



KINGDOM OF CAMBODIA
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MINISTRY OF PLANNING

A CRUMP SERIES REPORT

**MIGRATION AND LEFT-BEHIND HOUSEHOLDS
IN RURAL AREAS IN CAMBODIA:
STRUCTURE AND SOCIO-ECONOMIC
CONDITIONS**


December 2015

FOREWORD

It is my pleasure to provide the foreword to this report, entitled, “Migration and Left-behind Households in Rural Areas in Cambodia: Structure and Socio-economic Condition”. This is the third report paper of a series of analyses using Cambodian Rural-Urban Migration Project (CRUMP) data. A major project review and policy report is also available. These reports are prepared through close collaboration with the General Directorate of Planning, the Ministry of Planning (MOP) of the Royal Government of Cambodia (RGC), the United Nation Population Fund (UNFPA) and Professor Zachary Zimmer from University of California, San Francisco, United States of America (USA). Similar to previous reports, the group tried their best to ensure high quality analysis. The results shown in the report provides valuable information and data useful for multi purposes like formulation of development policies, particularly those related to lifting up the living standard of people and households of migrants and their families left behind.

This report examines the socio-economic situation of households, including size, age, health, education, and economic condition, left behind by migrants. As presented in the report, when an older parent is left-behind they could be living with grandchild, spouse, child (sibling of the migrant) or other person. Almost 20% of households with an elderly parent left-behind also contain a child of the migrant (their grandchild). The report shows a higher probability of living in poor socio-economic conditions when a child of a migrant under age 12 is left behind in other situations. Socio-economic conditions tend to be worse in left behind households that contain a single parent of the migrant (usually female) than in other households. Migrant households with younger children may be doing worse because adults living with children in poor socio-economic conditions have greater impetus to migrate in an attempt to find better work than is available in their community of origin.

On behalf of the Ministry of Planning (MOP), I would like to thank the significant intellectual and technical contribution made by Professor Zachary Zimmer from University of California, San Francisco, USA who helped guide the research and the production of this report and worked tirelessly and diligently to assure a successful project. I would also like to acknowledge my appreciation of the financial support provided by UNFPA, allowing a report that could be analyzed deeply and detail.

I hope that the report will become a useful referent document for policy makers and planners preparing policies and plans. 

Phnom Penh, January 2016



CHHAY THAN
SENIOR MINISTER,
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ACKNOWLEDGEMENT

This report uses data from the Cambodian Rural Urban Migration Project (CRUMP) and is part of a series of reports made possible through CRUMP. The authors wish to thank all of those involved in the CRUMP project, including personnel from the Ministry of Planning (MOP) and the United Nations Population Fund (UNFPA). Special thanks to H.E. Mrs. Hang Lina, Delegate of the Royal Government of Cambodia in charge of Director General of National Institute of Statistics, H.E. Mr. Theng Pagnathun, Delegate of the Royal Government of Cambodia in charge of Director General of Planning and his colleagues, and Dr. Marc Derveeuw (UNFPA) for their support of CRUMP.

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EXECUTIVE SUMMARY

The purpose of this report is to describe the familial structure of ‘migrant’ households in rural Cambodia – that is, households that report the recent departure of a former household member – and to investigate the association between the household structure and the socio-economic conditions of the household. Particular attention is paid to households containing one or more children of the migrant and/or one or more older parent of the migrant. The analysis in this report is primarily descriptive, although multivariate modeling is also reported.

The report analyzed the CRUMP data from rural Cambodia, which consists of 4,500 households, 2,875 of which experienced the recent out-migration of a former household member. This out-migration defines a migrant household. Those living in the household at the time of the interview are considered to be the left-behind population of the household.

Looking at the age structure of migrant households, 7.7% contain either only one or more child under 18, only elders 60 and older, or only a combination of children and elders. About 71% of contain a child age under 18 and about 31% contain an older person 60 and older.

Looking at the specific relationships between migrants and household members, 21.1% of households contain a migrant’s offspring under age 18 and 17.8% contain a migrant’s offspring under age 12.

24.6% contain a parent of the migrant age 60 and older. 23.4% contain a single parent without spouse, and the great majority of these are mothers of the migrant.

12.9% of households contain a spouse of the migrant left-behind and the vast majority of these are wives. Wives are often left-behind with their children while the husband migrates.

When a child of a migrant 18 and under is left-behind they could be living with a combination of spouse of migrant (their parent) parent of migrant (their grandparent) sibling of migrant (their aunt or uncle) or others. The most common structure is child with spouse. But, in 46% of households that contain a child of migrant under 18 this child is living without spouse, that is, without a parent.

When an older parent is left-behind they could be with their grandchild, their spouse, their child (sibling of the migrant) or other person. Almost 20% of households with an elderly parent left-behind also contain a child of the migrant (their grandchild).

The probability of living in poor socio-economic conditions are higher for households that contain a child of a migrant that is under age 12 than in other types of migrant households.

Socio-economic conditions tend to be worse in households that contain a single parent of the migrant than in other households. This parent is usually female.

This report does not suggest leaving children and single parents behind is a cause of poor socio-economic conditions but rather that existing socio-economic conditions are reflected by who is left behind. Migrant households with younger children may be doing worse because adults living with children in poor socio-economic conditions have greater impetus to migrate in an attempt to find better work than is available in their community of origin.

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1. INTRODUCTION

1.1 Background and context

The purpose of this report is to describe the familial structure of ‘migrant’ households in rural Cambodia – that is, households that report the recent departure of a former household member – and to investigate the association between the household structure and the socio-economic conditions of the household. Because households without adults aged 18 to 59, who are typical breadwinners, may be most susceptible to catastrophe or adversity, particular attention is paid to households containing one or more children of the migrant and/or one or more older parent of the migrant. The analysis in this report is primarily descriptive but multivariate modeling is also reported.

Globally, the ‘left-behind’ population is garnering increased attention. This is likely the result of migration itself becoming an important determinant of population change worldwide (International Organization for Migration 2015). The movement of people within and around regions is accelerating across most of the world. The phenomenon is particularly robust in Asia, which has been labeled as “the largest migration corridor in the world” by the United Nations (United Nations Department of Economic and Social Affairs 2013). Much of this migration is internal and rural to urban. A consequence is rapid urbanization in some areas. The UN projects the share of the population in Asia that is urban will increase from about one-half to about two-third over the next few decades (United Nations Department of Economic and Social Affairs 2014).

Within Asia, Cambodia is following suit. Slow socio-economic recovery and re-population of urban areas following liberation from the Khmer Rouge resulted in the country falling behind its urbanizing neighbors in Southeast Asia during earlier Asian economic booms. But, in more recent years there has been steady migration from rural areas to Phnom Penh, to other rural and urban areas of Cambodia, and to countries abroad, especially Thailand (CRUMP Research Team 2012). The Population Reference Bureau estimates that 13% of Cambodia’s population was urban in 1995. The most recent estimate is up to 21% and rapidly increasing (Population Reference Bureau 1995, 2015). This rapid urbanization was part of the impetus for The Cambodian Rural Urban Migration Project (CRUMP) which collected wide-ranging multilevel data in 2011. This project indicated that across 375 randomly selected rural villages, the average rate of out-migration in 2011 was 48.1 per 1,000 while the average rate of in-migration was 8.1 per 1,000 resulting in a net loss, on average, of about 4% per village (CRUMP Research Team 2012). While some of this migration is rural-to-rural, and therefore not all results in rural population decline, a large proportion is to Phnom Penh and internationally, mostly to Thailand.

The swiftness of migration means there has been little time to study and understand the changing rural population. One important question is who continues to live in rural areas after a migrant leaves and how are these people impacted upon by the out-migration (Knodel et al. 2010; Nguyen, Yeoh and Toyota 2006; Toyota, Yeoh and Nguyen 2007)? Literature from both academic and NGO sources frequently refers to people 'left-behind'. A connotation of this term is that people are being abandoned and left *vulnerable* because of migration. There are two justifications for this oft cited view. The first is that rural areas in Cambodia (and in other developing societies) are endemically poor and as such migrants are exiting poverty stricken areas while leaving relatives to struggle with poor socio-economic conditions. The second is that financial support that can be used to prop up the well-being of individuals in poor rural areas is provided by a large extended network of family. Thus, when family members begin to exit rural areas, it results in smaller networks of support nearby. This hurts those most in need, such as children and elders. Several have argued that children of migrants from rural China suffer adverse educational impacts (He et al. 2012; Meyerhoefer and Chen 2011). Giannelli and Mangiavacchi (2010) found that rural Albanian children of migrant parents tended to have lower school attendance and higher drop-out rates than their counterparts. Chang and colleagues (2011) concluded that adult migration increases workload for children and elderly in rural areas. In sub-Saharan Africa, Aboderin (2004) has written compellingly about declining support for older persons as a result of the migration of adult offspring. Moreover, The Plan of Action of the United Nations 2nd World Assembly on Aging stated, "In many developing countries, the ageing population is marked in rural areas, owing to the exodus of young adults. Older persons may be left-behind without traditional family support" (United Nations 2002, para 29)

In contrast to this negative view are more positive assessments about the impact of migration. Theories that consider the altruistic nature of the family or family solidarity (Lawton, Silverstein and Bengston 1994; Vanwey 2004; Zimmer and Kwong 2003) presume that family members cooperate inter- and intra-generationally and assist one another to maintain family structure and family well-being in the context of migration. New Household Economics theory (Lucas and Stark 1985; Stark and Bloom 1985) suggests that migration can help those in rural areas through risk diversification and remittances. Moreover, migration can be beneficial to those migrating. A recent report by Population Council shows how migration benefits females when they are able to take advantage of resources, institutions and opportunities unavailable at home (Temin et al. 2013). The first CRUMP report noted the educational benefits of migration particularly for males moving to Phnom Penh (CRUMP Research Team 2012).

Some question the broader developmental context of rural areas and ask whether the focus on individuals and households "left-behind" by migrants is a productive one. Biao (2007) argues that the situation of individuals whose family members have migrated is in fact similar to that of families that remain intact. "Their problems

cannot just be attributed to being left-behind individuals,” Biao contends, asserting that “the fundamental cause is that many rural communities as a whole have been left-behind economically and socially” (Biao 2007:179). This statement holds for Southeast Asia as well, where, as Acharya asserts, “Migration is a powerful tool to combat poverty” (Acharya 2003:i).

1.2 What is meant by being ‘left-behind’

Given these diverging perspectives, it is important to ask: what does the literature mean by being “left-behind”? In the global north, where family sizes tend to be small, rural out-migration by working aged adults could mean that migrants’ older aged parents are left alone. In the United States, for example, there is evidence that rural parents whose children migrate tend to rely upon non-familial social networks for support (Glasgow 2000). Cambodian families, in contrast, tend to be large, owing to high fertility that continued through the 1990s. This means that parents are less likely to be left alone without family to support after the migration of one or more offspring (National Institute of Statistics and Ministry of Planning 2010). Data from Thailand and Cambodia has indeed shown that migrants rarely leave older parents completely alone in rural areas, and when they do migrate, there tends to be a lot of contact with parents (Knodel et al. 2010; Zimmer et al. 2008).

With respect to children, being ‘left-behind’ may be interpreted a bit more directly. It is not uncommon across the developing world for younger children to be left without a parent and with their grandparents or even siblings when an individual migrates. There is evidence for this in Sub-Saharan Africa (Lloyd and Desai 1992; Zimmer and Dayton 2005) and China (Chang et al. 2011). The CRUMP study indicated that migrating adults with children often do not move with their children, but there has been little concentrated study of the composition of these “left-behind” children households (CRUMP Research Team 2012). Within a national context that is promoting socioeconomic growth and poverty alleviation, the link between left-behind populations and material well-being is clearly also critical (Ministry of Planning 2014).

1.3 The ‘vulnerability’ of left-behind households

The term vulnerability is used in various contexts within development frameworks. The term often makes reference to susceptibility to economic adversity and disaster. However, it can also refer to social vulnerability, such as the likelihood of low levels of education, being prone to health problems, being disadvantaged in obtaining medical care, and psychological problems such as loneliness and depression. Based on the current report, the term is used to reflect these susceptibilities in both a general and specific way. Generally, vulnerability is the likelihood or probability that a household exists in adverse socio-economic conditions. These socio-economic conditions are measured with various indicators such as household wealth and land owned. The assumption is that this vulnerability might be a cause or an effect of migration, although given cross-sectional data the current report cannot confirm the

causative nature of the association. More specifically, vulnerability in this report refers to specific types of individuals that may be particularly susceptible to experiencing adverse socio-economic conditions due to migration. Living in a rural area and being in a family fractured by migration may itself result in vulnerability. But being a child or an elderly person in such a household represents a particularly high potential for vulnerability.

1.4 Analysis

Given this background, the analysis provided in the present report is meant to address several broad questions about the “left-behind” population in Cambodia. Through examination of CRUMP household survey data, the report asks:

- What are the compositions of rural households that have experienced out-migration of household members, and do these compositions suggest vulnerability?
- How do left-behind households compare to non-migrant households with respect to household composition and socioeconomic conditions?
- Is there an association between the composition of left-behind households and socioeconomic conditions?

2. CRUMP DATA

Unless otherwise noted, the data presented in this report comes from the CRUMP study (CRUMP Research Team 2012). In 2011, with funding from UNFPA and support from the Ministry of Planning of the government of Cambodia, an ambitious data collection effort was launched. The purpose of this effort was to obtain a broad base of information on the migration situation within Cambodia. The CRUMP project resulted in a major report that provided overall information and policy direction and several additional targeted reports on specific populations (Kheam and Treleaven 2013; Zimmer and Khim 2013). The data collection was multidimensional, taking place in stages. One dimension was a survey of rural households defined as migrant and non-migrant. It is this data that forms the basis of the results presented in the current report.

For the rural households, migrant households were defined as those from which a former household member departed within the last five years to live elsewhere, was gone for at least three months, and was living elsewhere at time of survey. Surveys were administered to households in 375 villages that were randomly selected proportionate to size. Every province was represented. In each village, there were approximately 4 household level interviews with households deemed as non-migrant, and approximately 8 with those deemed as migrant. The final sample size was 4,500 with 1,625 non-migrant and 2,875 migrant households. This division of migrant versus non-migrant households represents a large oversampling of migrant households, a strategy undertaken so that results for migrant households could be generalizable. A weighting scheme makes final results representative. The results in this report always are weighted unless otherwise noted.

While the CRUMP data collection obtained information on individuals within households and on individual migrants from households, this report considers the *household* as the unit of analysis. There were 18,911 individuals living in the 4,500 households that were part of the CRUMP data collection. In total, the 2,875 migrant households reported 4,499 migrants, or an average of 1.56 migrants per migrant household. Measures that are presented in this report pertain to the household as an entity rather than individuals within the household or the individual migrant. This is important to note because if multiple migrants represent a single household, there is the possibility that one household member could hold two relationships. For instance, a single household member could be the parent of one migrant and the spouse of another. Tests we performed indicated that this does not greatly skew the number presented below.

3. MEASURING MIGRANT AND LEFT-BEHIND STATUS

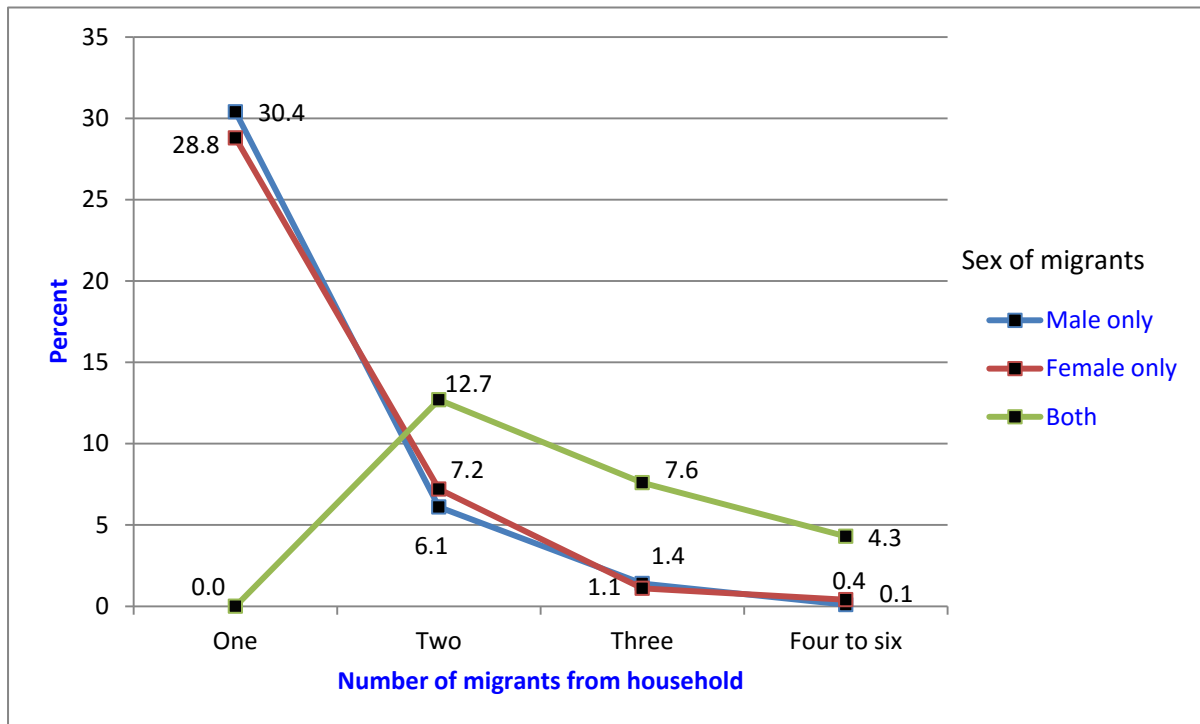
3.1 Migrant status

A household with at least one migrant aged 15 and older is considered to be a migrant household. Migrant households could have more than one migrant, but the information we present is aggregated across the migrants. Therefore, when it comes to identifying the sex of migrants, we classify the household as one or more male migrants, one or more female migrants, or both male and female migrants. To illustrate, Figure 1 shows the percent distribution of migrant households by the number and sex of migrants in the household. 30.4% of migrant households have a single male migrant while 28.8% have a single female migrant. For households with two migrants, 12.7% have one each, a male and a female, while 7.2% have male only migrants and 6.1% have female only migrants. About 60% of migrant households are represented by a single migrant. The maximum number of migrants found for a single household in this study was six.

3.2 Left-behind household status

Those still living in the household at time of interview are considered to be the left-behind population of the household. The CRUMP survey included a household roster that indicated the relationship of each individual to the household head. In a separate section of the survey the relationship of each migrant to the household head was recorded. Though procedurally complicated and time consuming, by linking the relationships across these sections it was possible to determine how each migrant was related to each household member. This allows for the classification of household status of the left-behind households in a number of ways. The report refers to the various relationships left-behind in the household, such as offspring (child), parent, spouse or sibling. There can be more than one migrant per household, but if any migrant left-behind a child or parent, the household is categorized according to that relationship. These specific relationships are further categorized into specific compositions. For instance, a household composition may consist of one or more parent and one or more child of the migrant living in the household. Ignoring relationships amongst household members and migrants, the report refers to the age distribution of the household. This is done by dividing all household members into three age groups: young (0 to 17); adult (18 to 59) and elderly (60+). The analysis refers less frequently to two other classifications. One is the number of generations left-behind. Another is the household size or number of household members left-behind.

Figure 1: Distribution of number and sex of migrants from migrant households



Sources: CRUMP Data

4. MEASURING SOCIO-ECONOMIC CONDITION OF HOUSEHOLD

Five specific measures of socio-economic well-being are considered. Each of the measures is constructed so that there are five categories. When possible, the categories represent quintiles as closely as possible. The indicators that make up these measures are explicated in Table 1. The first is household education level. This is based on the single person in the household with the highest level of education. The second is household wealth. A household wealth score was obtained in the method recommended by Filmer and Pritchette and used in Demographic and Health Surveys (Filmer and Pritchett 2001). This score is a linear sum of weights provided to the presence of 42 specific household amenities and conditions. Amenities include things like having a radio, a motorbike or washing machine. Conditions include having a modern toilet, modern source of light or electricity. The third is a subjective rating by the interviewee, normally the household head, regarding the financial status of the household in comparison to other households in the same village. The fourth is land owned by the household.

The fifth measure is a composite, the distribution of which is shown in Figure 2. It is simply the sum of the first four indicators. The composite measure closely resembles a normal distribution, with a mean of about 12 and a standard deviation of about 3.5. Like the first four measures, households are divided into five categories which as closely as possible approximate quintiles. These categories are shown by shading on the figure. The lowest quintile is represented by households scoring 4 to 9. The second quintile consists of scores of 10 and 11; the third 12 and 13, the fourth 14 and 15; and the highest 16 to 20.

Table1: Measures of socioeconomic conditions and their distribution across all rural households

Indicator	Definition	Categories	Distribution
Household education	Highest level of education across household members	1. 0-3 years 2. 4-5 years or Pagoda 3. 6-7 years 4. 8-9 years 5. 10+ years	1. 17.5 2. 17.7 3. 21.3 4. 19.8 5. 23.7 Total 100%
Wealth quintile	Weighted composite of 42 items	1. Lowest quintile 2. Second 3. Middle 4. Fourth 5. Highest quintile	1. 21.6 2. 21.2 3. 18.8 4. 19.3 5. 19.1 Total 100%

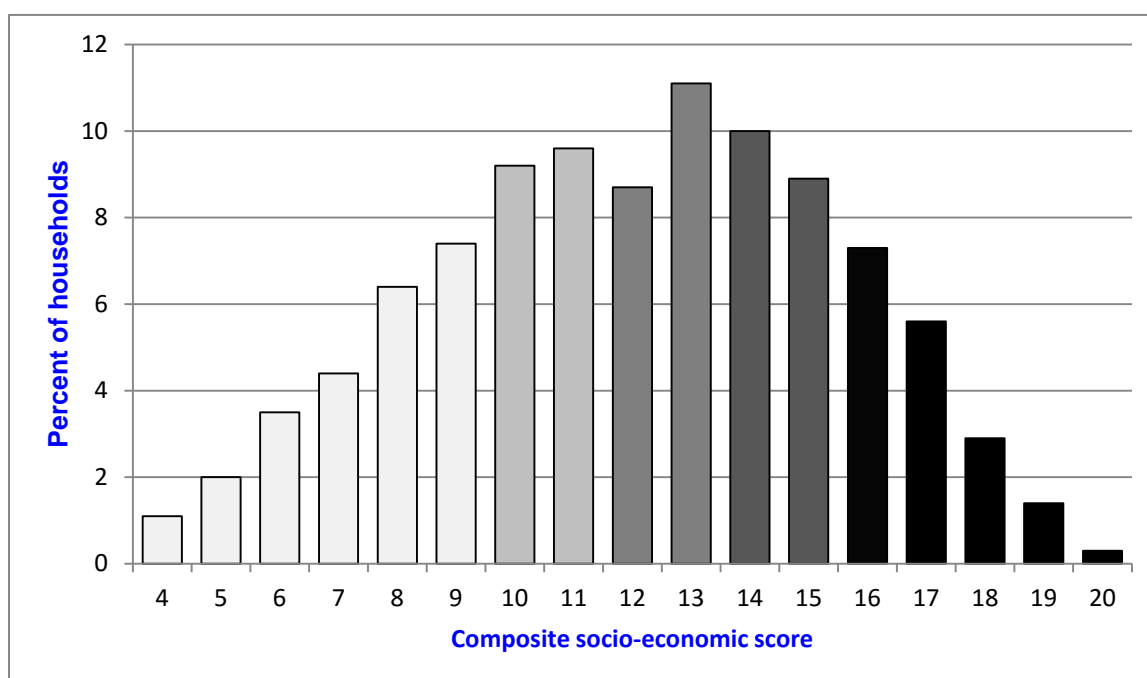
Indicator	Definition	Categories	Distribution
Subjective assessment	How does the household economic situation compare to others in the same village	1. Much worse 2. Worse 3. Same 4. Better 5. Much better	1. 6.5 2. 24.0 3. 56.4 4. 10.9 5. 2.3 Total 100%
Land owned	Hectares of land owned by household	1. None 2. 0.01 to 0.49 3. 0.50 to 0.99 4. 1.00 to 1.99 5. 2.00+	1. 18.3 2. 15.2 3. 20.6 4. 23.9 5. 22.1 Total 100%

5. DIFFERENTIATE BETWEEN MIGRANT HOUSEHOLDS AND NON-MIGRANT HOUSEHOLDS

Before looking specifically at migrant households it is worth putting them into context by showing how they differ in structure and socio-economic condition from non-migrant households. Table 2 compares the two types of households with respect to composition. Indicated is household size, number of generations present in the household, household age distribution, and the percent of households with headed by female.

Table 2 indeed shows relatively stark differences in composition. Migrant households are smaller. The percent of migrant households that are single or two-person is about double the percent for non-migrant households. About 72% of non-migrant households have four or more persons present compared to about 55% of migrant households. It would appear that the loss of a household member does reduce household size. Although not shown in tabular form, the average household size for a migrant household is about 4 ½ persons compared to about 4 persons for non-migrant households. Another stark difference is the percent of migrant versus non-migrant households represented by single versus two generations. In particular, very few non-migrant households contain two generations with a skipped generation, that is, a child and grandparent present without a parent of the child. But almost 7% of migrant households are two-generation skip. The distribution of age composition of migrant versus non-migrant households also differs. Notably, though the total percent is small, the chances that a migrant household consists of children only (all members under age 18), elderly only (all members 60 and older), and elders and children only without an adult present is higher than for non-migrant households. These particular age compositions are highlighted due to their potential vulnerability as the term is defined above. That is, without adults aged 18 to 59 who are the typical major breadwinners, these households may be susceptible to catastrophe or adversity. Finally, migrant households are more likely to be headed by a female.

Figure 2: Distribution of composite socio-economic condition across all rural households



Interestingly, though the distribution of household composition tends to differ between migrant and non-migrant households, Table 3 shows that the distribution of socio-economic conditions does not vary substantially. Migrant households do tend to have on average lower levels of education. For instance, the highest level of education in 20.5% of migrant households is 0 to 3 years compared to 16.6% of non-migrant households. But, there is less difference across other indicators.

Figure 3 compares the distribution of the *composite socio-economic status index* across migrant and non-migrant households. Recall that this index is simply the sum of the above four indicators – education, wealth, subjective financial situation and land owned – derived by giving 1 to 5 points to each indicator. The result is an index ranging in score from 4 to 20. A score of 4 means the household is in the bottom category for in all four indicators. A score of 20 would mean the top category for all four. The distributions across categories are nearly identical. Not shown in tabular form, the average composite socio-economic score for migrant households is 11.97 with a standard deviation of 3.39, and for non-migrant households 12.04 with a standard deviation of 3.50. These two means are not statistically different from each other.

Therefore, although the composition of migrant households suggests the possibility of greater vulnerability, being smaller and more likely to consist of children with

elders, in reality migrant and non-migrant households are not that different socio-economically. Because the current data are cross-sectional, it should be emphasized that this is a descriptive finding. It is impossible to determine whether the migrant households start off equivalent to non-migrant or whether they start off worse better off and change because of the migration. Only with longitudinal data would it be possible to make that type of assessment.

Table 2: Composition indicators of non-migrant versus migrant households

	Non-migrant (N=1,625)	Migrant (2,875)
Household size		
% Single person	2.3	5.5
% Two person	9.3	15.4
% Three person	16.2	16.2
% Four + persons	72.2	55.3
Total	100.0	100.0
Chi-square	111.4**	
Number generations present		
% One	9.6	15.2
% Two – non skip	76.1	61.2
% Two – Skipped	1.4	6.8
% Three +	12.9	16.8
Total	100.0	100.0
Chi-square	140.6**	
Household age distribution¹		
% Children only	0.0	0.6
% Adults only	12.4	15.1
% Elderly only	2.7	4.0
% Children + adults	65.8	53.7
% Children + elderly	0.5	3.2
% Adults + elderly	7.3	10.0
% Children + adults + elderly	11.3	13.4
Total	100.0	100.0
Chi-square	108.3**	
% Female headed households	25.9	37.3
Chi-square	50.1**	

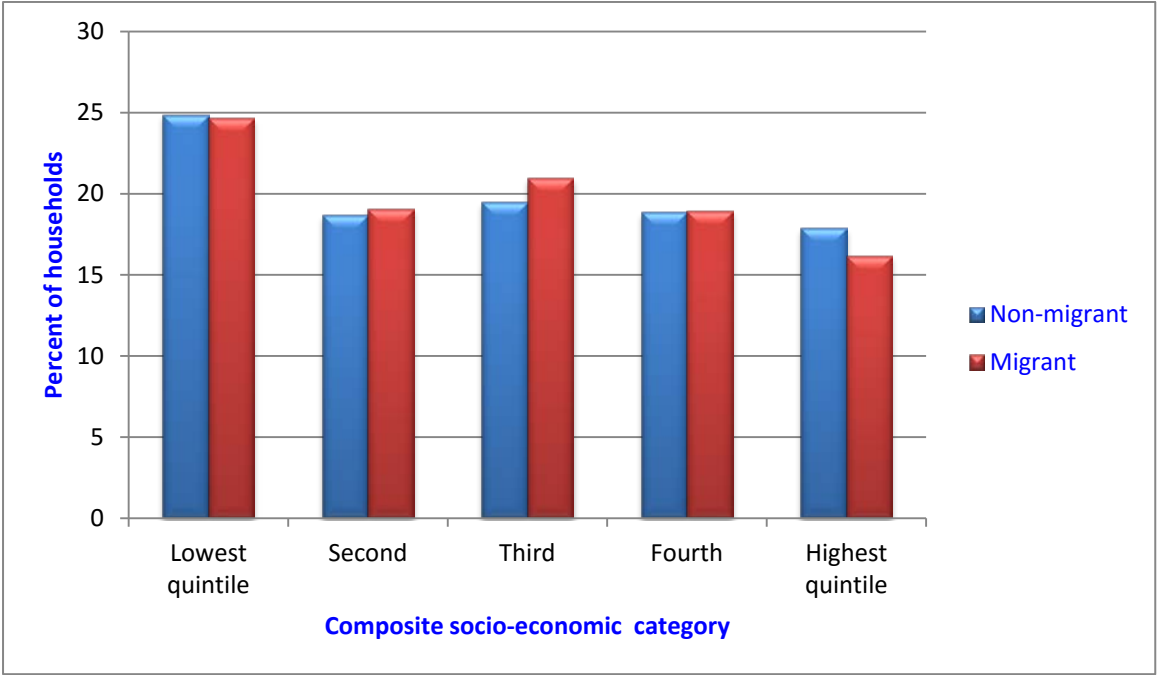
¹ Children are 0 to 17; Adults are 18 to 59; Elderly are 60+

Table 3: Socioeconomic indicators comparing non-migrant versus migrant households

	Non-migrant (N=1,625)	Migrant (2,875)
Household education ¹		
0 to 3 years	16.6	20.5
4 to 5 years ²	16.9	20.3
6 to 7 years	21.7	19.8
8 to 9 years	20.4	17.8
10 years and over	24.3	21.6
Total	100.0	100.0
Chi-square	18.2*	
Wealth quintile		
Lowest	22.1	19.9
Second	21.6	19.9
Middle	18.2	20.8
Fourth	19.0	20.5
Highest	19.2	18.7
Total	100.0	100.0
Chi-square	6.4	
Subjective assessment of economic situation compared to other households in village		
Much worse	6.7	5.8
Worse	23.9	24.3
Same	56.2	56.7
Better	11.0	10.6
Much better	2.2	2.6
Total	100.0	100.0
Chi-square	1.6	
Hectares of land owned		
None	18.1	18.9
.01 to .49	15.8	13.4
.50 to .99	21.3	17.8
1.00 to 1.99	22.5	28.5
2.00+	22.3	21.3
Total	100.0	100.0
Chi-square	19.8**	

* p < .05

Figure 3: Percent of non-migrant versus migrant households in composite socio-economic categories



6. WHO IS LEFT-BEHIND? THE STRUCTURE OF LEFT-BEHIND HOUSEHOLDS

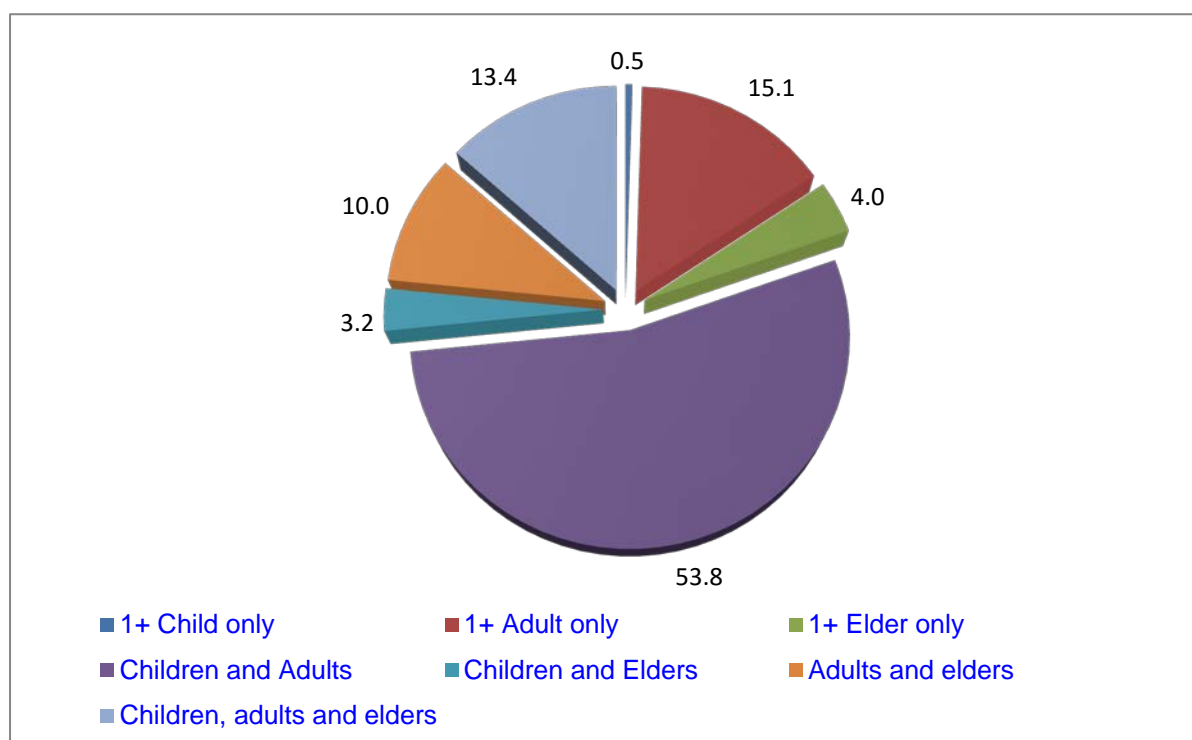
The question of who is left-behind after the migration of a household member is answered with reference to three indicators: 1) age composition; 2) relationship between specific household members and migrant; 3) household structure. When it comes to household structure, emphasis is placed on the potentially most vulnerable structures as defined in this report, which are households containing a child age 18 and under and/or households containing a parent age 60 and older.

6.1 Age composition

The indicator for household age composition is formed by 1) categorizing each household member into one of three age groups: child (age under 18); adult (age 18 to 59); elder (age 60 and older); then 2) combining the categories of those present. There are eight possible combinations. The distribution for these in rural Cambodia is depicted in Figure 4. The majority of households (53.8%) consist of one or more child plus one or adult. Adult only households constitute 15.1%. Households with one or more person in all three age groups, child, adult and elder, make up 13.4%. Households with one or more adult plus one or more elder constitute 10.0%. The households with the greatest potential vulnerability have the smallest distributions. A total of 4.0% of households is elder only; 3.2% is elder plus child; and 0.5% is child only. These latter three types combined constitute 7.7% of the total.

Summing across types of households, about 71% contain a child age under 18 and about 31% contain an older person 60 and older.

Figure 4: Age distribution of left-behind households



6.2 Relationship between specific household members and migrant

Table 4 shows the percent of households that contain children of migrants, parents of migrants, spouse of migrants, siblings of migrants or those with some other relation to migrants. Additional divisions are provided by sex, age for parents and children, and whether or not parents are single or with a spouse.

Children left-behind: 22.4% of migrant households have at least one child of a migrant left-behind. The vast majority of these households contain a child under age 18 (21.1% of households). Dividing age of children left-behind further, the greatest percentage are households with one or more child younger than 12 (17.8% of households). While there is not much difference in the percentage of households with daughters versus sons left-behind, there is a higher percentage of households with younger daughters of the migrant versus younger sons. For instance, 10.1% of households have a son under 12 left-behind while 11.8% of households contain a daughter under 12.

Parents left-behind: 84.1% of households contain a parent of the migrant. 23.4% of household contain a single parent without a spouse. The remainder, 60.7%, is households with both parents. When a household includes a single parent is left-behind, it is much more likely to be mother than a father. Mothers without spouses left-behind constitute 19.9%, while fathers without a spouse constitute just 3.5%. Households are therefore more likely to contain mothers left-behind rather than fathers, which is likely due to differential mortality. When it comes to the age of parents, 24.6% of households have a parent in the oldest age category, 60+.

Table 4: Percent of households that contain specific types of persons left-behind (N=2,875)

	Total	Males	Females
Children of migrant left-behind			
Child of migrant any age	22.4	14.9	13.8
Child of migrant under 12	17.8	10.1	11.8
Child of migrant 12 to 17	7.5	4.0	4.7
Child of migrant under 18	21.1	13.0	15.0
Child of migrant 18 and older	3.7	2.4	2.0
Parents of migrant left-behind			
Parent of migrant any age	84.1	64.2	80.6

	Total	Males	Females
Parent of migrant under 50	38.9	25.4	36.8
Parent of migrant 50 to 59	37.9	22.0	28.0
Parent of migrant 60+	24.6	16.9	15.9
Single parent	23.4	3.5	19.9
Parent living with spouse	60.7	60.7	60.7
Spouse, siblings or others left-behind			
Spouse of migrant	12.9	1.9	11.1
Sibling of migrant	69.8	49.1	50.1
Others	33.6	22.9	25.1

Spouse, siblings or others:

12.9% of households contain a spouse of the migrant. Although migrants themselves are equally split between males and females, when a spouse is left-behind it is much more likely to be a female. That is, 11.1% of households contain the wife of a migrant and only 1.9% contains the husband of a migrant. In addition, a large majority of the households where a spouse is left-behind there is also a child. Although it is not shown in this table in 91% of the households where a wife is left behind and 63% of the households where a husband is left behind there is also a child left-behind. A majority of households, 69.3%, contain a sibling of a migrant. 31.1% of households have individuals that are related to the migrant in other ways. These constitute a host of possible relations, such as nieces or nephews, aunts or uncles, and grandparents; or even non-relatives.

The sex of those left-behind:

In total, more households contain females left-behind than males, although most contain at least one of each sex. This is a function of the left-behind being more likely to be mothers than fathers and wives than husbands. Not shown in tabular form, about 89% of households contain a male resident while about 98% contain a female resident. This means about 11% of left-behind households contain only females and only about 2% contain only males.

The age of children and parents left-behind:

Figure 5 shows the age distribution of left-behind sons and daughter. For both left-behind sons and daughters, the distributions indicate that a high percentage is between about age 3 and age 10, after which the percentages generally decline. For

sons and daughters, about 50% is between age 3 and 10. Average age of sons and daughters left-behind is just over 9 years of age.

Figure 5: Age distribution of sons and daughters of migrants left-behind

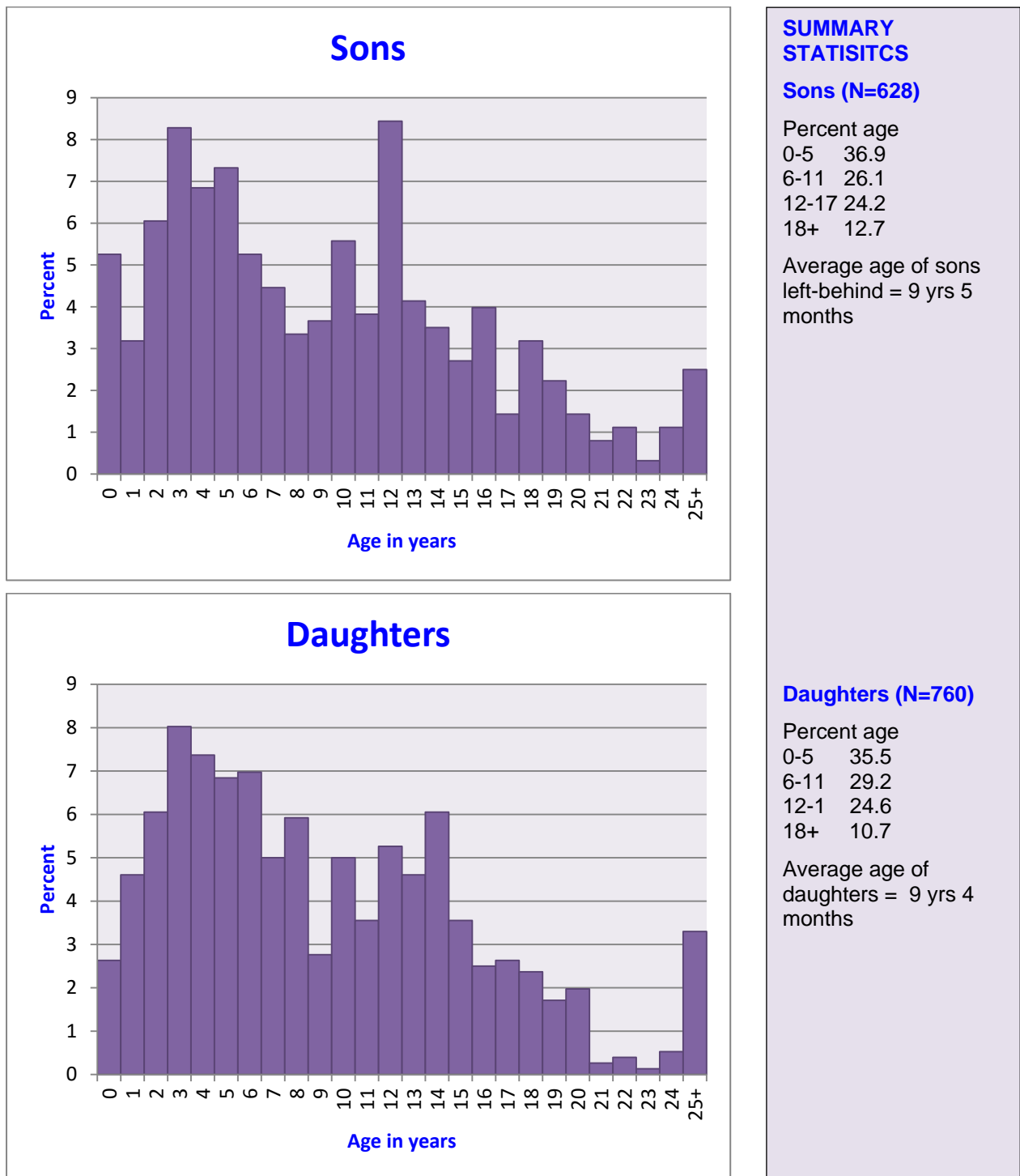


Figure 6: Age distribution of fathers and mothers of migrants left-behind

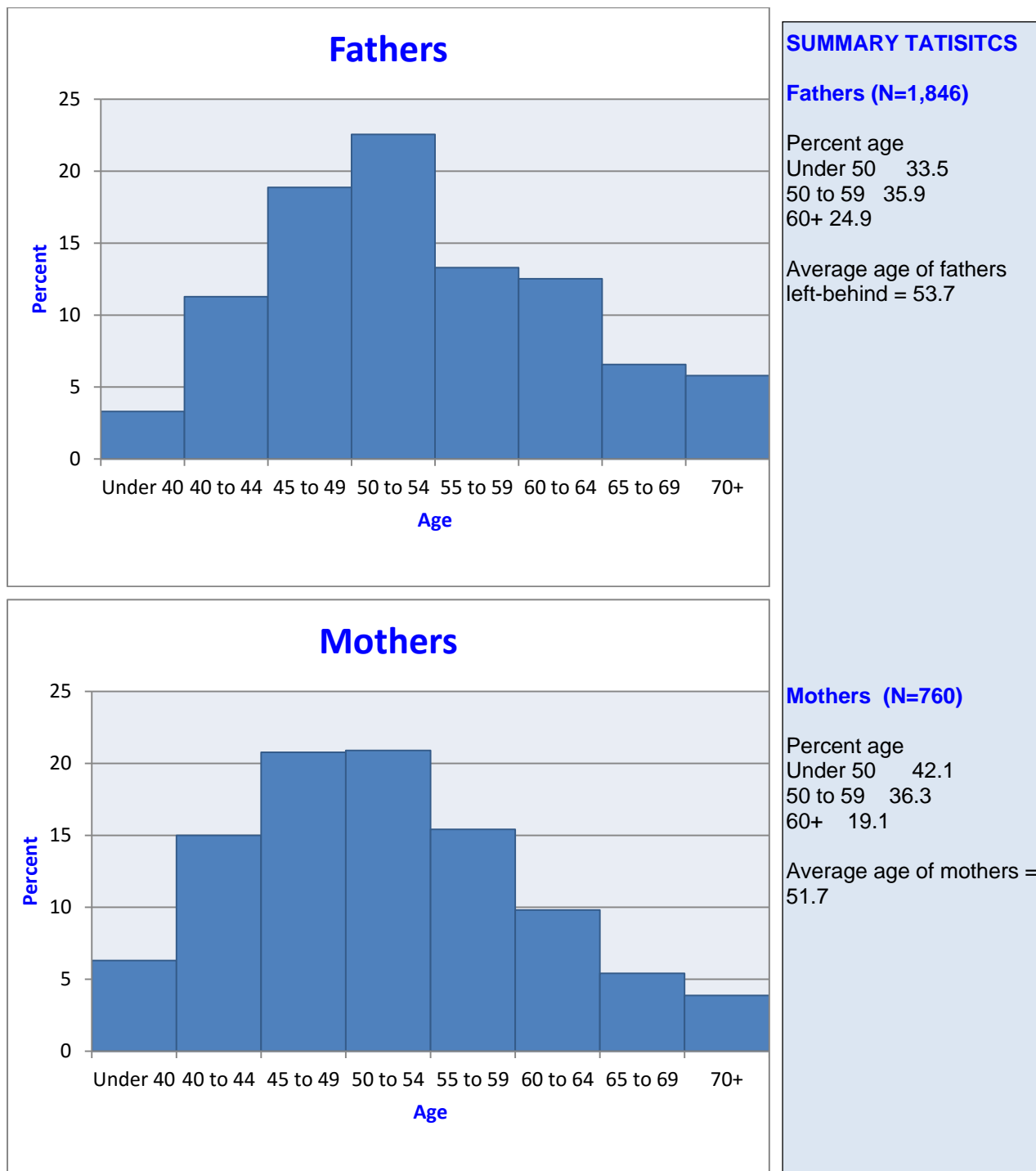


Figure 6 indicates that the majority of mothers and fathers left-behind is between ages 45 and 55. The average age of mothers is about 52 and the average age of fathers about 54. However, there are a fair number of older aged parents. About one in four fathers and one in five mothers are 60 and older.

It is the combination of children under 18 and parents over 60 being left-behind that may be the most vulnerable. This percentage will be highlighted in the next sub-section that examines specific household compositions.

6.3 Household S20structure

To determine the structure of left-behind households, each individual in the household is categorized according to their relationship with migrants as follows:

- a. household member is a parent of a migrant
- b. household member is a child of a migrant;
- c. household member is a spouse of a migrant;
- d. household member is a sibling of a migrant;
- e. household member is other relation to migrant

The various types of household members are then grouped. This results in a total of 30 possible variations in household structure.

Most common household structures: Figure 7 highlights the most common structures (which for the figure is any structure that constitutes at least 2% of households. Others are combined into an 'other' category.) Household containing one or more parent plus one or more sibling is by far the most common structure, constituting 43.7% of all left-behind households. The second most common is parent plus sibling plus other relation, which constitutes another 14.3%. Parents alone are the next most common type at 10.4%. Parents left-behind alone are therefore not as common as parents left-behind with siblings and/or others, but neither is it uncommon. 6.7% of households contain one or more child of a migrant plus a spouse of a migrant. Other combinations of persons make up smaller percentages.

Structure of households with a child left-behind: In Table 5 we look specifically at households where there is at least one child aged under 18 left-behind. Categorized as possibly living with the child includes the parent of a migrant (i.e., grandparent of a child); spouse of a migrant (i.e., parent of a child); sibling of a migrant (i.e., aunt or uncle of a child) and person with any other relationship to the migrant. A child over 18 is categorized as 'other'. The most common situation is that the child is left-behind with a spouse of a migrant. Child plus spouse only constitutes 28.5% of households. Child plus spouse plus other is an additional 9.8% of households. Other structures also include child plus spouse, which include some very complex combinations, and these constitute a smaller percent of households in which a child is left-behind.

A child left-behind with a parent of the migrant, in other words, a child left-behind with a grandparent, is also quite common in various combinations. Child plus parent plus sibling plus other represents the structure of 16.5% of households in which a child under 18 is left-behind. Summing across all household structures where a child is left-behind and there is a parent of the migrant, or grandparent of the child, the total is 52.5% of households.

Often a child is left-behind without the spouse of a migrant, in other words, definitely without a parent. The most potentially vulnerable of these situations is likely households only with one or more child of migrants, those only with child plus parent only, and those with child plus sibling only. 1.8% is households containing only child, 4.5% is households containing only child plus parent, and 1.5% contains only child

plus sibling. Summing across all household structures about 46% contain a child without the spouse of a migrant.

Structure of households with an older parent left-behind: Table 6 shows all combinations of households that include the elderly parent of a migrant. Categorized as possibly living with the older parent includes a child of a migrant that is under 18 (i.e., grandchild of an older person), spouse of the parent (i.e., husband or wife of an older person), sibling of a migrant (i.e., child of an older person), and person with any other relationship to the migrant. The most common structure is for an older parent to be living with their own spouse and at least one sibling of the migrant. This constitutes 24.6% of households with an older parent left-behind. But, it is not infrequent for a parent to be either alone (7.1%) or only with a spouse (12.0%) without other household members.

Adding up the percentages across household types, almost 20% of these households with an elderly parent left-behind also contain a child of the migrant, or grandchild of a parent. Only 1.9% of the time in these households is the older parent left alone with a child and no other household members. Still, it does happen, and this household type that would be one that might garner a level of concern due to a clear vulnerability.

Figure 7: Household structures of left-behind households highlighting those most common (N=2,875)

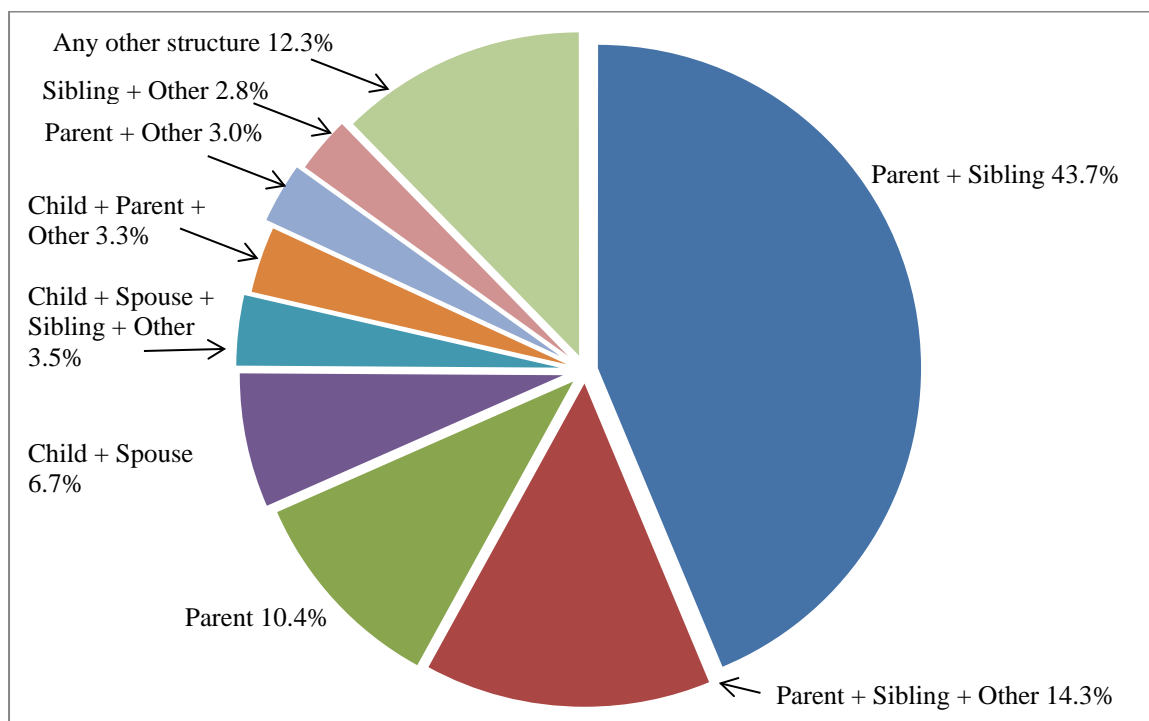


































































































Table 5: Structure of left-behind households that contain at least one child of the migrant who is age under 18, arranged from most to least frequently seen composition

Present in the household at least one...					
Child of Migrant under 18	Parent of Migrant	Spouse of Migrant	Sibling of Migrant	Any Other Relation to Migrant	Percent
					28.5
					16.5
					15.8
					9.8
					6.0
					4.8
					4.5
					3.5
					3.1
					1.8
					1.7
					1.5
					1.0
					0.8
					0.4
					0.2
TOTAL					100.0

 Child
  Parent
  Spouse
  Sibling
  Other

Table 6: Household composition of left-behind households that contain at least one parent of the migrant who is age 60 and older, arranged from most to least frequently seen composition

Present in the household at least one...					
Parent of Migrant 60 and Older	Child of Migrant under Age 18	Second Parent of Migrant Any Age	Sibling of Migrant	Any Other Relation to Migrant	Percent
					24.6
					13.9
					12.0
					7.9
					7.6
					7.1
					5.3
					4.3
					3.5
					3.5
					3.4
					2.1
					1.9
					1.3
					0.9
					0.5
TOTAL					100.0

1 Other means anyone in the household that is not a child of the migrant under age 18, a spouse of a parent or a sibling of a migrant.

 Parent over 60
  Child
  2nd Parent
  Spouse
  Sibling
  Other

7. HOUSEHOLD STRUCTURE AND SOCIO-ECONOMIC CONDITIONS

Left-behind households were described using three indicators: 1) age composition; 2) relationship between specific household members and migrants; 3) household structure. In this section these indicators are associated with socio-economic conditions of the household.

7.1 Age structure and socio-economic conditions:

Table 7 shows how socio-economic conditions of households vary according to their age structure. Statistics shown are the percent of households of a given age structure that fall into the lowest categories of five indicators of socio-economic condition. That is, shown is the percent of households that:

- a. do not have a household member with more than three years of formal education;
- b. are in the lowest wealth quintile;
- c. subjectively assess their financial situation as being worse or much worse than others in the same community;
- d. own less than $\frac{1}{2}$ hectare of land;
- e. are in the lowest category of the composite socio-economic index (the index is a composite of indicators above).

Age structure of households that do poorly:

The households are arranged from top to bottom according to the percent in the lowest socio-economic composite category and therefore, in general, the households are ordered from the worst off to the best off in terms of overall socio-economic condition. The age structure that does the worst is households consisting only of children (under age 18). While this group makes up only a small number of all migrant households (0.5% according to Figure 4) it is nonetheless clearly a type of household that is vulnerable: members have little education, little wealth and little land.

Also, households with elders plus children do very poorly. In other words, when an adult age 18 to 59 is not present, the household tends to have poor socio-economic standing. Looking across the indicators, households consisting only of older persons and children tend to have a high probability of having low education, low wealth, being financially worse off than other households in the same community, and owning little land. In total, 44.6% of these households fall into the lowest socio-economic composite category.

Also doing poorly are households with only older persons. Almost half of these households do not have a member with more than 3 years of education, and a larger than average percent are in the lowest wealth quintile and in the lowest socio-economic composite category.

Age structure of households that do better:

The households least likely to have the poorest socio-economic conditions include households with individuals in all three age groups - children, adults and elders – and households with adults and elders. These households are particularly unlikely to have no members without at least 3 years of education or to be in the lowest quintile of household wealth. .

Table 7: Indicators of low socio-economic condition of left-behind households by age distribution

Age structure of household ¹	Sample N	Percent of households				
		with no household members that have 3+ years of education	in the lowest wealth quintile	subjective financial assessment is worse or much worse than other households in the community	owning less than ½ hectare of land	in the lowest socio-economic composite category
Child(ren) only	13	53.3	56.3	46.7	50.0	66.7
Child(ren) + Elder(s)	77	46.7	34.8	40.2	37.0	44.6
Elder(s) only	118	50.0	20.9	27.8	54.8	34.5
Child(ren) + Adult(s)	1,550	19.0	20.7	32.0	33.4	25.7
Adult(s) only	463	22.9	18.4	24.9	29.8	22.6
Child(ren) + Adult(s) + Elder(s)	371	14.5	19.0	27.7	25.6	18.7
Adult(s) + Elder(s)	283	10.8	12.5	27.2	27.9	17.8
Total	2,875	20.5	19.9	30.1	32.4	24.7

¹ A child is age 0 to 17; an adult is age 18 to 59; an elder is age 60+.

7.2 Specific household members and socio-economic conditions:

Table 8 shows how having specific types of persons in the household associates with the chances of being in the lowest category of socio-economic conditions across the five socio-economic indicators.

Children left-behind:

Households with children left-behind are more likely to be doing poorly than the average. For instance, 33.5% of households with a child left-behind are in the lowest socio-economic composite category. These households have a higher than average chance of being low educated, in the lowest wealth quintile and being subjectively worse off than other households in the community.

Parents left-behind:

Households with parents left-behind are not doing more poorly than the average. However, it should be emphasized that, as seen in Table 4, most households have a parent of a migrant and therefore by definition these households approximate the average. The exception however is households that contain a single parent, that is, a parent without a spouse. As indicated in Table 4, most of the parents without spouses are female, a function partly of higher male mortality. 36.5% of single parent households left-behind fall into the lowest socio-economic composite category.

Spouse, siblings or others left-behind:

Also doing relatively poorly are households where a spouse of the migrant is left-behind. In total, 32.4% of these households are in the lowest socio-economic composite category. Households with siblings and other relations left-behind do relatively better in that a smaller percent of these households have very low socio-economic conditions.

Table 8: Indicators of socio-economic condition of left-behind households by specific individuals left-behind

		Percent of households				
Who is left-behind	Sample N	with no household members that have 3+ years of education	in the lowest wealth quintile	subjective financial assessment is worse or much worse than other households in the community	owning less than ½ hectare of land	in the lowest socio-economic composite category

Children of migrant left-behind						
Child of migrant any age	591	28.4	25.9	35.9	33.9	33.5
Child of migrant under 18	560	28.9	24.9	36.3	33.3	33.4
Parents of migrant left-behind						
Parent of migrant any age	2,419	19.0	18.2	28.8	31.6	22.6
Parent of migrant 60+	683	21.9	17.8	29.0	33.0	22.9
Single parent	671	30.6	28.8	35.8	41.4	36.5
Parent living with spouse	1,748	14.5	14.2	26.1	27.9	17.2
Spouse, siblings or others left-behind						
Spouse of migrant	344	26.2	28.5	39.5	36.5	32.4
Sibling of migrant	2,059	13.2	17.2	28.2	29.4	19.7
Others	917	22.0	19.1	31.4	30.1	24.5
Total	2,875	20.5	19.9	30.1	32.4	24.7

















































7.3 Household structure and socio-economic conditions:

Tables are presented to show how household structure where there is a child left-behind and household structure where there is an older parent left-behind associate with socio-economic condition. The tables are arranged so that those households most likely to be doing poorly are on top, and those least likely to be doing poorly are on the bottom. Only two indicators are shown: percent of households with a specific structure in the lowest wealth quintile, and; percent in the lowest in the lowest socio-economic composite category. It should be noted that some of the household structures are infrequently found. Tables 5 and 6 can be referred to in order to assess whether a particular household structure is found frequently.

Child left-behind:

















































Table 9 shows that on balance, most household structures containing a child of the migrant under age 18 left-behind are worse off than households where there are no children under 18 left-behind. The 'worst of the worst' are households containing only children of migrant and those containing only children plus sibling of the migrant. A majority of these households are both

Table 9: Percent of households in the lowest wealth quintile and in the lowest composite socio-economic category by household composition among households with a child of migrant age 18 and under left-behind, arranged from highest to lowest percent in the lowest composite socio-economic category

Present in the household					Percent	
Child of Migrant under 18	Parent of Migrant	Spouse of Migrant	Sibling of Migrant	Any Other Relation to Migrant	in the lowest wealth quintile	in the lowest composite socio-economic category
					70.0	81.8
					50.0	50.0
					50.0	50.0
					19.0	50.0
					32.1	42.9
					40.7	42.3
					29.5	39.7
					25.5	35.4
					66.7	33.3
					29.4	29.4
					30.9	26.5
					6.1	26.3
					24.2	25.0
NO CHILDREN UNDER 18 LEFT-BEHIND					18.2	22.2
					17.8	8.9
					100.0	0.0
					0.0	0.0
ALL MIGRANT HOUSEHOLDS					19.9	24.8

 Child
  Parent
  Spouse
  Sibling
  Other

Table 10: Percent of households in the lowest wealth quintile and in the lowest composite socio-economic category by household composition among households with a child of parent of migrant age 60 and older left-behind, arranged from highest to lowest percent in the lowest composite socio-economic category

Present in the household					Percent	
Parent of migrant age 60 and older	Child of migrant age under 18	Second parent of migrant	Sibling of migrant	Others	in the lowest wealth quintile	in the lowest composite socio-economic category
					75.0	75.0
					50.0	64.3
					48.0	60.0
					29.4	50.0
					41.7	41.1
					26.7	40.0
					35.5	32.3
					14.3	28.6
NO PARENTS 60+ LEFT-BEHIND					20.7	25.3
					13.1	22.4
					17.3	19.4
					17.0	18.5
					20.0	16.7
					0.0	11.1
					2.7	10.8
					7.5	6.3
					0.0	0.0
TOTAL					20.0	24.7

 Parent over 60
  Child
  2nd Parent
  Spouse
  Sibling
  Other

in the lowest wealth quintile and in the lowest composite socio-economic category. Also of note, households that contain just one or more child plus one or more parent of the migrant (that is, grandparent of the child) are doing poorly. 32.1% of these households are in the lowest wealth quintile, and 42.9% are in the lowest socio-economic composite category. These percentages compare to 19.9% of the total in the lowest wealth quintile and 24.9% of the total in the lowest socio-economic composite category.

The most common household structure, according to Table 5, is child plus spouse. This household type also does rather poorly in comparison to the average and in comparison to households without a child left-behind. 25.5% of those households are in the lowest wealth quintile and 35.4% are in the lowest socio-economic composite category.

Older age parents left-behind:

Table 10 indicates that in contrast to the situation where there is a child left-behind, household structures with parents left-behind are mixed with respect to chances of being in the worst socio-economic condition. On balance, household structures containing a single parent age 60 and older tend to be more likely to be in the bottom socio-economic category. The two household structures that do particularly poorly are those that contain older parent +child of migrant (that is, grandchild of parent) + sibling of migrant and those that contain only older parent +child of migrant (that is, grandchild of parent). 75% of the former and 64.3% of the latter are in the lowest composite socio-economic category. That is, a great majority of these types of households are doing very poorly.

The most common household structure is the one containing the older parent plus their spouse plus a sibling of the migrant. This household structure has a very small percent chance of being in a low socio-economic condition. Only 7.5% of these households are in the lowest wealth category and only 6.3% are in the lowest composite socio-economic category.

8. PUTTING IT TOGETHER IN A MULTIVARIATE MODEL

As a final look at the association between who is left-behind and the five socio-economic indicators, a series of ordered logit multivariate models are assessed. The main advantages of presenting results from a multivariate model include: various left-behind statuses can be examined simultaneously; the model can simultaneously account for other factors such as household size; results indicate whether associations are statistically significant, and; associations can be represented by a single summary measure. The technique used is an ordered logit, which is appropriate given that socio-economic conditions are measured with ordered categorical indicators. The unit of analysis is the individual migrant. While there are 2,875 households in these data, there are 4,499 migrants. The sample size for models is therefore 4,499. To account for the possibility of more than one migrant per household, results use robust standard errors. The variables entered into models that predict each of the five socio-economic household indicators are:

- One or more child under age 12 left-behind
- One or more child age 12 to 17 left-behind
- One or more child age 18 and older left-behind
- One or more parent 60 and older left-behind
- A single parent left-behind
- A spouse left-behind
- One or more siblings left-behind
- Household size
- Sex of migrant
- Migrant destination, with categories being Phnom Penh, other Cambodian destination, and international.

Table 11: Results of multivariate models predicting five socio-economic indicators, showing whether associations are positive (+), negative (-) or not statistically significant (ns)

	Socio-economic indicators				
	Household education	Wealth	Subjective assessment	Land owned	Composite socio-economic score
<u>Who is left-behind</u>					
1+ child under 12	-	-	ns	ns	-
1+ child 12 to 17	ns	ns	ns	+	ns
1+ child 18 and older	+	-	-	ns	ns
1+ parent 60 and older	ns	+	ns	ns	+

Single parent	-	-	-	-	-
Spouse	+	+	ns	-	ns
1+ sibling	+	+	+	+	+
<u>Other variables</u>					
Household size	+	ns	-	+	+
Migrant is female	-	-	-	-	-
Migrant lives in Phnom Penh	+	+	+	+	+
Migrant lives internationally	-	-	ns	ns	-

- indicates negative association at $p < .10$; + indicates positive association at $p < .10$; ns $p < .10$

The Appendix provides more information about this part of the analysis by explaining why a multivariate model is advantageous, explaining how to interpret the ordered logit results that are presented, and reviewing the specific variables in the model.

Table 11 simplifies the results by showing, for results that are statistically significant, whether the association is positive or negative, that is, whether the variable increases (+) or decreases (-) the chances of being in a high category for that socio-economic indicator. Full results including the specific log-odds ratios are presented in the Appendix. The findings are as follows:

Child left-behind:

On balance the results show that leaving a child 12 and under behind are associated with worse socio-economic conditions. A child 12 and under left-behind is associated with a lower level of household education, household wealth and a lower composite socioeconomic score. A child 18 and older left-behind is associated with higher levels of household education but lower levels of wealth and a worse subjective assessment of economic conditions.

Parent left-behind:

If a parent age 60 and older is left-behind the household tends to have higher wealth and higher socio-economic composite scores than households where a parent this age is not left-behind, other things being equal. Therefore, it appears as if households with older age parents are overall not disadvantaged in and of themselves. However, where there is a single parent left-behind, all the socio-economic indicators are negative, pointing to the reality that a single parent left-behind is likely to indicate a vulnerable situation.

Spouse or sibling left behind:

While a spouse left-behind has mixed results, a sibling tends to be left-behind in households with higher socio-economic standing. For siblings, this is true across all socio-economic indicators.

Other findings:

Larger household size relates to higher levels of education, more land owned, and a higher composite socio-economic score, although larger household sizes relate to worse subjective assessments of financial situations, possibly because large households means more mouths to feed. Consistently, females leave behind households that have lower socio-economic conditions across all indicators. Finally, when it comes to the migrant destinations, those going to Phnom Penh are leaving behind households in better condition than migrants going to other destinations. In contrast, migrants crossing borders are leaving behind on balance households in worse condition.

9. CONCLUSION

The purpose of this report is to describe the household structure of 'migrant' households in rural Cambodia – that is, households that report the recent departure of a former household member – and to investigate the association between the household structure and the socio-economic conditions of the household. The household structure is referred to by those being 'left-behind'. Some academic and non-academic literature uses the term left-behind in a negative way, with the term being a connotation for abandonment. Yet, there is other literature that suggests that across the developing world migration does not necessarily leave people abandoned. Often the migration is part of a household strategy to improve well-being of a larger network; migrants often leave behind a large number of family members, and; migrants tend to interact with, visit, phone and send remittances to rural family members on a regular basis.

Particular attention in this report is paid to households containing one or more child age 18 and under of the migrant and/or one or more older parent of the migrant. This attention is based on the notion that these types of households are likely to be vulnerable. That is, they are prone to experience adversity, likely of an economic nature but also of a social nature. Thus, while these types of households may be subject to worse socio-economic conditions they may also be susceptible to health problems, lower levels of education, social isolation, and other indicators of social well-being.

The report analyzed the CRUMP data from rural Cambodia, which consists of 4,500 households, 2,875 of which experienced the recent out-migration of a former household member. This out-migration defines a migrant household. Those living in the household at the time of the interview are considered to be the left-behind population of the household. The left-behind were analyzed using three indicators: the age structure of the household, the relationship of specific household members to migrants, and; the household structure. These indicators were associated with five socio-economic indicators meant to specify household well-being, including education level of the household, wealth, subjective assessment of the household's financial situation, land owned and a composite summing these four indicators. Each indicator was categorized into five groups, sometimes dividing households fairly evenly into quintiles.

The results presented in this report can be summarized:

1. There is a difference in the structure of migrant households in comparison to non-migrant. For instance, migrant households are smaller, tend to be characterized more frequently as skip generation, and are more likely female headed. However, there is little difference in the socio-economic conditions of migrant and non-migrant households.

2. 7.8% of migrant households consist of either only one or more child under 18, only elders 60 and older, or only a combination of children and elders. Other age structures include one or more adult age 18 to 59. Summing across types of households, about 71% of migrant contain a child age under 18 and about 31% contain an older person 60 and older.

3. 22.4% of migrant households contain a child of a migrant left-behind. 21.4% of households have a child under age 18 and 17.8% have a child under age 12.

4. 84.1% of migrant households have a parent of a migrant left-behind. 24.6% contain a parent 60 and older. 23.4% contain a single parent without a spouse, and the great majority of these are mothers of the migrant rather than fathers.

5. 12.9% of households contain a spouse of the migrant left-behind and the vast majority of these are wives. These wives are often left-behind with children. In 91% of the households where a female spouse is left-behind there is also a child left-behind.

6. There are a large number of possible household structures for migrant households. When a child 18 and under is left-behind they could be living with a combination of a spouse of the migrant (their parent) a parent of their migrant (their grandparent) a sibling of the migrant (their aunt or uncle) or other persons. The most common structure is a child with a spouse. However, often a child is left-behind without the spouse of a migrant, that is, without a parent. 1.8% is households containing only child, 4.5% is households containing only child plus a parent of the migrant (child's grandparent), and 1.5% contains only child plus sibling of the migrant. Summing across all household structures about 46% contain a child without the spouse of a migrant that is, a child definitely not living with their parent.

7. There are a large number of possible household structures containing older aged parents of the migrant. This includes parents with their grandchild, their spouse, a child or sibling of the migrant or other person. Almost 20% of households with an elderly parent left-behind also contain a child of the migrant, or grandchild of a parent. Only 1.9% of the time in these households is there an older parent of the migrant left alone with a child of the migrant and no other household members.

8. Associating the household age structure of left-behind households with socio-economic indicators suggests that households that contain only children under age 18, only elders 60 and older, and only a combination of children and elders, are socio-economically vulnerable. Many of these households have low socio-economic standing across a number of indicators, and they are all likely to be in the lowest composite socio-economic category.

9. Socio-economic conditions are poorer in households that contain a child of a migrant that is under age 18 than in other households. Household structures that contain a child of the migrant tend to be more likely to be in low wealth and composite socio-economic categories. When only one or more child of migrants is left-behind or only one or more child with one or more sibling of migrants, the household tends to be in the lowest wealth and composite socio-economic category. Multivariate regression results show households where there is a child of a migrant under 12 are households with lower than average education, wealth, and composite household socio-economic scores.

10. Households with parents left-behind do not fare worse in terms of socio-economic categories than other households. However, a majority of households leave a parent behind and therefore households with a parent left-behind by definition approximate the average. However, when a single parent is left-behind, the household does not fare well in comparison to other households. Regression results indicate that single parent households do worse than other households across all socio-economic indicators. Most of these households contain female parents of the migrant living without a husband rather than males living without a wife.

In closing, it is important to point out that the results in this report are not causal and the report is not meant to suggest that someone leaving a household causes a socioeconomic condition. Rather, it is more likely that the current report shows the existing socio-economic conditions present in migrant households. As such, because there is an association between young children left-behind and poor socio-economic conditions, the conclusion to be made is that migrants that leave children behind tend to leave households that are worse off socio-economically. This in fact may be the reason for migration – a parent with a child leaves the child behind to try and better the socio-economic position of their family. This direction to the association is likely since the CRUMP study on which these analyses are based defines a migrant household as one in which there was a ‘recent’ out-migration, that is, a migrant left within the last five years. Causal associations between leaving children behind or any other relation behind, and the socio-economic condition of the household is best studied through longitudinal panel data which is difficult to come by and does not exist at present in CRUMP.

APPENDIX

Why examine a multivariate model

The advantages for looking at a multivariate model when asking which types of left-behind households have the best and worst socio-economic conditions are:

a. Without a multivariate model it is difficult to determine how leaving behind different types of household members, such as child or parent, associate simultaneously with socio-economic conditions. In other words, while it is easy to look at the socio-economic conditions of households with a child left-behind or with a parent left-behind separately, it is more complicated, using descriptive procedures such as those examined thus far, to assess the relationship of a child or parent left-behind all at once. With a multivariate model we can ask how child left-behind households differ from other households, regardless of whether others, like a parent, spouse or sibling, are also left-behind.

b. There are several other important factors that should be examined at the same time when looking at associations between who is left-behind and socio-economic condition. One very important factor is how many household members are living in the household. Each household member can contribute to wealth. Therefore, a question to answer is whether a child or parent left-behind associates with socio-economic conditions regardless of the total household size.

c. Many of the household structures examined in the last section are represented by very small sample sizes. Therefore, results are subject to extreme variation. That is, there are not enough households with a specific structure to say with much confidence that the findings shown are generalizable. In a multivariate model it is possible to assess statistical significance and affirm with confidence that having, for instance, a child or parent left-behind associates with socio-economic conditions in a particular way.

d. While adjusting for other things, a multivariate model allows for the determination of the association with a single summary number. Therefore, multivariate models provide convenient and simple ways to assess how, for instance, a left-behind child or parent associates with socio-economic conditions.

Interpreting the ordered logit model:

The multivariate model that is assessed is an ordered logit model using robust standard errors with individual migrant as the unit of analysis. The following are important factors to keep in mind when interpreting this model:

- a. The unit of analysis of migrant, rather than household, is important because it negates an important limitation of household level analysis, which is that given more than one migrant per household in a small number of instances one individual can be coded as having two relationships to migrants. There are 2,875 households in these data but 4,499 migrants. The sample size for the model is therefore 4,499.
- b. Robust standard errors adjust for the fact that more than one migrant can be from the same household. (A multilevel model is another way of accounting for this, but it is technically less desirable because most households are represented by a single migrant, as seen in Figure 1).
- c. Each model shows the association between specific types of persons left-behind and each of the five socio-economic indicators individually. Therefore, the results shown are the results of five separate models with five separate outcomes.
- d. The ordered logit model is used because it is appropriate when the outcome being examined, in this case socio-economic condition, is measured on an ordered scale. Each outcome is a five category indicator of socio-economic condition ordered from lowest to highest (see Table 1).
- e. Coefficients are in the form of log-odds ratios. These are interpreted as indicating how the variable of interest, for example spouse left-behind, changes the log of the odds of being in a higher category of socio-economic status.
- f. All variables in the model, with the exception of household size, are binary, meaning that they indicate a condition present or not present. A positive coefficient indicates a positive relationship, which means that if the condition is present, for example, if a child is left-behind, the chances of being in a higher category of socio-economic status are greater than if a spouse is not left-behind. A positive coefficient therefore suggests that the condition being present is favorable. A negative coefficient indicates a negative association, which means that if the condition is present, for example, if a child is left-behind, the chances of being in a higher category of socio-economic status are lower than if a child is not left-behind. A negative coefficient therefore suggests that the condition being present is unfavorable. For household size, the coefficient represents how the log odds change, and whether the chances of being in a higher socio-economic category are higher or lower, for each additional person added to the household.
- g. The ordered logit model is a proportional model. This means that the relationship of a variable to an outcome is assumed to be the same regardless of which

categories along the ordered scale are being compared. There is then only one coefficient representing the association but there are $k-1$ intercepts, with k being the number of categories in the outcome variable. Because the models run here are all based on socio-economic indicators that have five categories, there are four intercepts.

Variables in the model:

The model examines how specific persons left-behind and several other factors associate with five socioeconomic conditions:

- Separate variables are included for one or more child under age 12, age 12 to 17, and age 18 and older left-behind. Each of these situations adjusts for the others simultaneously. Results are interpreted relative to these individuals not being left-behind. For instance, how does a child under age 12 left-behind associate with socio-economic conditions as opposed to a child under age not being left-behind?
- Separate variables are included for a parent 60 and older and a single parent (without a spouse) left-behind. These results are interpreted relative to these individuals not being left-behind similar to children left-behind.
- Separate variables are included for one or more sibling and a spouse left-behind. These results are interpreted relative to these individuals not being left-behind similar to children left-behind.
- Other variables include:

Household size. The results are interpreted as how each additional household member associates with socio-economic conditions.

Migrant is female. The results are interpreted as how being female rather than being male associates with socio-economic conditions.

Migrant destination. Migrant destination was divided into three categories: Phnom Penh, other Cambodian destination, and international. Results are shown for Phnom Penh and international in comparison to other Cambodian destination. Therefore, they are interpreted as how being a migrant to Phnom Penh or being international migrant associations with socio-economic conditions relative to being a migrant to a non-Phnom Penh destination.

Appendix Table: Ordered logit model results with log-odds coefficients

	Socio-economic indicators				
	Household education	Wealth	Subjective assessment	Land owned	Composite socioeconomic score
Those left-behind					
1+ child under 12 left-behind	-.29*	-.19†	-.06	-.12	-.37*
1+ child 12 to 17 left-behind	+.07	-.14	-.13	+.30*	+.06
1+ child 18 and older left-behind	+.55*	-.68*	-.42*	+.10	-.22
1+ parent 60 and older left-behind	+.07	+.24*	+.07	+.10	+.23*
Single parent left-behind	-.23*	-.68*	-.39*	-.49*	-.64*
Spouse left-behind	+.47*	-.31*	-.20	-.24*	-.07
1+ sibling left-behind	+1.21*	+.24*	+.18*	+.23*	+.69*
Other variables					
Household size	+.10*	+.01	-.05*	+.03†	+.06*
Migrant is female	-.25*	-.20*	-.20*	-.13*	-.29*
Migrant lives in Phnom Penh	+.18*	+.46*	+.49*	.16*	+.45*
Migrant lives internationally	-.53*	-.19*	-.11	-.06	-.37*
Intercept 1	-.43	-1.42	-2.92	-1.05	-.68
Intercept 2	.62	-.38	-.98	.43	.28
Intercept 3	1.50	.49	1.75	.30	1.18
Intercept 4	2.38	1.53	3.65	1.56	2.25
Log-Likelihood	6887	-7065	-5202	-7036	-6945
Model Chi-square	587*	327*	158*	129*	494*

* Significant at $p < .05$ † Significant at $.05 < p < .10$

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