MIGRATION DURATION AND HOUSEHOLD ASSET CHANGE IN KANCHANABURI DEMOGRAPHIC SURVEILLANCE SYSTEM, THAILAND

SARANYA SUCHARITAKUL

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Thesis
entitled

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……
Mrs. Saranya Sucharitakul
Candidate

……
Assoc. Prof. Sureeporn Punpuing, Ph.D.
Major-advisor

……
Assoc. Prof. Philip Guest, Ph.D.
Co-advisor

……
Asst. Prof. Aree Jampaklay,Ph.D.
Co-advisor

……
Prof. Banchong Mahaisavariya,
M.D., Dip Thai Board of Orthopedics
Dean
Faculty of Graduate Studies
Mahidol University

……
Assoc. Prof. Kusol Soonthorndhada, Ph.D.
Program Director
Doctor of Philosophy
Program in Demography
Institute for Population and Social Research
Mahidol University

Thesis
entitled

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on
June 14, 2010

……
Mrs. Saranya Sucharitakul
Candidate

……
Prof. Aphichat Chamratrithirong, Ph.D.
Chair

……	……
Lect. Jawalaksana Rachapaetayakom, Ph.D.	Assoc. Prof. Sureeporn Punpuing, Ph.D.
Member	Member
……	……
Asst. Prof. Aree Jampaklay, Ph.D.	Assoc. Prof. Philip Guest, Ph.D.
Member	Member
……	……
Prof. Banchong Mahaisavariya, M.D., Dip Thai Board of Orthopedics	Assoc. Prof. Sureeporn Punpuing, Ph.D.
Dean	Director
Faculty of Graduate Studies	Institute for Population and Social Research
Mahidol University	Mahidol University

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SARANYA SUCHARITAKUL 4737971 PRDE/D

Ph.D. (DEMOGRAPHY)

THESIS ADVISORY COMMITTEE: SUREEPORN PUNPUING, Ph.D., PHILIP GUEST, Ph.D., AREE JAMPAKLAY, Ph.D.

ABSTRACT

Migration is employed as a strategy for improving the migrant's quality of life, especially in terms of economic opportunities. The impact of out-migration duration on household asset change was investigated in this present study. Longitudinal data collected continually and annually for five years by the Kanchanaburi Project were employed. This study followed only households that continuously provided migration details of household members from 2000 to 2004. Household durable assets during the years of 2000 and 2004 that were reported were also important for this study.

Findings revealed that the changes in household assets and the duration of migration were significantly related to the change of household consumer assets and productive assets. Households which had members migrate out for longer periods of time tended to have smaller increases in assets than those with a shorter duration.

The findings suggest that out-migration should not be encouraged. If migration is necessary, a shorter migrate out time should be encouraged rather than a longer one. The findings can have implications for poverty reduction policies and rural development.

KEY WORDS: MIGRATION/ OUT-MIGRATION / MIGRATION DURATION / KANCHANABURI DSS / HOUSEHOLD ASSETS

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ระยะเวลาย้ายถิ่นกับการเปลี่ยนแปลงทรัพย์สินครัวเรือนในระบบเฝ้าระวังทางประชากรกาญจนบุรี
MIGRATION DURATION AND HOUSEHOLD ASSET CHANGE IN KANCHANABURI DEMOGRAPHIC SURVEILLANCE SYSTEM, THAILAND

ศรัณยา สุจริตกุล 4737971 PRDE/D

ปร.ด. (ประชากรศาสตร์)

คณะกรรมการที่ปรึกษาวิทยานิพนธ์: สุรีย์พร พันพึ่ง, Ph.D., PHILIP GUEST, Ph.D.., อารี จำปากลาย, Ph.D.

บทคัดย่อ

การย้ายถิ่นของสมาชิกครัวเรือนเพื่อการทำงานต่างถิ่น เป็นกลยุทธ์หนึ่งที่ส่งผลต่อคุณภาพชีวิตและโอกาสทางเศรษฐกิจของผู้ย้ายถิ่นและครัวเรือน การย้ายถิ่นในระยะเวลานานต่างกันอาจส่งผลที่แตกต่างต่อการเปลี่ยนแปลงทรัพย์สินของครัวเรือนของผู้ย้ายถิ่นนั้น วิทยานิพนธ์ฉบับนี้มีวัตถุประสงค์เพื่อศึกษาผลกระทบของการย้ายถิ่นออกรวมถึงระยะเวลาการย้ายถิ่นที่มีต่อการเปลี่ยนแปลงทรัพย์สินของครัวเรือน การศึกษานี้ใช้ข้อมูลของครัวเรือนที่ได้ให้สัมภาษณ์ต่อโครงการกาญจนบุรีต่อเนื่อง 5 ปี ซึ่งมีประโยชน์มากต่อการศึกษาทรัพย์สินครัวเรือนที่เปลี่ยนแปลงหลังจากผ่านช่วงเวลาหนึ่ง โดยข้อมูลประวัติการย้ายถิ่นของสมาชิกในครัวเรือนในช่วงเวลาที่สอดคล้องกันนับเป็นปัจจัยสำคัญที่นำมาศึกษาผลกระทบต่อการเปลี่ยนแปลงทรัพย์สินนั้น

จากผลการศึกษา พบว่าระยะเวลาของการย้ายถิ่นออกของสมาชิกครัวเรือน มีผลกระทบต่อการเปลี่ยนแปลงทรัพย์สินกลุ่มที่ใช้เพื่อการอุปโภคทั่วไป และทรัพย์สินกลุ่มที่ก่อให้เกิดรายได้ อย่างมีนัยสำคัญ ครัวเรือนที่มีสมาชิกย้ายถิ่นออกในช่วงเวลาที่นานกว่ามีแนวโน้มที่จะมีทรัพย์สินเพิ่มขึ้นน้อยกว่าครัวเรือนที่มีสมาชิกย้ายถิ่นออกในช่วงเวลาที่สั้นกว่า ผลการศึกษานี้ทำให้ได้ข้อเสนอแนะว่าควรส่งเสริมให้ประชาชนทำงานภายในท้องถิ่นของตน และหากครัวเรือนมีความจำเป็นต้องย้ายถิ่นไปทำงานที่อื่นก็ควรย้ายเป็นระยะเวลาสั้นจะส่งผลต่อเศรษฐกิจครัวเรือนดีกว่าย้ายเป็นเวลานาน ผลการศึกษามีประโยชน์ต่อนโยบายลดความยากจนและนโยบายพัฒนาชนบท

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CHAPTER I
INTRODUCTION

1.1 Background and Rationale

Over the years, the National Statistical Office (NSO) has reported a gradual increase of migration in Thailand (NSO, 1962, 1973, 1983, 1993, 2002, and 2005). The number of internal migrants has risen dramatically since 1960. Data from population censuses taken every ten years reveal that among the Thai population aged 5 years and over, there were 0.8, 2.2, 3.1, 3.7, and 3.8 million migrants in 1960, 1970, 1980, 1990, and 2000, respectively (NSO, 1962, 1973, 1983, 1993, and 2002). The percentage of migrants has continually increased every round of the census from 1960 to 2000.

Country development policy involves migration. Areas with high economic activity provide jobs, which in turn attract working age migrants from all over the country. So, many people migrate from their places of origin to places that offer a higher rate of pay or more job opportunities, such as Bangkok or other big cities in the North, Northeast, and South. And migration rates from rural to urban in provinces and in areas have been gradually increasing. The duration of such migrations can be short or long. Both permanent and temporary migration can be studied by examining the length of time migrants remain away from home. Out-migrants who migrate and stay away from home for longer periods are more likely to end up as permanent migrants while those who migrate for shorter periods are more likely to be temporary migrants. And temporary migrants and permanent migrants may play different roles with regard to their left-behind households' economic status. Permanent migrants would likely spend their income on living expenses for themselves their family at the destination and thus contribute less support to their original household, while temporary migrants might be expected to contribute more support to the origin.

Migration is employed as a strategy for improving the migrant’s quality of life, especially in terms of economic opportunities (Chamratrithirong, 1983). Increases

in income benefit not only the migrants themselves, but also their original households (de Hann & Rogaly, 2002; Osaki, 2003). While some migrants move because their family is moving, many migrants (66%) move to Bangkok, as noted above, mainly for work and for a better chance at finding a job and increasing income (NSO, 2005). In addition to those who migrate to Bangkok, 33% migrate to other parts of the Central region and 21%, 15%, and 11%, respectively, migrate to the South, North, and Northeast regions (NSO, 2005).

Out-migration may be motivated by several reasons (Weeks, 2002) and is often used as a strategy for income diversification and livelihood improvement (Waddington & Sabates-Wheeler, 2003; de Hann & Rogaly, 2002). Remittances from migrant household members are useful to some household (Knowles & Anker, 1981; Osaki, 2003) as for purchasing some important things. Many poor households either encourage household members to migrate in the hope of increasing the household's standard of living or move all members to a new location in order to manage risk and reduce vulnerability.

However, migration can also result in negative changes to household economic status. De Hann (1999) argues that migration by the poor can lead to their exploitation, thus plunging them even further into poverty. Involuntary migration, especially, may prolong migrants' destitution (de Hann, 1999; Waddington & Sabates-Wheeler, 2003). Knodel and Saengtienchai (2005) found that although households in Thailand having out-migrants seem to enjoy a better financial situation, some households, especially the extremely poor ones, do not benefit economically from the migration of their members.

It can be said that improving economic status is one reason for any kind of migration. But in addition to migration per se there is the factor of duration to consider when assessing causes for increases in household wealth. The duration of out-migration affects household assets since out-migrants may adapt themselves to life at their destinations in various ways, including the ways they spend money (Avcan & Bery, 1996). Those who remain at their migration destinations for longer periods of time may have more chances to develop skills, abilities, and knowledge (Scott et al., 1999.) Out-migrant remittances could thus increase and be spent to increase the standard of living for the original household. Relationships between remittance

behaviors and duration of out-migration are various, sometimes positive, sometimes negative, and sometimes non-linear (Gibson et al., 2009; Grigorian & Melkonyan, 2008; Osaki, 2003; DeSipio, 2000 Funkhouser, 1995)

Although there are many studies aimed at investigating the impacts of out-migration on household assets (Ford et al., 2009; Garip, 2010; Osaki, 2003; Filmer & Pritchett, 2001) and the influence of out-migration duration on remittance behavior (Gibson et al., 2009; Grigorian & Melkonyan, 2008; Osaki, 2003; DeSipio, 2000 Funkhouser, 1995), duration is very rarely considered as the main factor influencing changes in household assets.

1.2 Links between Out-Migration and Household Assets

Migration can diversify income sources and thus potentially help manage or reduce risk and create savings or access to credit in order to reduce or prevent risk. Outcomes from migration can be direct and flow straight into the pockets of the poor but can also be indirect (Waddington, 2003), as shown in research from Mexico indicating that benefits may even occur to households that do not receive remittances (Taylor, 1999). There is also evidence that, through remittances, migration can reduce the vulnerability of both household and migrant, by promoting insurance.

Remittances can be both cash and in kind, both contributing to increasing household assets (Russel, Jacobsen, & Stanley, 1990). The use of remittances for living costs may range widely from meeting basic needs to consuming luxury items. Kok & Onan (2004) studied the use of remittances sent by international migrants to households in the country of origin and found among the 12% of all households receiving remittances, about 80% used remittances to improve their standard of living. However, households of different economic status spend remittances differently. Indeed, households at the place of origin can use remittances for consumption and household business purposes. Richer households tend to invest remitted earnings in various enterprises (either productive or unproductive), while poorer households are more likely to give priority to satisfying their basic consumption needs (Parnwell, 1993), and households in less-developed regions tend to spend more on daily expenses than those in developed regions. Taylor (1999) shows that for many poor households

and individuals across the world, remittances now constitute a major source of income, insurance, and capital accumulation.

Thus, some households might spend remittances on basic needs, which can also include electronic equipment such as televisions, telephones, and vehicles such bicycles and motorcycles, which can increase the comfort and convenience of household members (Wongboonsin, 1997). Households lacking these durable assets (poor households) might wish to add some of these items. Agricultural households with some members still working in agriculture may need to spend money for productive equipment such as pick-ups, trucks, and other agricultural vehicles (Panpiamrath, 2004). Durable goods that are neither basic needs nor productive assets and that are not essential for daily live but make people's lives more comfortable include cars, microwave ovens, and computers. Households having sufficient necessities, in other words the richer households, often nevertheless perceive that they "need" more and more of these "luxury" assets.

1.3 Consumer Society and Household Assets

Some changes in household assets, whether or not households have any out-migrants, may be affected by both social and economic influences. According to development scholars, Thailand has become a consumer society in which people now have access to consumer products more than before (Tanthuwanit, 2007); increases in household income have led to increased household consumption.

Both consumer assets used for basic needs and luxury assets that make for a more convenient life depend on household income, but productive assets, which are used for household income generation, depend not only on remittances and household income but also on household labor. Out-migration can increase household income and decrease household labor. Once a member who is of working age migrates out, his or her household will lose a worker for household business (Srisantisook, 2007). For agricultural households in particular, changes in productive assets brought about by out-migration may cause them to be poorer than those households with no out-migrants.

In general, consumer assets are more affordable than luxury assets since they tend to be cheaper and involve lower-level technology. Household income influences the type of consumption, but ideally spending can serve both basic and convenience needs. Even with small remittances or low household income, for example, one can usually afford a television or a bicycle but not an air-conditioner or a car. The number of household assets relates to the amount of time it takes to accumulate them. While increases in some consumer assets can be observed within a short period of time, increases of luxury assets may require longer to be observed.

Area of residence, education, and household economic status are all factors affecting the accumulation of household assets. Urban dwellers generally have a more luxurious, "higher standard" life than do rural people, which can easily be observed by comparing clothing and possessions belonging to each group (Sengpracha, 1994). Traditionally, there was more modernization evident in urban than in rural areas. However, rural areas nowadays are also modernizing, a process aided by more convenient transportation. Households in rural areas can now easily access electronic devices and high tech equipment such as televisions, motorcycles, refrigerators and mobile phones (Srisantisook, 2007). Households whose heads have a higher level of education are more likely to purchase high technology assets. Richer households are more likely to purchase more luxurious assets, and rich agricultural households are more likely to adopt new agricultural technology than are poor agricultural households (Podhisita, 1985).

1.4 Migration Duration and Support Sent Back to Households in Thailand

Migration generates flows of resources from out-migrants back to their households. A report from a Thailand migration survey from July-September 2004 shows that in 2003 there were 3.6 million migrants aged 15 and over. Approximately 22% of them sent cash and in-kind goods back to family left behind in municipalities and villages. Migrant households used remittances mainly (85%) for consumer items such as food and clothes was well as durable assets, while 7% was spent on children’s education, 3% on debt repayment, and less than 2% on household business investment (NSO, 2004).

Remittance is one of the most important aspects of migration, particularly for the area of migrants' origin, but estimates of the volume of remittances vary considerably (de Hann, 1999) and are much underreported. While it is difficult to estimate the amount of remittances from international migrants, it can be even more difficult to determine the amount of remittances from internal migrants (de Hann, 1999). Most migrations covered in the Kanchanaburi DSS, by Institute for Population and Social Research (IPSR) of Mahidol University, were internal (IPSR, 2005). In this survey 902 returned migrants (85% of all migrants that returned in 2001) were interviewed concerning their cash and in-kind remittances to their original households during the year before their return. While remittances could still have been being sent from migrants still away from home, this information could not be gathered from such migrants because they were absent at the time of interview.

Remittances, which, as noted, are much underreported, are seen as investments in household assets that the out-migrant will later inherit (de Hann, 1999), so household assets can be seen as a reflection of out-migrants' remittances. Again, remittances can be made not only in terms of cash but also in kind. The use of remittances to meet living costs may range widely from basic needs such as the daily food, clothes, and medical care, to luxury consumption expenditures such as high technology machines, buying social status, and purchasing land (Islam, 1991; Osaki, 2003). For Thailand, Osaki (2003) considers household durable goods as household assets and has found that the coefficient of the index of durable goods was significant and positive with regard to the amount remitted. This indicates that migrant households with larger increases of durable assets were more likely to have received larger remittances.

1.5 Research Questions

- Can out-migration improve household assets?
- How is duration of out-migration linked to changes in household consumer assets, productive assets, and luxury assets?

1.6 Objectives of the Study

- To examine the consequences of out-migration on household consumer assets, productive assets, and luxury assets
- To investigate the impact of out-migration duration on household consumer assets, productive assets, and luxury assets

1.7 Summary

Migration is a strategy that households use in order to improve the quality of life of its members, and is a key factor involved in shaping development policies. Household assets and migration of household members can be linked. In general, households today have accumulated more assets when compared to previous times. Both migrant and non-migrant households have increased their assets. The present study aims to examine the differences in the accumulation of such assets. Moreover, the amount of remittances is related to how long such remittances have been made and the length of out-migration, which in turn may generate household assets. The present study will examine how the duration of out-migration affects the accumulation of household assets.

CHAPTER II
LITERATURE REVIEW

Since migration occurs throughout the world, many scholars have focused their research on this topic. Since migration directly relates to the economic well-being of household members, the present study focuses on increases in household assets and in household economic level in order to shape policies for managing migration and economic well-being.

Anyway, duration of migration is another main point for this study as it is a partly key condition for migrant's successfulness in the place of destination and possibility of remittance earned which indirectly relates with household asset.

This chapter discusses in detail the theoretical background of the New Household Economics Theory and Adaptation Theory and aims to provide a framework for the study. Later, duration of migration, remittances, and household assets are discussed in terms of their possible relationship. Information on Kanchanaburi province and migration, including Kanchanaburi Demographic Surveillance System data, are provided to explain the significance of the study area and source of data. Finally, influential factors affecting household assets are reviewed.

2.1 Theoretical Background

2.1.1 The New Household Economics Theory

The New Household Economics Theory explains the reason behind an individual's decision to migrate, which significantly relates to economic well-being. The theory notes that the decision to migrate is normally a household or family decision, not merely an individual one. It is the household that determines whether sending a household member out is beneficial and worthwhile as a resource diversification strategy, both in the place of destination and the place of origin, and

whether such resource diversification is more important than mere maximum income (Stark, 1991). In the developing world, including Thailand, household decision makers arrange household labor into activities and areas, for instance, by dividing household labor in agricultural activities, small business, or formal employment so as to diversify sources of income and to minimize economical risk (Massey, et al. 1993).

Diversifying a household's labor portfolio is important for risk reduction. Stark (1991) states deploying household members to work in different production units can reduce risk. For example, if one income producing source faces a problem that prevents members from remitting funds as usual, other sources could take its place. Stark (1984) has proposed a model of risk distribution and explains that a household's labor force is taken into an important production unit, and household members diversification via migration is a strategy of risk distribution, which provides a kind of insurance otherwise lacking, especially in rural areas.

Various researches have implicitly treated the issue of migration's impact on household economy. Gubhaju & Jong (2005) analyzed national migration survey data for South Africa to discover intentions for migrating, both short term and long term, for particular subgroups of males. Sex and marital status were also considered, and it was found that migrants tended to migrate in order to benefit themselves and that migrants' sex and marital status resulted in different resources to household (Gubhaju & Jong, 2005). In Northeast Thailand, female migration has been found to be more related to household risk factors than is male migration, and women perform a larger role in the household economy (Khunpukdee, 1999).

In conclusion, the present study focuses on the New Household Economics resulting from migration and proposes that decisions about migration are often made in the context of household economics, which places benefit to the household as a whole at the center of decisions to migrate (Gubhaju & Jong, 2005; Massey et al., 1993; Stark & Bloom, 1985). The New Household Economics theory argues that the decision to migrate is based on maximizing the gain for the household as well as minimizing risk. Especially in areas with weak institutions and unstable economic conditions, diversifying household income by sending members away minimizes risks (Tapinos, 2000). Consequently, remittances are the foundation of this theory, as they

increase productivity for households (Massey, 1993), and improve the standard of living for the migrant's household (Zachariah et al., cited by Massey, 1993).

2.1.2 Adaptation Theory

The complexity of human experiences is impossible to measure by examining a single aspect or using any particular theory. Human experience involves, among other things, psychological well-being, self-identity, and a desire for independence. Migration, as a key human experience, involves all these desires, which in turn are indicators of the benefits expected to derive from migration. Ideally, migrants can live well in the place of destination and enjoy psychological well-being and independence. If at least migrants' economic well-being is assured, it becomes possible for them to reside for long time in the place of destination. The process people undergo in adapting themselves to a new sociocultural context is explained by Adaptation theory.

Migrant adaptation refers to the process through which persons reorganize their lives after relocating to a new environment in the place of destination (Ryan et al., 2008). Migration adaptation may be meaningfully divided into either psychological/emotional or sociocultural/behavioral. The former refers to psychological well-being or satisfaction; the latter is related to the ability to "fit in," to acquire culturally appropriate skills, and to negotiate interactive aspects of the host environment (Ward & Kennedy, 1999).

The adaptation of migrants to a new environment depends largely on their ability to replace lost resources with new ones at the place of destination. Theoretically, potential migrants evaluate the "loss and gain" they would get from migrating. The loss can be examined in terms of personal, material, and social resources lost in the act of leaving or fleeing one's home and community (Ryan et al., 2008). Of course, economic loss is typically the first aspect to be evaluated, and in the short term migration leads to more of a loss more than a gain.

Migration adaptation is a necessary condition for migrants to achieve "gain over loss." Those who can adapt themselves fast at the place of destination tend to overcome stress and can be happy in the new environment (Kim & Gudykunst, 1987). Hobfoll (2001) claims that two strategies, resource replacement and resource

substitution, can be used for migration adaptation. He explains that when they migrate, migrants lose family and community support from the place of origin. But these losses can be replaced by support from friends, church members, and other community members at the destination. An example of resource substitution would be men who resign their role as household heads because of migration but who assume a more active role as breadwinners for their left-behind families.

According to adaptation theory, migrants can accumulate human capital over time since they may have eventually be able to get better, more secure jobs because of skills they have gained as a result of migrating. Thus, their earnings tend to increase, increasing the likelihood that greater remittances would be sent back to the place of origin (Scott et al., 1999).

2.2 Duration of Migration: A Cause of Household Economic Improvement

It is assumed that migrants' households can improve their economic status and standard of living by spending remittances on their needs. Thus, remittances gained from family members who have migrated are a powerful force for improving economic well-being and increasing assets of the left-behind household.

Remittance behavior is influenced by migration duration, and different durations of migration may have different impacts on changes in household assets. Successful migrations of different durations will have different effects on household welfare, depending on their reasons for remitting (Sadoulet, Janvry, & Lambert, 2000). Scott et al (1999) and Taylor & deBrauw (1999) have found that migrants who have left home for longer periods tend to accumulate skills, abilities, and knowledge. Hence, longer term migrants are more likely to earn more than are shorter term ones. Migrants who earn income presumably have chance to send money home (DeSipio, 2000). In addition, adaptation theory assumes that longer migration positively relates to higher remittances and increased assets for those remaining at the place of origin. Adaptation refers to changes that a person or group of persons make in response to environmental demands. It covers various meanings such as psychological adaptation, economic adaptation, and sociocultural adaptation (Aycan & Berry, 1996). Adaptation can occur immediately or can be extended over the long term (Berry,

1997). Short stays are sometimes negative while for longer stays adaptation is successful for most individuals (Beiser et al., 1988). Due to adaptation, migrants can accumulate their human capital over time. They may have more secure jobs and job prospects because they have developed greater skill and have reached more suitable arrangements in their daily lives. Thus, their earnings tend to increase, allowing for the possibility at least that their remittances might increase also (Scott et al., 1999.)

However, it cannot be concluded that mere duration of migration necessarily results in greater remittances and increases in household assets since the results of studies of the relationship between the duration of migration and remittances are mixed and inconsistent (Oberai et al., 1989). Grieco (2004) found that duration does not significantly influence migrant remittance behavior and that remittances tend to be maintained at constant levels over long periods. In addition, Gibson et al. (2009) found that remittances are negatively related to a migrant household member's duration of migration. Osaki (2003) found the percentage of migrants who remitted rose when the duration of migration was longer while, at the same time, the amounts remitted decreased. Grigorian and Melkonyan (2008), found an inverted-U shape relationship between the years away from home and the value of remittances. They also found an inverted-U relationship between years away and the probability of sending remittance. Furthermore, a study by Funkhouser (1995) that examined Salvadoran and Nicaraguan migrants hypothesized that the length of stay at the place of destination affected the likelihood of remittance. But this study showed that for Nicaraguans there was more likely to be a decrease in remittance behavior after living away for longer periods since living away longer resulted in Nicaraguans settling down and spending their money in their new homes. The fact remains, however, that change in migrant-household wealth concern remittances. The amount of remittance is sometimes found to be negatively related to duration (Gibson et al., 2009; Osaki, 2003) and sometimes found to be in a non-linear relationship with an inverted-U shape (Grigorian & Melkonyan, 2008.) In addition, migration duration also influences the productivity of the original household. Gibson et al. (2009) found evidence that remittances and income from household production are negatively related to the length of time a migrant has been away. This study notes, however, that this effect may be short lived.

Even thought the relationship between migration duration and remittance as well as changes in assets of family members in the place of origin is still debatable, the fact is that individuals may migrate more than once in their lives, and they might experience either economic adaptation or sociocultural adaptation through these migration experiences. A study by DeSipio (2000) on Mexican households that were receiving remittances from migrants found that the final year of their last migration influenced the likelihood of remitting as migrants are more likely to make their home in the place of destination, thus, there is a steady decline in likelihood of remitting. In other words, the longer the time spent living at the destination, the more likely it was for migrants to decrease their remittances. Thus, it is reasonable to say that long duration of migration might have negative effect on remittance back home.

2.3 Remittance and Household Assets

Household assets and remittances are examined here for understanding their relationship. Remittances could directly and indirectly relate to household assets of the family members in the place of origin. In Thai society, remittance sending is a responsibility of young migrants to support their aging parents and as such is an unavoidable responsibility that migrating children have to fulfill in order to improve their parents' quality of life (Siriboon, 1993). This sense of obligation can be witnessed in non-Thai cultures as well. DeSipio (2000), for example, proposes that “for international migrants seeking employment in United States, the desire to remit a portion of their earnings to their home countries is a time-honored custom.” Even though in the short term, at the household level, migration means the loss of productive labor, assets, and a reduction in income (Rozelle et al., 1999), in the long run migration is a selective progress. Migrants tend to be persons of relatively high capacity who can generate remittances and assets.

While remittances can be spent widely by a migrant’s household, at least some remittances are normally spent on new household assets. In Mexico, remittances are used for healthcare expenses, investments, payment of debts, consumer goods, and savings (DeSipio, 2000). In Guatemala, remittances are initially used for purchasing basic goods (food and clothing), but more recently, some households have started to

spend extra money on televisions and other electrical goods (Smith, 1979). In Thailand, migrant households use remittances mainly for daily expenses (food, clothes, and durable assets), children's education, debt payment, and investments (NSO, 2004). An additional study in Thailand notes the uses of remittances for weddings and funerals (Osaki, 2003). Thus, the relationship between household wealth and remittance is still debatable.

2.4 Kanchanaburi Province, Migration, and Kanchanaburi Demographic Surveillance System (KDSS) Data

Kanchanaburi is Thailand's third largest province and is located in the western part of the country. The province shares a long border with Myanmar and contains a variety of ethnic groups and migrants, both documented and undocumented, from Myanmar. The province is about two hours from Bangkok and is home to many industries. In addition, the province is an important producer of plantation crops and is one of the major tourist destinations in Thailand. Kanchanaburi is composed of 13 districts, 98 sub-districts, and 865 villages with 786,001 residents (398,639 males and 387,362 females) (NSO, 2000). Provincial data from the NSO reveal that 23.2% of residents had migrated at least once in their lives. The most significant internal, rural-to-urban migration has occurred among those of working age. According to an IPSR project report (IPSR, 2004), about 20% of the study population were migrants. About two-fifths of out-migrants in Kanchanaburi migrated to other places within the same the province, while another 36% moved to Bangkok and other provinces in the Central region.

The Kanchanaburi DSS was conducted by the Institute for Population and Social Research (IPSR), Mahidol University, and funded by the Welcome Trust. Data were collected from households, individuals, and communities each year from 2000 to 2004. In each round, about 42,000 individuals from about 12,000 households were interviewed. The selection of 100 field-site communities was structured to represent the diversity of social, economic, and ecological conditions found in the province. This dataset allows an examination of the effects of migration and remittances in urban or semi-urban and in rural.

2.5 Factors Influencing Household Assets

Migration is selective, which can confound inferences concerning households whose members migrate. Theoretically, different types of migrants provide support for their left-behind households differently. Some studies provide useful evidence as to how individual characteristics of migrants may affect remittance flows. Characteristics of household, the head of household, and area of current residence are also factors influencing on household assets.

2.5.1 Migrant's Gender

Migrant's gender is an important factor for predicting the increase of household assets. In many countries, migration streams to the cities have been dominated by men, but in several Asian countries, such as the Philippines and China, it seems that women's migration is at least as prevalent as that of men (Lauby & Stark, 1988).

Filipinas are among the most geographically mobile of Asian women. Their high rates of migration and their predominance over men in rural-urban migration are confirmed by data. In addition, a life-history information shows that women are more likely than men to migrate as teenagers, and that a high proportion of women's migration occurs well before marriage (Lauby & Stark, 1988). In the Thai context, in the Northeast, female migration has been shown to be more related to household risk factors than has male migration, and women in the Northeast tend to perform a larger role in the household economy (Khunpukdee, 1999).

In Thai society, women normally are the primary caregivers while men are regarded as the head of the family who have full responsibility to be the breadwinners (Wongsith, 1992). Thus, an increase in labor force participation among men seems a significant factor affecting the economic status of the family. On the other hand, studies have shown that female migrants are likely to remit more than do male migrants (Oberai et al., 1989). Similarly, a study in the Philippines notes that although normally a male earns more than a female, a female's remittances were found to be greater than a male's (Trager, 1984). So, it might be concluded that insofar as household assets as a result of migration are concerned, having female migrants tends

to increase the assets of left-behind family members owing to greater remittances on their part as compared to what is sent back by male migrants.

2.5.2 Household Size and Composition

Another variable examined in this study was household size and household composition which determined by the number of children, elderly, and labor-force-age persons. Household members share household assets. More members sometimes use more assets. Need for some asset -- such as mobile phones, bicycles, or cars -- is different among children, elderly, and labor age. Labor age has another role for providing income and assets to their household. A study by Changsom (2003) points out that the number and gender of labor-force-age persons are the criteria that families use to plan for the overall benefit of the household.

2.5.3 Place of Current Resident of Household

Urban/semi-urban and rural area plays different roles on both migration that might affect to household economy. Main occupation of Thailand is agriculture and most of agricultural area locates in rural. Results from researches related to residential area and its effect on migration are mixed. For example, since agriculture does not require as much labor during certain seasons, total household income of agriculture-based households can easily be increased through migration. It might be said that for households with insufficient income from farming seasonal labor migration is a feasible way to increase total household income (Vanway & Leah, 2004). Moreover, when there is little available land for cultivation, the farm labor needed would be less and thus migrants could lengthen their period of migration. Research by Hugo (1978) shows the relationship between land and circular migration in Java and points out that larger landowners produce enough to cover their consumption needs throughout the year, while smaller landowners and the landless migrate seasonally to supplement what they can earn on their own land and in their home communities (Hugo, 1978).

Using or not using land for agriculture results in different asset requirements, especially in terms of productive assets that are needed for agricultural activities. In rural areas, assets needed are more likely to be used for agricultural

support but, in urban areas, luxury assets to support a convenient lifestyle are much more perceived to be necessary. Also, asset requirements directly relate to asset ownership and well-being of the family.

As studies cited above, it might be assumed that the place of current residence of household (urban/semi-urban, and rural area) influences the likelihood of a household member migrating as well as the length of migration, which in turn affects accumulation of household assets.

2.5.4 Household Head Characteristics

Household head characteristics are the most important factors in determining the change of a household's assets. Sang-Ho (2007) investigated causes of poverty as measured by asset index, and found that sex, age, and education of the household head are the most important factors in determining whether a household is rich or poor in assets. In Thailand the incidence of poverty, measured by income, rises perceptibly for heads of households aged 70 or older (The National Economic and Social Development Board: NESDB, 2005). Household with female head having children has the highest rate of asset poverty (Caner & Wolff, 2002). In particular, households whose female heads were widows were found to be poor (Caner & Wolff, 2002; Krongkaew, 2001).

In terms of education, Krongkeaw (2001) mentions low level of education as a major characteristic of the rural poor in Thailand. It is evident that heads of poor households in Thailand have much lower levels of education than heads of non-poor households (NESDB, 2005). The education level of household heads should therefore be a considered dominant factor in determining changes in household assets.

In terms of occupational characteristics of the poor in Thailand, the majority are landless farm workers. Evidence in Thailand shows that among household heads, agriculturalists–as farmers and/or gardeners (that is, vegetable and fruit cultivators)–make up the highest proportion of the poor (NESDB, 2005). Krongkeaw (2001) found that the majority of the poor in rural Thailand were general laborers who worked either on farms or elsewhere, not farmers or agriculturists with their own land or businesses.

2.5.5 Household Assets

Household assets can indicate economic status. Durable goods are one type of asset that relate to the well-being of household members. Guest (2003) assessed the living standard of a household by the number of consumer durables owned. Prakongsai (2006) tried to measure household poverty by recording durable goods such as a television, VDO player, and washing machine, and proved that distinguishing the poor from the non-poor by looking at durable assets which correlates with both income and expenditure. Looking at households with some members who have migrated, Osaki (2003) investigated the role of migration on household economic status and found that households with more durable goods were likely to have received larger remittances (Osaki, 2003). Glytos (1993) observed that remittances have the effect, mainly, of increasing spending on things such as house construction, house improvement, and providing for basic needs. He claims that this kind of expenditure leads to long-term household investment. In the present study household assets are seen in terms of durable assets: consumer, productive, and luxury.

2.5.6 Ethnicity

Ethnicity and minority status can be an obstacle to gaining fair access to resources. Kusminder's 2000 study, “Experiencing ethnicity: Discrimination and service provision,” found at least five features that determined whether ethnicity was a cause of discrimination and unfair access to resources. Economic status and appearance are other points of discrimination. A study by Kuran and McCaffery (2004), based on a Web-based survey, argued that discrimination based on physical appearance and economic status was more prevalent than discrimination based on ethnicity. Respondents also reported that they themselves, by ethnicity, had been victimized as a result of physical appearance and economic status. In addition, a study of Japanese society on discrimination against the Ainu minority noted that there is a law called the Hokkaido Kyu-Dojin Protection Act of 1899, which lead to discrimination against this minority, as all schools were segregated and Ainu were taught Japanese history by Japanese teachers who showed no acknowledgment of Ainu culture and values. Forty years later, the educational system in that form

collapsed because Ainu children slowly stopped attending school, placing them at a great disadvantage in Japanese society. Today, most Ainu fall on the lower end of the economic ladder and often perform cleaning and other unskilled tasks for much wealthier Japanese (Voice of the Asia-Pacific Human Rights Network, 2001).

Given the research and studies cited above, it could be said that ethnicity and economic status might be the main causes of ethnic minorities being disadvantaged by mainstream society. It is frequently the case that ethnic minorities are poor and poorly educated, disadvantages that block their self-improvement and that can lead them to becoming even poorer. Strictly speaking, ethnic minorities are always poorer than Thai people (National Electronics and Computer Technology Center, 2003).

2.6 Conceptual Framework

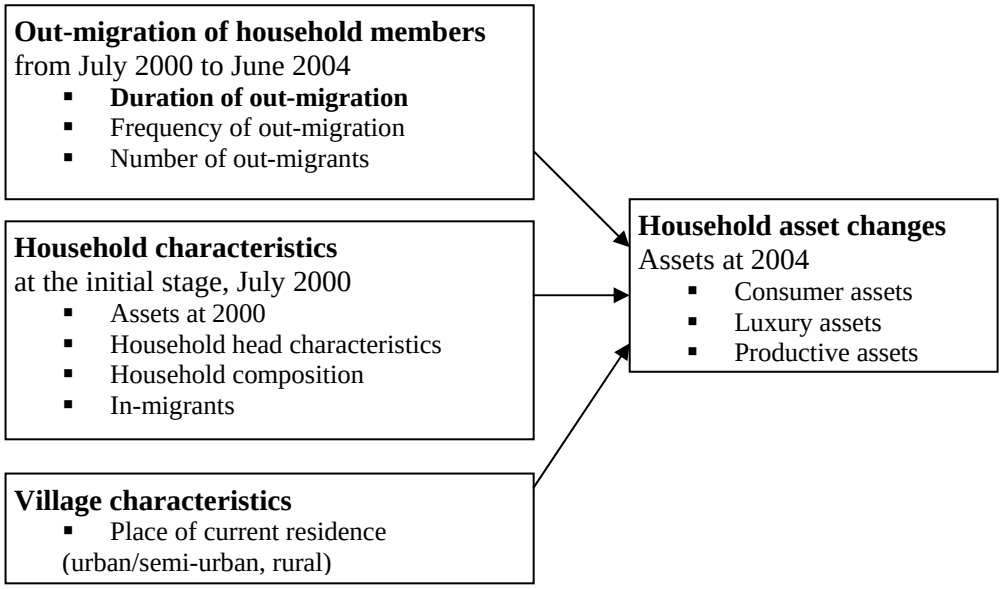

Figure 2.1 Conceptual framework

Different contexts may result in differ outcomes. It needs to be proved whether in Thailand a household member's migration results in support sent back to their original household, as measured by changes in assets. Therefore the framework

in this study is constructed according to the New Household Economics theory. A conceptual framework is shown in Figure 2.1. Household assets changes from July 2000 to June, 2004 are considered as effects of migration. In order to determine whether the change in household assets is a consequence of migration, details of migration experiences of household members will be taken into account. Demographic and socioeconomic characteristics of households are examined, namely, the number of labor-force-age members, the number of children, the number of elderly, the number of in-migrants (including returned migration of household members who had been moved out before the survey), household assets, and area of current resident of household. Characteristics of household head are included.

2.7 Hypotheses

1) Out-migration duration has impact on the change of consumer assets
2) Out-migration duration has impact on the change of productive assets
3) Out-migration duration has impact on the change of luxury assets

2.8 Summary

The literature reviewed here covers important issues for considering factors affecting changes in household assets–including duration of migration, remittances, the gender of migrants, household size and composition, location of household (urban/semi-urban or rural), household head characteristics (age, sex, education, and occupation), initial assets of households, and household ethnicity. Theories concerning the present study are the New Household Economics theory and the Adaptation theory. A review of the Kanchanaburi Demographic Surveillance System data increases understanding of base line data of the study area, gained from a longitudinal survey.

CHAPTER III
METHODOLOGY

3.1 Research Design

The impact of migration can have both short-term and long-tem influences on changes in household assets. For assessing the consequences of migration, the ideal research design would be longitudinal in order to accurately incorporate variation in consequences over time (Guest, 1996). Longitudinal data is also more beneficial than cross-sectional data for finding cause and effect (Rose, 2000; Guest, 2003). It is also more advantageous for studying change over time (Muffels, 2000).

In the present study, using a longitudinal design, data were collected continually and annually for five years by the Kanchanaburi Project. During the first round census (2000), the information was collected from 11,576 households. The numbers of households fluctuated in later years due to the establishment of new households in the study area, households moving out, or household members refusing to give information to interviewers. For the years 2001, 2002, 2003, and 2004, 12,630, 12,665, 12,353 and 12,540 households, respectively, were surveyed. Socioeconomic detail and details concerning migration are the main focus of this study.

In longitudinal studies some cases are inevitably lost and cannot be followed up over time (Winkels & Withers, 2000). The KDSS five-year longitudinal survey is also faced with this constraint. Thus, the present study aims to follow only households that continuously provided migration details of household members during 2000 and 2004. Household durable assets at 2000 and 2004 that were reported are also important for this study. Therefore, households that moved, refused to give information, were not available at the time of data collection, and new households that had moved in or established during 2001-2004 are excluded.

As noted above, data for each year were collected from more than 11,000 households, but finally there were only 8,266 households that provided important

information for all five years. The numbers of households from round to round are shown in figure 3.1.

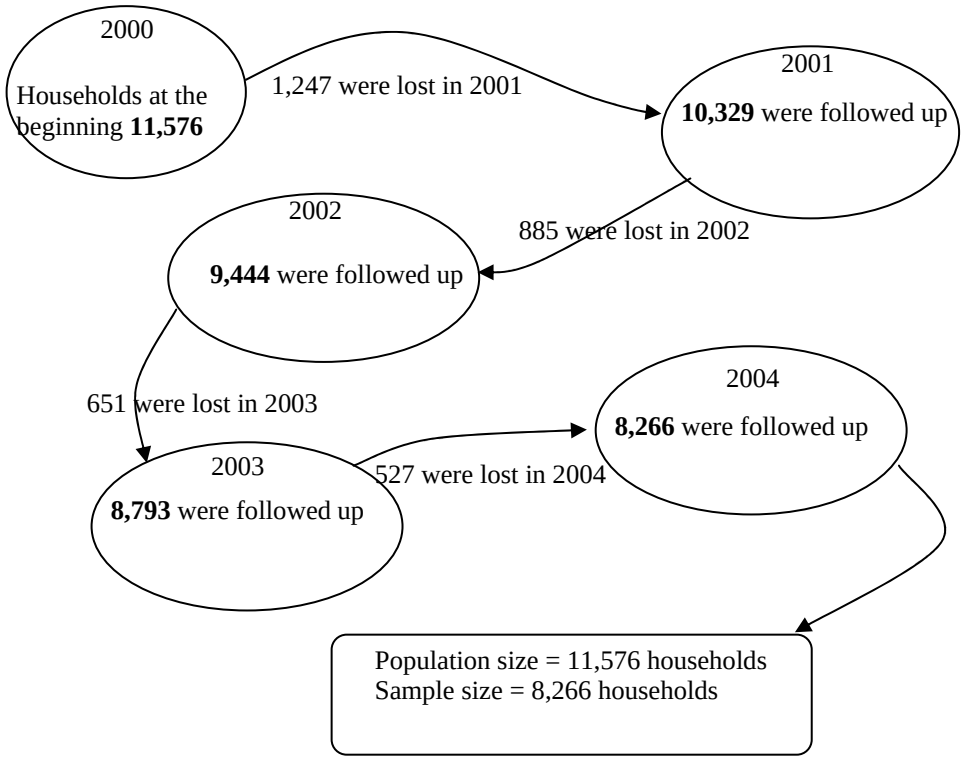

Figure 3.1: Number of households being interviewed, 2000-2004

Source: KDSS 2001-2004, IPSR-Mahidol University

3.2 Source of Data: KDSS

Longitudinal data from the Kanchanaburi Demographic Surveillance System (KDSS), carried out by the Institute for Population and Social Research (IPSR), Mahidol University, are employed for this study. The study area covered 100 villages/census blocks in Kanchanaburi province and distributed among urban/semi-urban areas and rural areas (IPSR, 2001).

In the present study, household assets and the duration of out-migration of household members are the two important factors. Asset holdings, as determined from the household questionnaire, and migration history, gathered from both the household questionnaire and individual questionnaires, are key variables in this analysis. To

observe changes in assets held between two points of time, durable assets (TV, VDO player, refrigerator, motorcycle, bicycle, home phone, mobile phone, car, air-conditioner, computer, microwave, washing machine, truck, pickup, local agricultural vehicle (*e-tan*), and other agricultural equipments), which were recorded in both 2000 and 2004, are taken into consideration. To observe out-migration, information from both the KDSS household and individual questionnaires are considered. The movement history of individuals who moved out of the village for at least one month during the year before a census was taken was recorded, including the date of moving out, destination, and reason for moving. If the individual was still at home, he or she would be interviewed monthly about his or her migration, but if the individual resided elsewhere at the time of the survey, household heads who knew members of their households well would be interviewed concerning the months that had passed since each absent member of the household had left. Both individual and household information regarding the months a household's members have been away are integrated and taken into account for this study.

A limitation of the present study is that there is no data on out-migration experience of household members before April 1999. Out-migration may in fact have a delayed effect on a household's well-being (Punpuing & Guest, 2009). Since pre-1999 data is not available, this study could more accurately be characterized as focusing on the impact of out-migration on changes in household assets over (only) a four-year period.

3.3 Operational Definitions

3.3.1 Definition of Household Assets

According to the KDSS, durable assets owned by a household cover both serviceable assets and inoperative assets that are going to be fixed. For the present analysis, only a household's durable assets that had been recorded at both the first and the fifth round of the survey were included. Durable assets are categorized into groups, following Filmer & Pritchett (2001), Ford et al. (2009), and Garip (2010), namely, consumer, mixed, and productive assets (Table 3.1).

Table 3.1 Assets arrangement comparison

Assets items	Consumer assets				Mixed assets	Productive assets			Luxury assets
	Ford	Filmer	Garip	**Present study**	Ford	Ford	Garip	**Present study**	**Present study**
Television	✓	✓	✓	✓					
VDO player	✓		✓	✓					
Refrigerator	✓	✓	✓	✓					
Motorcycle			✓	✓	✓				
Bicycle		✓		✓					
Home phone	✓			✓					
Mobile phone	✓			✓					
Car		✓	✓		✓				✓
Air condition	✓								✓
Computer	✓								✓
microwave	✓								✓
Washing machine	✓								✓
Truck					✓			✓	
Pickup					✓			✓	
Local agricultural vehicles (e-tan)						✓	✓	✓	
Other agricultural vehicles							✓	✓	

Sources: Ford et al., 2009; Filmer & Pritchett., 2001; Garip, F.., 2010

In this study, household durable assets are arranged into three groups which are consumer assets, productive assets, and luxury assets. Details of assets in each group are also presented in Table 3.1

In this study "consumer assets" included televisions, VDO player, refrigerators, motorcycles, bicycles, home phones, and mobile phones. Most household members in the Kanchanaburi DSS went to work and to school, and returned to home the same day, mostly by foot or by personal motorcycle. For details concerning the use household's assets, such as a motorcycle as a daily-use vehicle, a report of the KDSS baseline survey reports percentages of males and females aged 15-59 using personal motorcycles as 35% and 32.7%, respectively. For household members aged 4-14, the percentages of males and females using a personal motorcycle were 29.6% and 30.7%, respectively (IPSR, 2005).

"Productive assets" refers to agricultural equipment, namely, trucks, pick-ups, local agricultural vehicles (*e-tan*), and other agricultural vehicles. Fifty-five percent of households selected for the present study were using their land for agriculture, thus the importance of such productive assets. Assets not used to meet basic needs and nor mainly for production are considered luxury assets, namely, cars,

air conditioners, computers, and microwave ovens. Since a car is more expensive than a motorcycle, it is no surprise that the percentages of household members aged 15-59 using a car as and everyday vehicle are only 10.9% for males and 11.1% for females (IPSR, 2005). For day-to-day vehicle use, working-age persons traveling by car amounted to only one-third of those using motorcycles. Therefore, it could be claimed that the more expensive assets are less commonly owned by households. Similar findings from the KDSS point to the fact that in 2000, the percentages of households owning a computer, a microwave oven, or an air conditioner were only 2.7%, 5.1%, and 6.5%, respectively.

"Household" refers to a personal household composed of one or more members who reside together in the same house/place and share accommodation. They may be either relatives or non-relatives.

"Household assets" are separately measured by group, namely, total assets, consumer assets, productive assets, and luxury assets. The price of any particular asset item is not taken into account. Rather, the cumulative amount of each asset item is used for measuring household assets.

3.3.2 Definition of Out-Migration

Various operational definitions of migration can be used depending on the research objectives. The definition of migration involves space, time, and sometimes willingness to migrate. Migration can happen more than once. There is no absolute agreement on the definition of migration, and there is no consensus in defining a certain distance and time period. A person defined as a migrant in one study may not be so defined in another. For example, Lee (1966) defines migration as a permanent or semi-permanent change of residence. No restriction is placed upon the distance of the move or upon the voluntary nature of the act, and no distinction is made between external and internal migration.

Most migrants surveyed in the KDSS had moved internally and the time before they were able to remit funds back home was very short. Cross-sectional data about migrants' destinations suggested that almost all the out-migrants (99%) moved within Thailand, more than two-fifths moving to other provinces, most for employment and education (Punpuing & Guest, 2009; Jampaklay, 2006). Evidence

from the KDSS shows that 85% of out-migrants[1] who had remitted anything back home sent either money or material goods to their original households within the first month of their migration.

The definition of migration should be suitable for answering questions posed in the present study. According to the literature, migrants are expected to have some influence on the wealth of their households, and thus a migrant should be defined as a household member who moves away with the intention of either reducing economic risk or diversifying sources of household income. Sadoulet et al (2000) mention that successful migration will have differential effects on household benefits according to the reasons for remitting. This leads me to add "reason for migration" as an additional criterion for the definition. In addition, the duration of out-migration also needs to be considered so as to investigate its impact on household assets. Thus, I have taken into account the number of months a migrant has been away from his or her household during the observation period.

In summary, definitions concerning migration in this study take into account the following:

Household member refers to a person who was living in a household at the initial stage of the first round census, July 1, 2000, and was sharing food, accommodation, and living conditions.

Out-Migrant refers to a household member aged 15-59 who migrated out of his or her village during July 2000–June 2004 in order to work, look for a job, or for other reasons except education.

Household with out-migrant refers to a household with at least one out-migrant during July, 2000–June, 2004.

Household with no out-migrant refers to a household that did not have any out-migrant. In other words, it refers to a household in which every member resided in the household without moving to another village for one month or longer.

Duration refers to the number of months a migrant stayed continuously at a destination away from home.

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[1] Result from raw data analysis

3.3.3 Measurement of out-migration duration

In the present study, to account for migrants who migrate many times, durations for out-migrants are averaged per trip. For example, if a household has an out-migrant who migrated 6 months on the first trip and 12 months on the second trip, the average duration of out-migration is 9 months per trip. In cases in which a household has more than one migrant, the average durations of all out-migrants are employed to represent out-migration for their household. The duration of out-migration periods ranges from one month up to 50 months, while the duration is zero for households with no out-migrant.

3.3.4 Control variables: Household Characteristics

Confounding factors that might interfere with the prediction model are controlled in terms of household characteristics at the initial year of survey (2000). These consist of initial assets, land use, place of current residence (urban/rural), main language used, household head's characteristics (age, sex, education, and occupation), household composition (number of members of labor force age, number of children, number of elderly), and number of in-migrants. In addition, the number of migrations per out-migrant and the number of male/female migrants are also included in the models. Table 3.2 is an explanation on how these control variables were measured.

Household composition is sometimes measured in terms of dependency ratios, but sometimes in terms of the number of household members populating age groups. For those households with no members of labor force age, the simple number of members is employed instead of the ratio. This is to avoid coming up with a value of infinity for dependency ratios in cases where only elderly persons reside in a household. This model used in the present study, therefore, takes into account the number of children, the number of members of labor force age, and the number of older persons.

An assumption for this study is that households do not change their heads through all five years. Yet many household representatives reported that the current household head was not the same person as in the previous round. Since the characteristics of the head of a household are important in determining assets

accumulation, the household heads in the initial year of the survey are assumed to be the heads through all follow-up periods.

Table 3.2 Operations of control variables

Variables	Definition/Operation
Initial asset index	household's durable assets index in 2000 (consumer assets, productive assets, and luxury assets)
Place of current residence	0 rural 1 urban/semi-urban
Ethnicity of the family	Main language used in household 0 non-Thai 1 Thai
Age of HH head	Complete age (years) for household head at 2000
Sex of HH head	Sex of household head in 2000 0 male 1 female
Education of HH head	Number of years head of household enrolled in education at 2000
Occupation of HH head	Main occupation of household head in 2000 0 did not work 1 worked in agriculture 2 worked in non-agriculture
Labor force age	Number of household members aged 15-59 in 2000
Children	Number of household members aged 0-14 in 2000
Elderly	Number of household members aged 60 and over in 2000
In-migrants	Number of migrants ages 15-59 who moved into the household from July 2000-June 2004 Noted that an in-migrant may be a previous member of the household who had been away from home before 2000, the starting point of the survey

3.4 Representation

Two main characteristics, namely, household initial assets and the migration experience [2] of household members (in 8,266 households) are adjusted to be

[2] Both the sample households and the lost follow-up households have migration records of their members during April 1999 and June 2000, so migration experience for this period are applied to work with the representation.

representative for those characteristics of the total population (11,576 households). Three processes are applied: 1) a test of the difference between the sample households and the lost households, 2) if the first process is significant, a set of weights would be created as to multiply to all samples units so as to compensate information of the lost ones, 3) a test of the difference between the weighted sample households and the whole population in order to confirm whether the set of weights are appropriate for adjustment of the samples so that they are representative of the population.

Since initial household assets and household members' migration experience of those who were followed up and those who were absent at some point are significantly different, a weight method has to be applied to the sample households in order to accurately represent the total number of households. Migration experience of household members and initial household durable assets reported in 2000, at the beginning of the survey, are employed for categorizing. Household assets in 2000 are arranged into 5 quintiles: 1) very poor, 2) poor, 3) moderate, 4) rich, and 5) very rich. Migration experience of household members is categorized into 2 types: 1) households with at least one out-migrant in the previous year, and 2) households with no out-migrant in the previous year. A combination of the two main factors is then applied to categorize all households, resulting in 10 categories. Appropriate weighing is created by the formula

$$n_i w_i = N_i \text{,} \qquad i = 1, 2, \ldots, 10,$$

where n_i is the number of households, in class i^{th}, that were followed every year during 2000 and 2004. N_i is the number of households, in class i^{th} that were interviewed in 2000, at the beginning of survey, but that were interviewed during some years before 2004, the end of the survey. w_i is an appropriate weight that is used for adjustment characteristics of n_i to represent N_i.

After weighing the sample households (that is, the followed-up households), statistics were tested in order to confirm representativeness relative to the population at the household level. Analysis of the difference between the mean of both initial assets and the number of out-migrants, found no significance between the sample mean and the population mean. Table 3.3 and Table 3.4 indicate that sample households are able to represent all households by applying appropriate weights.

Table 3.3 Test for equality of mean for household assets between weighted-sample households and population of household

	Mean for household assets		p-value for t-test
	Followed-up households (sample)	Whole households (population)	
consumer assets	3.85	3.87	0.601
productive assets	0.47	0.49	0.451
luxury assets	0.51	0.53	0.094
N	8,266	11,576	

Source: KDSS data sets 2000-2004, IPSR.

Table 3.4 Test for equality of mean number of household's out-migrant between weighted-sample households and population household

	Mean for household assets		p-value for t-test
	Followed-up households (sample)	Whole households (population)	
Average number of out-migrants	0.20	0.21	0.134
N	8,266	11,576	

Source: KDSS data sets 2000-2004, IPSR.

3.5 Reliability for Assets Measurement

Assets are measured by the number of items occupied by household and the data are reliable as presented by table 3.5-3.7. Every household in the study area were interviewed about how many items they own for each asset details. Descriptive statistics as mean and standard deviation tell us that almost all kind of assets are increased with some variation. The alpha coefficients (α) of household assets, categorized into consumer assets, productive assets, and luxury assets, are, respectively, 0.75, 0.51, and 0.69. They are acceptable and the reliability of consumer assets is higher than that of luxury assets and productive assets. The reason is possibly because the consumer assets composed of more items than those of luxury assets and productive assets.

Table 3.5 Descriptive statistics and reliability for consumer assets – 2000 vs. 2004

Consumer assets	2000		2004	
	Mean	SD.	Mean	SD.
Television	0.83	0.72	1.07	0.76
VDO player	0.23	0.52	1.23	1.27
Refrigerator	0.69	0.59	0.84	0.61
Motorcycle	0.93	0.83	1.14	0.89
Bicycle	0.53	0.79	0.70	0.69
Home phone	0.11	0.34	0.14	0.38
Mobile phone	0.08	0.31	0.84	0.95
N (households)	11,576			
α	.7561			

Source: KDSS data sets 2000-2004, IPSR.

Table 3.6 Descriptive statistics and reliability for productive assets – 2000 vs. 2004

Productive assets	2000		2004	
	Mean	SD.	Mean	SD.
Truck	0.06	0.36	0.06	0.33
Pickup	0.26	0.51	0.33	0.57
Local agricultural vehicles (e-tan)	0.05	0.24	0.06	0.26
Other agricultural vehicle (pushcart, tractor, rice-thrasher, etc.)	0.08	0.30	0.19	0.50
N (households)	6,189			
α	.5113			

Source: KDSS data sets 2000-2004, IPSR.

Table 3.7 Descriptive statistics and reliability for luxury assets – 2000 vs. 2004

Luxury assets	2000		2004	
	Mean	SD.	Mean	SD.
Car	0.07	0.31	0.06	0.26
Air condition	0.10	0.45	0.13	0.51
Computer	0.03	0.24	0.08	0.31
Microwave	0.05	0.23	0.07	0.27
Washing machine	0.25	0.25	0.40	0.52
N (households)	11,576			
α	.6931			

Source: KDSS data sets 2000-2004, IPSR.

3.6 Methods of Analyses

Together with the weight method, both descriptive and inferential statistics are employed in order to investigate the contribution of migration duration on household assets. Descriptive statistics are used to explore important variables in household levels. Inferential statistics are also employed. ANOVA, t-test, and the chi square test are occasionally employed for bi-variate analyses. Multiple regression is employed for multi-variate analyses to predict the net effect of migration duration on household assets. The impacts of out-migration duration on consumer assets, productive assets, and luxury assets are investigated separately. The prediction model includes controlled variables, which are mentioned above.

3.7 Summary

In summary, to investigate the influence of out-migration duration on changes in household assets, longitudinal household data are employed. Households in the first round of the KDSS are the target for investigation and comprise 11,576 households. Due to the fact that some households were able to be followed up in later years, there are only 8,266 households in the sample. Before doing statistical analyses, a weighted method is applied to the sample so as to be representative of the population. Percentage, bi-variate analysis, and multi-variate analysis are occasionally employed for the analyses. Out-migration duration and assets are key variables, and confounding factors are also taken into account. "Duration" is defined as the average number of months during July 2000–August 2004 that an out-migrant stayed at a destination away from home per trip. Change in assets is observed by using figures of household assets in 2000 and 2004. Assets are separately analyzed in three groups: consumer assets, productive assets, and luxury assets. Confounding factors composed of initial assets, place of current residence, ethnicity of household, household head’s characteristics, household’s composition, and the number of in-migrants in the household. The number of out-migrants and the average number of migrations per out-migrant are also controlled.

CHAPTER IV
ASSETS, MIGRATION, AND HOUSEHOLD

This chapter describes household assets in 2000 and 2004 and the changes that took place over time due to migration. Duration of out-migration and out-migrants are also discussed here in terms of their influence on household assets. In-migrants are also included, in addition to household composition, location, and main language, as well as the age, sex, education, and occupation of the household head. Comparison of consumer assets and luxury assets are considered among 11,576 households, but that of productive assets which are mainly used for agriculture is considered among 6,189 households those used land for agricultural work.

4.1 Comparing Household Assets in 2000 and 2004

A comparison of the average number of household assets from 2000 to 2004 shows that the average change for consumer assets, productive assets, and luxury assets are 2.56, 0.19, and 0.24 items, respectively. Table 4.1 shows that for every asset group there were more mean assets in 2004 than in 2000. In 2000, the average number of consumer assets was on average 3.39 while in 2004 the average was 5.95. The average increase was 2.56 items per a household. The increase in the number of consumer assets was more than that of productive and luxury assets, which increased less than one item per household. Consumer assets in this study included television, VCD/DVD player, refrigerator, motorcycle, bicycle, home phone, and mobile phone. Luxury assets included car, air conditioner, computer, and microwave oven. Productive assets referred to agricultural equipment such as a truck, pick-up, local agricultural vehicles (*e-tan*), and other agricultural vehicles.

Figure 4.1 shows percentages of households whose assets increased, did not change, or decreased. The patterns of change in productive and luxury household assets are similar, but they differ from that of the consumer assets. Almost 16% of

households experienced no change in consumer assets, while 67.9 and 71.3% of those households that had productive assets and luxury assets experienced no change.

Table 4.1 Average household assets– 2000 vs. 2004

Year	Consumer assets	Productive assets	Luxury assets
2000	3.39	0.47	0.51
2004	5.95	0.66	0.75
compare 2004-2000	2.56***	0.19***	0.24***
N (households)	11,576	6,189[a]	11,576

Note: *** p-value < 0.001

Source: KDSS data sets 2000 and 2004, IPSR.

Figure 4.1 Patterns of assets change– 2000 vs. 2004

Source: KDSS 2000 and 2004, IPSR-Mahidol University

4.2 Household Assets with Respect to Out-Migration

This section starts with an overview of assets held by those households with and without out-migrants. Not only households with out-migrants, but also those

[a] Only agricultural households are selected

with no out-migrants had more assets in 2004 than in 2000. Bi-variate analysis shows that the changes in productive assets and luxury assets for households with out-migrants were significantly different from households with no out-migrants.

Table 4.2 Average assets by migration of household members– 2000 vs. 2004

Asset group	Year	Households	
		With no out-migrant	With out-migrant
Consumer assets	2000***	3.30	3.55
	2004*	5.89	6.05
	compare 2004-2000	2.60	2.50
	N (households)	7,076	4,500
Productive assets	2000	0.47	0.45
	2004*	0.67	0.60
	compare 2004-2000*	0.20	0.15
	N (households)	3,677	2,512
Luxury assets	2000*	0.53	0.47
	2004***	0.79	0.68
	compare 2004-2000**	0.26	0.21
	N (households)	7,076	4,500

Note: *** p-value < 0.001, ** p-value < 0.01, * p-value < 0.05

Source: KDSS data sets 2000 and 2004, IPSR.

The fact that there was an increase in productive assets of households with out-migrants as well as those with no out-migrants is significant. On average, the numbers of productive assets of households with out-migrants were 0.45 and 0.60 units, respectively, in 2000 and 2004, while those of households with no out-migrants were 0.47 and 0.67, respectively. Evidence shows that productive assets in 2000 of households with out-migration were not significantly different from those without out-migration, but significance was found in 2004. It could be said that households with out-migrants and households with no out-migrants were no different in terms of their initial productive assets but that, four years later, households with out-migration (and thus losing some members of labor force age) had less effect on increasing productive assets than did those without out-migration.

The changes in luxury assets of households with out-migrants and those with no out-migrants are also significant, reflecting increases in both cases. On average, the households with out-migrants had 0.47 and 0.68 units of luxury items in 2000 and 2004, respectively, while households with no out-migrants had 0.53 and 0.79 units, respectively. Evidence shows that in 2000 the luxury assets of households with out-migration were significantly less than those of households without out-migration. A significance difference was also found in 2004. Households with out-migrants had 0.26 pieces more than the previous four year while households with no out-migrant have 0.21 more items than they did in 2000. The change in the number of luxury assets between the two groups of households is significant. It might be said that at the beginning not only did households with out-migrants have fewer luxury assets than did those with no out-migrants, but even four years later the households with out-migration also had experienced less increase in luxury assets than did those without out-migration.

4.3 Number of Out-Migrants and Household's Assets

Information in Table 4.3 leads us to consider how the number of out-migrants plays a role in determining a household's assets. Between July 2000 and August 2004 there were 1,762 households (15%) whose members had never migrated out of their village, while there were 9,814 households (85%) whose members had migrated. Among those migrant households, most had only one out-migrant.

In addition to household assets, a household could also benefit through remittances from male migrants and female migrants. But since remittances to households in the study area may have been under-reported, durable assets, which may or may not be proxies of remittances, were studied instead. The remittances might be spent in various ways, including purchases of durable assets to be used by household members and, presumably, the more migrants, the more income sources for the household. If households tended to spend remittances on durable assets or if out-migrants remitted durable assets directly, the positive change in household assets should be evidenced in the present study.

Table 4.3 Average assets by the number of out-migrants– 2000 vs. 2004

Assets group	Year	Number of out-migrants in household			
		0	1	2	3+
Consumer assets	2000***	3.30	3.50	3.58	3.91
	2004***	5.89	5.96	6.04	6.82
	compare 2004-2000**	2.60	2.46	2.46	2.91
	N (households)	7,077	2,990	1,112	397
Productive assets	2000**	0.47	0.43	0.42	0.64
	2004***	0.67	0.58	0.57	0.82
	compare 2004-2000	0.20	0.15	0.16	0.18
	N (households)	3,677	1,694	585	233
Luxury assets	2000	0.53	0.48	0.46	0.47
	2004***	0.79	0.70	0.64	0.67
	compare 2004-2000**	0.26	0.22	0.18	0.20
	N (households)	7,077	2,990	1,112	397

Note: *** p-value < 0.001, ** p-value < 0.01

Source: KDSS data sets 2000 and 2004, IPSR.

Migrants can play not only positive roles, but also negative roles in household asset accumulation. Since the more members of a household, the more that is consumed, and since out-migration reduces the number of consumers living at home, out-migration can in turn reduce the number of household assets as well as household expenses. In one scenario, assets may actually decrease because the out-migrant may have taken some of them with him or her, for example, a mobile phone and/or a motorcycle.

Households with different numbers of out-migrants differed in the changes in assets they experienced. There were significant increases in consumer, productive, and luxury assets in 2004 compared to 2000 (Table 4.3). Households that had no out-migrant, one out-migrant, two out-migrants, and three or more out-migrants showed increased consumer assets (2.60, 2.46, 2.46, and 2.91 items, respectively). Productive assets increased by 0.20, 0.15, 0.16, and 0.18 items, respectively, and luxury assets increased by 0.26, 0.22, 0.18, and 0.20 items, respectively.

4.3.1 Male Out-Migrants and Household Assets

The averages of changes in assets for household with and without male out-migrants were significantly different for all three types of assets (Table 4.4). The data show that households with male out-migrants increased 2.44 units of consumer assets, 0.14 units of productive assets, and 0.19 units of luxury assets. The increase of assets for households with male out-migrants was significantly less than for those without male out-migrants. Since losing males of labor force age from a household means that there a fewer males at home, it is no surprise that incomes of households with male out-migrants may be less than that of households having all male members working nearby. A male who migrates out for work may or may not send cash or in-kind remittance back home, but this depends on the individual male out-migrant's behavior.

Table 4.4 Average assets of households with male out-migrants– 2000 vs. 2004

		Households	
Assets group	Year	Do not have male out-migrant	Have male out-migrant
Consumer assets	2000	3.38	3.43
	2004	5.99	5.87
	compare 2004-2000**	2.60	2.44
	N (households)	8,435	3,141
Productive assets	2000	0.47	0.45
	2004*	0.66	0.59
	compare 2004-2000*	0.20	0.14
	N (households)	4,430	1,759
Luxury assets	2000***	0.53	0.43
	2004***	0.80	0.62
	compare 2004-2000***	0.26	0.19
	N (households)	8,435	3,141

Note: *** p-value < 0.001, ** p-value < 0.01, * p-value < 0.05

Source: KDSS data sets 2000 and 2004, IPSR.

4.3.2 Female Out-Migrants and Household Assets

Changes in household assets among households that had and did not have female out-migrants were not significantly different in all three types of assets (Table 4.5).

Table 4.5 Average assets of households with female out-migrants– 2000 vs. 2004

Assets group	Year	Households: Do not have female out-migrant	Households: Have female out-migrant
Consumer assets	2000***	3.30	3.75
	2004***	5.85	6.35
	compare 2004-2000	2.55	2.59
	N (households)	9,114	2,462
Productive assets	2000	0.46	0.48
	2004	0.64	0.64
	compare 2004-2000	0.19	0.17
	N (households)	4,848	1,431
Luxury assets	2000	0.50	0.52
	2004	0.75	0.74
	compare 2004-2000	0.25	0.22
	N (households)	9,114	2,462

Note: *** p-value < 0.001

Source: KDSS data sets 2000 and 2004, IPSR.

4.4 Duration of Out-Migration and Household Assets

For households having at least one migrant, time spent as an out-migrant varied from one month to 50 months. With a confidence interval of 95%, the average duration for a period of migration per out-migrant was approximately 16–16.75 months. Figure 4.2 shows that 60.8% of households had no migrant (duration = 0), 17.6% had a per migrant period away from home of less than one year, 10.9% had one year and less than two years, 5.6 % had two years and less than three years, and 5.1% had three years or longer.

Data reveal the changes in household consumer assets, productive assets, and luxury assets between 2000 and 2004. All such changes were significantly different across ranges of time away from home (Figure 4.3). For out-migrant households, the longer a migrant stayed away from home, the smaller the increase in consumer assets. The changes in productive assets and luxury assets become obviously less once migrants have been away from home for 2-3 years.

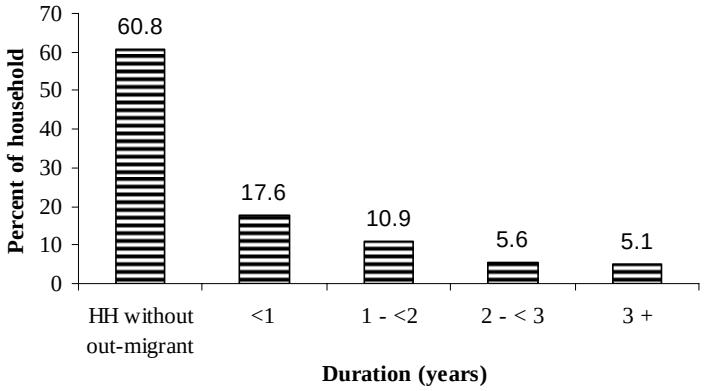
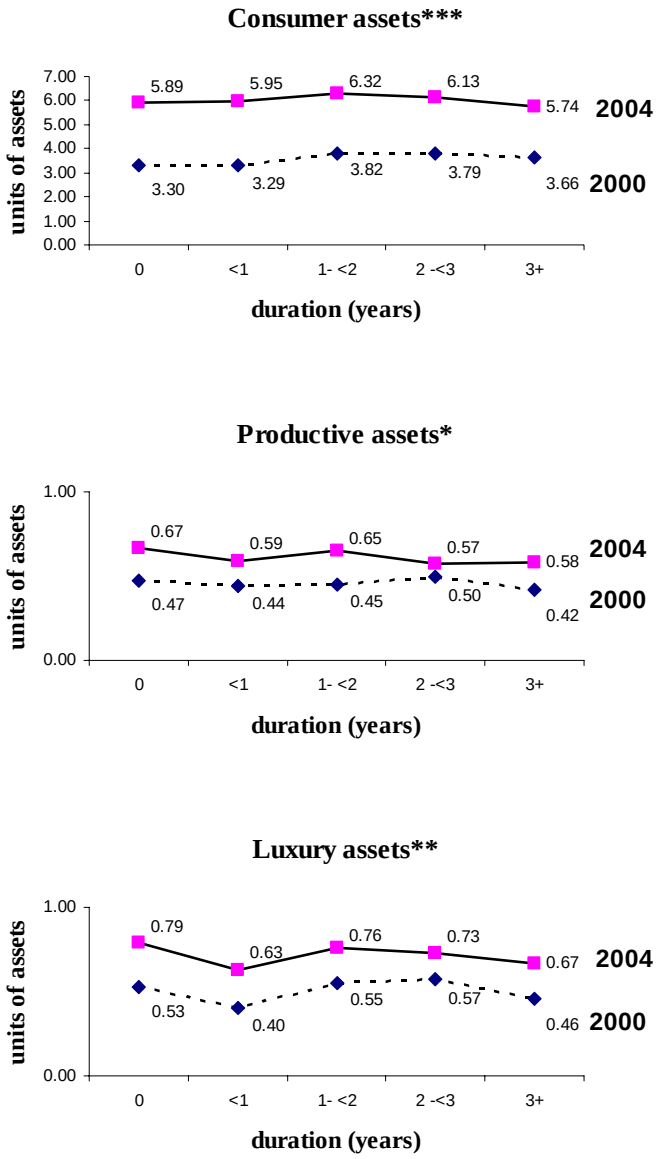


Figure 4.2 Distribution of households by duration of out-migration between July 2000 and August 2004

Source: KDSS data sets 2000-2004, IPSR.

Bi-variate analysis shows that duration related significantly to changes in assets. If a migrant spent two years or longer away from home, as shown in the line graph, his or her household experienced less of an increase in both productive and luxury assets. Some possible reasons for this might be that the migrant set up a new household, bought a new home, or simply was enjoying life away from home. For these reasons, out-migrants may need to spend more of their income for their own expenses rather than sending more of it back home. As a result, their left-behind households may enjoy less improvement in assets than do households whose out-migrant members spend shorter times away.

However, there might also be other reasons that affect changes in household assets. In the study area, for example, some out-migrants returned home after a period of time away. Return-migrants might have gained higher skills or knowledge while they were away. If the return-migrant can use such skills or knowledge to get a better job at home or for investment, it will have a positive impact on household wealth, as gauged by either household durable assets or other assets.



Note: *** p-value < 0.001, ** p-value < 0.01, * p-value < 0.05

Figure 4.3 Average number of household assets by duration of out-migration– 2000 vs. 2004

Source: KDSS data sets 2000-2004, IPSR.

4.5 In-Migration and Household Assets

The present study focuses mainly on out-migration. However, in-migration should not be omitted in light of its impact on household assets. In this study, in-

migrants refer to individuals aged 25-59 who were not residing in their households at the beginning of survey (July 2000) but who came to live there at any period between August 2000 and June 2004. Migration into a household might also affect changes in assets due to earnings from in-migrants' work or, on the other hand, consumption of assets at the newly joined household. From July 2001 to June 2004, there were 2,404 households (33.9%) that experienced in-migration of individuals of labor force age. Some households had only one in-migrant while some had more, as shown in Table 4.6.

Table 4.6 Average assets of household in households with in-migrants– 2000 vs. 2004

Assets group	Year	Households have in-migrant	
		No	Yes
Consumer assets	2000	3.42	3.35
	2004***	5.75	6.32
	compare 2004-2000***	2.33	2.97
	N (households)	7,408	4,168
Productive assets	2000	0.46	0.45
	2004	0.64	0.65
	compare 2004-2000	0.18	0.19
	N (households)	3,976	2,213
Luxury assets	2000***	0.53	0.46
	2004	0.74	0.75
	compare 2004-2000***	0.21	0.29
	N (households)	7,408	4,168

Note: *** p-value < 0.001

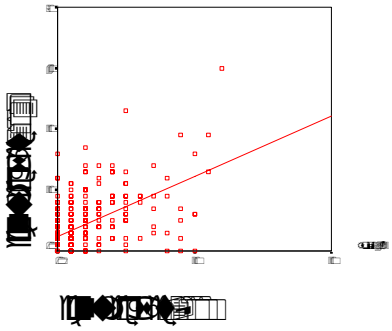
Source: KDSS data sets 2000 and 2004, IPSR.

In-migrants had significantly positive roles only on consumer assets and luxury assets (Table 4.6). Results show that households with in-migrants saw greater increases in consumer assets and luxury assets than did those with no in-migrants. Households with in-migrants had 3.35 items and 6.32 items of consumer assets, respectively, in 2000 and 2004. Households with in-migrants saw an increase of around 2.97 items of consumer assets within four years while those with no in-migrants increased an average of 2.33 items. Comparing the change in luxury assets

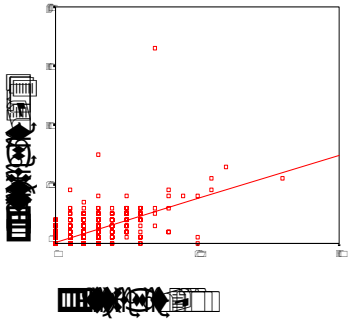
between 2000 and 2004 shows that households with in-migrants had 0.29 item improvement while those with no in-migrants had 0.21 item improvement.

In-migrants definitely increase overall household consumption. They might bring with them various assets or cash to be used at their "new" households. Sometimes, a household might spend some money to accumulate more assets in order to accommodate the in-migrants. It is also possible that an in-migrant becomes additional source of income for the household, thus increasing overall household income.

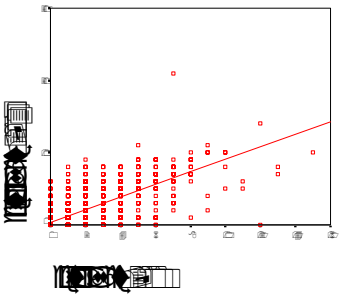
Consumer assets (r=0.70*)**



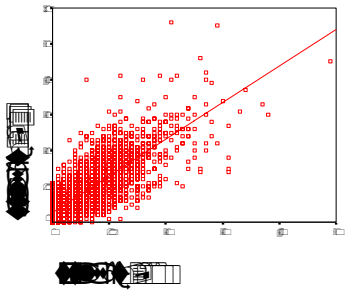
Productive assets (r=0.69*)**



Luxury assets (r=0.74*)**



Total assets (r=0.77*)**



Note: *** p-value < 0.001

Figure 4.4 Correlation between initial assets in 2000 and assets in 2004

Source: KDSS data sets 2000 and 2004, IPSR.

4.6 Initial Assets in 2000 and Assets in 2004

To understand the relationship between assets in 2004 and the initial assets in 2000, scatter plots are shown in Figure 4.3. The numbers of units at the initial stage

and the final stage are in a significantly linear relationship ($0.69 < r < 0.77$) for every group of assets. This reflects the fact that if a household in 2000 had more assets than did other households, it would also have more assets than others in 2004. The linear relationships are found from previewing and are shown in Figure 4.3. This figure led me to decide to use the initial assets as a control variable in my model of analysis.

4.7 Household Characteristics and Assets Change

4.7.1 Number of Children, Those of Labor Force Age, and the Elderly

On average, households in the study had 1.2 children, 2.2 labor force age members, and 0.4 elderly members. While children and the elderly merely use assets, members who are of labor force age not only use assets but also have the ability to contribute assets to the household through their income. Thus household composition influences household assets. Tables 4.7, 4.8, and 4.9 lead us to consider how the numbers of children, members of labor force age and the elderly influence household assets.

Table 4.7 Average household assets by the number of children–2000 vs. 2004

Asset group	Year	Number of children in household			
		0	1	2	3+
Consumer assets	2000***	5.55	6.22	6.35	5.59
	2004***	3.26	3.48	3.57	3.22
	compare 2004-2000***	2.29	2.75	2.78	2.37
	N (households)	3,878	3,641	2,738	1,319
Productive assets	2000***	0.63	0.63	0.71	0.58
	2004***	0.47	0.46	0.49	0.40
	compare 2004-2000***	0.16	0.17	0.23	0.18
	N (households)	1,951	2,013	1,526	699
Luxury assets	2000***	0.81	0.71	0.77	0.61
	2004***	0.56	0.47	0.50	0.45
	compare 2004-2000***	0.25	0.24	0.27	0.16
	N (households)	3,878	3,641	2,738	1,319

Note: *** p-value < 0.001

Source: KDSS data sets 2000 and 2004, IPSR.

The number of children is significantly related to consumer assets, productive assets, and luxury assets (Table 4.7). Households with two children had the greatest increase of productive assets compared to other households. Their productive assets increased by 2.78 items while other households increased by only 0.16-0.18 items. Consumer assets for households with one to two children increased by 2.75-2.78 items while those for other households increased by less than less than 2.40 items. For luxury assets, households with two children increased by 0.27 items. Increases in luxury assets for households with no child and those with one child did not differ from those with two children; the increases were 0.25 and 0.27 items, respectively, but households with three or more children increased by only 0.16 items.

Table 4.8 Average household assets by the number of labor age members– 2000 vs. 2004

Asset group	Year	Number of labor age in household				
		0	1	2	3	4+
Consumer assets	2000***	3.28	4.81	5.80	6.57	7.82
	2004***	1.85	2.69	3.19	3.86	4.74
	compare 2004-2000***	1.43	2.13	2.61	2.71	3.09
	N (households)	633	1,758	5,279	2,223	1,683
Productive assets	2000***	0.27	0.33	0.58	0.71	1.03
	2004***	0.23	0.25	0.40	0.53	0.74
	compare 2004-2000***	0.04	0.08	0.18	0.18	0.29
	N (households)	225	756	2,854	1,301	1,053
Luxury assets	2000***	0.34	0.65	0.74	0.80	0.94
	2004***	0.22	0.44	0.48	0.55	0.69
	compare 2004-2000**	0.12	0.21	0.26	0.25	0.25
	N (households)	633	1,758	5,279	2,223	1,683

Note: *** p-value < 0.001, ** p-value<0.01

Source: KDSS data sets 2000 and 2004, IPSR.

The number of household members of labor age was significantly related to the three groups of assets (Table 4.8). Evidence shows that the more members of labor age in a household the greater the increase in household assets. This is clearly evident for consumer assets and productive assets. Households with one, two, three, or four or

more members of labor force age increased their consumer assets by 2.13, 2.61, 2.71, and 3.09 items and their productive assets by 0.08, 0.18, 0.18, and 0.29 items, respectively. For luxury assets, households with no fewer than two members of labor force age increased by around 0.25-0.26 items while those with one member of labor force age increased by 0.21 items. Households with only children and/or elderly members and no members of labor force age increased the least for every group of assets.

Table 4.9 Average household assets by the number of elderly–2000 vs. 2004

		Number of elderly in household		
Asset group	Year	0	1	2+
Consumer assets	2000***	6.05	5.66	5.77
	2004***	3.33	3.45	3.70
	compare 2004-2000***	2.73	2.21	2.07
	N (households)	7,981	2,426	1,169
Productive assets	2000***	0.64	0.64	0.68
	2004**	0.43	0.50	0.55
	compare 2004-2000*	0.20	0.14	0.13
	N (households)	4,214	1,290	685
Luxury assets	2000**	0.75	0.72	0.79
	2004***	0.50	0.48	0.59
	compare 2004-2000**	0.25	0.24	0.20
	N (households)	7,981	2,426	1,169

Note: *** p-value < 0.001, ** p-value<0.01, * p-value<0.05

Source: KDSS data sets 2000 and 2004, IPSR.

The presence of elderly members was significantly related to the increase in every group of assets. Table 4.9 shows that households with no elderly had the greatest increase in consumer assets and productive assets compared to other households. Their consumer assets increased by 2.73 items while the households with one and two elderly members increased by 2.21 and 2.07 items, respectively. Productive assets for households with no elderly member increased by 0.20 items while those with one to two elderly members increased by less than 0.15 items. For

luxury assets, households with no elderly, one elderly, and two elderly increased by 0.25, 0.24, and 0.20 items, respectively.

Table 4.10 Average household assets by ethnicity of household–2000 vs. 2004

Asset group	Year	Ethnicity	
		Thai	Non-Thai
Consumer assets	2000***	3.70	1.01
	2004***	6.41	2.39
	compare 2004-2000***	2.71	1.38
	N (households)	10,278	1,298
Productive assets	2000***	0.51	0.09
	2004***	0.70	0.15
	compare 2004-2000***	0.20	0.06
	N (households)	5,516	673
Luxury assets	2000***	0.55	0.08
	2004***	0.81	0.15
	compare 2004-2000***	0.26	0.07
	N (households)	10,278	1,298

Note: *** p-value < 0.001

Source: KDSS data sets 2000 and 2004, IPSR.

4.7.2 Ethnicity of household

The main language used in a household is an indication of household ethnicity. If a household mainly used a language other than Thai for communication among household members, this suggests that it might be an immigrant household whose members have come from across the border. For example, Kanchanaburi province is located close to Myanmar, from which many migrants migrate, often illegally. Such migrants might be very poor and have very low education, which means less chance of getting a good job and a good income in Thailand. Their households might possess only basic necessities such as food, clothes, and medicine and only a few other assets such as a rice cooker and a mobile phone, the latter of which can be an affordable device for job seeking. In Kanchanaburi, non-Thai households include not only immigrant households, as discussed above, but also ethnic minority households on the Thai border. In the study area, 89% of households

communicated in Thai and 11% communicated in a non-Thai language, for the most part Karen. Mon, Burmese, and Lao were also used for inner-household communication in some households.

Thai households were found to have significantly greater increases in assets than did non-Thai households. This was the case for every group of assets. Thai households saw increases in consumer, productive, and luxury assets by 2.71, 0.20, and 0.26 items, respectively, while non-Thai households increased by 1.38, 0.06, and 0.07 items, respectively.

4.8 Characteristics of Household Heads and Household Assets

In Thailand, the household head is usually the most important member in any household. He or she may have more decision-making power than other members. This may include purchasing household assets that can be shared. Age, sex, education, and occupation are the characteristics of household heads that relate to asset accumulation and that are examined in this study.

Table 4.11 Average household assets by age group of household head–2000 vs. 2004

Asset group	Year	Age group of household head					
		<29	30-39	40-49	50-59	60-69	70+
Consumer assets	2000***	2.29	3.18	3.58	3.76	3.46	3.32
	2004***	5.37	5.95	6.34	6.23	5.61	5.17
	compare 2004-2000***	3.08	2.78	2.75	2.47	2.15	1.84
	N (households)	810	2,561	3,235	2,260	1,722	988
Productive assets	2000***	0.22	0.35	0.52	0.52	0.53	0.43
	2004***	0.36	0.59	0.73	0.69	0.65	0.57
	compare 2004-2000**	0.14	0.24	0.21	0.17	0.12	0.14
	N (households)	346	1,314	1,750	1,303	977	499
Luxury assets	2000***	0.32	0.47	0.55	0.58	0.49	0.46
	2004***	0.58	0.74	0.81	0.80	0.72	0.60
	compare 2004-2000***	0.26	0.27	0.27	0.22	0.24	0.14
	N (households)	810	2,561	3,235	2,260	1,722	988

Note: *** p-value < 0.001, ** p-value < 0.01

Source: KDSS data sets 2000 and 2004, IPSR.

A significant relationship between household assets and the age of the household head was found. Table 4.11 shows that households with younger heads had more accumulated consumer assets than those with elder heads. Those household heads aged less than 29, 30-39, 40-49, 50-59, 60-69, and 70 or higher increased their household consumer assets by 3.08, 2.78, 2.75, 2.47, 2.15, and 1.84 items, respectively. For productive assets, household with heads aged 30-39 increased their assets by 0.21 items, and those with heads aged 40-49 also by 0.21 items; other households increased by less than 0.18 items. Notably, the increase in luxury assets did not differ much among households no matter what the age of the household head; the range was 0.22 – 0.27 items. However, results show that household heads aged 70 or higher increased their household assets less than other age categories; the increase for this group of assets is 0.14 items.

Table 4.12 Average household assets by sex of household head–2000 vs. 2004

Asset group	Year	Sex of household head	
		Male	Female
Consumer assets	2000	3.42	3.33
	2004***	6.05	5.71
	compare 2004-2000***	2.63	2.38
	N (households)	8,315	3,261
Productive assets	2000***	0.49	0.36
	2004***	0.70	0.48
	compare 2004-2000***	0.20	0.12
	N (households)	4,744	1,445
Luxury assets	2000	0.51	0.5
	2004	0.75	0.75
	compare 2004-2000	0.24	0.25
	N (households)	8,315	3,261

Note: *** p-value < 0.001

Source: KDSS data sets 2000 and 2004, IPSR.

In the study area, 72% of households had male headship, and 28% had female headship, the latter of which had significantly less of an increase in consumer and productive assets than did households with male heads. Table 4.12 shows that

households with male heads increased their consumer and productive assets by 2.63 and 0.20 items while those with female heads increased by 2.38 and 0.12 items, respectively.

Table 4.13 Average household assets by education of household head– 2000 vs. 2004

Asset group	Year	Education of household head (years)					
		0	1-4	5-6	7-9	10-12	13+
Consumer assets	2000***	1.94	3.45	3.01	4.19	5.38	6.35
	2004***	3.65	6.01	5.96	7.38	8.72	9.84
	compare 2004-2000***	1.71	2.56	2.95	3.19	3.34	3.49
	N (households)	2,135	6,347	1,202	746	680	466
Productive assets	2000***	0.28	0.49	0.36	0.59	0.84	0.62
	2004***	0.38	0.67	0.56	0.86	1.19	0.95
	compare 2004-2000***	0.10	0.18	0.20	0.28	0.35	0.34
	N (households)	1,036	3,734	666	405	253	95
Luxury assets	2000***	0.15	0.39	0.37	0.75	1.29	2.35
	2004***	0.30	0.57	0.56	1.08	1.80	3.31
	compare 2004-2000***	0.15	0.19	0.20	0.33	0.51	0.96
	N (households)	2,135	6,347	1,202	746	680	466

Note: *** p-value < 0.001

Source: KDSS data sets 2000 and 2004, IPSR.

A household head's level of education was significant in determining changes in consumer and productive assets. In the study, the education of the household head ranged widely from no-education (0 years of education) to a diploma degree or higher (13 years of education or more). Most heads had at least a primary level of education (1-4 and 5-6 years of education). Table 4.13 shows that households with heads that had a higher education tended to have a greater increase in assets. Increases in luxury and consumer assets are most evident. Household heads with a diploma degree or higher increased their household luxury assets and consumer assets by 0.96 and 3.49 items, respectively, while those with only a high school degree (10-12 years of education) saw an increase of 0.51 luxury and 3.34 consumer assets. The remaining households had less of an increase in both luxury and consumer assets. Thus, the less education brings the less the increase to household assets. For

productive assets, the highest increase was in households whose head had a high school level education or more. These heads increased their productive assets by 0.34-0.35 items. Similarly, households whose heads had less education saw a smaller increase in productive assets.

Households whose heads worked in agriculture, in non-agricultural jobs, and who did not work differed significantly in terms of changes in household assets. There were 58% of household heads working in agriculture, 27% working in non-agricultural jobs, and 15% working as housewives or having no work. Table 4.14 shows that households with heads working in non-agricultural jobs saw an increase of 3.15 and 0.43 items in consumer and luxury assets, respectively, while households with heads working in agricultural jobs, as housewives, or who were unemployed had less of an increase in these two groups of assets than those whose heads worked in the non-agricultural sector.

Table 4.14 Average household assets by occupation of household head– 2000 vs. 2004

		Occupation of household head		
Asset group	Year	No work	Agriculture	Non-agriculture
Consumer assets	2000***	3.60	2.85	4.46
	2004***	5.76	5.24	7.61
	compare 2004-2000***	2.16	2.39	3.15
	N (households)	1,792	6,695	3,089
Productive assets	2000	0.52	0.45	0.48
	2004	0.66	0.64	0.66
	compare 2004-2000	0.14	0.19	0.18
	N (households)	590	4,872	727
Luxury assets	2000***	0.62	0.25	0.96
	2004***	0.80	0.42	1.39
	compare 2004-2000***	0.18	0.17	0.43
	N (households)	1,792	6,695	3,089

Note: *** p-value < 0.001

Source: KDSS data sets 2000 and 2004, IPSR.

4.9 Place of Residence and Household Assets

Place of current household residence was another factor influencing household assets since it directly relates to services and accessible infrastructure. For example, in urban/semi-urban areas, there are many main streets that are convenient for traveling by bus or car. In rural areas, on the other hand, many households work in agriculture and use pick-ups or local agricultural vehicles to travel anywhere they need to go, including daily commuting and transporting products. A motorcycle is a vehicle that is convenient both in urban and rural areas. Thus, in the study, the area of residence was taken into consideration because of its relationship to changes in assets. Area of residence can be categorized as either 1) urban/semi-urban or 2) rural area. Evidence shows that 94% of agricultural households were in rural areas while only 6% were in urban/semi-urban areas.

Table 4.15 Average household assets by place of residence of current household- 2000 vs. 2004

Asset group	Year	Place of residence of current household	
		Urban/semi-urban	Rural
Consumer assets	2000***	5.55	2.94
	2004***	8.59	5.39
	compare 2004-2000***	3.04	2.45
	N (households)	2,043	9,533
Productive assets	2000	-	0.46
	2004	-	0.64
	compare 2004-2000	-	0.18
	N (households)	-	6,189
Luxury assets	2000***	1.29	0.33
	2004***	1.79	0.51
	compare 2004-2000***	0.50	0.18
	N (households)	2,043	9,533

Note: *** p-value < 0.001

Source: KDSS data sets 2000 and 2004, IPSR.

As mentioned above, most agricultural households are located in rural areas, so the productive assets change in Table 4.15 is given for only rural areas. In this case, the comparison of changes for only consumer and luxury assets for urban/semi-urban and rural areas are considered. Households located in urban/semi-urban areas had a significantly higher level of improvement in terms of consumer and luxury assets than did those located in rural areas. For consumer assets, urban households saw an increase of 3.04 items, but for rural households this was 2.45 items. For luxury assets, urban/semi-urban households had 1.29 and 1.79 items, respectively, in 2000 and 2004, while rural households had increases of 0.33 and 0.51 items, respectively, during the same period. Thus, the luxury asset improvement in urban households was 0.50 units, which is significantly higher than it was for rural households.

4.10 Summary

Bi-variate analysis shows that changes in assets differed among households having different characteristics. Not only did out-migration per se influence these changes but also the numbers of in-migrants. Household assets at the end of survey amounted to more than existed at the beginning of survey. Other socioeconomic factors, such as household composition, characteristics of the household head, ethnicity, and location of the household also influenced household assets. This study, therefore, includes these variables altogether in the models for multi-variate analyses

CHAPTER V
IMPACT OF OUT-MIGRATION DURATION ON HOUSEHOLD ASSETS

This chapter analyzes the impact of out-migration duration by asset group. Multiple regression is employed, data are analyzed by household level, and the impact of out-migration duration on household assets in 2004 is investigated. The number of migrations per out-migrant and the numbers of both male and female out-migrants are included. Confounding factors, namely, initial assets, place of current residence, household head's characteristics, ethnicity of the household, household composition, and in-migration, are included in the model.

The analyses employed two models. The first covers the duration of out-migration directly related to change in household assets. The second adds the number of migrations per out-migrant, the number of male and female out-migrants, and other confounding factors to the first model. The initial level of assets, in 2000, was used for both models so that the change in household assets in 2004 could be observed.

5.1 Impact of Out-Migration Duration on Consumer Assets

The duration of out-migration had a significantly negative relationship with changes in household consumer assets (Table 5.1). Households sharing the same confounding factors and that had an out-migrant who was away from home for more than a year had significant fewer consumer assets than households that had no out-migrant. Households with a member who had migrated out for 12 to 23 months, 24 to 35 months, and 3 years or longer had, respectively, 0.28, 0.49, and 0.69 fewer increases in assets than households with no out-migrant.

A household member's long-term out-migration can result in a permanent loss of a source of household income. Indeed, if migrants move away for a long time, they may settle down at the destination, perhaps permanently, especially if they marry

and have children. In such cases, instead of remitting home at least some of their earnings, out-migrants might need to use all their income to support a spouse and children. If a household at origin loses income from the loss of a productive member who has migrated and then does not receive remittances from this person, its purchasing power would be less than that of a household with no out-migrant.

Table 5.1 Multiple regression for consumer assets in 2004

Household characteristics	Coefficient			
	Model 1		Model 2	
Consumer assets in initial year, 2000	1.025	***	0.809	***
Out-migration duration				
(ref: HH having no out-migrant, duration = 0)				
< 1 year	0.070		0.056	
12-23 months	-0.110		-0.279	*
24-35 months	-0.274	**	-0.491	***
3 years or longer	-0.526	***	-0.695	***
Number of migrations per out-migrant			-0.206	**
# of out-migrants (male, age 15-59)			-0.119	
# of out-migrants (female, age 15-59)			0.052	
Urban/semi-urban (ref: rural)			0.431	***
Age of HH head			-0.017	***
Female head (ref: male)			-0.083	
Education of HH head(years)			0.101	***
HH head working in agriculture (ref: did not work)			-0.113	
HH head working in non-agricultural job (ref: did not work)			0.360	***
Speak Thai as a main language in HH (ref: non-Thai)			1.515	***
# of children (age 0-14)			0.107	***
# of elderly (age 60+)			0.230	***
# of labor-force-age persons (age 15-59)			0.548	***
# of in-migrants (age 15-59)			0.506	***
Constant	2.515	***	0.644	***
R^2	0.55		0.60	
N = 11,576				

Note: *** p-value < 0.001, ** p-value < 0.01, * p-value < 0.05

Source: KDSS data sets 2000-2004, IPSR.

The number of migrations per out-migrant related significantly to the change in consumer assets. Households having out-migrants who migrated more

frequently had 0.21 fewer consumer assets than did those with migrants who migrated less frequently. Households located in urban/semi-urban areas had 0.43 more consumer assets than those did households in rural areas. This may be because urban/semi-urban households tend to have more opportunity for jobs or income-producing activities than do those in rural areas–and the more income, the more purchasing power.

Age, education, and occupation of the household head were also related to household assets. Households having a head who was ten years older than others in the household had 0.02 fewer consumer assets than did other households. Households of heads who had one level (that is, presumably three more years) of higher education more than other household heads had 3.0 more consumer assets. Households with heads working in non-agricultural jobs had 0.36 more consumer assets than did those with non-working heads.

Ethnicity also had a significant relationship with household assets. Thai households had 1.5 more consumer assets than did non-Thai households, which could consist of either legal or illegal immigrants. Non-Thai households therefore may have less secure work and income than do Thai households, and the lower the income, the lesser the ability to purchase assets.

Household composition was considered by taking into account the number of children, the number of labor-force-age members, and the number of elderly in household. Members who are of labor force age are both users of and contributors to household assets while, on the other hand, children and elderly are users. Holding other variables in the model constant, households having one additional member of labor force age had 0.55 more consumer assets than households with fewer members of labor force age. In addition, households having one additional child had 0.11 more consumer assets, and households with one additional elderly member had 0.23 more consumer assets.

In the study area, one-third of households had a labor-force-age person who had migrated from elsewhere into the household, providing the potential for increasing assets. Indeed, results show that households with an additional in-migrant had 0.51 more consumer assets items than households with one less in-migrant.

5.2 Impact of Out-Migration Duration on Productive Assets

Out-migration duration related negatively to the quantity of productive assets. Table 5.2 shows that households with an out-migrant who had migrated from 24 to 35 months had 0.17 fewer productive assets fewer than did households with no out-migrants.

Table 5.2 Multiple regression for productive assets in 2004

Household characteristics	Coefficient			
	Model 1		Model 2	
Productive assets in initial year, 2000	0.886	***	0.837	***
Out-migration duration				
(ref: HH having no out-migrant, duration = 0)				
< 1 year	-0.052	*	-0.035	
12-23 months	-0.012		-0.039	
24-35 months	-0.130	**	-0.171	**
3 years or longer	-0.052		-0.071	
Number of migrations per out-migrant			-0.051	
# of out-migrants (male, age 15-59)			-0.029	
# of out-migrants (female, age 15-59)			-0.001	
Urban/semi-urban (ref: rural)			-0.075	*
Age of HH head			-0.001	
Female head (ref: male)			-0.047	*
Education of HH head (years)			0.019	***
Speak Thai as a main language in HH (ref: non-Thai)			0.174	***
# of children (age 0-14)			0.009	
# of elderly (age 60+)			0.034	
# of labor-force-age members (age 15-59)			0.116	***
# of in-migrants (age 15-59)			0.031	**
Constant	0.257	***	-0.183	**
R^2	0.49		0.50	
N = 6,189				

Note: *** p-value < 0.001, ** p-value < 0.01, * p-value < 0.05

Source: KDSS data sets 2000-2004, IPSR.

Other factors influencing change in productive assets included place of current residence, sex and education of the household head, ethnicity of the household, number of in-migrants, and number of labor-age persons in the household. Rural

agricultural households had 0.08 more productive assets than did urban/semi-urban agricultural households. The number of labor-force-age members in agricultural households showed a significant positive relationship to productive assets. Households with one additional labor-force-age member had 0.12 more productive assets. Households with one additional in-migrant had 0.03 more productive assets.

5.3 Impact of Out-Migration Duration on Luxury Assets

Irrespective of other variables, out-migration duration showed a significant negative relationship to the change in luxury assets (Table 5.3). However, other factors may also influence the accumulation of household assets; no single factor should be considered as the sole factor affecting changes in household assets. Assuming that other variables in the model– number of migrations, number of migrants, household characteristics, etc.–are held constant, the duration of out-migration was not significantly related to changes in household luxury assets.

Other factors influencing changes in luxury assets included place of current residence, age, sex, education, and occupation of the head of the household, number of in-migrants, and number of elderly and labor-force-age persons in the household. Households located in urban/semi-urban areas had 0.35 more luxury assets than did those in rural areas. Households with heads 10 years older than other members of the household had 0.03 more luxury assets than did other households. Female-headed households had 0.08 more luxury assets than did households with male heads. Households whose heads had one level more (three more years) of higher education had 0.21 more luxury assets. In addition, households with heads working in non-agricultural jobs had 0.18 more consumer assets than did households with non-working heads. In this study, in-migrants, an additional source of household labor, were also found to have a significantly positive effect on procurement of luxury assets. Numbers of both elderly and labor-force-age members of a household also showed a significantly positive relationship with luxury assets. Households with an additional elderly member had 0.07 more luxury assets, and households with an additional labor-force-age person had 0.08 more luxury items.

Table 5.3 Multiple regression for luxury assets in 2004

Household characteristics	Coefficient			
	Model 1		Model 2	
Luxury assets in initial year, 2000	0.860	***	0.711	***
Out-migration duration				
(ref: HH having no out-migrant, duration = 0)				
< 1 year	-0.054	*	0.015	
12-23 months	-0.048		-0.008	
24-35 months	-0.105	**	-0.082	
3 years or longer	-0.059		-0.042	
Number of migrations per out-migrant			-0.027	
# of out-migrants (male, age 15-59)			-0.049	
# of out-migrants (female, age 15-59)			-0.018	
Urban/semi-urban (ref: rural)			0.353	***
Age of HH head			0.003	**
Female head (ref: male)			0.077	***
Education of HH head(years)			0.065	***
HH head working in agriculture (ref: did not work)			0.021	
HH head working in non-agricultural job (ref: did not work)			0.182	***
Speak Thai as a main language in HH (ref: non-Thai)			0.042	
# of children (age 0-14)			0.009	
# of elderly (age 60+)			0.072	***
# of labor-force-age persons (age 15-59)			0.075	***
# of in-migrants (age 15-59)			0.056	***
Constant	0.337	***	-0.422	***
R^2	0.49		0.55	
N = 11,576				

Note: *** p-value < 0.001, ** p-value < 0.01, * p-value < 0.05

Source: KDSS data sets 2000-2004, IPSR.

Changes in household assets and duration of migration are significantly related for household consumer assets and productive assets. Changes in household assets were recorded as asset items possessed in 2004, with the items counted in 2000 held constant. Frequency of migration, the number of out-migrants, the number of in-migrants, household characteristics, and household head characteristics all come into play when gauging changes in household assets.

5.4 Discussion

In general, households in the study area increased their assets through time. A mean comparison found that household assets in 2004 were significantly more than those in 2000: consumer assets increased by 2.56 items, productive assets by 0.19 items, and luxury assets by 0.24 items.

The main finding of this study is that the duration of out-migration was significantly related to the change of household assets, especially consumer assets and productive assets[2]. Households whose members migrated out for longer periods of time tended to have smaller increases in assets than those whose migrants were gone for a shorter period. Unfortunately, these results cannot be directly compared with other studies since studies examining the influence of out-migration on household assets are quite rare, if any exist at all. However, some studies do investigate the influence of migration duration on remittances and on migrant behavior. For example, Gibson (2008) and Funkhouser (1995) found a negative relationship between duration of migration and remittance. In addition, DeSipio (2000) found that migrants with longer out-migration durations were more likely to make their home in the place of destination. In the Thai context, a negative relationship between duration and amount of remittance was also found (Osaki, 2003). It might be inferred from this finding that the more time spent away from home the less that is remitted back home and thus the less of an increase in household assets.

The findings support the hypothesis regarding productive assets, comprised mostly of agricultural equipment and vehicles. One reason for this is that an agricultural household's labor is made up of people who use productive equipment for household farming or cultivating. Households that lose workers require less of an increase in productive assets while households in which members work on their farms require more of an increase. With respect to duration of migration, members who migrated for longer periods of time were less likely to return home and work in

[2] Of special interest is whether out-migration duration impacted changes in household assets. The number of months migrants stayed away from home is taken as the duration. Household assets during two points in time are noted so that changes can be seen. Duration and changes in assets can be observed in many ways–as continuous, ranges, and categories. The results of this study are confirmed in the same pattern or same direction in several different analyses: 1) multiple regression analysis by employing continuous duration and continuous asset change, 2) multiple regression analysis by applying range of duration and continuous asset change, and 3) multinomial logit model by a continuous duration and three categories of assets change: increasing, unchanged, and decreasing.

agriculture. It was found that the out-migration duration affects changes in productive assets and that the longer the out-migration duration the smaller the increase in productive assets. Shorter durations are more likely to represent temporary migrations, such as seasonal migrations, for example, to harvest sugarcane. Migrants who do such seasonal work are more likely to go return home and then do agricultural work for their farm. This leads to sustain agricultural production and sometimes increase productive assets for their households.

Findings here also support the hypothesis regarding consumer assets, namely, that general appliances are used or shared among household members for daily life. If households have higher income, they have more power to purchase things. Income of migrant households may come from both migrant remittances and non-migrants' labor while income of non-migrant households depends on members living and working at home. In a migrant household, if an out-migrant makes remittances back home, then household income can be increased. On the other hand, if an out-migrant needs support from home to be successful in a new location, then the household may have to spend money to provide this support instead of seeing improvements in the quality of life of members left behind. Therefore, it is possible that migrant households may experience less of an increase in consumer assets than do non-migrant households. Evidence from the study area also shows that the households whose members had migrated out for longer periods tended to have smaller increases in consumer assets than did those households whose migrants were away for shorter durations. Individuals who migrate out for longer durations are more likely to settle down at their destinations than are those who migrate for shorter durations. In this case, their household will not only lose labor–a source of income at origin–but will also lose expected income from migrants' remittances. As mentioned above, the shorter-term migrants are possibly more likely to be temporary migrants and are also more likely to spend their income at home for daily consumption, as well as assets accumulation, when they return home. In contrast, longer-term out-migrants are more likely to be permanent migrants and more likely to settle down with their new family at the migration destination, and thus be less likely to make remittances back home.

The hypothesis concerning luxury assets is not supported by the present study. This group of assets includes more expensive, hi-tech equipment used by

household members to make their live more comfortable and convenient. To afford such items, a household needs to accumulate a lot of money. In addition, household members need to know how to use them. Although bi-variate analysis suggests that the average of increases in luxury assets among households with out-migrants were significantly less than those with no out-migrants, we cannot conclude that this occurred irrespective of other confounding factors. Statistical analysis by multiple regression could not detect the impact of out-migration and its duration on the change in luxury assets.

Apart from the duration of migration, an investigation into the influence of out-migration on changes in household assets has also been carried out in Thailand. In a study of Nangrong district of Buriram province, out-migration was found to be a negative influence on productive assets but to have a positive impact on consumer assets (Entwisle & Tong, 2005). Results[3] from the present study are consistent with Entwisle and Tong (2005) in terms of productive assets but not for consumer assets. In the study area of the Kanchanaburi DSS there was also a study investigating the impact of out-migration on household assets (Ford et al., 2009), but it used a different period of migration compared to this study, thus their results differ. The results from this study may also differ from earlier studies of Entwisle and Tong (2005), at least partially, as well as that of Ford et al. (2009) for several reasons. The most important reason is likely to be the use of different definitions of a migrant. A "migrant" is generally defined as an individual who has migrated out of a boundary for a period of time (Ford et al., 2009; Osaki, 2003), but for the present study not only time and place but also reason for migration–to work, seek a job, or for other reasons, except for study–is used to define a migrant. This might explain our different findings. In addition, dissimilarities of time period and place of studies may introduce different factors that confound the quantity of increases in household assets. Thailand's consumer society nowadays allows for people to easily acquire assets. For example,

[3] Results from multiple regression analysis irrespective of migration duration and controlling for assets in 2000 and confounding variables shows that 1) one more male and female out-migrant affected household consumer assets in 2004 by -.45*** and -.29*** items, and 2) one more male and female out-migrant affected household productive assets in 2004 by -.12*** and -.09*** items, respectively.

people can by consumer items on credit, even at the village level, which results in greater numbers of assets in households.

Most confounding factors are consistent with earlier studies. Dependent-age members (children and elderly) are found to positively correlate with increases in assets. This result is consistent with that of Ford et al. (2009) but opposite to that of Entwisle & Tong (2005). Female migrants were found to have more of a positive impact on changes in household asset than were male migrants, which is similar to findings by Wongsith (1992), Trager (1884), Oberai et al. (1989), and Changsom (2003). In addition, household location, rural or urban/semi-urban, was found to play a role on the asset changes. This finding is supported by Hugo (1978) and Vanway (2004). Characteristics of household heads, namely, age, sex, education, and occupation, also strongly related to changes in assets. These characteristics have also been found to be significant by Sang-Ho (2007), Krongkeaw (2001), and NESDB (2005). Due to the fact that the study area is close to the Thai-Myanmar border, where the population is composed of various ethnicities (approximately 11% are non-Thai), ethnicity is another important factor affecting changes in household assets. The last factor in the model, the presence of in-migrants, also plays a positive role in changes in household assets.

5.5 Summary

Controlling for confounding factors, the impact of out-migration duration was found to be significantly negative in terms of increases in both consumer and productive assets but insignificant for increase in luxury assets. The factors controlled for were frequency of out-migrations, number of household out-migrants, number of in-migrants, place of current location of household, characteristics of household heads, and household ethnicity. Results from this study are for the most part consistent with those of other studies, but some inconsistencies remain, mainly due to the use of different definitions of "migrant." Other differences among various studies–differences in various details concerning migration, measurement of household assets, grouping of assets, study areas, periods of surveys, and other confounding factors–can affect the calculation of household assets.

CHAPTER VI
CONCLUSIONS AND RECOMMENDATONS

This chapter presents the main findings of the study, discusses policy implications, and offers recommendations for further studies.

6.1 Conclusions

This study investigates the impact of the duration of out-migration on changes in household assets, which are divided into three groups: consumer assets, productive assets, and luxury assets. It investigates whether the amount of time migrants spend away from home influences household assets. It hypothesizes that out-migration duration has impact on the change of 1) consumer assets, 2) productive assets, and 3) luxury assets.

To test the hypotheses, household consumer assets, productive assets, and luxury assets in 2004 are considered as the results of out-migrants' remittances. Assets possessed by households in 2000 are controlled so that changes in assets can be observed. Out-migration duration of household migrants is considered a factor that might affect changes in household assets. Other details of out-migration, namely, frequency of out-migration and the number of male and female migrants, are also taken into account. Location of household, household head’s age, sex, education, and occupation, ethnicity of household, number of children, number of working age members, number of elderly members, and number of in-migrants in households are also considered as factors that might complicate asset holdings of households.

Data come from the KDSS 2000-2004, conducted by the Institute for Population and Social Research, Mahidol University, Thailand, and funded primarily by the Welcome Trust, United Kingdom. To investigate the impacts of out-migration duration on changes in household assets, interviews were conducted in a target group of 11,576 households in the first round (in 2000). As is usual in such surveys, some

sample units were lost from longitudinal following up because interviewers could not conduct interviews in some of the original households in later years. At the end of survey, there were 8,266 households that continuously provided migration records of their members through all five years and gave assets information at the start and at the end of the survey. The 8,266 households were weighted and confirmed as being representative of the 11,576 households initially surveyed in terms of initial assets and number of out-migrants.

In this study, "household assets" are durable assets owned by a household and included both serviceable assets and inoperative assets that were going to be fixed. These assets are recorded in both 2000 and 2004. Consumer assets included eight items, namely, televisions, VDO players, refrigerators, motorcycles, bicycles, home phones, mobile phones, and washing machines. Productive assets included trucks, pickups, local-agricultural vehicles (*e-tan*), and other agricultural vehicles. Luxury assets included cars, air conditioners, computers, and microwave ovens.

To test the hypotheses, the time away of household member is analyzed to determine its impact on household assets. Households with no out-migrants are denoted by a duration = 0. Out-migration duration of a household is the number of months/migration/migrant. Study results show that households with out-migrants are significantly worse off than households with no out-migrant in terms of increases in both consumer assets and productive assets. With respect to out-migration duration, it was found that the longer the duration of out-migration, the greater the negative impact on changes in consumer assets. The changes in consumer assets of households whose members have been away for 12-23 months, 24-35 months, and 3 years or longer were, respectively, 0.28, 0.40, and 0.70 items fewer than households with no out-migration, and the change in productive assets of households with an out-migrant away for 24-35 months was 0.17 items fewer than for households with no out-migration.

Not only duration of out-migration but also frequency of out-migration is negatively significant relative to the change of consumer assets. The change in assets for households with an out-migrant doing one more time migration was 0.21 items fewer than for households whose members migrated less frequently.

Several socioeconomic factors confound assets change. Findings show that location of households, characteristics of household heads, age composition of household members, ethnicity of household, and the number of in-migrants in a household have different effects on changes in consumer assets, productive assets, and luxury assets.

The present study focuses on migration out of the village, town, or city. Out-migration duration is discovered to have a significant negative influence on changes of household consumer and productive assets but not on luxury assets. In addition, only certain periods of a migrant's time away from home are significant. It should be noted that these significances are from analyses of out-migration across short-distance border to a destination elsewhere. Migration to a farer distant destination requires more money. It is believed that if the boundary of migration were to change, the results might also change.

6.2 Recommendations

6.2.1 Policy Implications

Results from this study provide information with several broad implications with regard to reducing household economic risks. Since out-migration of working age household members as well as the duration of their migration have a negative influence on changes in household assets, out-migration should not be encouraged. If a household does decide to send out a member for work, the duration of time away from home should be shorter rather than longer. Findings here have implications for policies on poverty reduction and rural development.

Many households use migration as a strategy for increasing their economic status. While poor households may need more remittances from migrants to raise themselves out of poverty, members of such households may have fewer opportunities to advance their education, which would provide them with more and better job opportunities. A migrant who earns little and whose employment is not secure would find it difficult to remit much back home. As a result, poor households with out-migrants can end up worse off than those with no out-migrants. Poverty reduction

policies would thus best benefit poor households if they inform people of the negative economic consequences of out-migration as well as offering programs to encourage people to remain living and working at home.

Long-term migration can become permanent migration, resulting in a loss of productivity, especially in agricultural areas, due to the draining away of labor-force-age workers. Rural areas with a preponderance of young children and the elderly cannot be expected to be as swell off as areas with a healthy supply of working-age residents. Evidence supports the finding that agricultural households with out-migrants have fewer productive assets than do households with no out-migrants. It can be inferred that agricultural households with out-migrants have fewer workers at their disposal relative to households with no out-migrants.

6.2.2 Recommendations for Further Research

Investigation into the impact of types of migration on household economic change is interesting. Types of migration – long-term, short-term, or circular migration – could be distinguished by duration information and frequency of migration. Interestingly, monthly details of migration are useful for observing seasonal migration and its impact.

This kind of study should be encouraged in other areas of Thailand. The results of the present study apply only to study area of the Kanchanaburi DSS. In different areas in Thailand, contexts are also different, so it would be of interest to investigate the impact of migration duration in other areas. Findings from various areas of study could be compared or confirmed, and could provide useful national policy implications in the future. Broad and deep investigation into migration duration and its impact would be a great benefit to socioeconomic research, to policy development, and finally to families and their households.

6.3 Summary

Evidence from the study area supports the hypothesis that the duration of migration affects changes in consumer and productive assets of household. The relationships are negative. In other words, the longer a migrant spends away from

home, the less the increase in both consumer and productive assets. These findings can inform policies related to household economics, such as poverty reduction policies and rural development policies. However, evidence from different study areas may differ because calculation of increases in assets can be confounded by many socioeconomic factors, which might be different in different areas. If the impact of out-migration duration on increases in household assets were to be carried out in other areas of Thailand, the findings from various areas could be compared and confirmed. This would help lay the appropriate foundation for understanding just how the quality of life for households in each area could be improved.

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APPENDIX

Descriptive statistics for independent variables and confounding factors in the model analyses

Household characteristics	Mean	Std. Deviation
All households		
Out-migrant of household		
Duration (months) of out-migration per a migrant	6.36	11.44
Number of migration repeated per a migrant	0.65	1.04
Number of male out-migrant	0.32	0.57
Number of female out-migrant	0.25	0.51
In-migrant to household		
Number of in-migrant	0.58	0.95
Household head characteristics		
Age	48.46	13.96
Female	0.28	0.45
Number of years education	4.48	3.67
No work/ housewife	0.58	0.49
Agricultural work	0.27	0.44
Household composition		
Numbef of children in household	1.17	1.12
Number of labor-age in household	2.29	1.22
Number of elderly in household	0.42	0.69
Place of current residence of household		
Household in rural area	0.82	0.38
Ethnicity of household		
Thai	0.89	0.32
N=11,576		
Agricultural households		
Out-migrant of household		
Duration of out-migration per a migrant	6.70	11.73
Number of migration repeated per a migrant	0.68	1.08
Number of male out-migrant	0.34	0.60
Number of female out-migrant	0.25	0.52
In-migrant to household		
Number of in-migrant	0.56	0.92
Household head characteristics		
Age	49.01	13.53
Female	0.23	0.42
Number of years education	4.13	3.00
Household composition		
Numbef of children in household	1.20	1.11
Number of labor-age in household	2.44	1.22
Number of elderly in household	0.44	0.70
Place of current residence of household		
Household in rural area	0.91	0.28
Ethnicity of household		
Thai	0.89	0.31
N=6,189		

Source: KDSS data sets 2000-2004, IPSR

BIOGRAPHY

NAME	Mrs. Saranya Sucharitakul
DATE OF BIRTH	3 March 1965
PLACE OF BIRTH	Samutsakhon, Thailand
INSTITUTES ATTENDED	Institute for Population and Social Research Mahidol University, Thailand, 2004: Doctor of Philosophy (Demography)
FELLOWSHIP	Wellcome Trust, IPSR Mahidol University
POSITION&OFFICE	Lecturer Faculty of Environment and Resource Studies, Mahidol University, Nakhonpathom, Thailand Tel. 024415000 E-mail: enslw@mahidol.ac.th
PRESENTENTATION	1. “Poverty and Migration in Thailand: Case Study of the Kanchanaburi Demographic Surveillance System”. Institute de demographie. University catholique de Louvain, Belgium. 28-30th, Nov 2007. 2. “Out-Migration Duration and Household Assets Change in Kanchanaburi DSS, Thailand”. RGJ Seminar Series LXXIII Population and Social Sciences Research 2010 5 August 2010.