crop per year as well as they can grow fish and shrimp.

5. Pattern of migration

Short-term migration (less than 3 months) was more prevalence (70%) than long term (30%) in the South. On the other hand, the long-term migration in the North was nearly 72 % meanwhile only 28 % for short-term migration. In the South, the popular short-term movement of labor was monthly and every two weeks (50%). The long-term migration in the South was mostly three months to less than 10 months and this pattern was relatively higher in rainfed than in irrigated area. The long-term migration in the North included moving out for three months to less than 6 months (22%), six months to less than 10 months (22%), and ten months to one year (28%) (Table 7).

Table 7: Pattern of migration

Pattern of migration	Irrigated		Rainfed		Total	
	No.	(%)	No.	(%)	No.	(%)
South (n= 26 hamlets)						
Short-term						
Daily/ weekly	102	13	8	2	110	9
Monthly/2 weeks	369	46	260	57	629	50
More than 1 month to less than 3 months	120	15	22	5	142	11
Total Short-term		***73***		***64***		***70***
Long-term (three months and longer)						
Three months or more than 3 months but less than 6 months	98	12	79	17	177	14
Six months or more than 6 months but less than 10 months	82	10	80	18	162	13
Ten months to one year	37	5	7	2	44	3
Total long-term (three months and longer)		***27***		***36***		***30***
Total in the South	**808**	**100**	**456**	**100**	**1264**	**100**
North (n= 16 hamlets)						
Short-term						
Daily/ weekly	109	9	-	-	109	9
Monthly/2 weeks	168	14	-	-	168	14
More than 1 month to less than 3 months	75	6	-	-	75	6
Total short-term		***28***				***28***
Long-term (three months and longer)						
Three months or more than 3 months but less than 6 months	274	22	-	-	274	22
Six months or more than 6 months but less than 10 months	269	22	-	-	269	22
Ten months to one year	344	28	-	-	344	28
More than 1 year	2	0	-	-	2	0
Total long-term (three months and longer)		***72***				***72***
Total in the North	**1241**	**100**	-	-	**1241**	**100**

6. Characteristic of migrants:

Male migrants are dominant in both South and North. The male migrants occupied 78 % in irrigated area and 68% in rainfed area in the South. The percentage of male migrants in the North was 94% (table 8).

Table 8: Sex of migrants

Sex of migrant	Irrigated		Rainfed		Total	
	No.	(%)	No.	(%)	No.	(%)
South						
Male	629	78	309	68	938	74
Female	179	22	147	32	326	26
Total	808	100	456	100	1264	100
North						
Male	1167	94	-	-	1167	94
Female	75	6	-	-	75	6
Total	1242	100	-	-	1242	100

The migrants were mostly husbands (30% of migrants in the South and 60% of migrants in the North) and sons (43% in the South and 34% in the North) (table 9). In small size economic sectors, the employer tends to hire healthy worker (VIE/93/PO2, 1995) such as men. The rate of male migration from rural to urban area was higher than the rate female migration. This withdrew the important agricultural laborers in rural areas because most of migrants were in labor age and healthy (Diep and Tham 1998). In this study the mean age of male migrants were from 31 to 35. The mean age of son migrants were from 24 to 27 and age of daughter, migrants varied from 21 to 24. Most of male migrants were at the young age, 27% from 15-25 years old and 45% from 26-40 years old. The female migrants are mostly young, from 15-25 years old (67% of the female migrants). Lien (2001) reported that young female labors stopped working for agriculture and migrated to city because of economic reason. The poverty, less property, less access to productivity means, and low development of non-agricultural activities in rural area were the reasons for female labors to migrate to city.

The female migrants had relatively higher education than the male migrants. This may be the requirement of the employers in recruitment of female labors (mostly the daughters in the families) in the factories meanwhile the male can do heavy works but simpler tasks outside the factories.

Table 9: Who are the migrants?

Who are migrants	Irrigated		Rainfed		Total	
	No.	(%)	No.	(%)	No.	(%)
South						
Husband	286	35	94	21	380	30
Wife	14	2	13	3	28	2
Son	339	42	207	45	545	43
Daughter	154	19	108	24	262	21
Other males	4		8	2	12	1
Other females	11	2	26	6	37	3
Total	808	100	456	100	1264	100
North						
Husband	742	60	-	-	742	60
Wife	34	3	-	-	34	3
Son	419	34	-	-	419	34
Daughter	20	2	-	-	20	2
Other males	20	1	-	-	20	1
Other females	6	0	-	-	6	0
Total	1241	100	-	-	1241	100

7. Destination of migrants

In the South Vietnam, the male migrants mostly go to Ho Chi Minh City and other provinces to seek for the work. They also go to the sea for fishing, shrimp or squid catching or work as hired fishermen. The female migrants in the South prefer to work in city as Ho Chi Minh City (73%). Majority male and female migrants in the North seek for non-farm works in other provinces. One fourth of female migrants in the North work in Ho Chi Minh City.

Who are the members in the family migrating for long term to Ho Chi Minh City? Most are the daughters (76%). Going to other provinces to work for long term were mostly the husbands (83%) and sons (64%). Similar trend was found for short-term migration (less than 3 months).

8. Occupation of migrants at the destination

Male migrants involved in various occupations at the destinations in the South Vietnam. The male migrants worked as workers in factories, or any non-farm work. The male migrants involved as fishing workers, shrimp or squid catching men, drivers in road and water transportation, small trader or waste trader, carpenters, electrician, goldsmith, tailor, turner, welder, servicemen, security guards, hauling workers, sand boating workers, masons, mason assistants, construction chief contractors, government staffs, motor/bicycle repairing men, mud collecting workers, on-farm hired labors. The male migrants also do rice and upland crop farming at the destination places where they improved wasteland or they bought their farms with cheaper prices than in the home places. Therefore, they had two farms; one is far from home and one at home, which was managed by their wives. The female migrants in the South mostly worked as workers in factories, general non-farm hired labors, house helpers, small trading, waste trading, sand boating workers, tailors, services, government employee, on-farm hired labors.

Different from the South, most of male and female migrant in the North worked as masons or mason assistants. Aside from that, the male migrants in the North involved in various works such as transportation drivers or driver assistant, small trading, waste trading, barbers, carpenters, electricians, welders, services, security guards, factory workers, general non-farm hired labor, hauling workers, government employee, engineering, motor/bicycle repairing, on-farm hired labors, oversea workers, construction chief contractor. The female migrants in the North involved mostly as mason assistants, followed by waste trading.

SUMMARY AND CONCLUSION

The investigation in forty two hamlets in two zones - South and North Vietnam- at irrigated and rainfed ecosystems shows that the migration rate in the North is higher than those in the South. The migration rate in the rainfed ecosystem is higher than in the irrigated ecosystem. In the high market area, people tend to migrate for short term rather than long term. On the other hand, in the low market area, people tend to migrate for long term. The migrants are mostly male. The husbands involved in various occupations at the destination the South. The sons and daughters like to work as factory workers. Daughters in the South like to work in city as Ho Chi Minh City. The rate of daughters moving out to work is higher in the South than in the North. The husbands and sons in the North mainly work as masons or mason assistants. The female member in the North also involved in heavy work as mason assistants.

The small rice land area is important push factor for migration. Less female adults in labor age (less economy contribution for the family) increased the migration. Land tenure also affects the migration rate. Zone affects the migration, migration in the North zone is higher than in the South because of smaller land and populated. The good road as cemented increased the labor movement. Female migration increased in the rainfed area.

The hamlet/village people perceived that migration had more positive impacts than negative impacts because it improved the family life as well as the hamlet looking. Many migrants can improve their houses, thus the poverty sign in the hamlet/village would be disappeared gradually. Some of migrants could save money and return home to invest for crop and animal production. The migration occurred because there was no infrastructure and jobs at local sites. The people expect to have good infrastructure to attract the investment for building factories near or inside the local sites, so the people need not to migrate out. They thought that the migration still increases in the future. This may be the job unavailability in the local sites and the attraction of the factories in the industrial zone, which keeps growing fast.

The important negative impact of migration is the affect on the children. Children were not taken care and well disciplined when the parent/parents involved in migration. Young children also have to work with their parent/parents during migration, thus they cannot go to school. The hamlet/village

people thought that the young people with such a low education cannot meet the demand of high-tech in the factories in the future.

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Sự di cư ở vùng lúa Việt Nam

Khảo sát 42 thôn ấp ở phía bắc và nam Việt Nam cho thấy: tỉ lệ di cư ở phía bắc cao hơn phía nam và ở vùng lúa nước trời cao hơn vùng lúa tưới. Ở vùng dễ tiếp cận với thị trường lao động, di cư ngắn hạn (dưới 3 tháng) thường nhiều hơn dài hạn (từ 3 tháng trở lên). Trái lại ở vùng ít tiếp cận với thị trường lao động thường có khuynh hướng đi xa dài hạn. Phần lớn người đi xa nhà là nam giới. Ở phía Nam, người chồng đi xa nhà làm nhiều nghề khác nhau trong khi đó con trai và con gái thích làm công nhân cho các nhà máy xí nghiệp. Con gái thích đi làm ở thành phố như thành phố Hồ Chí Minh. Nam giới ở phía Bắc đi lam xa nhà chủ yếu làm thợ xây hoặc phụ hồ. Lực đẩy quan trọng của sự di cư là diện tích đất ít, thiếu đóng góp kinh tế cho gia đình của nữ trong độ tuổi lao động, tình trạng thuê đất và vùng miền. Tỉ lệ di cư phía bắc cao hơn phía Nam là do ít đất và mật số dân cao. Đường giao thông tốt thì sự di chuyển lao động gia tăng. Nữ di cư cao ở vùng khó khăn như vùng lúa nước trời.

Ảnh hương tích cực của di cư gồm cải thiện đời sống nông hộ, nhà cửa và giảm nghèo. Ảnh hưởng tiêu cực của di cư là khó chăm sóc và giáo dục con cái tốt.