Assigned by Ministry of Agriculture, Forestry and Fisheries

Base Study on Impact of Population Issue on Agriculture and Rural Development

—KINGDOM OF CAMBODIA—

Focus on

Phnom Penh and Svay Rieng Province

March 2007

The Asian Population and Development Association

(APDA)

Foreword

This report is the product of “Base Study on Impact of Population Issue on Agriculture and Rural Development” consigned by the Ministry of Agriculture, Forestry and Fisheries to Asian Population and Development Association (APDA) in fiscal 2006 and was conducted in the Kingdom of Cambodia. The study and coordination were mainly performed by the domestic review panel created within APDA and headed by Dr. Shigeto Kawano, Professor Emeritus, Tokyo University.

Reduction of poverty and starvation as well as securing of sustainability are the pressing challenges included in the U.N. Millennium Development Goals requiring the support of international community and are positioned as priority item in Japan’s ODA Outline. The important tasks are deeply related to population issues including rapid population increase as well as rural-urban and urban-rural migration and various forms of inter-sectoral cooperation are being implemented to address these issues. For this reason, a broad range of information was collected in this study and problems were sorted out with regard to population issues in developing countries in order to propose the policy and points to keep in mind when offering cooperation in the field of agriculture, forestry and fisheries in the future as well as actual ideas of cooperation.

I would like to thank Mr. Hor Monirath, Director of Legal and Consular Department, Ministry of Foreign Affairs and International Cooperation(MFA/IC), and Mr. Lao Soksamphea, Bureau Chief of Consular Affairs, MFA/IC, and Mr. Kenji Kobayashi Second Secretary of the Japanese Embassy in Cambodia for their guidance and cooperation in conducting this study. I would also like to thank Dr. Dork Vuthy, Lecturer, Department of Sociology, for their enormous consideration and cooperation in overall preparations of the field survey.

In Japan, International Cooperation Division of International Affairs Department in Minister's Secretariat of Ministry of Agriculture, Forestry and Fisheries offered guidance and facilities with regard to the content of the study. I would like to take this opportunity to express my deep gratitude.

It is my hope that this report would contribute to promotion of effective cooperation between the agricultural and rural development programs of Vietnam and the Japanese Government.

This report has been prepared under the responsibility of our association and does not reflect the views or policies of the Japanese Government in any way.

March 2007

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Chairman,
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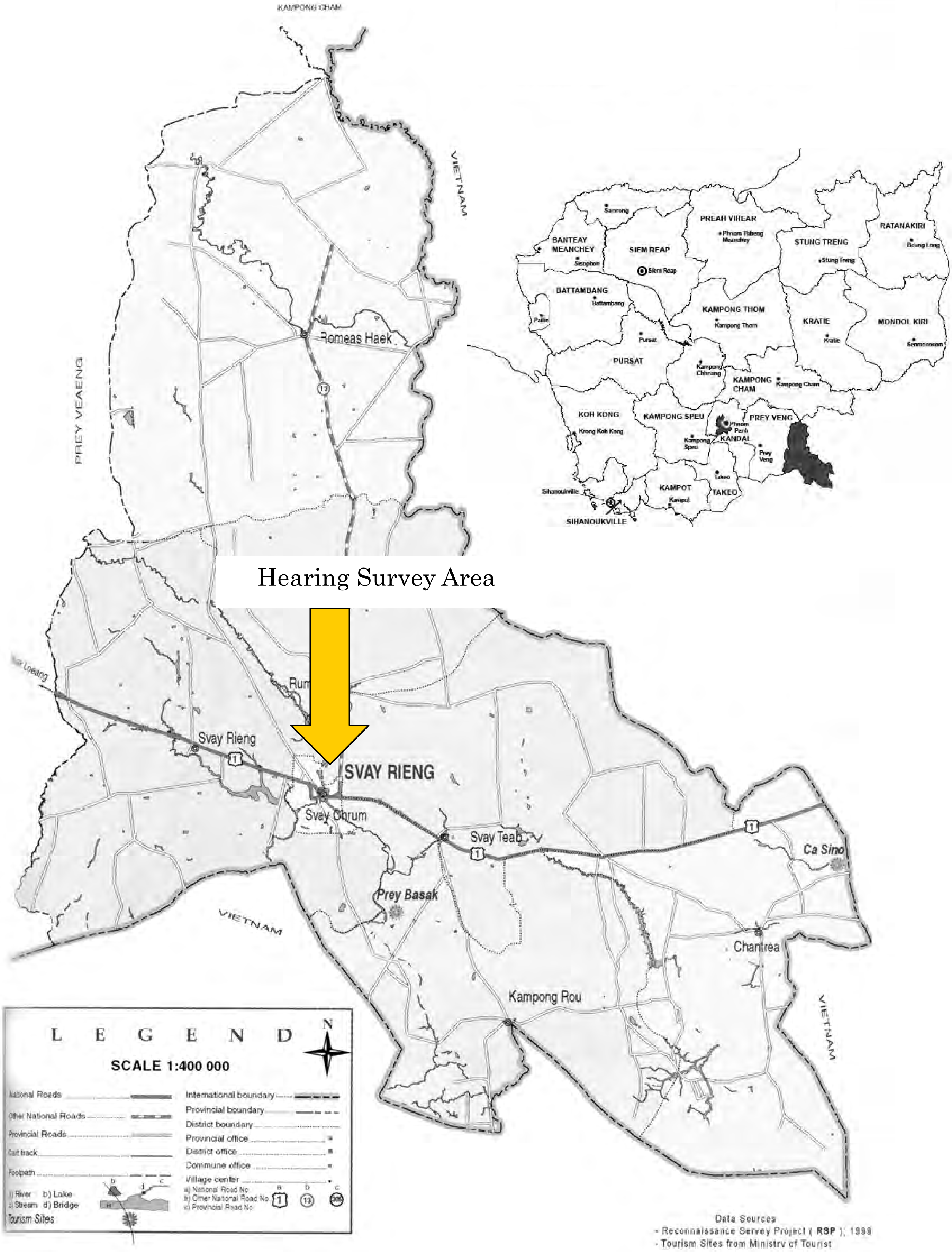

Hearing Survey Area
KAMPONG CHAM
VIETNAM
PREY VEAENG
Romeas Haek
Svay Rieng
SVAY RIENG
Svay Chrum
Svay Teab
Prey Basak
Ca Sino
Chantrea
Kampong Rou
LEGEND
SCALE 1:400 000
National Roads
Other National Roads
Provincial Roads
Cart track
Footpath
International boundary
Provincial boundary
District boundary
Provincial office
District office
Commune office
Village center
Tourism Sites
Data Sources
- Reconnaissance Servey Project (RSP); 1999
- Tourism Sites from Ministry of Tourist
PREAH VIHEAR
BANTEAY MEANCHEY
SIEM REAP
STUNG TRENG
RATANAKIRI
BATTAMBANG
KAMPONG THOM
KRATIE
MONDOL KIRI
PURSAT
KAMPONG CHAM
KOH KONG
KAMPONG SPEU
PREY VENG
KANDAL
KAMPOT
TAKEO
SIHANOUKVILLE

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Hearing Survey at Phnom Penh

Questionnaire survey for Moto-dob drivers.

Hearing Survey at Svay Rieng Province

Questionnaire survey for young villagers

Contents

Chapter 1　Cambodia Population

1. Overview of population in Cambodia

Population of Canbodia

Population of Cambodia has a structure that strongly reflects the history of the country (particularly that of the Pol Pot regime in the 1970s) and has an extremely irregular shape. For instance, the young account for a very large percentage of the entire population due to rapid increase in number of births in the post-Pol Pot era to create an extreme jar-shaped population pyramid. For this reason, it is necessary to pay attention to the following two points.

The first point that requires attention is the rapid increase in the population aged 14 years and under (the so-called child population) caused by the “second baby boom.” Rapid increase in young generation (“baby boomers”) occurred in Cambodia after the Khmer Rouge ruling ended. As a result of this rapid increase in births, the child population accounts for a very large percentage in the population structure which presents a risk of giving rise to the “second baby boom” when they reach their childbearing age. While total fertility rate (TFR), which refers to the average number of children that would be born to a women over new lifetime, is currently declining in Cambodia, population growth is predicted to further accelerate in Cambodia when the child population that swelled as a result of the first baby boom will give rise to the next round of baby boom and increase the size of population parameter. Total population of Cambodia, which is estimated at 12.82 million as of 2004, is predicted to reach 25.97 million by 2050.

The following aspects of the conditions existing at the backdrop of the prediction about the doubling of the present population require particular attention. The first among them are the decline in mortality including significant decline in infant mortality rate and the increase in childbearing age population. Decline in mortality is attributable to

substantial increase in international cooperation in the public health field that was took place as a result of advancement of peace in Cambodia and to increase in public health-related expenditure by the Cambodian government. Rapid decline in infant mortality is believed to be the outcome of international cooperation and efforts made by the Cambodian government. The second aspect is the anticipated explosion of male and female population in reproductive ages of 15 to 49 years. The third aspect concerns the trend of TFR observed in the recent years. The review of impact of population increase will be centred around these conditions.

The second point worthy of note is the impact brought about by the entry of large child population into the labour market. As mentioned earlier, the young baby boomers may radically change the employment structure as they enter the labour market in full scale over the next 5 years. A period of the so-called "population bonus" in which the percentage of dependent population temporarily drops will come as a result of rapid increase in labour population. In the case of Cambodia, however, a problem lies with the fact that there is very little prospect for absorbing such additional labour population. Moreover, there is no optimistic outlook about whether the rural areas that have been absorbing the population increase so far can continue to do so in the future. As for this second point, this section will mainly examine the present labour participation ratio and the future population trend to assess the number of additional population that would be entering the labour market.

Precautions concerning demographic data such as population census

Present status of demographics must be outlined before going into the main subject. Large-scale studies including population census on the population of Cambodia have been conducted in 1962, 1980, 1993, 1996 and 1998. In particular, the census in 1993 was very accurate as it was a part of United Nations activities (i.e. UN Transitional Authority in Cambodia UNTAC) that were carried out concurrently with the general election to rebuild the political system of Cambodia. The 1998 population census conducted subsequent to this census was also as accurate as the 1993 census. The next census is scheduled in 2008.

In addition, Cambodia Inter-Censal Population Survey (hereafter CIPS 2004) was implemented in 2004. It was a sample survey carried out at a halfway point between the 1998 census and the census scheduled in 2008, and is intended to extract changes in population size, population increase, fertility, mortality and other demographic changes.

Although it is a sample survey, it is believed to show numbers with certain accuracy and is regarded as a baseline survey for the future with accurate projections.

Population pyramid and total population

According to the estimation made in CIPS 2004, Cambodia has total population of 12.82 million consisting of 6.12 million male (48.3%) and 6.62 million female (51.7%). Since CIPS 2004 is a sample survey, numbers from the population census conducted in 1998 will be shown alongside this survey.

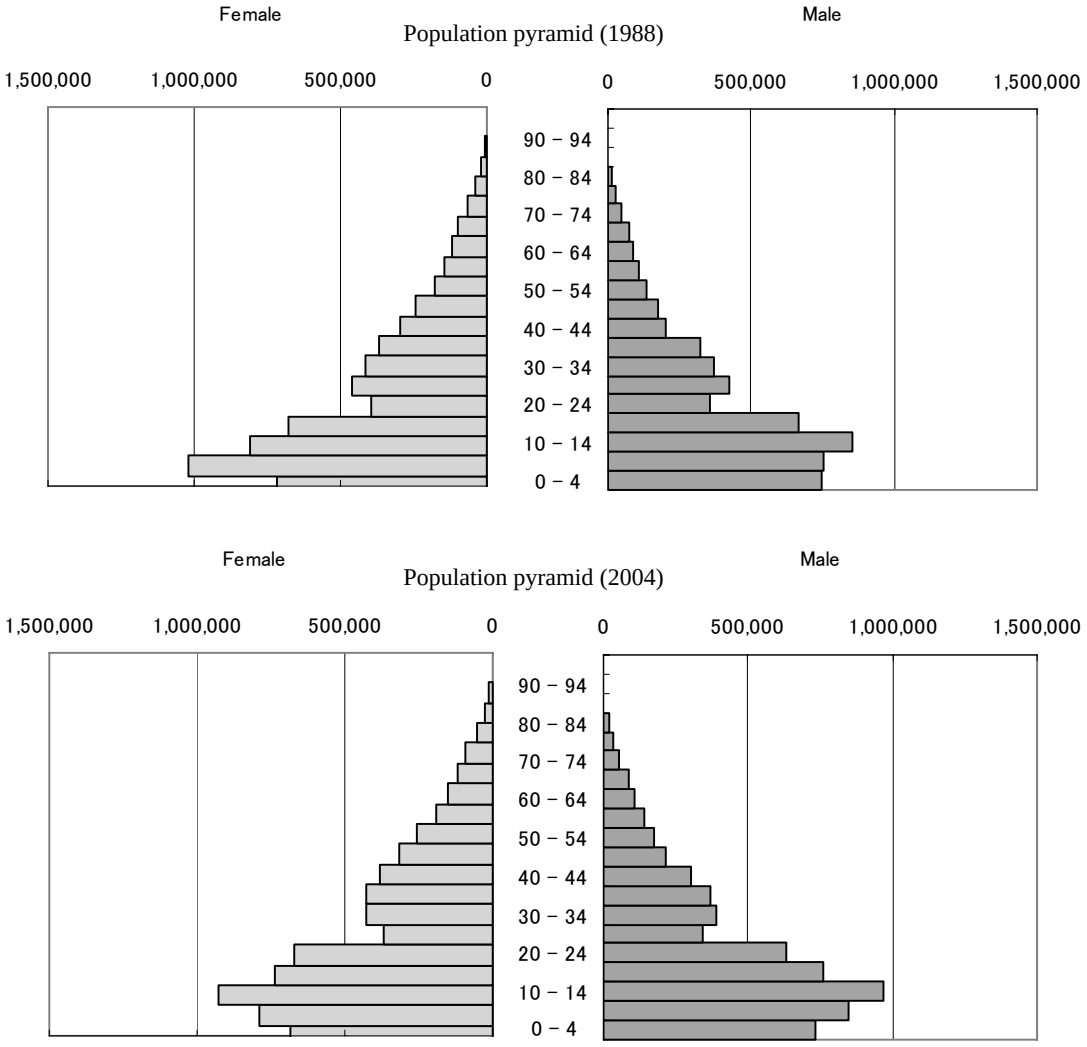
Table 1-1 Population of Cambodia (1998, 2004)

1. Population in 1998	(in million)
Enumerated population in the census	11.438
Add population under count of 1.78 per cent as per post enumeration survey of the 1998 Census	0.204
Add population in areas not covered by the census	0.045
Add Cambodian refugees in Thailand at census time	0.06
Total 1998 population	11.747
2. Population in 2004 according to CIPS	
Estimated population in regular households based on survey homeless households/ other transient population (2.04 per cent of total population)	12.824
Add estimated population in institutional households/	0.267
Total estimated population in 2004	13.091
3. Annual Growth Rate of Population 1998-2004	1.81%

Source : NIS (2004), *Cambodia Inter - Censal Population Survey 2004, General Report*

Cambodia’s population structure is shown in its population pyramid.

Figure 1-1 Cambodia's Population Pyramid



Source : NIS, *Statistical Yearbook 2005*

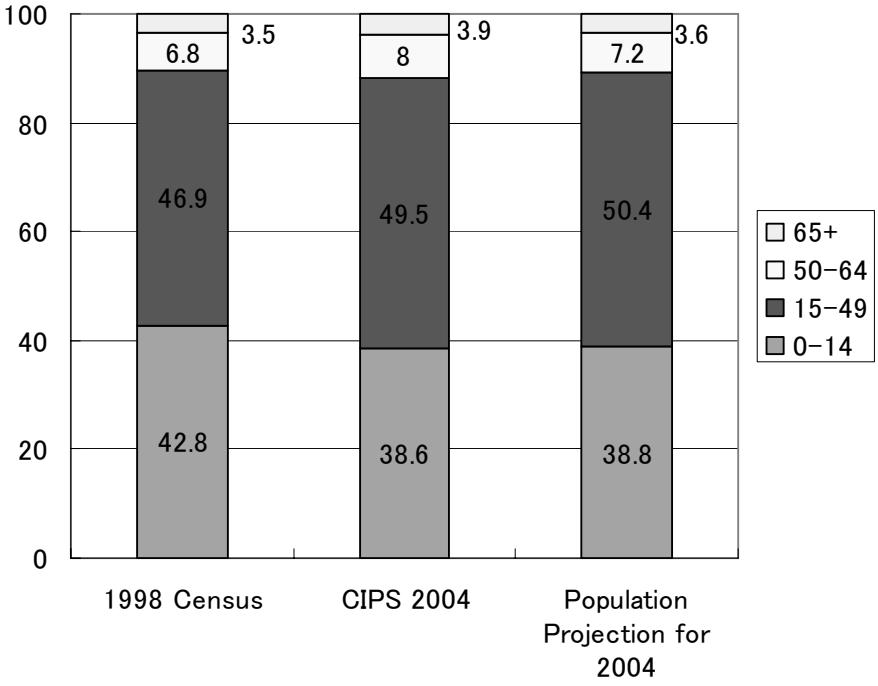
Several characteristics of the present population of Cambodia can be identified from these population pyramids. Firstly, the percentage of population aged 14 years and under (the so-called child population) is extremely high, accounting for 38.6% of the entire population. Secondly, Cambodia's median ages is estimated to rise from 19.9 years in 2004 to 21.6 years in 2010 despite the high percentage of child population. The increase in the age group of 10 to 14 years (14.7%) which accounts for the largest cohort in the 2004 estimate is believed to be the factor that would increase the projection for median age of Cambodia in the future. Thirdly, the percentage of women is generally higher in the male-female ratio. In the recent years, however, the percentage of males against females has changed; male-female ratio has reversed with males outnumbering females in the male-female ratio of child population (ages 0 to 14 years).

These characteristics of Cambodia's population are attributed to the modern history of Indochina where Cambodia is located. The country suffered volatile instability over a long period due to the Vietnam War, invasion of Cambodia and strife in Laos, as well as internal conflict caused by domination by the Pol Pot regime and its demise and the subsequent political volatility.

The same is true for male-female ratio. When seen by age, a large difference exists in male-female ratio of those aged 50 years and above with women considerably outnumbering men. This is considered to be the result of high mortality among men during the genocide period of Cambodia and overseas emigration. High percentage of women could pose a serious problem in view of the fact that economic condition of households headed by women is often poorer compared to those headed by men as well as the impact disparity of male-female ratio would have on poverty in Cambodia. As far as employment situation of women is concerned, even though women are often employed by garment industry, many elderly women are farmers. This, in turn, signifies that high percentage of elderly women is left with very little means of breaking away from poverty owing to low agricultural productivity.

According to the trends observed above, the percentage of dependent population (sum of population aged 0 to 14 years and population aged 65 years and above) in total population is estimated as follows according to the 1998 census and the 2004 population estimate. As shown in this figure 1-2, the percentage of dependent population has decreased by 3.9% from 46.3% in the 1998 census and 42.4% in the 2004 estimate.

Figure 1-2 Changes in Percentage of Dependent Population

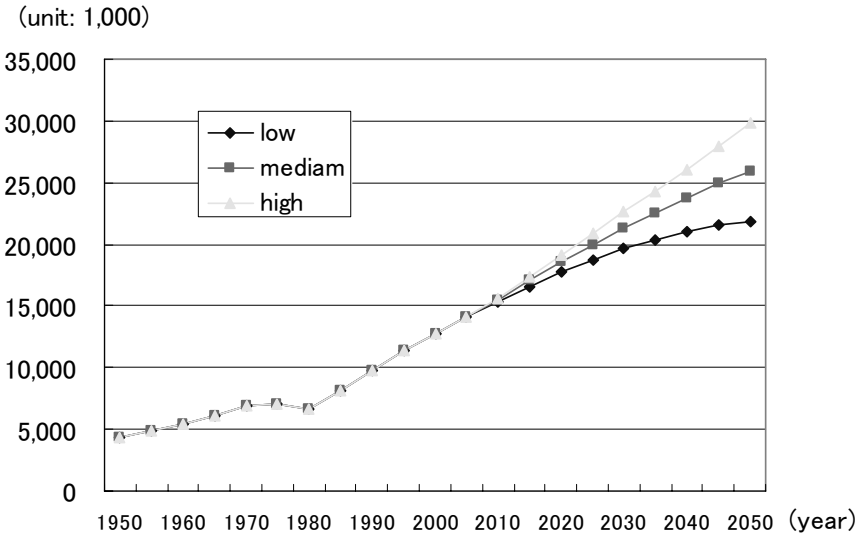


Source : NIS (2004), *Cambodia Inter - Censal Population Survey 2004, General Report*

Projection of future population of Cambodia (1990-2050)

According to the United Nations Department of Economic and Social Affairs Population Division database which studied the trends of Cambodia's total population over the past 50 years and estimated its total population up to the year 2050, the country's population is projected to reach 25.90 million by 2050 (median projection). It corresponds to doubling of the 2005 total population and signifies a large-scale population increase.

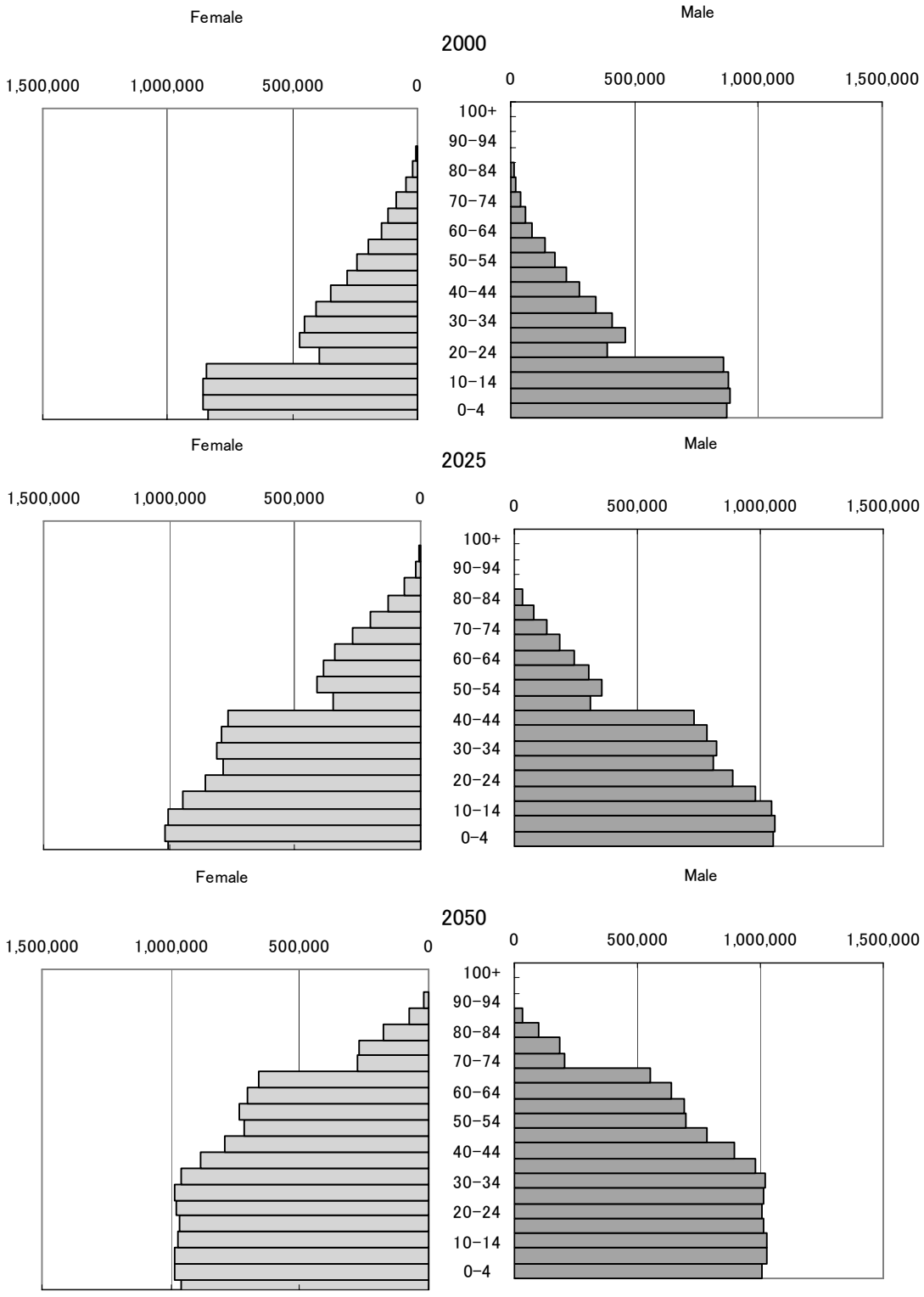
Figure 1-3 Projection of Cambodia's Population (1950-2050)



Source: Population Division of the Department of Economic and Social Affairs of the United Nations Secretariat, World Population Prospects: The 2004 Revision and World Urbanization Prospects: The 2003 Revision, http://esa.un.org/unpp, Monday, January 29, 2007; 3:17:04 AM.

Changes in age groups by sex can be confirmed by looking at the changes in population pyramid based on the same projection data.

Figure 1-4 Changes in Population Pyramid (2000-2050)



Source : same in figure 1-3

Parameters related to demographics

"Mortality," "fertility" and "migration" that directly affect population shifts constitute parameters that need to be taken into consideration when studying the demographics of a country. In the case of Cambodia, statistics on overseas migration are insufficient and accurate number of illegal labour population has not been grasped in particular. For this reason, this study will explore the future trend of Cambodia's population by making reference to "mortality" and "fertility" and by taking into account the changes in respective indices. "Migration" will be discussed in the separate section of this study.

Table 1-2 Demographic Indices (total fertility rate (TFR), infant mortality rate (IMR), child mortality rate (CMR) and average life expectancy by urban/rural areas, by gender and by industry)

	TFR	IMR	CMR	Life expectancy
Cambodia	5.3	80	53	56.3
Male	–	88	60	54.4
Female	–	72	45	58.3
Urban	4.42	65	39	60
Rural	54.7	82	55	55.8
Education Level	5.93	96	68	52.7
Non-illiteracy	4.89	70	43	58.9
illiteracy	5.66	88	60	54.4
No education	5.66	88	60	54.4
Primary not complete	5.29	78	50	56.9
Primary complete	4.28	57	32	62.1
Lower secondary	4.19	49	25	64.4
Beyond Secondary	3.18	41	19	66.7
Economically Level				
Economically non active population	5.62	75	48	57.6
Economically active population	5.16	80	53	56.2
Employee	5.13	80	52	56.4
(Primary industry)	5.47	82	54	55.9
(Secondly industry)	4.06	65	39	60.1
(Tertiary industry)	36.7	54	30	62.9
Unemployment	4.31	79	51	56.7

Source: NIS, *General Population Census of Cambodia 1996,* Analysis of Census Results Report, Fertility and Mortality, 1999, Phnom Penh.

Recent characteristics of demographics in Cambodia (particularly for mortality and fertility)

According to a socioeconomic study of Cambodia, the following demographic changes are mainly taking place in mortality and fertility of the recent years. An aspect worthy of note is decline in infant mortality rate.[1]

(1) According to CIPS 2004, fertility saw a significant decline in the past 20 years as the number of children a woman gave birth to fell sharply from 6 in the early 1980s to 4.0 in 1998 and to 3.3 in 2003.

(2) Infant mortality rate, although showing irregular fluctuations, is also declining significantly. According to CIPS 2004, infant mortality rate (IMR) dropped from 93 (for every 1,000 infants) in 1998 to 66 in 2003. Moreover, child mortality rate (CMR) dropped from 31 (for every 1,000 children) in 1998 to 17 in 2003.

(3) Decline in fertility appears to have affected infant mortality rate than any other factor. Socioeconomic development and expansion of health services alone do not fully explain such dramatic decline.

(4) As a result of decline in child population such as infant mortality rate, average life expectancy grew in Cambodia from 52 years in 1998 to 60 years in 2003 for men and from 56 years in 1998 to 65 years in 2003 for women. This signifies an increase in average life expectancy at birth of 9 years over a 5 year period.

(5) Population projection based on CIPS 2004 states that the population of Cambodia will exceed 13 million in 2004 and predicts that it will exceed 15 million by 2010.

(6) According to a reverse projection conducted according to the 1998 census and Cambodia Demographic and Health Survey of 2000, the population in 1996 is greater in size than that based on uncertain numbers from the past. In other words, population projection as of 1996 according to the number of persons that registered to vote at UNTAC and the population count performed by People's Republic of Kampuchea in 1980 amounted to 10.7 million while the 2005 edition of Cambodia socioeconomic study counted the country’s population as 11.6 million which is 8.4% higher than the other figure.

[1] NIS(2004), *Cambodia Inter-Censal Population Survey 2004, General Report*.

(7) Despite the decline in fertility, population growth in the last 10 years was high especially in the latter half to mark an annual average of 1.9%. Such high growth is attributed to a phenomenon called “population momentum” which suggests that decline in fertility does not lead to rapid decline in population growth and that certain time lag occurs until such rapid increase settles down. In addition, the majority of women that were born during the high fertility period (from 1980 to 1995) entered the childbearing age population and contributed to the increase.

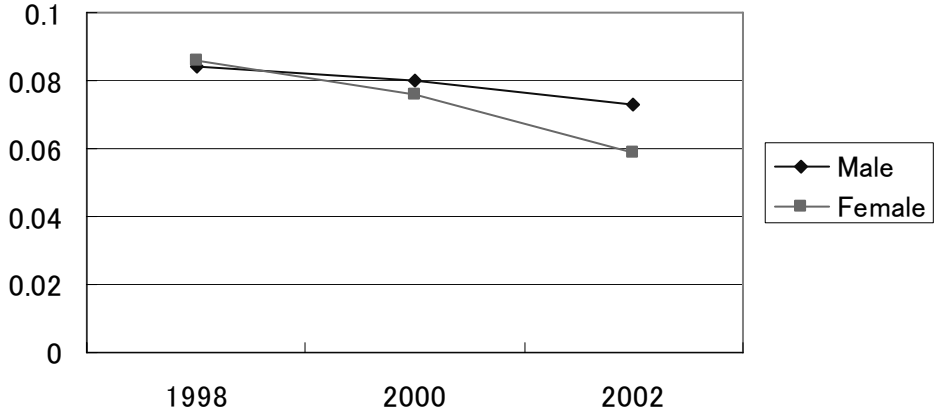
With regard to the view that fertility decline exerted the greatest impact on infant mortality rate mentioned in Paragraph 3, extended birthing interval is believed to be the major reason behind it.

Mortality (particularly infant mortality) and fertility in connection with such demographic changes will be discussed in detail below.

Changes in mortality (particularly infant mortality)

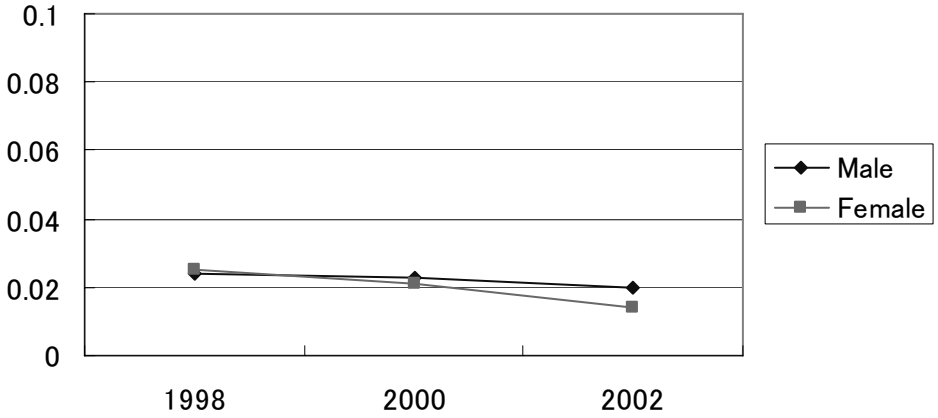
Mortality is currently declining in Cambodia with remarkable improvement being made in infant mortality in particular according to Cambodian Socio-Economic Survey (CSES) 2005. This section will focus on confirmation of infant and child mortality rates that have declined particularly in the recent years.

Figure 1-5 Changes in Infant Mortality



Source: Newpent, R.F.(2005) “New Demographic Estimates and Update Projections for Cambodia”, in Cambodia Socio-Economic Survey (CSES) 2003-4

Figure 1-6 Changes in Child Mortality

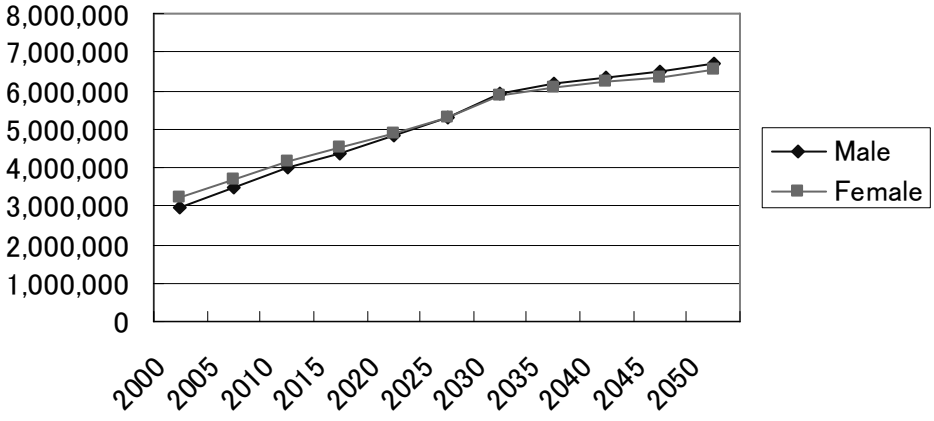


Source: same in figure 1-5

Characteristics of fertility

Parameters that become critical when observing demographics and fertility are total number of female population capable of giving birth and the number of children a woman gives birth to in her lifetime. For this reason, let us examine the changes in total number of childbearing age population (reproductive age population) from ages 15 to 49 and total fertility rate (TFR) which refers to the average number of children a woman gives birth to her lifetime.

Figure 1-7 Projection of Childbearing Age Population (2000-2050)



Source: same in figure 1-3

Changes in total fertility rate (TFR)

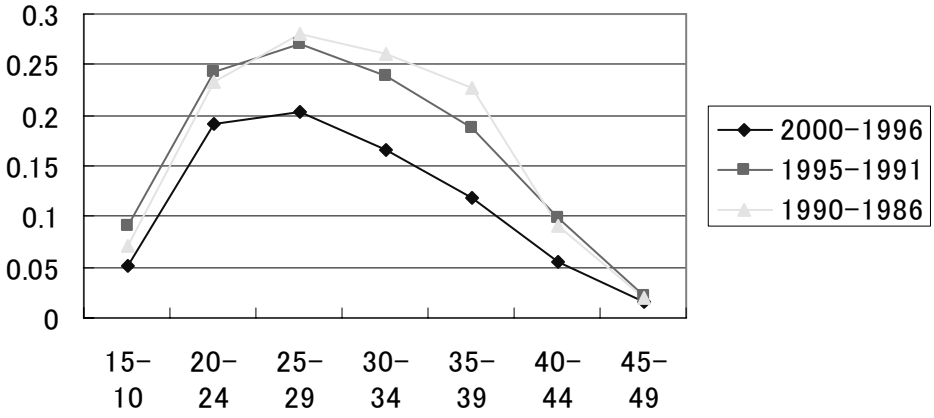
Changes in total fertility rate (TFR) which shows the average number of children a woman gives birth to in her lifetime are as follows. Changes in Age Specific Fertility Rate (ASFR) are also included. Although TFR is rapidly declining at present, full attention must be given to fertility trends as childbearing age population is likely to ke ep increasing in the future.

Table 1-3 Changes in TFR as Seen from Various Materials

Estimates	Refererence point	TFR
1962 Census	1961-1962	6.9
1995 KAP Survey	1993	4.9
1996 Demographic Survey		5.2
1998 Census		
Brass Method (Arriage version)	1997-1998	5.3
Rele Method		
	1989-1993	5.8
	1994-1998	3.9
Own Children Method		
	1984-1988	6
	1989-1993	5.6
	1994-1998	4.1
1998 National Health Survey	1996	4.1
2000 Demographic and Health Survey	1986-1990	5.9
	1991-1995	5.7
	1996-2000	4

Source: *Cambodia Demographic and Health Survey 2000*

Figure 1-8 Changes in Age Specific Fertility Rate



Source: Compiled from *Cambodia Demographic and Health Survey 2000*

Estimation of future labour population in Cambodia.

Future labour population in Cambodia is estimated below.

Table 1-4 Estimation of Future Labour Population in Cambodia.

	Population		Labor participation ratio (CIPS2004)		Estimates of Active population			Number of increased active	Annual number of increased active population
	Male	Female	Male	Female	Male	Female	Total		
1998									
10–14	871,696	826,549	13.7	13.8	119,422	114,064			
15–24	1,042,878	1,097,544	65.0	71.2	677,871	781,451			
25–34	816,308	895,277	96.4	88.1	786,921	788,739			
35–44	537,734	684,013	98.2	89.2	528,055	610,140			
45–54	314,890	431,096	96.9	88.5	305,128	381,520			
55–64	201,544	271,536	92.7	73.9	186,831	200,665			
65+	168,319	236,659	58.2	29.5	97,962	69,814			
				Total (1998)	2,702,190	2,946,393	5,648,583		
2005									
10–14	953,442	920,529	13.7	13.8	130,622	127,033			
15–24	1,634,236	1,594,610	65.0	71.2	1,062,253	1,135,362			
25–34	820,787	902,820	96.4	88.1	791,239	795,384			
35–44	731,074	819,910	98.2	89.2	717,915	731,360			
45–54	405,041	574,146	96.9	88.5	392,485	508,119			
55–64	240,387	337,644	92.7	73.9	222,839	249,519			
65+	200,553	300,862	58.2	29.5	116,722	88,754		1998–2005	
				Total (2005)	3,434,074	3,635,532	7,069,605	1,421,022	203,003
2010									
10–14	841,230	815,697	13.7	13.8	115,249	112,566			
15–24	1,799,839	1,740,589	65.0	71.2	1,169,895	1,239,299			
25–34	1,169,303	1,220,592	96.4	88.1	1,127,208	1,075,342			
35–44	745,605	836,636	98.2	89.2	732,184	746,279			
45–54	547,201	679,549	96.9	88.5	530,238	601,401			
55–64	279,763	420,364	92.7	73.9	259,340	310,649			
65+	229,640	356,927	58.2	29.5	133,650	105,293		2005–2010	
				Total (2010)	4,067,765	4,190,830	8,258,594	1,188,989	237,798
2015									
10–14	835,571	809,917	13.7	13.8	114,473	111,769			
15–24	1,753,381	1,711,926	65.0	71.2	1,139,698	1,218,891			
25–34	1,564,946	1,553,417	96.4	88.1	1,508,608	1,368,560			
35–44	777,689	869,747	98.2	89.2	763,691	775,814			
45–54	673,095	775,071	96.9	88.5	652,229	685,938			
55–64	350,284	520,365	92.7	73.9	324,713	384,550			
65+	272,495	436,843	58.2	29.5	158,592	128,869		2010–2015	
				Total (2015)	4,662,004	4,674,391	9,336,395	1,077,800	215,560
2020									
10–14	958,792	924,817	13.7	13.8	131,355	127,625			
15–24	1,645,757	1,607,965	65.0	71.2	1,069,742	1,144,871			
25–34	1,736,536	1,704,409	96.4	88.1	1,674,021	1,501,584			
35–44	1,118,939	1,184,141	98.2	89.2	1,098,798	1,056,254			
45–54	693,086	796,233	96.9	88.5	671,600	704,666			
55–64	480,665	622,262	92.7	73.9	445,576	459,852			
65+	326,812	551,912	58.2	29.5	190,205	162,814		2015–2020	
				Total (2020)	5,281,297	5,157,666	10,438,963	1,102,568	220,514

Source: Compiled from CIPS 2004 and Population data from *World Population Prospect:The 2006 Revision*

Labour population has been estimated here by assuming the Labour participation rate (CIPS2004) will be maintained and by studying changes in population by gender. Labour population anticipated to newly enter the labour market was calculated by checking the fluctuation of labour population for each year. The figures presented here require caution in several ways as they are based on extremely simple calculations.

Labour population of Cambodia

Significantly large child population in Cambodia can be easily be confirmed by looking at the shape of population pyramid (Figure 1-1). The problem lies with the scale at which labour population will increase in the future. Let us examine the labour population of Cambodia to estimate the percentage of the aforementioned dependent population in the entire population.

Firstly, population projection that was applied in predicting the labour population was the population projection for Cambodia issued by the United Nations Department of Economic and Social Affairs Population Division which is higher than the total population announced in 2004. Population projection that will be revealed by the Population Division in the future will require some downward adjustment in response to recent decline in fertility, which, in turn, would translate into slight difference in estimation of labour population. Secondly, it is necessary to point out in advance the possibility that numbers might change on the assumption made in CIPS 2004 that the labour participation rate would be maintained depending on the future economic development.

However, the projection of labour population up to the year 2020 should not require major adjustment as it only involves entry of the present child population. Taking this into consideration, one can easily predict that 200,000 new labourers will be added annually to the labour market over the next 20 years. Cambodia's future will be determined by how the country would go about supporting such increase in population.

In fact, despite the decline in total fertility rate, the seed of next baby boom still exists as childbearing age population continues to increase. In addition, lower fertility does not translate to rapid decline in population growth; rather, an increase in reproductive age population is expected in particular owing to a phenomenon called "population momentum" which refers to a certain time lag needed before rapid population growth comes to a halt. Identifying the industries that would support population entering the labour market will be an extremely important task in understanding the future Cambodian society.

2. Migration in Cambodia

2.1 Outline of Migration in Cambodia

The following section reviews the trends of migration and their background in Cambodia for each period.

1950s to 1960s

As noted by Delvert, migration of workers from rural areas to other areas, particularly to urban areas including Phnom Penh, had been observed as early as 1950s. According to Delvert, relatively overpopulated areas in south of Phnom Penh were the main source of these migrant workers (Delvert, 1961). Delvert has cited cyclo drivers, porters and water carriers[2] as examples of jobs taken up by migrant workers in Phnom Penh. These services were mainly offered in agricultural off-season.

Migrant workers (cyclo drivers and porters) was also observed in a rural village in Kandal Province, a province neighbouring the capital city of Phnom Penh, in the field survey Ebihara conducted from 1959 to1960. They only worked away from home during agricultural off-season and came from relatively poor families (Ebihara, 1968).

1960s to 1970s

Pol Pot regime was formed in 1975 and implemented radical communist policy for nearly 4 years. A large-scale demographic shift involving relocation of not only urban residents to rural areas but also many rural residents to other regions took place due to forced migration during the Pol Pot years.[3] Following the collapse of Pol Pot regime January 1979, however, many of the relocated people returned to their home. Such "homecoming" was observed throughout the 1980s.

The 1980s was a period of civil war between the so-called Heng Samrin regime backed by Vietnam and the Pol Pot faction opposing the regime. The northwest region near the Thai border that became a battleground experienced deteriorating security and had little migration observed unlike today.

[2] Job of putting water from public water system at city centre in a metal drum and selling it to people living in areas without water during the dry season water shortage.
[3] Details on relocation during Pol Pot era are discussed in Kiernan (1996).

The decade also saw labour migration from urban to rural areas in a very small scale. One of the reasons was the fact that industries in urban areas were undeveloped and employment opportunities were scarce at the time. It is also said that men that went to cities were caught by the authorities and inducted for the civil war.[4]

1990s onwards

Certain peace returned and economic activities were reactivated in Cambodia following the establishment of peace in 1992 and general election in 1993. Domestic migration, particularly labour migration seeking employment, started gaining momentum for both genders against this backdrop.

2.2 Migration from Viewpoint of Statistical Data

Characteristics of migration in the recent years will be discussed in the following based on the studies on population conducted by the Cambodian Government in 1998 and 2004.[5]

Scale of migration and its trends

The 1998 census data shows that domestic migration increased in the 1990s. This census contains data on population that had migrated from regions other than their place of residence at the time of the census. Migrant population was sorted by the number of years since migration to "Less than 1 year," "1 to 4 years," "5 to 9 years" and "10 to 19 years." "Less than 1 year" refers to those who migrated in 1997 while "1 to 4 years" and "5 to 9 years" refer to migrations that took place from 1993 to 1996 and from 1988 to 1992, respectively. Approximate value of migration per year can be obtained for a particular year by dividing the migration that occurred during each segment with the number of years in that segment. (However, this data contains only the last migration performed and does not include migration of those who have migrated more than once in the past.) Values calculated in this manner reveal acceleration of migration with migration increasing from about 100,000 a year between 1988 and 1992 to 200,000 a year between 1993 and 1996 and to 360,000 in 1997.

[4] A story told to the author by a rural resident in Takeo Province during his research around 2002 (Yagura , 2005).
[5] See NIS&MOP (2000b) for the 1998 census and NIS&MOP (2004) for the 2004 census.

Similar data in the 2004 census show that annual migration amounted to 150,000 in 1993-1997 period, 200,000 in 1998-2002 period and 260,000 in 2003. While this sample survey cannot be simply compared to the 1998 census survey, a trend of migration gaining momentum with passage of time can be observed.

Direction of migration

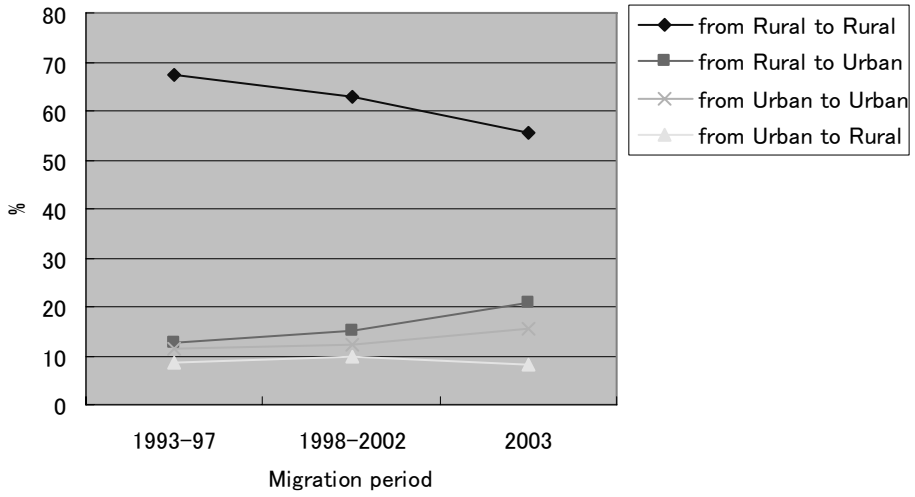
The majority of migration occurs from rural areas to rural areas regardless of period of migration. Migration from rural areas to urban areas accounts for less than 20% of entire migration, although its percentage has been increasing in the more recent years (Figure 1-9). However, absolute number of rural to rural migration is also increasing (Figure 1-10).

Main destinations of migration were cities and remote provinces. For instance, according to 1998 census data collected from those who migrated in the last 5 years[6], provinces and cities with large net in-migration (in-migration minus out-migration) or high percentage of net in-migration in total population consisted of cities such as Phnom Penh and Sihanoukville and provinces that are far from Phnom Penh such as Koh Kong and Banteay Meanchey (Table 1-9). Both of these remote provinces are sparsely populated. Meanwhile, provinces that are sending out their population (with negative net in-migration or net in-migration rate) consist of those that are relatively close to Phnom Penh and have comparatively high population density such as Prey Veng, Kampong Cham and Takeo (Table 1-9). Svay Rieng Province where we conducted our survey is one of these out-migration areas.

This data suggests that people of Cambodia are migrating from relatively densely populated areas to cities and sparsely populated areas (where land is relatively abundant) in search of employment opportunities.

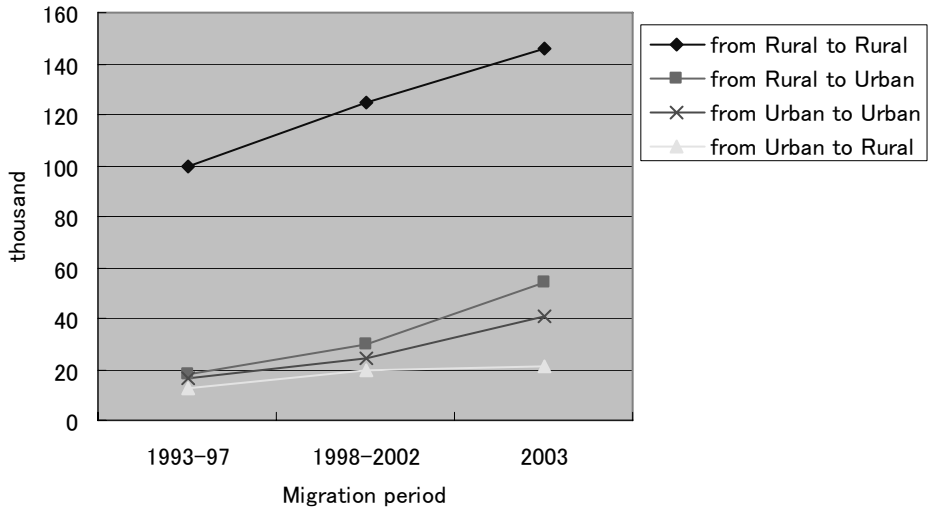
[6] Refers to population that started living in their place of residence during the 5-year period prior to the survey.

Figure 1-9 Percentage of Migrants in each Migration Stream to Total Internal Migrants



Source: compiled from NIS&MOP(2004)

Figure 1-10 Number of Migrants in each Migration Stream



Source: compiled from NIS&MOP(2004)

Table 1-5 Number of Net In-Migration within 5 years, 1998

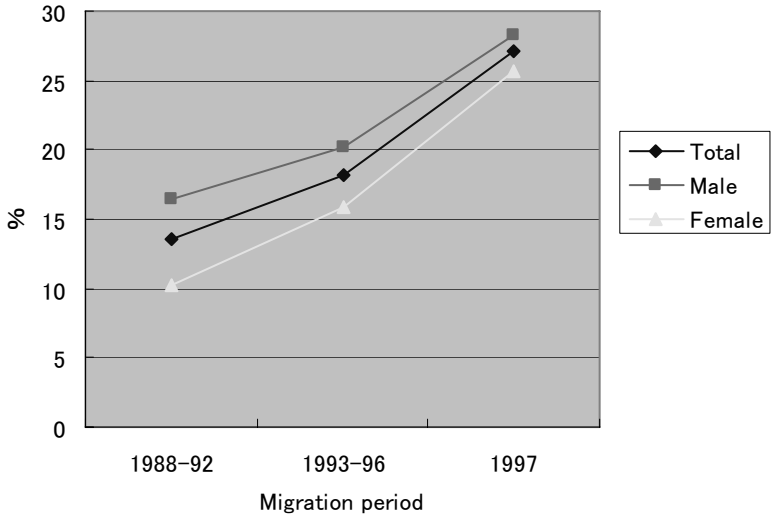
	Net in-migration[1] (unit: person)	% of net in-migration[2] (%)	Population Density[3] (person/km^2)
Phnom Penh	119,172	11.9	3,745
Kaoh Kong	26,726	20.2	12
Banteay Mean Chey	25,019	4.3	58
Krong Preah Sihanouk	15,174	9.7	179
Krong Pailin	7,257	31.7	27
Rotanak Kiri	3,866	4.1	9
Krong Kaep	2,759	9.6	85
Modol Kiri	1,625	5.0	2
Prey Veaeng	-46,702	-4.9	194
Kompong Thum	-44,639	-2.8	164
Takeo	-29,712	-3.8	222
Kampot	-22,213	-4.2	101
Svay Rieng	-16,044	-3.4	161
Cambodia			64

Source: compiled from NIS&MOP(2000)
Note:
1) Number of in-migration within 5 years minus Number of out-migration within 5 years, 1998
2) Number of net in-migration /population of the province (or municipality) as of 1998 ×100, 1998
3) Population Density as of 1998

Reasons for migration

The 1998 census asks migrants about the reason of migration. The results show that non-economic reasons such as “migration of family,” “marriage,” and “homecoming (from regions where they were relocated during the Pol Pot era and evacuated during the civil war) accounted for more than 70% and that migration “to find a job” accounted for only 14.5% of all migrants. However, migration in search of employment is increasing in percentage (Figure 1-11). In the case of those had migrated 5 to 9 years ago (i.e. those that migrated between 1988 and 1992), only 14% migrated to “find employment” while the percentage rose to 18% among those who migrated between 1993 and 1996 and to 27% among those who migrated in 1997. Increase in percentage of migration for obtaining employment is particularly conspicuous among women. The percentage was merely 10% among women that migrated between 1998 and 1992 (as opposed to 16% among men) but increased to 26% among women that migrated in 1997 which is almost equal to that of men (28%). These figures indicate that women rarely migrated to find jobs in the past but are doing so more often in the same manners as men.

Figure 3 Percentage of Migrants who move "to get jobs"



Source: compiled from NIS&MOP(2004)

Age structure

A look at age structure of migrants that migrated during the 5-year period prior to the survey shows that the generation of ages 15 to 29 accounts for 40%. Meanwhile, the percentage of migrants is high among the generation of ages 20 to 34 at 10-20%. Thus the migrants are mainly comprised of relatively young generations.

2.3 Background of Accelerated Migration

Expansion of employment opportunities in cities lies in the background of accelerated migration from rural to urban areas. Symbolizing such expansion are the garment factories that are concentrated in Phnom Penh and its vicinities. Garment industry in Cambodia has been rapidly expanding since the second half of the 1990s. GDP of garment, textiles and shoemaking industries soared from a mere 63 billion Riel (approximately 16 million USD) in 1993 to 3.25 trillion Riel (810 million USD) in 2005.[7] Garment factories were built one after another in Phnom Penh and its vicinities during this period and the number of garment factory workers soared from less than 20,000 in 1995 to nearly 250,000 in 2004 (USAID, 2005). Moreover, the majority of

[7] Data from National Institute of Statistics (NIS) (NIS, 2007). Both in 2000 fixed prices.

them were young female workers that came from rural areas.[8] As shown in Section 2.3, such expansion of employment opportunities for women in urban areas exists in the background of sharp rise in percentage of immigration of women motivated by job search. Moreover, inflow of aid money from overseas, development of tourist industry, and expansion of urban economy and increase of urban population that followed the development of garment industry appear to have boosted demand in construction and other services in urban areas, expanded employment opportunities in construction and service industries and attracted migrants and migrant workers from rural areas.

As mentioned above, another flow of migration from densely populated rural areas to sparsely populated rural areas is observed in Cambodia. It is believed that restoration of security and improvement of transportation network are at the backdrop of increase in such migration pattern. Northwestern provinces of Cambodia suffered from deterioration of civil order in the 1980s due to civil war. However, it became possible for people to move to these regions without worrying about their safety after the civil war came to an end and resistance from Pol Pot faction ended by 1998. In addition, large amount of aid started coming from overseas after the establishment of peace which led to repair and improvement of major roads. This, in turn, had the effect of improving access to remote regions and facilitating migration.

2.4 Positioning of Svay Rieng Province

As mentioned above, Svay Rieng Province where this survey was conducted is one of the provinces that sends migrants to other regions. According to the 1998 census data, the percentage of migration to Phnom Penh among the population that migrated from Svay Rieng Province within the past 5 years was 47%. This is high compared to other provinces (NIS & MOP, 2000b) and suggests the existence of large number of migrants from Svay Rieng Province seeking employment opportunities in urban areas.

The first reason for the existence of large out-migration from Svay Rieng Province is its relatively high population density. The 1998 data shows that population density of this province ranks 7th among the 24 provinces and municipalities of Cambodia at 161 persons/m^2. The second reason is its dependence on rain-fed rice cropping and low

[8] According to Chea and Sok (2001), 90% of garment factory workers came from rural areas in the outskirts of Phnom Penh and 85% of workers in garment and shoemaking industries are women.

productivity of its land.[9] As a result of these reasons, the need to work away from home or migrate is high as it is difficult to make a living on rice cropping alone and employment opportunities are limited in dry season.

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[9] Average yield of rice over the 5-year period from 2000 to 2004 was 1.48 t/ha in Svay Rieng Province as opposed to1.86 t/ha for Cambodia as a whole (MAFF).

Chapter 2　Field Survey Report

1. The Migration of Workers in the Urban Informal Sector

1.1 The Problem and Subject

Looking at the age distribution and population structure, Cambodia is without doubt in a stage of experiencing an explosion in its labor force. Providing employment opportunities to a growing work force is a vital policy issue in order to prevent growing economic disparity and alleviating poverty.

However the manufacturing industry in Cambodia is not currently prepared to deal with the role of creating jobs. Despite the garment sector being the largest industry it has a total maximum labor force of only approximately 250,000 workers. In addition the Multifibre Arrangement (MFA) was terminated at the end of 2004 leading to a loss of expectations for this industry to create new job opportunities. Instead concerns of the garment factories closing exist. In addition, compared to neighboring Vietnam—where the economy is starting to taking off—the wave of foreign direct investment has not even arrived yet. Long term political instability and a lack of infrastructure may be seen as major reasons, but also the issue of higher wages compared to Vietnam should not be forgotten. The monthly income in the Cambodian garment industry is 60 to 70 US dollars (salaries are paid in US dollars), being higher than Vietnam. Despite Cambodia being self-sufficient in rice production, the cost of living is high because of a high dependence on imported consumer goods, thus being a backdrop for the issue of high wages. Therefore real progress in industrialization will still require time.

This environment of a sudden surge in the working population will make the issue of poverty become a serious problem for Cambodia. One end result feared is the increase in urban poverty, specifically a situation where the formal sector will not have the power to absorb the increasing labor force and the inflow of a rural population will create an informal sector expansion.

In this survey, we look at both the urban informal sector and the creation of the workforce that originates from the rural villages, by conducting a survey towards the workers using questionnaires.

1.2 The Traits and Subjects of the Urban Informal Sector

From the urban informal sector we selected two typical occupations: the “cyclo” (61 workers surveyed) which is a bicycle taxi and the “motodob” (145 workers), a motorbike taxi service, to survey 204 workers in this field (see photos below). Males make up the working population of this occupation and therefore all participants in the survey are male. Also the participants’ main origin of state come from Svay Rieng, leading the survey to members of this state only. Identified by county origin, participants from Svay Chrum are a majority (Table 2-1). With this county being in the highlands, irrigation is close to non-existent and within the Svay Rieng state this region is seen as being in a state of poverty. For a look at the rural community, the county of Svay Chrum is looked at later on (in the second half of Chapter 2). Regarding the cohort, since we discuss the migration of workers we only look at the age groups of 20 and 30 year olds as they are seen as having the highest probability of migration.

Table 2-1 County Origin

County Name	Percent Originating (%)
Svay Chrum	50.5(104)
Svay Teab	18.9 (39)
Rumduol	15.5 (32)
Romeas Haek	5.8 (12)
Others	9.7 (19)

Note: Numbers within parenthesis represent number of people.
Source: Hearing Survey in December 2006

A cyclo.

Cyclos are not only used for carrying people.

Surveying a motodob driver.

First a look at the major attributions of the respondents surveyed (Table 3-2). The average age of the cyclo drivers is 4 years older than the motodob drivers ($p<0.1\%$). One of the reasons may be to do with the need for quick reflexes by motodob drivers to deal with the traffic jams of Phnom Penh. A substantial part of the respondents revealed that they had experienced traffic accidents.

The martial rate for cyclo drivers is 83.6% and 67.6% for motodobs. However amongst the married, the percentage of spouses living together in Phnom Penh is 23.0% for cyclo drivers and 58.3% for motodobs. The majority of these spouses living together in Phnom Penh work in a garment factory.

Table 2-2 The Basic Attributions of Workers in the Informal Sector

		Sample	Mean	Standard deviation	t -value	P-value(%)
Age	Cyclo	61	32.44	5.96	4.8	0.1
	Motodob	143	28.45	5.34		
Years living in Phnom Penh	Cyclo	61	6.83	5.19	2.3	2.2
	Motodob	145	5.25	4.17		
Trips back home in last year	Cyclo	61	5.24	5.39	-0.05	
	Motodob	145	5.31	9.06		
Income (Based on per month in 1,000Riels)						
Income during the month of the survey	Cyclo	60	251.67	181.29	-1.53	
	Motodob	145	307.55	281.61		
Maximum income（Riel)	Cyclo	61	292.46	212.41	-0.61	
	Motodob	141	321.31	185.83		
Minimum income（Riel)	Cyclo	60	114.27	81.5	-0.41	
	Motodob	138	119.5	80.58		
Maximum household income（Riel)	Cyclo	61	317.37	220.15	-2.36	1.9
	Motodob	145	402.16	240.4		
Minimum household income（Riel)	Cyclo	61	147.08	15.03	-2.99	0.3
	Motodob	145	214.61	157.16		

Note: Household income includes the income from spousesUS 1 dollar is calculated equivalent to 4,000 riel. For income during the month of the survey, cases for an employment period of several days are not included (column 1) in the calculations of monthly earnings.
Source: Hearing Survey in December 2006

The monthly income during the survey (in December) was 250,000 riel (62 US dollars) for cyclo drivers and 300,000 riel (US 75 dollars) for motodob drivers. The minimum monthly income throughout the year is 114,000 riel and 119,000 riel for cyclo and motodob drivers respectively, approximately half the maximum monthly income. In general, during the dry season incomes rise and during the rainy season they fall. For the garment manufacturing industry the average monthly wages are around 60-70 dollars, therefore putting the wages of the informal sector during the dry season equivalent to the formal sector.

Though the income of the motodob drivers will be expected to be higher, a mean test found no significant difference between the incomes of the motodob drivers and the cyclo drivers. The following reasons may provide explanations. First, there is fierce competition amongst motodobs. Specifically for some time, looking at recent trends, the number of motodobs has been increasing while on the other hand the number of cyclos has been decreasing. Second, the recent trend in higher gasoline prices may be decreasing the net profit of the motodobs. Finally in the case of cyclos they carry not only people but also goods, as seen in the above photo, and have a wider opportunity for creating revenue.

Looking at expenditures (Table 2-3), out of a total of 336,000 riel, 212,000 riel (63.06%) is spent on food, making up a significant portion of expenses. There are 61 respondents who said they have no housing expenses, of those 32 are cyclo drivers (representing 52.45% of all cyclo drivers) and 29.61% of the 61 drivers are motodob drivers ($\chi 2$ =21.70, p<0.1%). Those drivers without housing expenses live on the street.

Table 2-3 Expenditures (1,000Riel/Month)

	Mean	Standard Dev.	Percentage
Food	212.49	280.74	63.06
Housing	40.54	54.32	12.03
Clothes	29.15	89.67	8.65
Leisure	30.22	67.58	9.00
Utilities	7.93	13.68	2.35
Others	16.62	70.087	4.93

Source: Hearing Survey in December 2006

The average residency in Phnom Penh is around 4~5 years, showing a significant correlation with age (0.49, p<0.01%). Therefore people who immigrate at a young age tend to live in Phnom Penh for a relatively long period.

The average annual remittance to rural villages is 435,000 riel. Looking only at individuals who actually send money (n=155), the sum is 572,000 riel, 1.5~2 times the monthly income during the dry season. Also the saving sum (in cash) is around 424,000 riel, and 457,000 riel for those who actually save (n=183).

In the last year, 162 respondents said they experienced emergency expenditures of some sort. For the majority, illness and also repairing bikes from traffic accidents were the main reasons. Regarding illness, it is suspected that a good number were caused from traffic accidents. The average costs (for those who had such costs) were 346,000 riel, being over a month's salary. This kind of risk is an important feature of life in Phnom Penh.

1.3 Reasons for Migration

On average, the 206 respondents have 0.54 ha of farmland. This is less than half of the average land size of 1.22 ha for a rural family in the state of Svay Rieng. As will be made clearer in the next chapter, the rice productivity is only around 1.2~1.5 ton/ha in Svay Rieng, making self-sufficiency difficult even for average rural families.

Of the 206 respondents, 127 are landowners whose average size of farmland is 0.88ha. For the remaining 79 respondents having no land, nearly all of them live with their parents and have not inherited land. The average size of farmland expected to be inherited is 0.28ha. In Cambodia, customarily farmland is equally inherited among sons and daughters. As the average number of siblings is around 4~5 per family, land size inherited decreases drastically by 1/4 to 1/5 for the next generation. One can see that population growth is putting significant pressures on the agricultural community.

1.4 Degree of Embeddedness

Despite being featured as an informal sector populace who were pushed out of their villages due to population pressures, whether they will become permanent city dwellers in Phnom Penh is debatable. When questioned about whether they want to return to their home villages permanently (Table 2-4), only 13.6% responded with intentions to wanting to stay in Phnom Penh as long as possible, while the majority indicated they want to return to their villages in the future. As we can see, the main response is to return to one's village, with no easy life being expected upon return for those who were forced out of their villages originally by population pressures. Let us look at the facts corresponding to this answer.

Table 2-4 Intention to Return to Home Village (%)

Want to stay in PP as long as possible	13.6
Want to return to village in the future	63.6
Want to return within a few years	11.7
Want to return immediately	11.2
Total	100

Source: Hearing Survey in December 2006

When asked whether one's economic condition had improved after migration, over 80% gave an affirmative answer (Table 2-5). Also 51.0% responded they are looking for a job with improved prospectus. But when asked whether they were able to find a better

job, only 30% were able to say so affirmatively (Table 2-6). Possible job types seen as a step up are motodob drivers for many cyclo drivers and mechanics as a common response by motodob drivers. A job as a factory worker was seen as being a next step up, but with the reality of such opportunities seen as fairly limited.

Table 2-5 Change in Economic Situation After Leaving Home Village

	Much better	Better	Same	Worse	Much worse	Total
Cyclo	10	37	13	0	0	60
	16.7%	61.7%	21.7%	.0%	.0%	100.0%
Motodob	17	102	19	2	1	141
	12.1%	72.3%	13.5%	1.4%	.7%	100.0%
Average	27	139	32	2	1	201
	13.4%	69.2%	15.9%	1.0%	.5%	100.0%

Source: Hearing Survey in December 2006

Table 2-6 Prospects of Finding a Better Job in the Future

	Definitely yes	Possibly yes	Cannot say	Difficult	Very difficult	Total
Cyclo	3	14	9	4	31	61
	4.9%	23.0%	14.8%	6.6%	50.8%	100.0%
Motodob	2	44	29	17	52	144
	1.4%	30.6%	20.1%	11.8%	36.1%	100.0%
Average	5	58	38	21	83	205
	2.4%	28.3%	18.5%	10.2%	40.5%	100.0%

Source: Hearing Survey in December 2006

As a note, workers in the informal sector do not severe the village nexus when leaving their home place. For example workers return to their villages on average 5 times per year, maintaining a strong linkage with their village. In addition, as a majority of respondents remit money to their villages, one can derive a strong relationship between the two.

Table 2-7 shows the results of the questions regarding evaluations of Phnom Penh and the rural society. For the village, rural society is perceived to offer vital human networks which underlie the social safety net of the village community. In regards to the question of employment opportunities in old age, the village is seen as having better opportunities. On the other hand, the city is seen as being dangerous but also offering high-income job opportunities.

Since many informal sector jobs involve manual labor, including construction work, continuing employment as age increases cannot be taken for granted. Therefore according to Table 2-7 regarding the evaluations of the city and village, the following

worker behaviors can be expected. Younger workers forced out by population pressures are absorbed by the urban informal sector. However due to strenuous working conditions, workers do not seek permanent residency in the city but expect to go back to their villages that will provide future employment opportunities, though less paid, even in old age. In other words, according to one's life cycle the respondents try to allocate their working life between the city and village. Let us test this hypothesis.

Table 2-7 Comparisons Between Phnom Penh (PP) and the Home Village (%)

	PP	If anything PP	Cannot say	If anything, village	Village	Total
People are kind	2.4	9.7	24.6	23.8	49.5	100.0
Help each others	4.4	9.7	10.2	25.7	50.0	100.0
Life is enjoyable	22.8	13.1	11.2	15.5	37.4	100.0
Boring	38.8	23.3	17.0	7.3	13.6	100.0
Employment in old age	23.8	14.6	5.3	14.6	41.7	100.0
Dangerous	75.2	16.5	5.3	1.0	1.9	100.0
People help when in need	8.7	18.0	8.7	19.9	44.7	100.0
Easy to earn money	78.2	17.0	2.4	1.0	1.5	100.0

Source: Hearing Survey in December 2006

1.5 The Relationship of Returning to the Village

Taking the intention to return to one's village as an independent variable, we work out a function for returning to the village. The intention to return was assessed by the four-point Likert type score: want to return immediately=4 ～ want to stay in Phnom Phen=1 (Table 2-8). For the explanatory variable we use the age of the respondents, years residing in Phnom Penh, farmland size in hectare, and educational attainments.

Table 2-8 Possibility of Managing Life when Returning to Home Village

	Can manage without much difficulty	Difficult, but can manage somehow	Cannot Manage	Total
Cyclo	24	27	10	61
	39.3%	44.3%	16.4%	100.0%
Motodob	49	63	33	145
	33.8%	43.4%	22.8%	100.0%
Total	73	90	43	206
	35.4%	43.7%	20.9%	100.0%

Source: Hearing Survey in December 2006

a) Managing life in the village: "If you were to return to your village, would life be difficult?" For those answering "easy to live" a variable of 3 is given; for "difficult, but could somewhat manage" 2 is given, for "impossible to live" 1 is given. If the answer is closer to "easy to live", then returning to one's village will seem to be more likely (Table 2-8).
b) Household income: This does have a unique impact on the intention to return to one's village. If tendencies to reside in the city are high, the coefficient should be positive, and for the target worker should be negative. Therefore the sign of this coefficient will have the role of determining the intentions of the migrant worker.
c) Trust amongst members of the his village: This question 'Do you trust people in your village?' (Definitely Yes=4 ~ Definitely No=1) measures the social capital held by the village, and highlights embeddedness. This will lead to a positive impact of returning to their home village, because the respondents recognize a village safety net based on village social capital.
d) Number of friends in Phnom Penh from the his village. This variable represents village social capital in Phnom Penh, expecting negative impact on the intention to return.
e) Spouse in Phnom Penh: 1=spouse living in Phnom Penh and 0=spouse living in the village or single. The sign on this variable, for the same reason as the issue of household income, is not unique.

From the above variables, the following regression was worked out (Table 2-9).

Table 2-9 Factor of Intention to Return to One's Home Village

	Coefficient	t-value	Significance level
(Constant)	2.301	5.555	.000
Age	.017	1.521	.130
Farmland ownership	.088	1.065	.288
Years living in Phnom Penh	-.005	-.375	.708
Living with spouse dummy	.325	2.968	.003
Household income	.001	3.188	.002
Trust towards people of same village	0.192	3.568	.000
Able to manage life when returning to village	0.229	2.234	.027
Number of friends from same village	.011	.702	.484

R^2=0.271, F-value=3.177 (p<0.1%)

Source: Hearing Survey in December 2006

Naturally if one can guarantee their welfare and economic security back in the village, the intention to return to one's village is high. What is interesting is how household income is positively correlated with the intention to return to one's village. One would expect that when income in Phnom Penh is high, the urge to return to one's village diminishes. However the results show an opposite trend for our survey. This shows that the migrant workers have no intention of staying in the city indefinitely, but instead maintain a strong nexus with their villages, portraying them as having characteristics of semi-embeddededness.

When the workers' spouses are in Phnom Penh, they are likely to work for a garment factory. Despite that this ensures a relatively higher household income, the workers—whose spouses are in Phnom Penh—show a higher intention of returning to their village. This shows the fact that a higher income level will equal to stronger urge to leave the city.

A high level of trust (social capital) towards village people also increases the urge to return to one's village. This kind of trust becomes the foundation for a social safety net provided by the village.

It is important to note that the coefficient mentioned above is the factor for the intention to return to one's village and not the results of workers having actually returned to their village. For example, we should remember that even if somebody wants to return to their village, they might not be able to do so in reality because of their economic situation.

1.6 Summary

The cyclo and motodob drivers, who make up a good part of the informal sector in Phnom Penh, consist of people who are forced out of their villages due to population pressures. From the perspective of farmland ownership, their land is less than half the average size of residents from the same village. From this, we can conclude that they have been pushed out from their villages due to population pressures within the villages.

In addition they are not utilizing the full opportunities of the city's informal sector as more and more workers from rural areas immigrate to the city leading to a situation of intensifying competition. This situation provides no shortage of people ending up as homeless. With such a condition existing, the economic situation in the city may not be any better than to life back in their village. Therefore cyclo and motodob drivers show a high level of wanting to return to one's village.

An interesting conclusion derived by using the factor of intention to return to one's village forecasts that the intent to return is high if income is high. Specifically, they are not workers who break all nexus with their villages when moving to Phnom Penh. If anything, they are migrant workers with strong characteristics of having specific economic and financial targets, who want to return to their villages after attaining a certain level of income.

In addition, trust towards villagers increasing the intention to return indicates that the social network that underlies the village safety net plays a vital role in the decision making of return-migration. We will look at this in more detail next, with the factor of migration to the city showing the same result. Migration to the city is not only about maximizing income in the short term, but importantly consists of maximizing income in one's life cycle.

2. A Backdrop for Rural Migration

2.1 Overview and Agriculture of surveyed region

Overview of surveyed region

In the future, it is expected that Cambodian rural societies will be the first to be effected by the previously mentioned phenomena of an increasing labor force. In order to look at the effects in detail we use two villages from the county of Svay Chrum in Svay Rieng that had the highest level of population migration in our survey of cyclos and motodob drivers. The survey was conducted in villages that belong to Cheik Commune in Svay Chrum District of Svay Rieng Province. It is a pure rural area with spreading rice fields located about 20 minutes by car from the provincial capital of Svay Rieng.

Svay Rieng Province is located in the southeastern region of Cambodia and borders Vietnam at its eastern and southern end. The province consists almost entirely of plains that have been turned into rice fields. National Route 1 runs across the province in east-west direction and leads to the national capital of Phnom Penh. The drive from Phnom Penh to the provincial capital takes about 3 hours by car. Being a part of a transit corridor connecting Vietnam, Cambodia and Thailand, National Route 1 has been given priority in terms of improvement and maintenance. The section running through Svay Rieng Province was widened and paved in the recent years. Vehicles on National Route 1 are currently required to take a ferry to cross the Mekong River. However, a plan to build a bridge is under way, which, once realized, would further improve the access between Phnom Penh and Svay Rieng Province as well as Vietnam.

However, no predominant industry aside from agriculture has developed in Svay Rieng Province thus far. A special economic zone was created in the recent years at Bavet near the Vietnamese border. A wide range of factories and casinos have been built there and offering employment opportunities[10] in limited scale.

[10] Information obtained at hearing from provincial government staff at Svay Rieng Provincial Government Office.

Agriculture in the surveyed region[11]

Agriculture in Svay Rieng Province centres around rice cropping with crops other than rice accounting for mere 1% of the total planted area of farm crops. However, the 3-year average for rice yield (paddy) in Svay Rieng Province from 2002/03 season to 2004/05 season was 1.53t/ha which is lower than the average for Cambodia as a whole (2.00 t/ha) (Table 2-10). However, production of paddy in Svay Rieng Province per capita is 445 kg and is greater than the national average of Cambodia because planted area of rice per capita of 0.29ha is higher than the average for Cambodia as a whole (0.17ha) (Table 2-10). The percentage of dry season crop in rice planted area of 9% is still lower than the Cambodia's average of 13% to indicate the predominance of rainy-season cropping in the cropping system (Table 2-10). This indicates that improvement of irrigation facilities needed for dry season crop area is not developed in this province.

Table 2-10 Overview of Agriculture in the Surveyed Area (2002/03-2004/05 Seasonal Average)

	Planted are of rice per household (ha)	Planted are of rice per person (ha)	Rice production per household (kg)	Rice production per person (kg)	Rice yield (t/ha)	Percentage of plantd area of dry seson rice (%)
Cambodia		0.17		313	2.00	12.8
Svay Rieng Province	1.41	0.29	2,165	445	1.53	8.9
Svay Chrum District	1.22	0.25	2,126	440	1.74	12.7
Cheik Commune	1.04	0.21	1,632	323	1.57	3.9

Source: complied from MAFF (Agricultural Statistics), Ministry of Agriculture Forestry and Fishery Provincial Department of Agriculture, Svay Rieng (2007).

Rice production in Cambodia has been increasing over the past decade or so. Rice production in Svay Rieng Province is also increasing but at a lower rate compared to the average for Cambodia as a whole. A comparison of average rice production in two 6-year periods (from 1993/94 season to 1998/99 season, and from 1999/20 season to 2004/05 season) shows that production has increased by 35% for Cambodia as a whole while it has increased by only 21% in Svay Rieng Province. The main cause of this difference is attributed to saturation of rice acreage in Svay Rieng Province. In other words, rice acreage increased by 11% between these two periods in Cambodia as a whole while it decreased by 0.1% in Svay Rieng Province. In addition, yield of rice increased by 20% between these two periods in Svay Rieng Province which is low compared to the 27% increase rate for Cambodia. These data suggest that not only

[11] The following data related to agriculture is based on statistics from the Ministry of Agriculture, Forestry and Fisheries (MAFF) of Cambodia and Provincial Department of Agriculture, Svay Rieng, 2007.

there is no longer any room for expanding arable land in Svay Rieng Province but also the prospects for significant improvement of land productivity are low. They also suggest that it is difficult to absorb the future population increase in Svay Rieng Province through rice cropping.

Agriculture in Svay Chrum District also has overwhelmingly high percentage of rice cropping by reflecting the characteristics of Svay Rieng Province. While the 3-year average for planted area of rice per capita from 2002/03 season to 2004/5 season of 0.24ha was slightly lower than the provincial average, rice production per capita is at the same level as the provincial average because yield was slightly higher at 1.74t/ha (Table 2-10). Somewhat high yield of rice in Svay Rieng District is attributed to slightly higher percentage of dry season crop in the district. Unit yield of dry season crop exceeds 3 tons, more than two times higher than that of rainy season crop.

Agriculture in Cheik Commune also centers around rice cropping. However, the 3-year average for planted area of rice per capita from 2002/03 season to 2004/5 season is even lower than the average of province and district at 1.04 ha. Unit yield remains at 1.57 t/ha and rice production per capita corresponds to about only 70% of provincial and district average (Table 2-10). As we will see later, the surveyed village sends out a large number of migrant workers. At the backdrop of this is the small scale of rice cropping and the fact that crops are only grown during the rainy season.

2.2 Overview and Agriculture of Surveyed Village

Population and household

Totea Village is located about 4 km from the city center of provincial capital of Svay Rieng Province. The village had a population of 1,599 made up of 303 households in 2006. Average number of persons in household was therefore 5.3.[12] Chambok Village is located about 5 km from the provincial capital and had a population of 1,727 in 2006. It had 345 households consisting of 5 persons in average.[13]

[12] Data obtained from the village chief of Totea.
[13] Based on a hearing survey from the village chief of Chambok.

Industry and employment opportunities in the villages

The two villages have similar industrial structure. Main industry is agriculture centred around rice cropping, with some farms engaged in small-scale vegetable growing for home consumption and sale. Such vegetable growing spread in the recent years through technical promotion activities by the provincial department of agriculture.[14] There are no other prominent field crops. Farms also raise cattle, pigs and fowl in small scale.

In addition, there are households producing palm sugar made from the sap of palmyra palm, engaged in fish farming and running shops and breweries. About 18 households are engaged in fish farming in Totea Village. This is a new attempt that has started with technical assistance from NGOs.

One feature of Chambok Village not found in Totea Village is the production of bamboo ware baskets and sieves. While details are not known, many households in Chambok Village are engaged in production of bamboo baskets and sieves, and many villagers go to Phnom Penh to sell them.

Many residents of both villages also commute to the provincial capital to work as motodop driver and construction worker because of their proximity to the capital. Daily wage for construction in the provincial capital ranges from 5,000 to 6,000 Riel which is lower than that in Phnom Penh of 7,000 to 8,000 Riel.

Reality of agriculture

1) Rice cropping

Rice cropping in both villages basically involves only rainy season crop. Yield is very low in Totea Village and Chambok Village at 1.2t/ha and 1.0t/ha, respectively.[15] Dry season crop is practiced at small portion of rice fields using water from small streams and wells. Varieties indigenous to Cambodia are mainly planted. Hardly any improved varieties are used.[16]

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[14] Information obtained from hearing at Svay Rieng Province Department of Agriculture.

[15] IR varieties developed by International Rice Research Institute (IRRI) are also used in Cambodia for dry season crops. Cambodian Agricultural Research and Development Institute (CARDI) has also developed improved varieties by selecting indigenous varieties for rainy season crop.

[16] IR varieties developed by International Rice Research Institute (IRRI) are also used in Cambodia for dry season crops. Cambodian Agricultural Research and Development Institute (CARDI) has also developed improved varieties by selecting indigenous varieties for rainy season crop.

Average household rice field ownership is small in both villages at around 0.5ha. Landless households are also said to exist. According to the chief of Chambok Village, rice fields in the village, like many other rural villages in Cambodia, were placed under collective ownership during the Pol Pot era and were reallocated to each household in the 1980s. The area allocated to each person at the time was 0.2ha (from which we can assume that each household received about 1ha). However, it appears that average farm size has become smaller today due to subsequent increase in population and number of households. The situation is believed to be similar in Totea Village.

Farming calendar for rainy season rice is as follows. Compost is applied to rice field around May when the rainy season starts before plowing the field. Farms raising cattle generally apply manure to their rice fields. Plowing is performed after the ground becomes soft enough after a series of rain in May or June. Rice fieldsare plowed once again before planting rice seedlings in some cases (meaning they are plowed 3 times altogether) or plowed just twice at the beginning and at the time of planting seedlings. Many farm households in the surveyed villages were using cattle or water buffaloes to plow their rice fields, using two animals to haul the plow.

As commonly seen in other parts of Cambodia, transplanting is practiced in the surveyed villages. In many cases, nurseries are built at corners of rice fields that are close to home and have good water control to facilitate care. Seeds are sown at nursery between June and July. Transplanting is performed by waiting for the right amount of water to accumulate in the main field and checking the growth of seedling. This usually takes place in August. Once the planting is decided, seedlings are pulled out from the nursery, bundled and carried to the main rice field. The main field is plowed one more time immediately before the transplanting. Then the soil is leveled by having cattle haul the harrow and planed with rice seedlings one after another. These series of work (plowing, leveling and planting) are performed in tandem with one another. Seedlings are pulled out and planted by hand.

Many farmers in Cambodia are currently using chemical fertilizers. While the timing of fertilizer application varies from one farm to another, application is often made immediately before plowing prior to transplanting or after at the time of transplanting. Those applying more than once apply the second fertilizer before rice grows and produces flower.

Hardly any work is performed after rice planting until the time of harvest. No irrigation work is basically performed due to reliance on rain water.[17]

After the dry season arrives in November, rice is harvested around December. Sickles are used for harvest and no mechanization is observed. Threshing has traditionally been performed manually,[18] although threshers are commonly being used in the recent years. Threshers are built by adding a threshing machine onto a truck and their operators visit rice fields to thresh rice in return for payment.

2) Labour input

Even though the area of rice field of each farm is small, family labour is often not sufficient to perform all the work at the time of transplanting and harvesting. In Cambodia, farmers in the same neighbourhood had traditionally been offering labour to each other through a system similar to those that existed in Japan known as "temagae" and "yui." However, labourers are frequently being hired to perform such work today. People in the same village or neighbouring villages were being hired at the wage of 5,000 Riel per day as of 2006. Wage level appears to be rising in the recent years; we have been told by the chiefs and farmers of the surveyed villages that the wage was 3,000 Riel per day about 5 years ago. Decline in labour supply is believed to exist behind such rising wages as it allegedly has become more difficult to find workers than in the past.[19] As mentioned earlier, an increase in number of people leaving home to work in the provincial capital and Phnom Penh appears to be causing this shortage.

3) Stock breeding

Cattle and water buffaloes are raised for use in cultivation with each household raising an average of 2 animals. Cattle are an important asset often sold when there is need for large amount of money including severe illness in the family and purchase of motorcycle. Farmers can also raise cows and sell their calves for income.

Pigs are raised in very small scale for sale with each household raising 1 or 2 animals. A mixture of rather firmly cooked rice porridge and rice bran is used as feed. Formula feed has also become available in the market in the recent years but has yet to become popular.

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[17] Irrigation is sometimes performed on a supplemental basis at rice fields near ponds and rivers.

[18] Manual threshing is generally performed by putting rice straws between two sticks and hitting it against a board placed at an angle to get the grain.

[19] According to a worker engaging in harvest at rice field near the location of interview in a rural village.

Chicken farming is generally practiced by raising several parent birds that are sold in addition to being used for captive consumption. Ducks are divided into those raised for eggs and those raised for meat. Relatively large farms raising several hundred ducks are found in some regions.

Credit market

It is not rare for the people of surveyed villages to take out a loan for agriculture and other businesses or for consumption purposes. Loans are taken from relatives, friends, merchants and money lenders as well as from microcredit offered by several agencies.[20] While loans taken from relatives and friends often do not require interest payment, monthly interest of around 10% is charged for those taken from money lenders. Microcredit interest is lower than that of private lenders at about 3% per month.

Chambok Village also has a system called "rice bank." It is a membership-based system in which members contribute a certain amount of paddy in return for right to borrow paddy when needed. If a member borrows 100 kg of paddy, that member must return 130 kg of paddy at the time of next rice harvest regardless of the number of months the paddy was borrowed (corresponds to interest of 30 kg). Number of months borrowed are usually 6 months and the corresponding interest rate in such case would amount to about 5% in monthly interest. The interest charged by rice bank is very low compared to cases where rice is borrowed from farmers which would require the borrower to repay with twice the amount of rice he or she had borrowed. Fifty to 60 households are said to be taking part in this system.

Community activities

Totea Village has a system called samakum moronak in which the villagers offer donation when a villager dies to cover funeral expenses. A system of this sort is not rare in rural Cambodia.[21] Samakum morona in Totea Village was started a year ago under the initiative of an elder in the village. A system of this nature was not seen in Chambok Village.

[20] Microcredit offered include AMRET, ACLEDA and Theaneakea Phum (village bank) in Totea Village and ACLEDA, PRASAC and Anathean in Chambok Village.

[21] Yagura (2005) has reported a similar system in Takeo Province.

Comparison of Totea Village and Chambok Village

According to the chief of Chambok Village, Totea Village is more affluent than Chambok Village. In fact, according to the 2004 Commune Database (SEILA Program), ownership of television sets and motorcycles per household was 0.13 and 0.10, respectively, in Chambok Village as opposed to 0.17 and 0.47, respectively, in Totea Village. The two villages have little difference in terms of farming conditions with both villages experiencing water shortage. However, Totea Village has traditionally had more rich villagers and government officials among its residents and former residents. The chief claimed that these facts have led to improvement of living standard.

2.3 Overview of Demographics and Migrant Labour

Let us take a look at population dynamics in the surveyed region from the 1998 census data (NIS & MOP, 2000a) and data from 2004 commune database (SEILA Program). While simple comparison cannot be made owing to the possible difference in definition of "population" between the 1998 census and commune data,[22] a rough trend will be grasped in this section.

One does not notice any out-migration occurring in large scale from the surveyed regions from this data (Table 2-11). Population of entire Svay Rieng Province has increased over the 6-year period from 480,000 in 1998 to 530,000 in 2004 which amounts to annual average increase rate of 1.7%.[23] Annual average increase rate for Svay Chrum District for the same period was 2.4% and was higher than the provincial average. The increase rate for Cheik Commune was even higher at 2.7%. Similarly, population increased at the two surveyed villages during the same 6-year period at rates higher than the provincial average; 3.2% and 1.9% for Totea Village and Chambok Village, respectively.

However, taking a look at this 6-year period by dividing it into two periods, i.e. from 1998 to 2002 and from 2002 to 2004, one can see a rapid decline in the speed of population increase in the recent years (Table 2-11). For instance, annual average population increase rate for the entire province has dropped from 2.6% in 1998-2002 to

[22] For instance, in the 1998 census, each person is counted as population of the place where he or she stayed at the time the census was conducted.

[23] Incidentally, annual average increase rate of population in Svay Rieng Province between 1998 and 2004 comes to 1.2% when NIS & MOP (2004) data is used for the year 2004. Annual average increase rate for Cambodia as a whole during the same period was lower at 1.8%.

0.2% in 2002-2004. Similarly, the rate has dropped from 3.2% to 0.9% and from 3.6% to 1.1% in Svay Chrum District and Cheik Commune, respectively. In Totea Village, population grew at high rate of 4.2% in annual average between 1998 and 2002 but the annual increase rate dropped to 1.4% between 2002 and 2004. Average population increase rate also dropped from 2.7% to 0.5% in Chambok Village as well. (Table 2-11)

Some districts in the province even experienced population decline between 2002 and 2004 (Table 2-11). Natural fertility decline is unlikely because fertility in Cambodia still remains at high rate and there appears to be no factor that would have rapidly raised the mortality rate during this period. For this reason, this population decline is believed to be the result of out-migration. And for the same reason, slowing of population increase in Svay Chrum District and the surveyed villages are believed to have been caused also by out-migration.

Outflow of population appears to be the result of some family members leaving the village to migrate to other regions. According to the chief of Chambok Village, there are not many cases of entire family leaving the village—only about 10 cases found in his village. However, members of family or children migrating to distant places or going to distant places for seasonal labour are patterns seen in many households of the village. According to the chief of Totea Village, about 30% of households in his village work away from home. Their main destination is Phnom Penh and people work in garment factories, construction and motodop. According to the chief, migrant labour of this type increased significantly in the last 3 to 4 years. According to the chief of Chambok Village, majority of households are engaged in migrant labour. Like Totea Village, Phnom Penh is the major destination where people also work in garment factories, construction and motodop. Migrant labour from his village also increased compared to the past. The chief of Chambok Village says that migrant labour increased because “population increased but amount of land available remained the same and no other work is available.”

Table 2-11 Population and its Growth Rate of the Serveyed Area

	Popualtion			Annual average growth rate (%)		
	1998	2002	2004	98-04	98-02	02-04
Svay Rieng Province	478,252	529,340	529,531	1.7	2.6	0.02
Chantrea District	45,439	49,349	48,340	1.0	2.1	-1.03
Kompong Roo District	61,496	66,015	67,280	1.5	1.8	0.95
Rumduol District	49,384	51,391	52,638	1.1	1.0	1.21
Romea Haek District	111,505	125,850	123,125	1.7	3.1	-1.09
Svay Chrum District	129,573	147,079	149,600	2.4	3.2	0.85
Svay Rieng District	21,205	22,484	22,366	0.9	1.5	-0.26
Svay Teap District	59,650	67,172	66,182	1.7	3.0	-0.74
Chek Commune	7,895	9,079	9,281	2.7	3.6	1.11
Totea Village	1,322	1,556	1,599	3.2	4.2	1.37
Chambok Village	1,468	1,630	1,647	1.9	2.7	0.52

Source: compiled from NIS & MOP (2000a), SEILA Program

Note: 1998 data complied from Census(NIS & MOP, 2000a)
2002 and 2004 data compiled from Commune database (SEILA Program)

2.4 Case Study of Livelihood in Surveyed Villages

Several examples of survey respondents are quoted below to study the means through which the households in the surveyed villages are earning their income as well as the type of households and villagers that are engaged in migrant labour.

Migrant labour is generally considered an activity engaged by households or workers that cannot obtain employment opportunities in their rural home village. In other words, it is presumed that households owning little farmland or do not have jobs other than farming have higher tendency of their members engaging in migrant labour. While such cases can certainly be found among the examples shown below, one can see that there are cases where people owning relatively large farmland or other jobs also leave to work away from home. ("T" and "C" below represent Totea Village and Chambok Village, respectively, and the numbers that follow represent informant number.)

T67 (landless and many family members with experience of migrant labour)

The informant is 20 years old, unmarried and lives with his parents. He has 10 siblings, 7 of whom live with him. Three of them are students. No member of this family owns a farmland. The family is not raising any livestock and is not engaged in agriculture of any kind. His parents work as chefs and earn 900,000 Riel a year. The informant went to Phnom Penh to work in 2006 and engaged in wage labour. Four of

his siblings have worked away from home and at least two of them (one that are not living with the family) engaged in migrant labour in 2006. Both are living in Phnom Penh and are working as motodop driver or factory worker. Although the family does not own any farmland, having other jobs and engaging in migrant labour has enabled this family to afford both a TV and a motorcycle.

T104 (landless person engaged in migrant labour)

The informant is 23 years old and lives with his wife (age 22) and a son (age 3). His parents are still alive. He also has 6 siblings (4 of whom are still students) but does not live with any of them. His father works away from home as border police officer and his mother owns a shop in the village. This family does not own any farmland but is raising a pig. The parent and siblings living away from home also do not own any farmland. The informant worked away from home and engaged in wage labour from 2005 to 2006 and his wife works in a factory. Financial assistance of 400,000 Riel is received from overseas (from an unidentified individual). However, the income of the informant and his wife only amounts to 420,000 Riel. They do not own a TV or a motorcycle. The informant has expressed his desire to engage in migrant labour during the interview and mentioned Thailand as his desired destination.

C51 (landless persons not engaged in migrant labour)

The informant is 33 years old and lives with his wife (age 39) and 6 siblings (ages 9 to 20). The couple has no children and their parents have died. His siblings are all young and only 2 of them are 15 years or older. The informant does not own any farmland or raise livestock. The informant and his oldest brother (age 20) engage in wage labour (construction, agricultural wage labour) in order to earn income. However, they are not engaged in migrant labour. He also does not have any experience of migrant labour and mentioned in the interview that he does not want to work away from home. His wife is not engaged in any particular work. His annual income only amounts to 430,000 Riel and they do not own a TV or a motorcycle.

C39 (owns a farm and a business, not engaged in migrant labour)

The informant is 29 years old and lives with his wife (age 26) and son (age 1). His parents are still alive. He has 6 siblings but does not live with them. He owns 0.5ha of farm from which he harvested 540kg of rice (paddy) in 2006. He had to purchase 90kg of milled rice for food. However, he also owns a store and has an annual income of 1 million Riel. He also owns a motorcycle. He has no migrant labour experience

and said in the interview that he has no desire to work away from home. All of his siblings own their farms (0.25-1ha) and have non-agricultural income from well boring and wage labour. None of them has worked away from home. His father is a public servant.

T41 (owns a large farm and has other sources of income but engaged in migrant labour)

The informant is 24 years old and lives with his wife (age 24), a son (age 0), his parents and three of his siblings (two sisters and a brother, all adult). He also has 3 siblings that he does not live with. The informant has 2ha of farmland but also runs a threshing business and worked as security guard in Phnom Penh in 2006. Production of rice (paddy) in 2006 was 2.4 tons and there was no need to purchase rice. He had an annual income of 1.35 million Riel from his threshing business and $2,500 (10 million Riel) from working as a security guard. His wife works at a factory in Phnom Penh and earns a monthly salary of $100. His father works as a staff in agricultural extension program and earns a high salary of $5,000 (20 million Riel) a year. Each of 3 siblings that live with him owns 0.2ha of farmland and has a white-collar job (Two sisters among them earn an annual salary of 4.8 million Riel.) This family owns both a TV and a motorcycle. One of his elder brothers is the only member of his family engaged in migrant labour. He works at a factory and Korea and earns a salary of $2,500 per month. Members of his family have these jobs because of their academic background. His father and mother graduated from vocational school and high school, respectively, and all of his siblings have high school or vocational school degree except for one who has a junior high school degree. The informant has expressed his desire to work permanently in Phnom Penh instead of working there seasonally even though he owns a relatively large farmland and is running a business in the village.

C48 (owns a farm but child is engaged in migrant labour)

The informant is 20 years old, single and living with his mother and 3 of his 4 siblings (2 elder bothers and a younger sister). His mother owns 2ha of farmland but has not been allocated to him. One of his brothers living with him works as a public servant and receives an annual salary of 1.6 million Riel. There was no need to purchase rice because the informant cultivates his mother's farm and harvested 1 ton of rice in 2006. He worked at a factory in Phnom Penh in 2004 but has not worked away from home since then. However, he expressed a desire to work in Phnom Penh during the interview. Another brother and a sister living with him are working at a factory in

Phnom Penh and are earning 3.2 million Riel a year. The two are offering a total of 2.88 million Riel to the family every year. The younger sister not living with him is also working at a factory in Phnom Penh. This family does not own a TV but owns a motorcycle.

Among the various cases we reviewed above, we can see that, as in cases T41 and C48, people are willing to work far away from their home for higher income if such opportunity is there even if they have abundant farmland or have family members that are earning high income. In contrast, there was a case such as C51 where the informant was landless and relied solely on income from wage labour but did not engage in migrant labour. These facts suggest that factors other than the economic condition of village also affect the decision of whether or not to engage in migrant labour.

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2.5 Results of Hearing Survey Analysis

The Issue and Subject for Analysis

With the age cohort of migrant workers being from 20~39 years old, we interviewed 212 male subjects with an average age of 28.96 years old (SD=6.16) and 64.6% as being married. The majority of respondents have an educational level of graduating junior high school (Table 4-1).

Table 2-12 Education Level (Based on Graduation Level)

No education	Primary	Junior high	Senior high school	University	Other	Total
3.8(8)	37.7(80)	35.8(76)	18.4(39)	0.9 (2)	3.3 (7)	100.0(212)

Note: Numbers in parenthesis represent actual numbers of persons.
Source: Hearing Survey in December 2006

The Situation of the Agriculture Sector

The average size of farmland is 0.34ha, with only 26.81% having irrigation (Table 2-13). For landowners (n=144), the average land size for agricultural use is equivalent to only 0.49ha (Table 2-13). This is even less than the average farmland size of 0.54ha mentioned by respondents in the first half of Chapter 2 Many respondents have not experienced the issue of land inheritance, so we look at different situations regarding agricultural land area for respondents who live with their father or separately, and if the father is still alive (Table 2-14). For respondents who do not live with their father (i.e. those who are independent) or whose father is deceased, the average farmland size owned is around 0.40ha. For the case of those living with their father, where the majority have not dealt with the issue of inheritance, the size of the farmland is 0.19 ha. However for households expecting to deal with inheritance, the agricultural land size is only 0.26 ha (SD=0.22).

Table 2-13 Farmland Owned by Respondents (ha)

	Total		Landholders only (n=144)	
	Farmland area	Standard deviation	Farmland area	Standard deviation
Total	0.34	0.37	0.49	0.36
Irrigated	0.09	0.23	0.14	0.28
Not irrigated	0.23	0.31	0.34	0.32
Upland field	0.01	0.05	0.01	0.07

Source: Hearing Survey in December 2006

Table 2-14 Farmland Owned by Respondents Living with and without their Father

	Number	Farmland area of respondents	Standard deviation
Living with father	72	0.19	0.34
Living separately from father	55	0.43	0.36
Deceased father	85	0.40	0.36

Source: Hearing Survey in December 2006

The production level of rice for the past year is shown in Table 2-15. As the production of rice during the dry season is limited, we analyze the production levels during the rainy season where rice production is 687.24 kg. Of this amount, only 6.32% is used for commercial purposes, with the majority for private consumption. For the survey undertaken, no official structure exists where the farming household receives income from selling rice. Irrigation is required for the production of rice during the dry season and for the few irrigation channels that exist the source of the water used comes from Vietnam, therefore limiting expectations of irrigation usage increasing. Also, as the underground water is blackish or saline, the government limits the use of this water for irrigation purposes. Strategies to increase rice production through engineering innovations, such as the famous green revolution, are not realistic.

Table 2-15 Rice Production and Consumption

	Monsoon paddy (kg)	Percentage	Rice	Dry season paddy (kg)
Total Production (kg)	687.24	100.00	412.34	4.71
For sale	43.48	6.32	26.08	2.36
For self-consumption	518.56	75.45	311.13	0.94
Seed for next planting	95.67	13.92	57.40	1.46
Provision (temple, relatives, wages, etc)	13.91	2.02	8.36	0.00
Others	3.63	0.53	2.18	0.00

Note: Rice=0.6×paddy

Source: Hearing Survey in December 2006

With the average household size (with dependents) being 4.52 persons and yearly production of polished rice being 311.13kg, self-sufficiency cannot be realized. As a result, 80.7% (171) of households purchase rice for personal consumption. With the average amount purchased being 233.28kg (265.48kg for the 171 households actually buying rice), the total amount of rice consumed is 544kg per farm household. This equals then to only 63.96% of required rice being self-produced. With the average household size being 4.52 person and male adults consisting close to 3 persons, the consumption of polished rice per head is around 180kg. This amount would more or less assure the subsistence of people.

Let us now look at annual income and personal consumption (Table 2-16). Sales of rice make up only 3.89% of total income with the largest contribution to income coming from non-agricultural household employment. This involves alcohol brewing, bamboo basket weaving, and other various forms of village production. The second largest form of income is from salary based income. These two forms of income make up 54.64% of total income. Other forms of agricultural based income outside of rice production include selling vegetables, livestock animals (see Table 2-17 regarding livestock ownership), and inland fishing.

The observation of farming households with small rice production having multiple sources of revenue is widespread in Southeast Asia. It is vital to bare this in mind when considering policies to alleviate poverty.

Table 2-16 Income and Expenditure (1,000riel)

	Income	Percentage (%)
Rice production	110.44	3.89
Non-rice agricultural production	382.87	13.49
Wages related to agriculture	218.92	7.71
Self-employed work	920.11	32.41
Salaried work	631.13	22.23
Domestic remittance	108.14	3.80
Foreign remittance	11.79	0.41
Money from children	113.51	3.99
Money from construction work	158.88	5.59
Others	182.98	6.45
Total	2838.77	100.00

	Expenditures	Percentage (%)
Food	1,263.70	48.29
Clothes	206.44	7.89
Education	248.01	9.48
Medical	228.03	8.71
Social ceremonies	218.60	8.35
Transportation	127.27	4.86
Electricity	58.21	2.22
Water fee	3.94	0.15
Telephone	70.38	2.69
Fuel	37.64	1.44
Others	154.87	5.92
Total	2,617.09	100.00

Source: Hearing Survey in December 2006

Table 2-17 Livestock Owned

Type of livestock	Number
Cattle for consumption	0.20
Cattle for agriculture	2.00
Pig	1.24
Poultry	11.37

Source: Hearing Survey in December 2006

Let us now look at ownership of durable goods (Table 2-18). As there is no electricity grid in the area of the villages under investigation, households with car batteries are the owners of electrical goods. Radios are widely owned and with ownership of televisions spreading, we can say the village is not experiencing extreme poverty. Bicycles are the main form of transportation but motorbikes are also owned by 45.8% of farm households. If one decides to take this motorbike to Phnom Penh, one can potentially become a motodob driver, therefore leading to a situation of a large number of potential motodob drivers from a wide area emerging.

Table 2-18 Ownership of Durable Consumer Goods

	Ownership percentage (%)
Automobile	0.9
Motorbike	45.8
Bicycle	87.7
TV	66.0
Radio	39.6
Refrigerator	0.9

Source: Hearing Survey in December 2006

Emergency Expenditures

Farmers face many uncertainties in daily life and their survival crucially depends on their ability to provide solutions to deal with these uncertainties.

Limiting the study to the past 2 years, 61.32% of farm households experienced some sort of emergency expenditure. The main reasons were treatment of illness followed by a bad harvest (Table 2-19), with the average amount of 628,400 riel being spent (for those who had experienced emergency expenditures only). Savings of 263,800 riel, loans of 275,000 riel, followed by 60,100 riel from selling assets were the main sources for raising emergency expenditure money.

Table 2-19 Emergency Expenditures

Medical	Wedding	Funeral	Other cerem-ony	Poor harv-est	Childbirth	Accident	Others	Total
58	8	8	7	23	8	4	14	130
44.6%	6.2%	6.2%	5.4%	17.7%	6.2%	3.1%	10.8%	100.0%

Source: Hearing Survey in December 2006

Money was borrowed mainly from village financing institutions (micro-credit), relatives, and local village money lenders (Table 2-20). Within the village surveyed, various micro-credit schemes continue to operate actively. At the time of research only 4

households were in debt, of an average sum of only 160,000 riel per household, with no signs of distressed borrowing present.

Table 2-20: Sources of loans

Money lender	Micro-credit	Relatives	Friend	Parents	Others	Total
15	39	39	7	1	1	102
14.7%	38.2%	38.2%	6.9%	1.0%	1.0%	100.0%

Source: Hearing Survey in December 2006

Migration

Of the respondents, 54.7% had experienced working away from their home village for economical reasons with 56 individuals migrating in 2006 (Table 2-21). In addition, every age group had respondents who had worked away from their home village, with more than half of respondents above 25 years of age experiencing labor migration, equal in percentage terms of total respondents who had also migrated in search of work.

Table 2-21 Experience of Working Away from Home Village (Labor Migration)

	Working away from home		Total
	Experienced	No experience	
Single	37	38	75
	49.3%	50.7%	100.0%
Married	79	58	137
	57.7%	42.3%	100.0%
Total	116	96	212
	54.7%	45.3%	100.0%

Note: $\chi 2=1.36$, NS.

Source: Hearing Survey in December 2006

Table 2-22 Experience of Labor Migration based on Cohorts

	20-25	26-30	31-35	36-39	Total
Migration experience	20	45	28	23	116
	62.5%	51.1%	62.2%	48.9%	54.7%
No migration experience	12	43	17	24	96
	37.5%	48.9%	37.8%	51.1%	45.3%
Average	32	88	45	47	212
	100.0%	100.0%	100.0%	100.0%	100.0%

Source: Hearing Survey in December 2006

Table 2-23 Labor Migration Experience of Siblings

(% represents experience working away from home village)

	15<	15-19	20-25	26-30	31-35	35>	Total
Total	1	27	25	75	56	30	214
	5.9%	17.1%	22.7%	55.6%	45.9%	51.7%	35.7%
Siblings	1	17	9	33	37	18	115
	12.5%	21.5%	18.8%	53.2%	52.9%	50.0%	38.0%
Sisters	0	10	16	42	19	12	99
	.0%	12.7%	25.8%	57.5%	36.5%	54.5%	33.3%
N	41	334	153	146	124	58	856

Source: Hearing Survey in December 2006

There are no differences regarding whether one has experience working away from home based on being married or single (Table 2-24). The average number of years working away from home is 3.80 years, with only 17% of respondents' wives having also worked away from home and only 4% in 2006.

Table 2-24 Experience of Working Away from Home

	Informant			Informant's wife
	Total	Married	Single	
Number	212	137	75	137
Those who have ever worked away from home	110	74	36	24
(%)	(52)	(54)	(49)	(18)
Those who worked away from home in 2006	56	33	23	6
(%)	(26)	(24)	(31)	(4)

Source: Hearing Survey in December 2006

The destination for more than half of the migrant workers is Phnom Penh (Table 2-25). Other destinations include locations within the same state (such as the provisional capital and the border town of Bavet), and provincial states and cities. Migration to a foreign country (Thailand) was observed by only one respondent. Nearly 60% of migrating workers were involved in salaried manual labor, with construction work seen as the main employer, followed by factory labor and work as a motodob driver.

Table 2-25 Location for Labor Migration and Type of Job (numbers)

Destination		Job Type	
Phnom Penh	81	Salaried work	65
Other state or city	12	Factory work	9
Foreign country	1	Motodob	8
Svay Rieng state	14	Shop work	7
		Farm work	1
		Other	20

Note: Includes cases of multiple jobs and labor migration destinations.
Source: Hearing Survey in December 2006

Differentiating by gender, males as a whole are more likely to have experience working away from home versus females (Table 2-26, 2-27). By age, the group from 25 to 44 saw a significant difference between males and females who had experienced labor migration, most likely because of child rearing responsibilities making it difficult for women to leave their villages to work. However no major differences exist between the two genders for the age group of 15~24, as there are few obstacles for these bachelors to leave their villages in search of work. In addition an increase in labor migration is seen in the garment manufacturing industry, therefore indicating males as providing the majority supply of labor force for the urban informal sector. Due to this reason we concentrate this survey on males only.

Table 2-26 Experience of Migration of Informants/their Family (Male) age:15～64

	Total	15-24	25-34	35-44	45-54	55-64
Relevent number	712	252	223	120	77	40
Those who have ever experienced migrate worker	271	87	110	52	17	5
	38%	35%	49%	43%	22%	13%
Those who migrates in 2006	181	64	73	30	10	4
	25%	25%	33%	25%	13%	10%

Source: Hearing Survey in December 2006

Table 2-27 Experience of Migration of Informants/their Family (Female) age:15～64

	Total	15-24	25-34	35-44	45-54	55-64
Relevent number	659	236	178	113	88	44
Those who have ever experienced migrate worker	156	76	51	15	13	1
	24%	32%	29%	13%	15%	2%
Those who migrates in 2006	115	55	36	10	13	1
	17%	23%	20%	9%	15%	2%

Source: Hearing Survey in December 2006

There is a difference in the proportion of those who have worked away from home when looking at marital status. For example in the age group of 25~34, 61% of bachelors experienced working away from home, a higher level than 44% of married respondents who also had migration working experience. Married females in this age group have difficulty migrating due to the responsibilities of child rearing and domestic housework. However only 6% of bachelors in the age group of 35~44 years old had experience working away from their home village while married individuals had a higher rate of 32%. This trend may be due to the situation of married individuals having a higher need to leave their villages in order to financially support their families.

Table2-28 Number and percentage of informants and their family who have ever expericenced migrant worker (Married, Single)

	Total	age				
		15-24	25-34	35-44	45-54	55-64
Single						
No. of Informants and their family	541	366	44	83	29	19
No. of persons who experience as migrant worker	151	111	27	5	7	1
	27.9%	30.3%	61.4%	6.0%	24.1%	5.3%
No. of persons who experience as migrant worker in 2006	120	90	19	3	7	1
	22.2%	24.6%	43.2%	3.6%	24.1%	5.3%
Married						
No. of Informants and their family	747	91	274	182	135	65
No. of persons who experience as migrant worker	249	42	120	59	23	5
	33.3%	46.2%	43.8%	32.4%	17.0%	7.7%
No. of persons who experience as migrant worker in 2006	167	27	83	37	16	4
	22.4%	29.7%	30.3%	20.3%	11.9%	6.2%

Looking at job types for migrating workers, men mostly work in salaried manual labor jobs while women in factories (Table 2-29). The majority of factory workers are likely to be involved in the garment manufacturing industry with women contributing a large proportion. Men in the salaried manual labor sector work in the construction industry and this has an image of being a male occupation. Also students who study away from home in distant high schools and universities are all male, showing males receive preferential educational treatment.

Table 2-29 Labor Migration Job Types for Respondents and their Families (Age 15～64)

	Men	Women	Total	Married	Single
Salaried work	123	23	146	96	47
Factory work	26	87	113	39	60
Motodob	24	0	24	20	4
Shop work	26	28	54	42	9
Farm work	2	0	2	1	1
Civil servant, office work	12	1	13	9	4
Student	6	0	6	2	4
Agriculture	3	3	6	5	1
Others	49	8	57	38	18
Total	271	150	421	252	148

Source: Hearing Survey in December 2006

From the above points, the following issues can be characterized regarding migration employment. First, mainly the young people—in a fairly wide age bracket—leave their villages to seek employment elsewhere. Second, women in the generation of child rearing are less likely to leave their villages for work, while there is less difference between genders as the age group becomes younger. Third, the main city people migrate to is Phnom Penh with men working in manual labor intensive jobs such as the construction sector and women working in factories.

5. Intentions for Migration

Putting aside whether respondents have actually experienced leaving their villages for employment reasons, we look at the intention to leave and note that nearly half of those surveyed would like to leave their villages. Those who have experienced migrating in the past have a slightly higher intention to leave according to the results ($\chi 2=3.47$, p=4.2%).

Table 2-30 Labor Migration Intention

	Intention to leave			
	Intention to leave	No intention	Uncertain	Total
Experienced migration	64	48	4	116
	55.2%	41.4%	3.4%	100.0%
No experience of migration	41	52	3	96
	42.7%	54.2%	3.1%	100.0%
Total	105	100	7	212
	49.5%	47.2%	3.3%	100.0%

Source: Hearing Survey in December 2006

When asking about the duration that respondents want to work away from their home village (Table 2-31), 45.3% reply they want to work only on a seasonal basis while an unequal total of 33.3% want to work away from their village as long as possible or permanently. Regarding expectations of life standards improving upon migration (Table 2-32), half of the respondents believe that life standards will improve while 30% are uncertain and the remaining do not think their financial situation will improve. There are only 9 households (4.2%) with members who have absolutely never migrated, therefore leading us to think that information on migration is being widely spread within the community.

Table 2-31 Duration of Wanting to Work Outside of Home Village

	Seasonal	One year	Several years	As long as possible	Permanently	Total
Experienced	34	5	9	15	9	72
migration	47.2%	6.9%	12.5%	20.8%	12.5%	100.0%
No experience	19	2	9	7	8	45
of migration	42.2%	4.4%	20.0%	15.6%	17.8%	100.0%
Total	53	7	18	22	17	117
	45.3%	6.0%	15.4%	18.8%	14.5%	100.0%

Source: Hearing Survey in December 2006

Table 2-32 Expectations of Life Standards Improving Upon Migration

	Agree	Uncertain	Disagree	Total
Experienced	68	22	25	115
migration	59.1%	19.1%	21.7%	100.0%
No experience	31	39	17	87
of migration	35.6%	44.8%	19.5%	100.0%
Total	99	61	42	202
	49.0%	30.2%	20.8%	100.0%

Source: Hearing Survey in December 2006

The ease of finding various occupations in Phnom Penh (Table 2-33) shows in general more than half replied that finding work is difficult or very difficult, despite their strong intentions to work in Phnom Penh. This goes in parallel with our argument in the first half of Chapter 2 regarding the informal sector having severe competition.

In such an environment, the sector that has the lowest entry hurdle is construction followed by the petty trader sector. Petty trading does not refer to establishing a shop but involves the peddler walking about and selling his goods or setting up shop on a pavement corner. The motodob driver is also seen as sector with easy entry levels, most likely because a farmer already owns a motorbike. Employment in the formal sector, such as a civil servant or factory worker, is seen as difficult due to economic stagnation going on. In addition, work as a cyclo driver is also seen as being difficult as one must borrow a cyclo bicycle and their numbers are limited.

Table 2-33 Ease of Finding Jobs for Various Sectors in Phnom Penh (%)

	Very easy	Easy	Difficult	Very difficult	Total
Construction worker	18.0	32.0	36.1	13.9	100.0
Motodob driver	8.0	30.3	43.1	18.6	100.0
Retailer	8.3	36.5	30.9	24.3	100.0
Trader	8.8	18.2	27.1	45.9	100.0
Cyclo driver	6.5	18.3	42.5	32.8	100.0
Factory worker	8.6	28.9	46.5	16.0	100.0
Civil servant	8.8	15.4	22.0	53.8	100.0
Restaurant employee	5.0	28.7	40.9	25.4	100.0
Small shop employee	1.7	32.2	40.6	25.6	100.0

Source: Hearing Survey in December 2006

We also look at the comparison between Phnom Penh and one's home village for workers in the informal sector (Table 2-34). Relatively speaking, rural residents assess Phnom Penh as an easier place to earn money, with results being similar to Table 2-7 where urban migrant workers were asked the same question. On the other hand, as was indicated in Table 2-7, they value the village for having a social safety net as shown by the following characteristics: people are kind, people help each other, existence of employment in old age, and help is provided when in need.

Table 2-34 Evaluation of Phnom Penh (PP) and the Home Village (%)

	Village	Village more likely	Cannot say	PP more likely	Phnom Penh
Easy to earn money	36.8	13.2	4.2	16.0	29.7
People are kind	67.9	18.9	9.9	1.9	1.4
Helping each other	71.2	24.5	3.8	0.0	0.5
Fun	57.6	17.6	4.8	7.1	12.9
Boring	16.1	4.3	13.7	26.5	39.3
Employment in old age	61.8	24.1	5.2	4.7	4.2
Dangerous	8.5	1.4	8.5	25.0	56.6
People help when in need	70.8	21.2	5.7	0.9	1.4

Source: Hearing Survey in December 2006

Migration Function

The migration function shown in Table 2-35 was obtained by a binary probit analysis, using the following variables. Intention to migrate is a dummy variable: Yes=1, No=0. Respondents who did not show an intention to migrate or not were excluded from the sample (Table 2-30).

Table 2-35 Migration Function

	Coefficient	Standard error	Wald test	Significance probability
Earning money in the city is easy	0.278	0.105	7.066	0.008
Living standard improvement	0.756	0.236	10.228	0.001
Social capital of village	-0.351	0.193	3.311	0.069
Norm of helping in the village	-0.296	0.178	2.772	0.096
Self-capability evaluation	0.457	0.222	4.248	0.039
Family size	0.428	0.162	6.975	0.008
Age	-0.063	0.038	2.697	0.101
Cohabitation with father	-0.935	0.536	3.040	0.081
Farmland size (ha)	-0.484	0.510	0.902	0.342
Constant	0.395	1.680	0.055	0.814

Source: Hearing Survey in December 2006

For the explanatory variables, we consider the following conditions. For "Potential of making money in the city" we look at the criteria of "Earning money in the city is easy" in the above table and assign a variable of 4 for those answering "Phnom Penh" and 1 for their "home village". Regarding the criteria of "Living standard improvement", we use data from Table 2-32 and assign a variable of 3 for "agree" and 1 for "disagree".

For "Social capital of village" we look at "Village people can honestly be trusted"; for "Norm of helping in the village" we look at the criteria of "There exists a norm in the village of helping each other"; we then assign a variable of 4 for "strongly agree" and 1 for "strongly disagree". Looking at "Self-capability evaluation" we apply the condition "Any problem can be resolved through hard work" and the variable of 4 for "strongly agree" and 1 for "strongly disagree".

For the "Cohabitation with father" dummy, we assign a value of 1 for "Living with father" and 2 for "Living separately from father or father deceased". This dummy examines if cohabitating with the father affects the intention to migrate. Marital status is not considered because most respondents who are single live with their father, therefore making the issue of martial status redundant. In addition, as mentioned earlier, the martial status does not have a relationship with the intention to migrate anyway.

Let us look at the results. The intention to migrate to the city is increased by the factors of “Potential of making money in the city” and “Living standard improvement” after migration. Also, awareness of having the ability to solve problems increases the intention of migrating while farmland size on the other hand does not influence the intention to migrate.

Family size significantly increases the intention to migrate. Farmland ownership does not have a significance regarding the intention to return to the home village and the poverty derived from the size of landholding does not affect one’s intention to leave the village. Instead we can see population pressures, as seen by family size, causing migration from the village to the city. Living with the father lowers the intention to migrate. This implies that when one leaves the protection of their parents and becomes independent, the intention to migrate increases. The main conclusion here is that the foundation of the village’s safety net—social capital of the village and the existence of reciprocity to help—decreases the intention of migration. Therefore, it is premature to simply conclude that labor migration is caused solely by income maximization behavior.

Summary

From the survey conducted with the farmers, we have observed severe population pressures and predict inheritance increasing the fragmentation of farmland in the future. However currently the average uyfarmland size is only 0.34ha and has reached a stage where self-sufficiency in the production of rice is not possible. The majority of farming households is not self-sufficient in regards to rice production and inevitably have to purchase rice in the market. Securing income for the purchase of rice becomes a primary target for the farming households.

As the underground water in this area is blackish or saline, the government limits its use for irrigation purposes. Regarding gravity irrigation, as the water source is in neighboring Vietnam, high expectations of expansion do not exist. Therefore one cannot expect the popularization of the green revolution”.

In such an environment, the farmers consider various solutions for their survival in the current situation they are in, with labor migration being one answer. More than half of respondents have experienced labor migration, with the majority of farm households

having a member who has experienced working away from the home village. In this sense, labor migration is a widely spread method for earning money. However, as confirmed in the previous chapter, there is a limit to how many workers the informal sector can absorb. In this survey we have noticed that the decision involving labor migration of the farming community is not based simply on maximizing personal income, but should be highlighted as part of their life-cycle in regards to the issue of work.

However we should not forget that there are alternative ways of making money in the village without depending on labor migration. Especially non-farming production activities, such as the manufacturing of bamboo baskets and palm sugar, should be highlighted as important sources of revenue. Formerly seen as a poor area, how poverty in northeastern Thailand was reduced by the increase of non-farming production should also be used as a hint in constructing a strategy to alleviate poverty in Cambodian farming villages.

A final point, the existence of trust and reciprocity to help amongst members of the same village increases the intention to return to the home village and decreases the motivation to migrate to the city for work. The role of social capital (safety net), held by the village, effecting villagers' intentions needs to be strongly highlighted. In addition, such social capital can be leveraged in commerce and distribution by enhancing cooperation and influencing positively the activities of rural industry. Therefore policies in reducing poverty may want to use the social capital of a village or strengthen the existing social capital in the community.

Chapter 3 Challenges of Cooperation : Based on Field Survey Results

1. Challenges of International Cooperation and Proposals—From the Results of Field Study

1.1 Challenges posed by population structure of Cambodia

The fact that Cambodia is entering a phase of rapid rise in labour population is a point that requires the most consideration with regard to the assistance strategy for Cambodia. Rapidly increasing labour population has expanded the poorest segment of the population through segmentalization of farmland and makes the urban informal sector even bigger. Increase in labour absorbing capacity of rural areas will be desired under the present condition where industrialization is making little progress. In other words, assistance to rural areas for employment generation is a task that is of pressing necessity.

Rapid segmentalization of farmland has also been confirmed in our recent study. However, the study also confirmed the inadequacy of irrigation facility, and for that matter, the difficulty in building the irrigation facility itself. Therefore, introduction of new farming methods as typified by the Green Revolution is not easy. Moreover, increasing rice production in the present phase where Cambodia has more or less attained self-sufficiency in rice production may give rise to additional poverty issues by bringing about a slump in market price of rice. Consideration the slump of rice prices in the international market, it is for this reason that caution is required in imprudent construction of irrigation facilities .

1.2 Importance of social capital as seen from farm survey

What has become clear from the income structure of farm households is the fact that main source of income for farm households is comprised of a wide variety of rural

industries. It is necessary to find means of survival in non-agricultural production activities provided that much cannot be expected from increasing rice production in ameliorating poverty. Reference shall be made to the success of northeastern Thailand, a formerly deprived region, in reducing poverty through promotion of rural industry. Incidentally, village communities in Thailand, which can also be seen as social capital, played an important role in promotion of non-agricultural production activities. As this study shows, social capital constituted an important explanatory variable in the intention to return to and move away from the village. While collective efforts in purchase of materials and logistics are needed to promote rural industries, their success will be determined by the utilization of social capital.

From the viewpoint of poverty alleviation, improvement of social safety net that offers assistance in the event of illness and bad crop are important aside from seeking improvement of income. Whereas offering of safety net is a role expected from the government, it is unlikely, considering the financial difficulties and lack of capacity observed in the Cambodian Government, that safety net will be expanded in the near future under the government initiative. In rural Cambodia, however, informal safety net systems partly influenced by Buddhism are widely seen on the community level. Such system was observed in one of the villages included in this study. Aside from community level assistance, personal assistance from relatives and friends also play an important role in helping people overcome their economic crises. It also became clear that such safety net, which can be regarded as one form of social capital, is functioning as a strong magnet that enable people to stay in their village. For this reason, efforts contributing to maintenance and strengthening of safety nets in these communities also deserve consideration.

1.3 Viewpoint towards rural finance

Financial assistance is required in promotion of rural industries and rural finance will play a large role in continuing the wide-ranging activities that are currently taking place. Rural finance in Cambodia is predominantly based on a Grameen Bank system that relies on outside funds for its resource. Attention shall also be brought to popularizing savings association-based rural finance and offering assistance for such system instead of relying solely on outside funds. Savings association-based rural finance widely seen in Thailand and Laos has the effect of enhancing villagers' commitment (i.e. social capital) towards the financial system to the extent that such system will be managed properly. Moreover, surplus funds of Cambodian rural households (most of which

currently slumbers in the form of gold purchase) will become available to households that require such funds through savings association-based rural finance , which, in turn, is expected to contribute to increase in fund supply and lowering of interest rate. Consequently, assistance in this area shall prove to be effective in increasing labour absorption in rural areas through these effects.

1.4 Support for agricultural production in Cambodia (particularly for improvement in quality of fruit production)

Cambodia imports most of its fruits from Thailand and Vietnam. High quality fruits sold in the market are mostly imported while those low in quality are produced in Cambodia. While increasing fruit production requires caution as it could easily cause overproduction, improving the quality of fruit produced in Cambodia through breed improvement is desired. Setting aside the issue of export, import substitution of fruit would contribute to improvement of trade balance.

1.5 Possibility of assistance-related study in agriculture

Assistance in the following areas, although not included in this study, is worth considering. One of such fields is expansion of rubber plantations. The region of Vietnam adjoining the area studied in this report is covered with rubber plantations. Progress of motorization in China which is likely to be followed by that in India is boosting the demand for rubber. Despite the common belief that rubber tree is not suited for industrial use, Japanese companies have developed the technology to utilize the tree as woodwork material. While many of these companies have been producing in Malaysia, rubber plantations in Malaysia are rapidly being converted into palm tree plantations in response to international increase in demand for palm oil. Many woodworking companies started importing their materials from Vietnam as a result, although many of them are in the process of moving their production base to Vietnam in response to the rising transportation cost owing to high crude oil prices in the recent past. Inviting these companies to Cambodia may increase the labour absorption capacity of rubber plantations.

Sugar cane cultivation utilizing the Mekong flood plains also has the potential of absorbing labour when connected to ethanol production. There is a need to perform a cost-benefit analysis of rice and sugar cane production. Conducting studies in the future will open the way for more effective implementation of support for Cambodia’s agricultural activities by way of rural industries.

Furthermore, farmers may be able to increase their income by growing feed crop and industrial crops such as soybeans, cassava and maize in place of rice in regions experiencing occasional water shortage. Increase in demand is expected on the global scale for these crops and their production for export has been increasing in Cambodia in the recent years. Assistance in spreading cultivation techniques and improving marketing channels is needed in this area.

Appendix: Survey Member, Cooperator, Itinerary and Collected Material

1. Survey Committee

（１）National Committee

Dr. Kawano Shigeto	Emeritus Professor, The University of Tokyo
Dr. Hara Yonosuke	Director, Institute of Oriental Culture, The University of Tokyo
Dr. Fukui Seiichi	Professor, Graduate School, Kobe University
Dr. Ohno Akihiko	Professor, Aoyama Gakuin University
Dr. Yagura Kenjiro	Lecturer, Nagoya University, Graduate School of International Development
Dr. Kusumoto Osamu	Executive Director/ Secretary General, APDA (Asian Population and Development Association)
Mr. Takemoto Masanori	Researcher, APDA

（２）Survey Member

Feasibility Study (September 10, 2006 - September 17, 2006)

Mr. Takemoto Masanori	Survey Team Member

Main Survey (December 20, 2006 - December 31, 2006)

Dr. Ohno Akihiko	Survey Team Leader
Dr. Yagura Kenjiro	Survey Team Member
Mr. Takemoto Masanori	Survey Team Member

2. Cooperators

Embassy of JAPAN in Cambodia etc.

Embassy of Japan

Kobayashi Kenichi,	Second Secretary

Japan International Cooperation Agency (JICA), Cambodia Office

TANAKA Tomoko,	Assistant Resident Representative

Government of Cambodia, Governmental agencies, and related agencies, etc.

Ministry of Foreign Affairs and International Cooperation

Hor Monirath	Director, Legal and Consular Department
Soksamphea Lao	Bureau Chief of Consular Affairs, Legal and Consular Department

Ministry of Rural Development

Lu Lay Sreng	Deputy Prime Minister, Minister of Rural Development
Leav Sinara	Secretary of State Adviser to Deputy Prime Minister, Minister Ministry of Rural Development
Geoffrey E Blume	Advisor to Deputy Prime Minister & Minister for Rural Development
Thai Sing Hong	Secretary of State Adviser to Samdech Chea Sim, In-charge of International Relations and Investment, General Secretary of the Khmer-Chinese Friendship Association, Chairman, Fareast Development Group
Oknha Dr. Lek Bopha	President &CEO, DSL Energy Group Ltd.

National Assembly General Secretariat

Omaly Hap	Deputy Director, International Relation Department,

Ministry of Agriculture, Forestry and Fisheries

Tuot Saravuth	Director of International Cooperation Department
ARAKI Yasunori	JICA Expert on Agricultural Policy Planning (DPSIC)

Department of Agriculture, Forestry and Fisheries, Svay Rieng Province

Thach Ratana	Director
Sam Sovann	Agronomy

Sok Sotheavuth	Chief of Animal Health Production
Chan Saravong	Chief of OQE
Oum Dara	Chief of Planning and Accounting office (SVR) of Agriculture
Yin Saly	Vice Chief of Admid

Ministry of Interior, Svay Rieng Provincial Office

Kim Thea	Deputy Governor of Svay Rieng Prinvce
Prom Rina	Chief of Svay Rieng Province
Pov Sopheap	Director of Women's Affairs
Prum Vamak	Deputy Director of Social Affairs

National Institute of Statistics, Ministry of Planning

They Kheam	Manager of Data User's Service Center

National Committee for Population and Development (NCPD), Office of the Council of Ministers

Rong Chhorng	Secretary General
Chamroeun Katika	Deputy Secretary General

Royal University of Phnom Penh

Dork Vuthy	Lecturer
Un Yaran	Research Assistant, Student
Keo Phally	Research Assistant, Student
Tieng Prakad	Research Assistant, Student
Kaler Srey Yan	Research Assistant, Student
Gnim Chandara	Research Assistant, Student
Pech Chanra	Research Assistant, Student
Thorn Riguon	Research Assistant, Student
Ke Bopha	Student, Royal University of Phnom Penh
Keat Serey Sophorn	Research Assistant, Student, Bild Bright University
Seang Monith	Research Assistant, Student

United Nations Development Program (UNDP)

Hong Sokheang	Poverty Specialist, Poverty Reduction

Han Phoumin	Kobe University Student (UNDP Cambodia)

United Nations Population Found (UNFPA Cambodia)

Bettina Maas	UNFPA Representative in Cambodia
Sok Vanna	Programme Manager, Population & Development

3. Survey Schedule

－ Fesibility Study －

10-Sep (Sun)

* 11:00 Depart from Narita (TG641) 15:30 Arrive at Bangkok (TAKEMOTO)
* 18:10 Depart from Bangkok (TG698) 19:25 Arrive at Phnom Penh

11-Sep (Mon)

* 9:00 Visit to the Ministry of Foreign Affairs and International Cooperation. Discussion with Officials about APDA survey mission.
* 10:30-11:30 Discussion with Dr. Dork Vuthy, Department of Sociology, Royal University of Phnom Penh about APDA survey mission.
* 12:00-12:30 Visit to the Cambodian Association of Parliamentarians on Population and Development (CAPPD). Discussion with Mr. Omaly Hap, Director of CAPPD about APDA survey mission.
* 13:30-14:30 Discussion with Dr. Dork Vuthy, Department of Sociology, Royal University of Phnom Penh about APDA survey mission.
* 15:00-16:30 Visit to Garment Factories Area at Boeung Tum Pum Village, Meanchey District
* 18:00-20:00 Discussion with Dr. Seiichi Fukui, Professor of Kobe University about APDA Survey Mission.

12-Sep (Tue)

* 7:30-8:30 Discussion with UNDP expert about the field survey
* 8:30-9:00 Discussion with Research Assistant of Kobe University
* 9:30-10:00 Discussion with Mr. Soksamphea, Local Coordinator of APDA about the feasibility Study.
* 10:30-11:30 Visit to the National Institute of Statistics, Ministry of Planning. Discussion with Mr. They Kheam, Manager of Data User's Service Center about basic materials on Cambodia.
* 11:30-12:00 Meeting with Mr. Thai Sing Hong, Secretary of State Adviser to Samdech Chea Sim, President of Senate, In-charge of International Relations and Investment, General Secretary of the Khmer-Chinese Friendship Association.
* 14:30-15:30 Visit to the Ministry of Agriculture, Foresty and Fisheries. Discussion with Mr. Tuot Saravuth, Director of International Cooperation Department.
* 15:30-16:00 Discussion with ARAKI Yasunori, JICA Expert on Agriculture Policy Planning (DPSIC), Ministry of Agriculture, Foresty and Fisheries.
* 16:30-17:30 Discussion with Mr. Oknha Dr. Lek Bopha, President &CEO, DSL Energy Group Ltd. And Mr. Thai Sing Hong, Secretary of State Adviser to Samdech Chea Sim, President of Senate, In-charge of International Relations and Investment, General Secretary of the Khmer-Chinese Friendship Association.

13-Sep (Wed)

* 9:00-10:00 Material Collection at UNDP Cambodia
* 10:30-11:00 Material Collection at FAO Cambodia
* 11:20-12:00 Material Collection at ADB
* 13:30-14:30 Visit to the Ministry of Agriculture, Forestry and Fisheries. Discussion with Mr. ARAKI Yasunori, JICA Expert on Agriculture Policy Planning (DPSIC).
* 15:00-15:40 Material Collection at Economic Institute of Cambodia (EIC).
* 16:00-17:00 Material Collection at Cambodia Development Research Institution (CDRI).

14-Sep (Thu)

* 9:00-9:45 Visit to JICA office. Discussion with Ms. TANAKA Tomoko, Assistant Resident Representative, JICA.
* 10:00-11:00 Courestry Call to Mr. Lu Lay Sreng, Deputy Prime Ministry, Minister of Ministry of Rural Development. Discussion with Deputy Prime Minister, Mr. Oknha Dr. Lek Bopha, Mr. Thai Sing Hong, Geoffrey E. Blume, Advisor to Deputy Prime Minister & Minister for Rural Development, Mr. Leav Sinara, Secretary of State, Adviser & Director of Cabinet to Deputy Prime Minister, Minister of Ministry of Rural Development.
* 14:00-16:00 Material Collection at Cambodia Development Research Institution (CDRI).

15-Sep (Fri)

* 9:00-10:00 Visit to UNFPA Cambodia office. Discussion with Ms. Bettina Maas, Representative in Cambodia, and Mr. Sok Vanna, Programme Officer, Population & Development.
* 10:30-11:30 Visit to Office of The Council of Ministry. Discussion with Mr. Rong Chhorng, Secretary General, National Committee for Population and Development (NCPD) and Ms. Chamroeun Kitaka, Deputy Secretary General of NCPD.
* 11:40-12:00 Material Collection at Cambodia Development Research Institution (CDRI).
* 12:00-13:30 Discussion with Mr. Soksamphea Lao, Local Coordinator of APDA about preparation for main survey mission.

16-Sep (Sat)

* Material Collection.
* 20:25 Depart from Phnom Penh (TG699) 21:30 Arrive at Bangkok
* 23:10 Depart from Bangkok (TG642)

17-Sep (Sun)

* 7:30 Arrive at Narita

－ Main Survey －

20-Dec (Wed)

* 10:30 Depart from Nagoya by TG 645　15:15 Arrive at Bangkok (Yagura).
* 10:45 Depart from Narita by TG641　15:45 Arrive at Bangkok (Ohno, Takemoto).
* 18:15 Depart from Bangkok by TG698　19:30 Arrive at Phnom Penh.
* 20:30 - 21:30 Consultation with staff of Cambodian counterpart.

21-Dec (Thu)

* 9:00 - 10:30 Consultation with Cambodian counterpart about questionnaire survey in Phnom Penh.
* 10:30 - 11:30 Briefing about questionnaire survey in Phnom Penh to Research Assistants.
* 13:30 - 16:30 Briefing about questionnaire survey in Phnom Penh to Research Assistants.
* 16:00 - 17:00 Visit to the Embassy of Japan. Briefing on Agriculture and Rural Development in Cambodia from Mr. KOBAYASHI Kenichi, Second Secretary, Embassy of Japan.
* 17:00 - 18:30 Conducting questionnaire survey for migrant workers in Phnom Penh.

22-Dec (Fri)

* 7:00 Leave the hotel for conducting questionnaire survey.
* 7:30 - 11:30 Conducting questionnaire survey for migrant workers in Phnom Penh.
* 13:00 - 18:00 Conducting questionnaire survey for migrant workers in Phnom Penh.
* 18:00 - 20:00 Data input and processing the data.

23-Dec (Sat)

* 7:00 Leave the hotel for conducting questionnaire survey.
* 7:30 - 11:30 Conducting questionnaire survey for migrant workers in Phnom Penh.
* 13:00 - 18:00 Conducting questionnaire survey for migrant workers in Phnom Penh.
* 18:00 - 20:00 Data input and processing the data.

24-Dec (Sun)

* 7:00 Leave the hotel for conducting questionnaire survey.
* 7:30 - 11:30 Conducting questionnaire survey for migrant workers in Phnom Penh.
* 13:00 - 18:00 Conducting questionnaire survey for migrant workers in Phnom Penh.

25-Dec (Mon)

* 7:00 - 12:00 Move from Phnom Penh to Svay Rieng Province.

* 14:00 - 15:30 Briefing about the village situation from Mr. Thach Ratana, Director, Department of Agriculture, Forestry and Fisheries, Svay Rieng Province.
* 15:30-16:30 Briefing about the village situation from Mr. Kim Thea, Deputy Governor of Svay Rieng Prinvce, Ministry of Interior, Svay Rieng Provincial Office.
* 17:00 - 19:00 Briefing about questionnaire survey in Svay Rieng province to Research Assistants.

26-Dec (Tue)

* 7:00 Leave the hotel for conducting questionnaire survey.
* 7:30 - 11:30 Conducting questionnaire survey for villagers in Svay Rieng.
* 13:00 - 18:00 Conducting questionnaire survey for villagers in Svay Rieng.
* 18:00 - 20:00 Data input and processing the data.

27-Dec (Wed)

* 7:00 Leave the hotel for conducting questionnaire survey.
* 7:30 - 11:30 Conducting questionnaire survey for villagers in Svay Rieng.
* 13:00 - 18:00 Conducting questionnaire survey for villagers in Svay Rieng.

28-Dec (Thu)

* 7:00 Leave the hotel for conducting questionnaire survey.
* 7:30 - 13:30 Conducting questionnaire survey for villagers in Svay Rieng.
* 14:30 - 18:30 Move from the surveyed area in Svay Rieng province to Phnom Penh.

29-Dec (Fri)

* 7:00 Leave the hotel for conducting questionnaire survey.
* 7:30 - 13:30 Conducting questionnaire survey for migrant workers in Phnom Penh.
* 15:00 - 20:00 Data input and processing the data.

30-Dec (Sat)

* 8:00 - 12:00 Data input and processing the data.
* 13:00-17:00 Data input and processing the data
* 20:40 Depart from Phnom Penh by TG699 21:45 Arrive at Bangkok.
* 23:40 Depart from Bangkok by TG642 (Ohno, Takemoto).

31-Dec (Sun)

* 0:10 Depart from Bangkok by TG644 07:30 Arrive at Nagoya (Yagura).
* 7:30 Arrive at Narita (Ohno,Takemoto).

4. Collected Material

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