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In this paper, we analyse recent data on household structure in Cambodia between 1998 and 2006. We begin by briefly placing our analysis in the context of anthropological studies on kinship in Cambodia before the Khmers Rouges (KR) and other countries in South East Asia (mostly neighbouring Thailand and Vietnam).

Our analyses are based on the *1998 General Population Census* (GPC 1998) and the first two *Cambodia Demographic and Health Surveys* (CDHS 2000 and CDHS 2005), which provide the first nationally representative data on household structures in Cambodia since the KR. The GPC 1998 and CDHS surveys provide estimates at different points during the past decade, and interpreting differences as changes over time requires comparability across these different data sources. As this is always difficult to ascertain, we also explore household structure from a non-nationally representative, but longitudinal data collection project. The *Mekong Island Population Laboratory* (MIPopLab) is a demographic surveillance system launched in 2000 with biannual demographic updates on the population of a circumscribed rural area. While not representative of the whole country, the demographics from this area can be located within the pattern of regional diversity clearly observable in Cambodia.

Background

In sociology, anthropology, and economics, the family is a core analytical concept, and a substantial body of studies is devoted to individual interactions within the family and its role relative to households and kinship. In contrast, until recently, demography neglected the study of the household and primarily focused on the individual (Bongaarts 2001). Formal single-sex population models are a case in point. Potential analytical challenges (e.g., the two-sex problem) are compounded by empirical deficiencies in the study of many historical populations and still quite a few contemporary ones. The corroboration with population-level demographic data of attempts to characterize family systems originating in other disciplines has also proven difficult.

At the most general level, the Asian family is often taken to represent the counterpart of the European “nuclear family” ideal type, and as such, as the enduring bastion of the extended family (several generations living in the same household). Within Asia, however, there are unmistakable differences in family forms (Mason Oppenheim 1992, Das Gupta 1998). In East Asia and stretching as

far South as Vietnam, in countries influenced by Confucianism and *Mahayana* (large-vehicle) Buddhism, the ideal-type family is patriarchal, patrilineal and virilocal. The newly married couple generally lives with the groom's family for a long time, if not permanently. Where *Theravada* (the elders' way) Buddhism dominates (Sri Lanka and most of continental South-East Asia, including Myanmar, Thailand, and Cambodia), the family system is quite different. While in Cambodia its exact characterization ma remain a matter of scholarly dispute (see Népote 1992), kinship relationships appear to be bilateral (in contrast with the patrilineal clans, people relate equally to their blood relatives on the maternal and the paternal side, Ledgerwood 1995). In contrast with patriarchal system, family law suggests equality between wife and husband in case of divorce and between sons and daughters in inheritance rules (Lingat 1952). This family system has been described as uxorilocal because traditionally married couples co-reside at first with the brides' parents (Hirschman et al., 1996), but also as neo-local to the extend married couples are expected to establish independent households as soon as material conditions allow. Regardless of the exact label, the tendency is toward nuclear families rather than extended ones, as documented in the case of Thailand (Smith 1973).

Clearly within the realm of *Theravada* Buddhism, the family in modern Cambodia has been subjected to several other potential influences. The French Protectorate in the 19th and 20th centuries appears to have had no noticeable influence on the Khmer family system (Migozzi 1973, Népote 1992; Ovesen, Trankell and Ojendal 1996: 32-34). Ethnographic studies of the Khmer family around the time of Cambodia's independence reflect a general endorsing of the above-described schemas (bilateral lineage, uxori- then neo-local residence, relative gender-equality), but also a lot of flexibility and pragmatism in family forms as may be required to adapt to economic opportunities (Martel 1975, Ebihara 1968). The short-lived Khmers Rouges regime has a much more dramatic impact on the Khmer family.

The Khmer Family and the Khmers Rouges: A Before and an After?

Shortly after entering Cambodia's capital city, Phnom Penh, on April 17, 1975, the KR claimed on the airwaves that 2,000 of Cambodian history had ended. However hyperbolic the statement, the 3 years, 8 months, and 20 days of the KR' rule over Cambodia do represent such a dramatic chiasm in the country's recent history that one is drawn to consider pre- and post-KR Cambodia separately. The social transformation undertaken by the Khmers Rouges is arguably the most radical and fast-paced one ever

attempted (Kiernan 1996; Weitz 2003). Its demographic impact has been profound, most dramatically in terms of excess mortality (Sliwinski 1995; Kiernan 1996; Heuveline 1998), birth dearth (Heuveline and Poch 2007), and distortions in age structure and sex ratio (Huguet 1992).

The KR's social reformation also included a frontal attack on the family, which it saw as the core institution of social reproduction. Individuals were reminded that their allegiance should be turned away from family members towards the higher echelon of the political structure, the *Angkar*, and youths in particular were brainwashed to ignore the strong cultural emphasis on respecting and repaying one's elders. Even marriages were taken away from families to become arrangements between two individuals and the State (Heuveline and Poch 2006). Unfortunately, we are not aware of any study attempting to trace the durable effects that in little less than 4 years the KR might have been left on family relationships in Cambodia. Sliwinski (1995) argues, plausibly, that social trust has been dramatically damaged by the traumatic experience of the KR regime, but offers no supporting evidence. Early ethnographic studies actually suggested that social solidarity rarely extended much beyond the immediate family (Martel 1975, Ebihara 1968), as aptly captured by Ovesen et al. (1996) in their monograph's title: "Every Household Is an Island." Meanwhile, survivors' accounts provide a consistent picture of resilient families that kept mentally connected even during long periods of physical separation and while KR cadres threatened people into abandoning expressions of familial attachment (e.g., Pran and DePaul 1999). One of the contributing factors to the 1979 famine was the fact that as soon as the KR retreated in front of the advancing Vietnamese army, rice fields were abandoned by people travelling by foot in search of their family members.

Modernization and Family changes in post-KR Cambodia

The Vietnamese troops entered Cambodia in December 1978, and although they quickly defeated the KR army, they remained in Cambodia for a decade, fighting a guerrilla war with the remaining KR soldiers at the Thai border. During that period the Cambodian government and its public infrastructure (e.g., schools, health clinics) were supported directly by Vietnam and more generally by the Soviet Union and its allies, while remaining politically, economically, and culturally isolated from other countries. In spite of the continued fighting and of the massive amount of land mines still buried in the Cambodian soil, mortality declined rapidly, fertility rebounded, and literacy improved during the period. Oral accounts indicate that religious and family ceremonies were also promptly restored.

With the withdrawal of Vietnamese troops in 1989, the signing of the multi-party Paris Agreement in 1991, and the United Nations sponsored elections in 1993, Cambodia gradually re-entered the international community, politically as well as economically. Literacy and public health continued to improve slowly, but new family trends developed. The clearest sign of a reversal is in the area of family size, with a marked fertility decline. Recent data are not entirely consistent regarding the precise level of contemporary fertility as indirect estimates of the GPC 1998 data yielded a total fertility rate (TFR) of 5.3 (National Institute of Statistics 1999), while direct estimates from the CHDS 2000 and 2005 yielded 4.0 and 3.4 respectively (National Institute of Statistics 2001 and 2006). The actual pace of the fertility trend may not be entirely clear, but the decline is beyond dispute as after the fall of the KRs fertility rebounded and exceeded pre-KR levels (Heuveline and Poch 2007), which analyses of the 1962 census data put at about 7 children per woman (Siampos 1970).

Even more difficult to measure precisely, change also seems to happen to what are considered in Cambodia as traditional family forms (Heuveline and Poch 2006). “Romantic” marriages with self-chosen spouses are gradually becoming more common (about 24% among 1986-1999 marriage cohorts), and so are divorces and separations (still at a modest level of about 6% of marriages ending in divorce by year 5 among the 1993-1999 cohorts). These trends coincide with the development of a garment industry and a tourist industry that provide Cambodia’s young adults with job opportunities that are not as closely monitored by their parents as the agricultural sector. A causal relationship between these economic changes and family trends is quite plausible although difficult to establish conclusively.

Arguably, the KR attack on the family only had a temporary effect that faded away as soon as their leaders fled, but the undergoing modernization of the Cambodian economy and society may cause more durable change (Hirschman and Edwards 2007). There is still considerable debate on the exact contours of the impact of economic and social change on the family, however. Rooted in the 1960’s grand modernization theories (e.g., Rostow 1960), the family patterns convergence theory (Goode 1963), just like the demographic transition theory, has seen its paradigmatic domination challenged in recent years. The postulate was relatively straightforward:

> “Wherever the economic system expand through industrialization, family patterns change, extended kinship ties weaken, lineage patterns dissolve and a trend toward some form of the conjugal system generally begins to appear – that is, the nuclear family becomes a more independent kinship unit” (Goode 1963: 6).

The argument, however, has been criticized on several fronts: (1) extended families were not necessarily prevalent to begin with in many pre-industrial societies (Bongaarts 2001), (2) in some other societies, extended families were prevalent but have remained so in spite of modernization (e.g., China, see Stokes et al. 1987, Tsui 1989; or India Ram and Wong 1994), and (3) the nuclear family is not necessarily a stable family pattern in industrial societies (Heuveline, Timberlake, and Furstenberg 2003).

Stepping back from grand theoretical generalization, more recent research emphasizes the family as an adaptive institution that changes with the larger environment in which families operate in order to continue to provide economic and psychological support to its members (Derosas and Oris 2002 : 45 ; Todd, 1999). Laslett's (1988) "hardship hypothesis" points out that some adaptations can nonetheless be detrimental to some family members—for older people, for instance, with the rise of the nuclear family—but is still contested (e..g, Ruggles 1996, Das Gupta 1998). In any event, recent research has produced examples in which the multigenerational family has become more prevalent in the face of unemployment, marital disruption (Lee 1999, Ford and Harris 1991, Pearson *et al.* 1990) and poverty (Antoine *et al.* 1995). The extended family can also emerge in the urban areas of developing countries, as a result of internal, work-related migration (Pilon 2004, Vimard 2003).

Data and Methods

Data

Data from quantitative surveys in developing countries are often inadequate or insufficient. There were no demographic data surveys from the mid-1960s to the early 1990s, but international agencies sponsored several key nationally representative surveys. The three recent data sources on the contemporary Khmer population analyzed here are the GPC 1998, the CDHS 2000 and 2005, and MIPopLab.

A sub-sample of the GPC 1998, the first census conducted since 1962, is available online at IPUMS-International, a web-based data dissemination system. The database, provided by the Cambodian National Institute of Statistics, is a self-weighted, 10 per cent sample of the *de facto* census population, consisting of 1,141,254 individuals. Although the macro characteristics of census data significantly restrict the analysis of family structure, the data allow us some analyses of residential

patterns, such as the size and composition of households, at the outset of a period of drastic changes in Cambodian family demography.

The CDHS 2000 and CDHS 2005 comprise a second source of data. They are statistically representative at the national level and include both a household questionnaire (12,236 households in 2000 and 14,243 in 2005) and a woman questionnaire (15,351 15 to 49 year-old women in 2000 and 16,823 in 2005). The information collected in the household survey is essentially oriented towards identifying these women of reproductive age, and from the standpoint of family demography, there are several unfortunate data gaps. The household questionnaire is nonetheless useful as it contains information about residential patterns (urban/rural residence or amenities), and a list of all individuals present (*de facto*) in the household. For each of those, variables such as age, sex and education and residential status are available. Although the woman questionnaire is focused on women's health and fertility, it also provides useful information on women's family income, including loans and parental financial assistance.

The cross-sectional nature of these data provides a limited snapshot of family formation. Goody (1971) argues that if households are only analysed at the time of a census but not in terms of the 'developmental cycle' (Goody 1995), the results fail to reflect family formation as an evolutionary process. A multigenerational family could be a transitional structure to several household units, for example. Thus, analysis of family transformation and structural evolution requires longitudinal data over an extended period of time. The census and surveys described above do not allow for longitudinal analysis. By contrast, MIPopLab database is longitudinal, but not nationally representative. MIPopLab is a demographic surveillance system (DSS) launched gradually starting in one village in December 2000, expanded to five villages by July 2002, and updated twice a year since. The total population size followed-up in MIPopLab over time is shown in Figure 1. The basic demographics of the entire island population of 11,749 (in 2006, corresponding to the 12th round) are included in the interviews. For each member of the household, variables such as age, sex, marital status, location, survival of parents and relationship to the head of the household are known. Events such as marital disruption or remarriage, in- and out-migration, death and birth are registered every six months. Located in Kandal, a province surrounding the Phnom Penh Province (PPP, where the capitaly city is located), this population is not representative of Cambodia. However, because of its geographical location between

the urban capital and its rural province, many demographic features such as fertility or marriage appear to match national trends (Heuveline and Poch 2007). Thus, this local, multi-round longitudinal data source complements the macro characteristics of household diversity and change captured in the GPC 1998, the CDHS 2000, and the CDHS 2005 data and allow to approach individuals' trajectories.

--- Figure 1 about here ---

Finally, these Cambodian cross-sectional and longitudinal quantitative results are put into perspective by comparison with data from Thailand and Vietnam, when available. We will compare the results from these three populations in an effort to isolate features specific to the Khmer family. Concerning Vietnam, the 1989 and 1999 Census databases were used. They are available online at IPUMS-International. Like the data for Cambodia, those include a self-weighted, 10 per cent sample consisting of 2,626,985 households in 1989 and of 2,366,926 households in 1999. In contrast, Thai censuses are not available online up to date. The National Statistical Office of Thailand provides, however, information about the mean household size.

Methods

This paper attempts to analyze the demographic dynamics of Cambodian family units in terms of size, composition and structure in a period of rapid contextual change, albeit on a very short timeframe (1998-2006). A first concern is the pertinence of 'household' rather than 'family' terminology, which has often been debated in family demography papers (Burch 1993, Mc Donald 1992). Censuses and surveys are household-based mostly for logistical reasons and household and family memberships overlap only partially, as families might spread across different connected households (sometimes adjoining). A few questionnaire items may still allow analysts to study family behaviour across households. We thus merged the CDHS household and woman questionnaires to examine some of these family links across households, but we recognize that we are mostly limited to study households rather than families. The CDHS woman questionnaire provides more information in the area of kinship solidarity networking and household's resources and amenities. Another item in the CDHS woman questionnaire documents whether the family is close enough to visit easily (defined in the questionnaire as being less than hour away). Furthermore, the women questionnaire contains the interesting variable "Wealth Index" of her household. The DHS "Wealth Index" captures household's relative socioeconomic status from existing data in the DHS. The explanatory and comparative power of this

Wealth Index is demonstrated in many comparative studies (see for instance, Vyas and Kumaranayake 2006). In our context, the index allows to test Laslett's (1988) "nuclear hardship" hypothesis. This index uses all household assets (radio, bicycle, etc.) and amenities (type of flooring, type of toilet facilities, etc.) available on the survey as an economic indicator. First weighting values are assigned to the indicator variables by PCA procedure (see Filmer and Pritchett 2001). After this standardization, the factor coefficient scores are calculated. Then, for each household, the indicator values are multiplied by the loadings and summed to produce the household's index value. The resulting sum is itself a standardized score (i.e, with a mean of zero and a standard deviation of one), from which we created three categories, based on the distribution of the household population, to distinguish the "poorer", "middle" and "richer" households[1] .

All those surveys and censuses also provide the relationship of each person listed in the household to the head of that household. Drawing upon the typology that Hammel and Laslett (1974) developed to analyse 19th century European family structure, we use a similar typology adapted to contemporary South-eastern Asia. Specifically, we begin with the same categories of *simple family unit*[2], for a household containing the head, his wife and his children, *multiple or extended*[3], for a multigenerational household containing a grandchild (downward) and/or a parent (upward) of the head and *isolated*, for a single member household. We then identify more contemporary structures including the *lone-parent family* (women/men alone with children), and the *coresident siblings* (as well as a residual *other household* structure).

Trends in household structures reconstructed from the reported relationships to the household head might be biased by the varying level of detail from one survey to the next: seven in the GPC 1998, twelve in the CDHS 2000 and 2005 and from eight initially to 31 currently in the MIPopLab database. We attempted to reduce this problem by adapting the definition of each structure when necessary. Tests showed that the results are consistent for the CDHS and MIPopLab data. Differences between the GPC 1998 census and CDHS 2000 appear too large to be entirely attributable to demographic change in the two-year period. Overall, however, trends in family structures are broadly consistent between the surveys used in this analysis.

Demographic changes such as fertility and mortality have a significant impact on family structure. The probability that a head of household will form an extended family in the future depends

upon the number of children in the family, while a high level of mortality such as Cambodia experienced during the 1970s reduces the availability of kin to form joint households. Cross-sectional household analyses thus need to take into account this changing context. To that effect, we assess a measure of intergenerational coresidence, that is less sensitive to those demographic effects. However, the proportion of elderly residing with any child we calculated is lightly underestimated compared with the UNFPA Report's results (Knodel et al. 2005). Indeed, if the elderly is neither a parent of the head of the household, nor the head or the spouse, it is impossible in the GPC or CDHS data to know whether an elderly person is living with a child.

MIPopLab data allow us to go one step beyond residency patterns at the household level and study individual trajectories. The widely free "R" software and a new package called 'MineSeq' – having individuals as observation units – and developed by A. Gabadinho and N. Müller (The University of Geneva) has been used to provide individual trajectories and transition matrix. These are analyzed with respect to age and sex, because of the salience of the hierarchies and roles associated with age and sex in Cambodia, but also generation due to the potential impact of having lived through the Khmer Rouge period. The results reported in this study remain largely descriptive, however, and aim to provide an overview of the diversity and change in Cambodian households between 1998 and 2006, with respect to household size, composition and structure.

Results

Household Size

We begin by presenting analyses of the composition of the households and its dynamics. Figure 2 presents the mean household size for Cambodia, Thailand, and Vietnam, on a *de jure* basis (members who usually reside in the household.) This preliminary indicator reveals that in the 1990s, households have been larger, on average, in Cambodia than in its two neighbouring countries. In the early 1960s, however, Cambodia's mean household size (5.3) appeared to have been slightly lower than in Thailand (5.6). We have unfortunately no data to date when the average Cambodian household became larger than its Thai or Vietnamese counterparts.

--- Figure 2 about here ---

As discussed in the background section, the Thai and Khmer family systems share key characteristics. The slightly smaller average size for Cambodian households in the 1960s is likely due to

the smaller number of children alive rather than to differences in the structural composition of households. For 1955-60, the infant mortality rates are estimated at 152.0 in Cambodia and 99.6 in Thailand, while TFRs are 6.3 and 6.4 in Cambodia and Thailand respectively (United Nations 2007). The average size of the Thai and Vietnamese households is similar until the late 1980s, at which point the average household size declines slightly faster in Thailand than in Vietnam. The contrast is starker, however, with the trend in Cambodia, where the average size did not decline until 2000, when it declined slightly from 5.3 in rural areas (to 4.9 in 2005) and from 5.7 in cities (to 5.2 in 2005). The up and downs in average size are related to the ups and downs in fertility rates, in particular the "baby boom" of the early 1980s, and the rapid decline in the 1990s (Heuveline and Poch 2007). The timing of the decline in household size and that of the period fertility change are at odds during the 1990s, but household size should reflect cumulative fertility (parity) rather than current fertility rates factors. We cannot conclude from these data alone whether factors other than fertility contributed to these divergent household-size trends in Cambodia, Thailand, and Vietnam.

As the next step forward, we analyze the urban and the rural distributions of households with one, with two to four, with five to six, with seven to nine, and with ten and more members for four different years. As shown in Figure 3, families consisting of one to six members represent more than 80% of contemporary Cambodian families. Households of seven or more members still represent about 20% of the total, although the proportion of households with ten or more members is small and declining. Surprisingly, however, large families are more prevalent in urban areas. This seems to indicate that they do not correspond to a traditional pattern, but rather constitute a new trend.

--- Figure 3 about here ---

In urban areas, until 2000, the proportion of smaller families (four of fewer members), decreased, and the proportion of medium and large families (five to nine members) increased. After 2000, the increase shifted to small and medium size families (less than six members), whereas the proportion of larger families decreased (seven or more members). In rural areas, the distribution of households remains relatively stable until 2000, when the proportion of larger ones (seven or more members) decline and that of smaller households (four or fewer members) increases.

Household Composition

We continue our analyses with a decomposition of individuals' relationship to the head of the household. As illustrated in Figure 4, being a child of the household's head constitutes the most common category in both urban and rural areas. In addition, there are very few households without any child (less than 1.5% of the families with a head and a head's spouse in any of the three surveys, results not shown.)[4] The mean age of these children varies from 10.8 years in the 1998 Census to 13.3 years in the 2005 CDHS. The proportion of children is also larger in rural families than in urban ones. In 1998, 50.9% of urban residents were children of their household heads, compared to 56.1% among rural residents. By 2005, those proportions had declined only slightly to 50.5% in urban areas and 53.0% in rural areas.

--- Figure 4 about here ---

The category "adults" in Figure 4 represents the parents (biological or adoptive) and grand-parents of these children: the households' head and/or his or her spouse, and possibly their own parents.[5] There is a greater proportion of adults in rural areas, 36.6% in 2005, than in urban areas, 34.0% in urban areas. As shown in the next section, this does not reflect single parenthood. This is due rather to the fact that urban households are hosting more individuals, non-relatives, or relatives other than their own children and parents. There is extensive job-related mobility toward urban centres, and likely to reduce expenses or to avoid unfamiliar settings, many of those migrants move into existing households. CDHS 2005 data included 8.9% "other relatives" or "non relatives" in urban areas and 4.1% in rural areas.

In terms of trends over time, the proportion of children relative to that of their parents (heads and spouses) increases until 2000 and declines thereafter, in urban as well as in rural areas. If we analyze this trend further by age, we find that the decline is already occurring between 1998 and 2000 for children under age nine (results not shown). By 2000, the decline spreads to children in the age range 0 to 19 years. This is thus consistent with the cumulative effect of the fertility decline on household size and its possible impact on the above-discussed trends in average size over time.

Household Structure

The breakdown of Cambodian families corresponding to our typology of household structures in Cambodia is presented in Table 1. This breakdown confirms the predominance of nuclear families in Cambodia. Over time, the nuclear structure peaks at 65.6% of Cambodian households in 2000, which

compares to 53.4% in Vietnam at the time of the 1999 Census (results not shown; comparable data for Thailand not available). The proportion of extended households has followed a trend opposite to that of nuclear families, declining from 22.3% in 1998, to a low of 12.8% in 2000 and a modest gain thereafter. Overall, the prevalence of extended households measured by cross-sectional data has declined between 1998 and 2005. This trend is even more meaningful considering the fertility and mortality decline in contemporary Cambodia. Indeed, the intergenerational coresidence measured by the elderly residency patterns (Table 2), follows obviously the same trends. Furthermore, the impact on household structure of recent fertility decline is quite low (less than 1%, results not shown[6]). Vietnam provides another contrast, as the prevalence of extended families there has remained 30.1% at the time of the 1999 census, down only slightly from 32.7% at the time of the 1989 census (results not shown).[7]

--- Table 1 about here ---

Table 1 also shows that the above described dynamics applies to both the rural and the urban areas. The prevalence of nuclear families is greater in rural areas, however, than in urban areas. The gap appears to be closing from 1998 (59.1% in rural and 44.1% in urban areas) to 2005 (62.6% in rural and 50.1% in urban areas).

Women living with children and no spouse constitute the third category of household that displays important changes over time. This category accounts for more than one in eight households in Cambodia since 2000. Further analysis revealed that among these women, 37% were single women in 2005, 23% were married but living separately from their husband— essentially because of migration— 31% were widowed, and 9% were divorced (data not shown). By contrast, men rarely live alone with children (making up only 2.8% of households in 2005).

--- Table 2 about here ---

Finally, in 2005 the residual category “other structures” accounts for 7.8% of households in the country, but for 14.9% of the urban households. This is due to urban household heads and spouses hosting relatives other than own children and parents more frequently than their rural counterpart. This category is even on the increase, whereas the proportion of non- and other relatives is actually declining slightly (Figure 4). This suggests a diversification of residency patterns with fewer non- and other relatives being spread over more households over time.

MIPopLab data are better suited to study changes over time, though on a relatively short time period. In MIPopLab as in the rest of the country, the nuclear structure dominates but to a lesser extent. A little less than half of the households are nuclear (49.6% on average between 2000 and 2006) in MIPopLab, compared to 61.1% nationally and 51.1% in urban areas according to DHS 2005 (Table 1). The main difference in household structure lies in the "extended" category, which amounts to 23.6% in MIPopLab (2000-06 average), compared to 15.6% nationally and 18.8% in urban areas (DHS 2005 data shown in Table 1). Most of the complex households in MIPopLab are downward extended, and include children(-in-law) (about 57%) and grand-children (about 6%) of the stem couple more often than parents(-in-law) (less than 2%) (results not shown). MIPopLab data also reveal 8.2% of households are women living alone with children (compared to 12.8% nationally in CDHS 2005), with about 70% of these women being widowed and circa 17% divorced.

Figure 5 describes in more detail changes in MIPopLab household structures between 2000 and 2006. Several comparability issues must be noted first. One is that as the DSS was rolled in over time, all villages have had, by 2006, at least 9 rounds, but only two had 10, and only one had all 12. This largely explains the discontinuity visible between rounds 9 and 10. Moreover, the variables describing the relationships of household members were refined during the early rounds to provide a better categorization of households. The decline in the "Other" category from 10.8% in round 1 to 6.1% in round 3 reflects this gradual refinement of our categories. These caveats in mind, it is best to focus on the trends from rounds 3 to 9 included, of which the main one is the clear decline of nuclear-type households from 51.3% to 43.6%. The decline comes mostly from growth in extended-type households (from 23.4% to 27.7%) and other households (from 6.1% to 10.4%).

--- Figure 5 about here ---

To locate MIPopLab trends in the national landscape, Figures 6 and 7 show the same evolution from 1998 to 2006 for the populations of five different areas: (1) the first village followed-up in MIPopLab, and for which data cover the whole 2000-20006 period, (2) the Phnom Penh Province (PPP), which was 56% urban in 2005 and where the capital city is located, (3) the Kandal Province, which surrounds PPP and where MIPopLab is located, (4) all provinces but PPP combined, and (5) the whole country. MIPopLab longitudinal data are in close agreement with the provincial- and national-level trends in the other four populations. Changes over time can be tracked more precisely from the

longitudinal data in MIPopLab, which suggest three main stages within the 1998-2006 period: (1) before 2001, when a reversal occurs, (2) between 2001 and 2003, and (3) after 2003, when a new plateau is observed.

For nuclear households, the prevalence increases during the first stage to a maximum of 60% in 2001 (Figure 6). Changes occur at first in urban areas and their nearby rural areas as seen in PPP (as early as 1998, Figure 6) and MIPopLab (after 2001). These trends are reversed right after 2001. By 2002, the prevalence of nuclear households is already lower than its 2000 percentage (53.4% in 2002, compared to 57.9% in 2000).

--- Figure 6 about here ---

For extended households, the prevalence declines during the first stage. In MIPopLab, it reaches a minimum of 12.2% in 2000 (Figure 7). Then, the prevalence of extended households rises dramatically to 30.8% in 2006 (Figure 6). Further analysis of extended households in urban areas in 2005 suggests that those families are mainly downward extended (results not shown). They are composed by the head couple (26%), typically grandparents, children of the head couple and their spouses (40%), members of the third generation (21% of grandchildren), and other relatives or non-relatives (10%).

--- Figure 7 about here ---

These comparisons do not suggest trends in MIPopLab are unique. Figures for the MIPopLab villages are often intermediate between those for PPP and for the whole country. This is consistent with the urban/rural gradient we can observe from census data and the fact that MIPopLab is a rural area, but closer than rural areas except those in PPP to the capital city. Incidentally, a transition seems to take place about 2001 in the villages and the prevalence of nuclear households become closer to those of PPP than of Kandal Province. As noted earlier, the main distinctive feature of household distribution in MIPopLab is the prevalence of extended households which are higher (more than 30% in 2005) than in other provinces, even PPP (21.5% in 2005).

Individual Trajectories

Using MIPopLab data, we can also relate these distributional trends to individual changes by following household members over survey rounds. Table 3 displays the household transition rate matrix in household structures between a given round and the following one six months later. The probabilities of a household remaining in the same category for six months are – as we could expect - relatively high (more than 70%) regardless of the initial household structure, but 'nuclear with children' is the most stable structure. Indeed, the probability of an household remaining classified so during the period 2000-2006 was .89. Remaining a lone-individual or in an extended household in the next round of the survey also has a .84 probability. The least stable household structures are the 'other' and 'nuclear without children' categories. For both, the most common transition is to become a 'nuclear with children' household by the next round (.15 probability from nuclear without children and .12 probability for other households). While the first transition simply signals the arrival of a first child, the second one suggests that 'other' households structures may be temporary arrangements, such as for instance when a nuclear family hosts a distant relative or a non relative.

--- Table 3 about here ---

Turning to individual life course transitions, Table 4 describes the 10 most common sequences tracking individuals from round 1 to round 12. Each number separated by a colon corresponds to an individual being in a given structure in one of the 12 rounds (if the village has been surveyed fewer times, the last round are reported as "NA" for not available. Perfect stability in all round is relatively rare, representing only 22% of all individuals, mostly remaining in nuclear (19.4%) or extended (2.7%) households. Thus, 78% of MIPopLab residents experienced at least one change in their living arrangements between 2000 and 2006. The most common transitions were from the nuclear to the extended structure or vice versa (3.4% and 3.2%, respectively).

--- Table 4 about here ---

In the next two Tables, we study whether the individual transition patterns depend on having lost parents during the KR and on gender. Although the KR attempted to destroy the institution of the family, there is strong evidence that it survived, and if the subsequent baby boom and low divorce rates are any indication, that KR survivors might have valued the nuclear family the most. The main finding from Table 5 is that individuals who experienced the loss of a parent during the KR regime are more likely to remain in a 'nuclear with children' household in all rounds (13.5%, compared to 9.8% for

individuals who lost their parent(s) in a different period). When change occured among individuals who lost a parent during the KR, it was most often towards a nuclear structure (9.5% compared to 6.5% for individuals who lost their parent(s) in a different period), whereas the opposite is true concerning transition towards an extended structure (4.0% and 8.2% respectively).

--- Table 5 about here ---

Gender differences are less dramatic since a large proportion of men and women live together in nuclear families, and stability in the nuclear family structure is the most common sequence both for men (17.0%) and for women (14.9%).

--- Table 6 about here ---

Finally, we study these transitions over the life course. Figure 8 shows four steps: (1) people under 20 years old, (2) people between 20 and 29, (3) people between 30 and 49 and (4) more than 50 years old. Given that SMAM is 24.6 for males and 22.8 for females (NIS, 2004), the first stage – which represents a pre-marriage phase – is a period during which young people live mostly in a nuclear family with their parent(s). Extended living arrangements are most common in the second stage, when relatives in a more complex structure often host young adults who wish to earn and save money with marriage and having a family in mind. Additionally, young people who do not live with kin tend to live alone. The third stage, between 30 and 49 years of age, is a period when people live mostly in their new households in a nuclear structure again, as household head or spouse of the head. However, some unmarried women also live alone with their children. Finally, over age 50, when their children begin their own family cycle, MIPopLab residents most often live alone or with a child in an extended living arrangement.

--- Figure 8 about here ---

Kinship and Solidarity Networks

Describing household structure is relatively straightforward. Inter-individual support is not entirely confined to the household, but describing the contours of kinship and solidarity networks is more challenging. The CDHS 2000 and 2005 data suggest that nearly four fifths of Cambodian families are close enough to easily visit their related kin in the space of a single day (78% in 2000, and 80% in 2005, results not shown). These data also demonstrate important differences in solidarity functioning between nuclear and extended households. Among households resorting to a family support network, 53% were

nuclear and 25% were extended as of 2000. The disparity is even increasing, with 65% of households resorting to a family support network being nuclear and 12% being extended in 2005. These differences appear to correspond to differences in wealth. Figure 9 shows a three-tier distribution of households based on the "Wealth Index" for nuclear and extended households using the CDHS 2005 data. In 2005, as many as 48% of nuclear households were found in the poorest third of Cambodian households. This explains in part a greater reliance on kin beyond the household's confines, and greater need to borrow money to kin and non-kin. While only 10% of extended households have debts in 2005, 65% of nuclear households do. This evidence is consistent with Laslett's argument about "nuclear hardship" (1988).

--- Figure 8 about here ---

Discussion

From extant kinship studies, we expected the nuclear household to be the most prevalent type of household in contemporary Cambodia. According to these, a newly married couple may live with parents initially, but they are expected to form an independent household relatively soon after when economically viable. Recent changes in the Cambodian economy, such as the development of the garment and tourism industry, or the housing and road construction boom for instance, should provide young adults more opportunities to work toward those goals. One could thus expect nuclear households to be increasingly prevalent, and average household size to be declining in most recent years.

We did find that nuclear households were quite prevalent in Cambodia, much more so than in Vietnam. The evidence regarding recent trends, however, is not entirely consistent with the above expectations. First, average household size remains high in Cambodia—about as high as in Thailand and in Vietnam around 1980. It might be tempting to attribute these differences in size to the lag in economic development between Cambodia and its neighbors, but trends over time suggest other factors are at play. The prevalence of nuclear households, which appears to have been on the increase before 2000, has been *declining* in most recent years (2000-2005). Since the GPC 1998 and CDHS 2000 are not entirely comparable, caution is in order concerning the pre-2000 trends, but the longitudinal data from MIPopLab also suggest a lower level around years 2000 and 2001. Time series of economic growth rates show a similar inflection point around year 2001, with economic growth slowing down between 2000 and 2002, and accelerating again after 2002 (Naron 2006). The prevalence of extended families thus appears to increase when economic growth is faster, and we estimate that the correlation

coefficient between economic growth rate and the proportion of extended households was 0.82 between 2000 and 2002.

Urban-rural patterns shed light on this counter-intuitive finding. In spite of lower fertility, average household size is actually higher in urban than in rural areas. There are also proportionally fewer nuclear households in urban than in rural areas, in particular because urban households more often host kin other than their own children and parents, as well as non-relatives. The prevalence of extended families increased during the recent fast-growth years, but so did the prevalence of other types of non-nuclear households, in particular these more complex households in urban areas. There has also been a surprising stability, at about one-eighth of all households, concerning the prevalence of households consisting of a mother alone with her children. With the decreasing weight of the generation of KR survivors, and widows in particular, the prevalence of those households should be declining, but on the other hand, divorce is on the rise (Heuveline and Poch 2006) and so is job-related physical separation.

We interpret these trends as signs of tensions during this transitional period in Cambodia. The norm toward independent living in nuclear households is confronted by harsh realities, especially in urban areas where the costs of establishing an independent household are higher than in rural areas. We found that nuclear households were more often poor that extended households and they more often relied on debt and assistance from other households. As noted above, anthropologists have long pointed at a great deal of pragmatism with respect to living arrangements in Cambodia (Martel 1975, Ebihara 1968, and more recently Ledgerwood 1995). This pragmatism is found today in high rates of mobility to adapt to increasing economic disparities across sectors. In 2005, while the Cambodian economy grew by over 13% overall, the growth was 4% in the agricultural sector, compared to 16% for construction activities, 20% for garment exports, and 24% for tourism (Naron 2006). In high growth years, disparities across sector also increase and the agricultural sector, from which a majority of Cambodian households still depend for a living, becomes relatively less attractive. This fuels rural-to-urban migration, but many migrants cannot afford to live on their own at their urban destination and join an existing household. Job-related mobility may also contribute to the observed increase in family instability.

To conclude, recent trends in Cambodia are hard to explain with a broad modernization framework that would associate traditional societies with extended families and modern ones with nuclear families. It is likely that nuclear households have long been the norm in Cambodia, and our analyses of individual trajectories confirm that a nuclear living arrangement with parents and children constitute the most steady structure. Rather than interpreting the recent decline in the prevalence of nuclear-family household as a fading of that norm, we believe this decline merely indicates a continued pragmatism with respect to living arrangements. Originating in a long history of adaptation to economic hardships, this pragmatism appears to prevent the formation of more nuclear households given the current conditions. Recent trends reflect this tension between (normative) choice toward establishing nuclear households and (economic) constraints keeping adults in existing households. In recent years at least, modernization in Cambodia appears to have given more weight to the latter.

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Figure 1: Year-End Total Population Size, MIPopLab 2000-2006

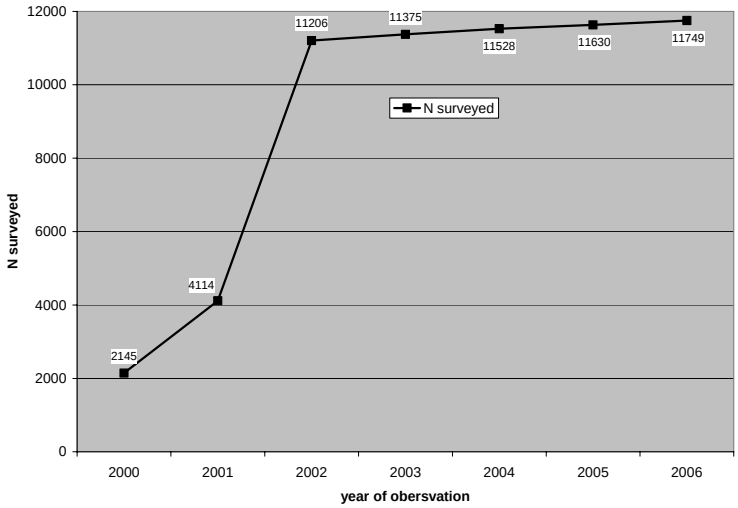
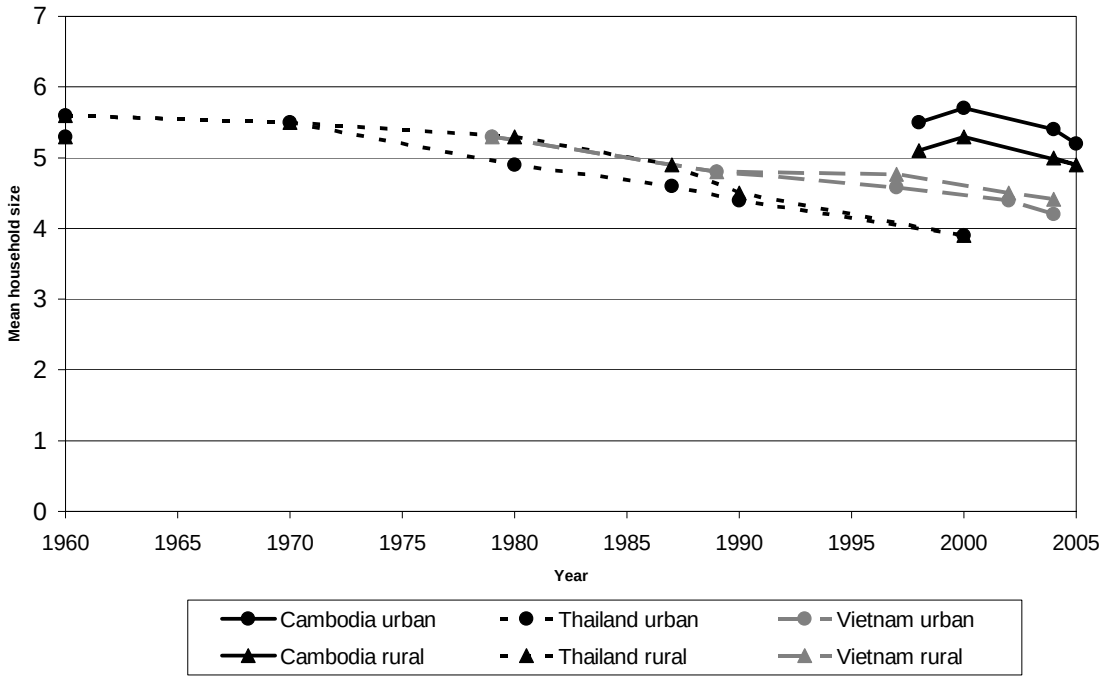
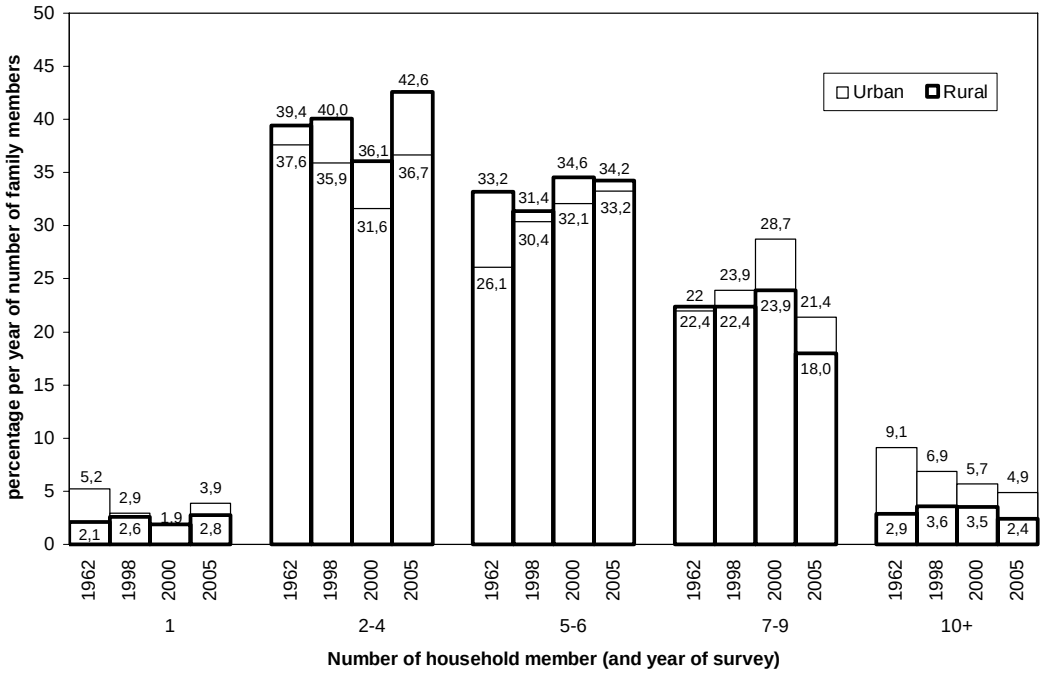


Figure 2: Mean Household Size in Cambodia, Thailand, and Vietnam



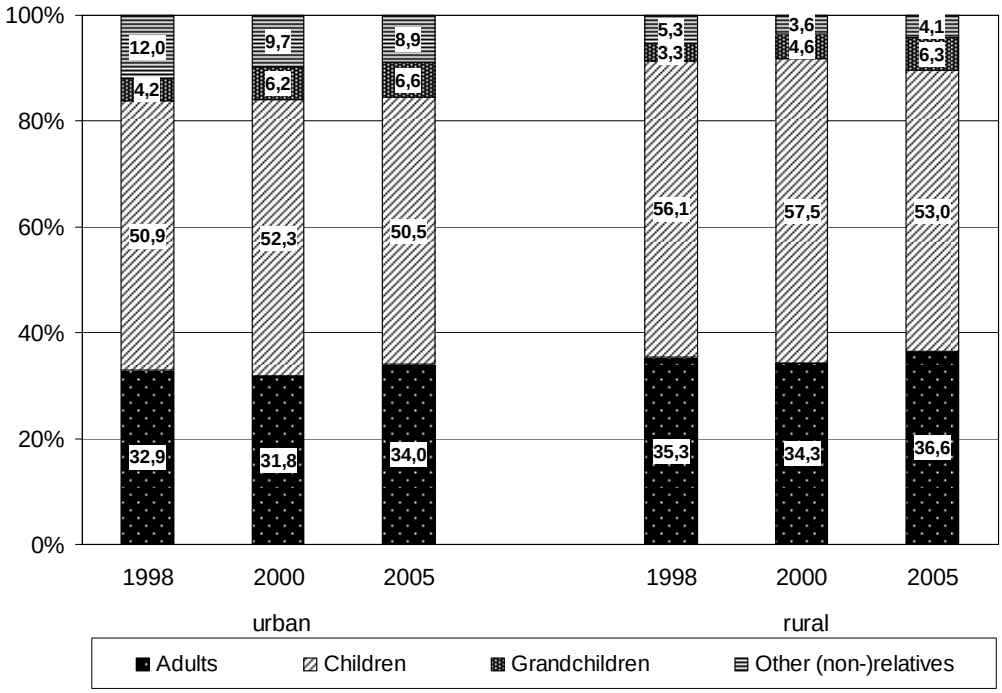
Sources: Burch (1967: 355-359), Pilon (2004: 321), Siampos (1970: 318), United Nations Statistical Division (2007), and authors' calculations from the Cambodian, Thai, and Vietnamese Demographic and Health Surveys (DHS), and from national censuses and surveys.

Figure 3: Households by Size, Urban and Rural Areas, Cambodia, 1962, 1998, 2000, and 2005)



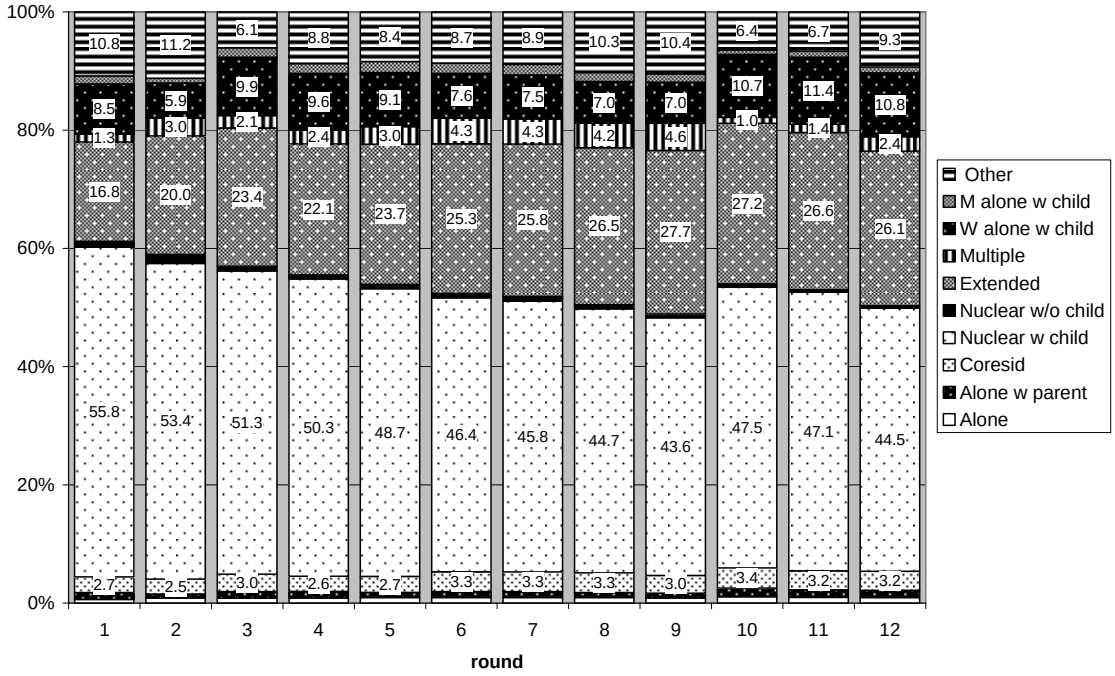
Sources: Migozzi (1973: 232), and authors' calculations from the 1998 Census of Cambodia data files; and the 2000 and 2005 Cambodian DHS data files.

Figure 4: Household Members by Relationship to Head, Urban and Rural Areas, Cambodia, 1998, 2000, and 2005



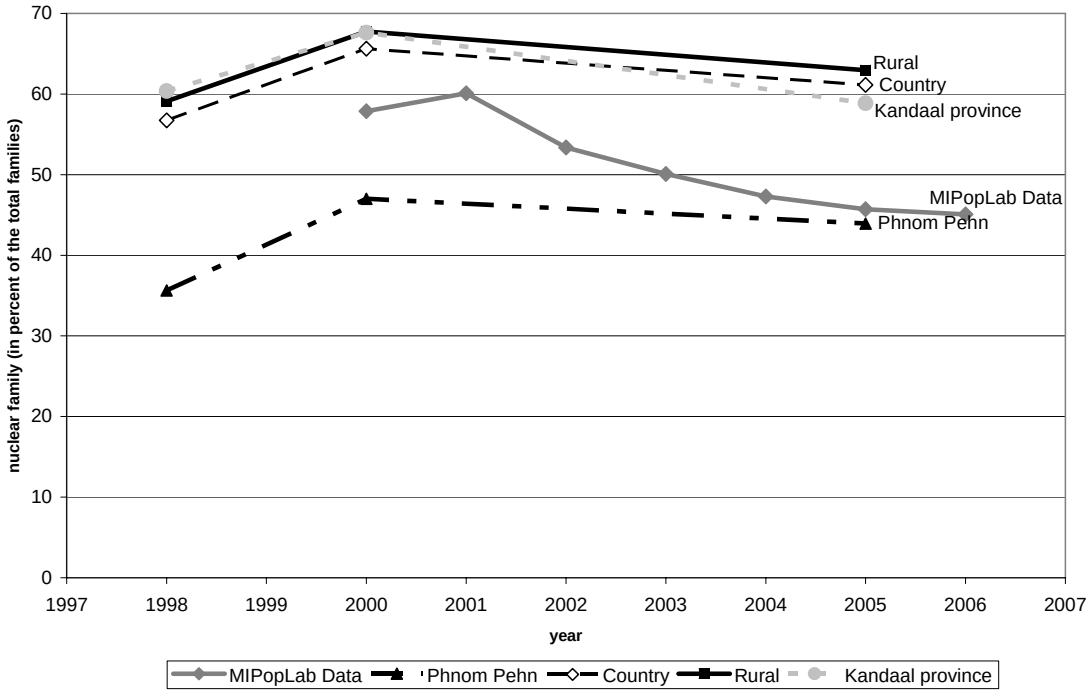
Sources : Authors' calculations from the 1998 Census of Cambodia data files; and the 2000 and 2005 Cambodian DHS data files.

Figure 5: Households by Structure Categories, MIPopLab, 2000-2006



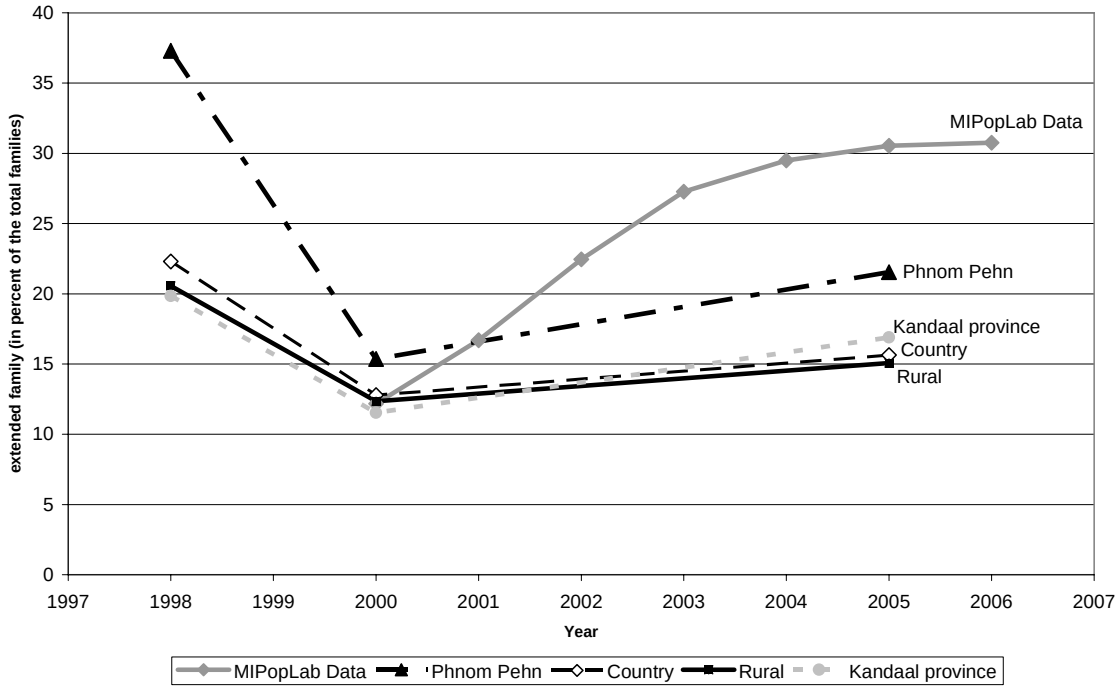
Sources: Authors' calculations from MIPoPLab Data

Figure 6: Prevalence of Nuclear Families, Five Cambodian Populations, 1998 to 2006



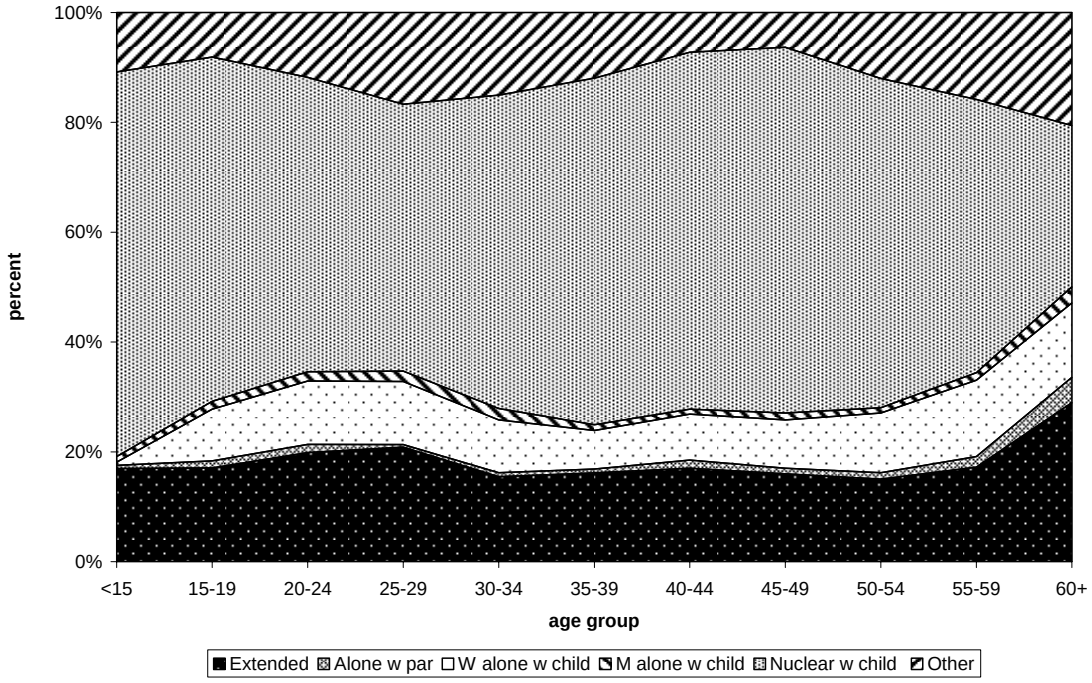
Sources: Authors' calculations from MIPoPLab Data, the1998 Census, the 2000 and 2005 CDHS data files.

Figure 7: Prevalence of Extended Families, Five Cambodian Populations, 1998 to 2006



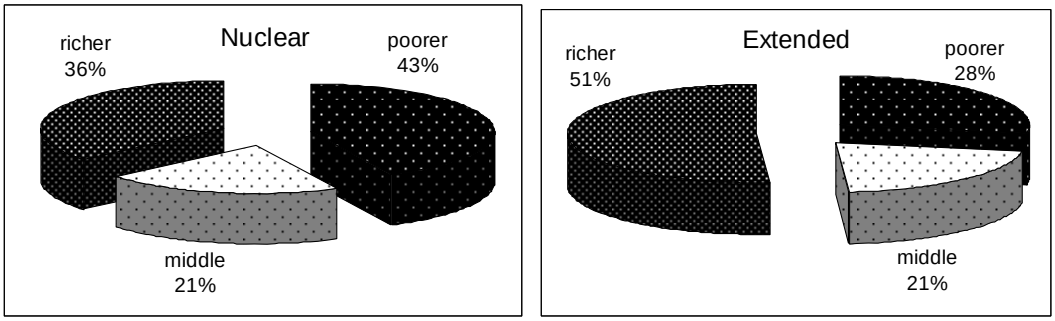
Sources: Authors' calculations from MIPoPLab Data, the1998 Census, the 2000 and 2005 CDHS data files.

Figure 8: Residency Patterns Over the Life Course, MIPopLab, 2000 to 2006



Sources: Authors' calculations from MIPoPLab Data

Figure 9: Wealth Distributions, Nuclear and Extended Household Structures, Cambodia, 2005



Sources: Authors' calculations from the 2005 CDHS data files.

Table 1: Households by Structure Categories, Urban and Rural Areas, Cambodia, 1998, 2000, and 2005

Household Type	Rural			Urban			Country		
	1998	2000	2005	1998	2000	2005	1998	2000	2005
Isolated	0.3	0.3	0.5	0.9	0.3	0.7	0.4	0.3	0.6
Nuclear	59.1	58.8	63.0	44.1	46.2	51.1	56.8	56.9	61.1
Women alone w/ children	9.7	5.8	12.1	8.6	4.6	11.0	9.5	5.6	11.9
Men alone w/ children	1.3	1.3	1.9	1.2	1.2	1.5	1.3	1.3	1.9
Extended	20.6	26.0	15.1	31.6	30.3	18.8	22.3	26.6	15.6
Coresident Sibling	2.6	4.0	0.9	5.0	8.8	2.2	3.0	4.7	1.1
Other	6.4	3.9	6.6	8.6	8.8	14.9	6.8	4.6	7.8
N (Households)	184,670	10,419	11,142	31,531	1,817	3,101	1,141,254	12,236	14,243

Sources: Author's calculations from the 1998 Census and the 2000 and 2005 DHS data files.

Table 2: Households With at Least a Member Aged 60 and over by Structure Categories and Co-residency with a Child, Cambodia, 1998, 2000, and 2005

Household Type	Aged 60+		
	1998	2000	2005
Isolated	3.6	2.9	3.7
Nuclear	29.8	23.5	37.2
Women alone w/ children	5.7	3.8	14.4
Men alone w/ children	1.8	1.4	2.9
Extended	39.2	60.2	31.3
Coresident Sibling	2.3	4.0	0.7
Other	17.6	4.2	9.7
N (individuals)	60,324	3,516	4,548
Elderly residing with any child (%)	73.0	71.7	68.6

Table 3: Household-Structure Transition Matrix

	Alone	Nucl w/o child	Nucl w child	W alone w child	M alone w child	Multiple	Extended	Alone w par	Coresident	Other
Alone	**0,84**	0,01	0,05	0,05	0	0	0,01	0	0	0,02
Nuclear w/o child	0,01	**0,65**	0,15	0,08	0	0	0,04	0	0	0,05
Nuclear with child	0	0	**0,89**	0,01	0	0	0,05	0	0	0,03
Women alone with child	0,01	0	0,07	**0,8**	0	0,01	0,08	0	0	0,03
Men alone with child	0	0,01	0,08	0	**0,8**	0	0,04	0	0	0,05
Multiple	0	0	0,06	0,03	0	**0,75**	0,11	0	0	0,04
Extended	0	0	0,07	0,01	0	0,02	**0,84**	0	0,01	0,04
Alone with parent	0,01	0,01	0,07	0,04	0	0	0,05	**0,8**	0	0,02
Bros/Sis coresident	0	0	0,1	0,01	0	0	0,04	0	**0,79**	0,05
Other	0,01	0,01	0,12	0,05	0,01	0,01	0,08	0,01	0,01	**0,69**

Note: Rows indicate the household structure in which individuals lived in a given round n, and columns show the structure they lived at the following round.

Table 4: Ten Most Frequent Individual Trajectories Across Household Structure Categories, MIPopLab, 2000-2006

Label number	Freq	Percent
3:3:3:3:3:3:3:3:3:NA:NA:NA	1183	8.8
3:3:3:3:3:3:3:3:3:NA:NA	988	7.3
3:3:3:3:3:3:3:3:3:3:3	438	3.3
7:3:3:3:3:3:3:3:NA:NA:NA	458	3.4
3:7:7:7:7:7:7:7:NA:NA:NA	293	2.2
10:3:3:3:3:3:3:3:NA:NA:NA	276	2.1
7:7:7:7:7:7:7:7:7:NA:NA	240	1.8
4:3:3:3:3:3:3:3:NA:NA:NA	159	1.2
3:3:3:3:3:3:3:3:7:NA:NA	128	1.0
7:7:7:7:7:7:7:7:7:NA:NA:NA	125	0.9
Label summary		
nwc	2609	19.4
ext - nwc	458	3.4
nwc - ext	421	3.2
ext	365	2.7
oth - nwc	276	2.1
wwc - nwc	159	1.2

Table 5: Ten Most Frequent Individual Trajectories Across Household Structure Categories, by Timing of Parental Death, MIPopLab, 2000-2006

One/both parent(s) died but NOT under KR			One/both parent(s) died under KR		
Label number	Freq	Percent	Label number	Freq	Percent
3:3:3:3:3:3:3:3:3:NA:NA:NA	99	8.6	3:3:3:3:3:3:3:3:3:NA:NA:NA	76	11.7
3:3:3:3:3:3:3:3:3:NA:NA	13	1.1	3:3:3:3:3:3:3:3:3:NA:NA	12	1.8
7:3:3:3:3:3:3:3:3:NA:NA:NA	14	1.2	7:3:3:3:3:3:3:3:3:NA:NA:NA	10	1.5
10:3:3:3:3:3:3:3:3:NA:NA:NA	16	1.4	10:3:3:3:3:3:3:3:3:NA:NA:NA	13	2.0
3:7:7:7:7:7:7:7:7:NA:NA:NA	53	4.6	3:7:7:7:7:7:7:7:7:NA:NA:NA	26	4.0
4:3:3:3:3:3:3:3:3:NA:NA:NA	29	2.5	4:3:3:3:3:3:3:3:3:NA:NA:NA	15	2.3
7:7:7:7:7:7:7:7:7:NA:NA:NA	45	3.9	7:7:7:7:7:7:7:7:7:NA:NA:NA	19	2.9
9:3:3:3:3:3:3:3:3:NA:NA:NA	16	1.4	9:3:3:3:3:3:3:3:3:NA:NA:NA	15	2.3
10:7:7:7:7:7:7:7:7:NA:NA:NA	29	2.5	1:3:3:3:3:3:3:3:3:NA:NA:NA	9	1.4
4:7:7:7:7:7:7:7:7:NA:NA:NA	13	1.1	3:10:3:3:3:3:3:3:3:NA:NA:NA	9	1.4
Label summary			Label summary		
nwc	112	9.8	nwc	88	13.5
nwc - ext	53	4.6	nwc - ext	26	4.0
ext	45	3.9	ext	19	2.9
wwc - nwc	29	2.5	bsc - nwc	15	2.3
oth - ext	29	2.5	wwc - nwc	15	2.3
oth - nwc	16	1.4	oth - nwc	13	2.0
bsc - nwc	16	1.4	ext - nwc	10	1.5
ext - nwc	14	1.2	nwc - oth- nwc	9	1.4
wwc - ext	13	1.1	alo - nwc	9	1.4

Table 6: Ten Most Frequent Individual Trajectories Across Household Structure Categories, by Gender, MIPopLab, 2000-2006

Women			**Men**		
Label number	Freq	Percent	Label number	Freq	Percent
3:3:3:3:3:3:3:3:3:NA:NA:NA	561	9.8	3:3:3:3:3:3:3:3:3:NA:NA:NA	605	11.3
7:3:3:3:3:3:3:3:3:NA:NA:NA	237	4.1	3:3:3:3:3:3:3:3:3:3:3	225	4.2
3:3:3:3:3:3:3:3:3:3:3	212	3.7	7:3:3:3:3:3:3:3:NA:NA:NA	220	4.1
10:3:3:3:3:3:3:3:3:NA:NA:NA	154	2.7	3:7:7:7:7:7:7:7:7:NA:NA:NA	155	2.9
3:7:7:7:7:7:7:7:7:NA:NA:NA	138	2.4	10:3:3:3:3:3:3:3:3:NA:NA:NA	120	2.3
3:3:3:3:3:3:3:3:3:3:NA:NA	78	1.4	3:3:3:3:3:3:3:3:3:3:NA:NA	78	1.5
4:3:3:3:3:3:3:3:3:NA:NA:NA	112	2.0	7:7:7:7:7:7:7:7:7:NA:NA:NA	62	1.2
10:3:3:3:3:3:3:3:3:3:3	70	1.2	10:3:3:3:3:3:3:3:3:3:3	53	1.0
3:4:4:4:4:4:4:4:4:4:4	61	1.1	7:3:3:3:3:3:3:3:3:3:3	48	0.9
4:3:3:3:3:3:3:3:3:3:3	59	1.0	3:5:5:5:5:5:5:5:5:5:5	47	0.9
Label summary			Label summary		
nwc	851	14.9	nwc	908	17.0
ext - nwc	237	4.1	ext - nwc	268	5.0
oth - nwc	224	3.9	oth - nwc	173	3.2
wwc - nwc	171	3	nwc - ext	155	2.9
nwc - ext	138	2.4	ext	62	1.2
nwc - wwc	61	1.1	nwc - mwc	47	0.9

Footnotes

[1] For more details on the DHS Wealth Index construction and methodology, see Rutstein and Johnson 2004.
[2] Also called *nuclear*, *modern*, *primary* or *conjugal* family
[3] In the household questionnaire, the marital status of members is only available in CDHS 2005. This makes the exact Hammel and Laslett (1974) typology impossible to reproduce, since the latter includes a distinction between *extended* and *multiple-generations* households. For this reason, this paper will use a single, combined typological category and use interchangeably the terms *extended*, *multiple*, *joint* or even *stem* family.
[4] Children include those who are adopted or fostered.
[5] Polygamy, which is not legal but continues to be mentioned in Cambodia, is very rarely reported in these surveys: for only 0.1% of households in the 1998 census, 0.05% in the CDHS 2000 and 0.07% in the CDHS 2005.
[6] We just compared the structure (in 2005) of households including all young children (recent fertility) versus those only including children aged more than 6 in 2005.
[7] We focus here on Cambodia and provide data for Vietnam as a counterpoint, but did not intend a thorough investigation of family dynamics in Vietnam.