

Vulnerability and Migration of Small-Scale Fishing and Fishing-Farming Households  
around Tonle Sap Lake

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จุฬาลงกรณ์มหาวิทยาลัย

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มีประชาชนมากกว่าหนึ่งล้านคนอาศัยอยู่ริมตลิ่งโตนเลสาบ คนส่วนซึ่งมากทำอาชีพประมงรายย่อยมีชีวิตขึ้นอยู่กับจำนวนทรัพยากรปลาในแหล่งน้ำแห่งนี้ เมื่อปีที่ผ่านมามีรายงานว่าจำนวนประชากรของปลาในตลิ่งโตนเลสาบที่ลดลงได้ทำให้การจับปลายากขึ้น และวิถีชีวิตชาวประมงเปราะบางลง กลวิธีในการลดสถานการณ์เช่นนี้ลงคือการย้ายถิ่น

วิทยานิพนธ์เล่มนี้สำรวจว่าการย้ายถิ่นมีผลต่อการลดความเปราะบางของประมงรายย่อยและครอบครัวชาวประมงริมตลิ่งโตนเลสาบมากเพียงใด การศึกษาชิ้นนี้ใช้กรอบแนวความคิดเรื่อง “ตัวขับเคลื่อนการย้ายถิ่น” ของ Black et al (2011) และใช้กรณีศึกษาเชิงคุณภาพในหมู่บ้านแปรงโคตรบ จังหวัดพระตะบอง ประเทศกัมพูชา

ผลการศึกษาพบว่า เมื่อจำนวนปลาลดลงและมีปัญหาในการจับปลา ก็จะมีความต้องการศึกษาชุมชนในการแก้ไขปัญหาโดยการหาแหล่งรายได้อื่นๆ การย้ายถิ่นในฐานะที่เป็นกลวิธีการใช้ชีวิตอย่างหนึ่งได้กลายเป็นวิธีที่ถูกเลือกขึ้นมาเพื่อลดปัญหาความเปราะบางในการใช้ชีวิตในถิ่นฐานเดิม การย้ายถิ่นฐานของผู้คนเกิดจากปัจจัยขับเคลื่อนหลายตัวด้วยกัน ไม่ว่าจะเป็นสิ่งแวดล้อม สังคม เศรษฐกิจ อัตราการเพิ่มขึ้นของประชากร และการเมืองทั้งในถิ่นที่อยู่เดิมและที่อยู่นใหม่ มีรายงานว่าเงินรายได้ที่ส่งคืนถิ่นฐานเดิมถูกใช้จ่ายไปในการใช้หนี้ ซื้ออาหาร และค่าใช้จ่ายในการทำประมง งานวิจัยชิ้นนี้ยังแสดงให้เห็นอีกด้วยว่า ประเทศไทยเป็นจุดหมายทางเลือกสำคัญสำหรับชาวประมงดั้งเดิมและชาวประมงแบบฟาร์ม โดยการย้ายถิ่นฐานของชาวประมงเหล่านี้ มีทั้งช่วงเวลาสั้นๆ ตามฤดูกาล และระยะเวลายาวนาน คนที่ย้ายถิ่นฐานเพื่อหางานทำมักเลือกวิธีการผิดกฎหมายเพื่อประหยัดเงินที่ใช้ไปในการทำพาสปอร์ตและค่าเดินทางที่สูงมาก

การศึกษานี้ยังพบนโยบายเชิงนโยบาย 2 ประการคือ ความเปราะบางทางด้านการดำรงชีวิตและการย้ายถิ่น ผู้วิจัยพบว่าระดับความเปราะบางมีจุดเชื่อมโยงอยู่ที่การเสื่อมลงของทรัพยากรและการเข้าถึงทรัพยากรปลาและที่อยู่อันจำกัด การย้ายถิ่นเป็นประเด็นสำคัญของผู้กำหนดนโยบาย การที่ผู้ย้ายถิ่นเลือกที่จะย้ายถิ่นอย่างผิดกฎหมาย ถือว่าเป็นจุดด้อยของนโยบายการย้ายถิ่นและการจ้างงาน เท่าๆ กับนโยบายที่ออกมาแล้วได้รับการปฏิบัติจริงล่าช้าทั้งจากกระทรวงและหน่วยงานต่างๆ ดังนั้นจึงจำเป็นอย่างยิ่งที่จะต้องมีการย้อยพินิจนโยบายเพื่อลดความเปราะบางของครอบครัวชาวประมงเหล่านี้ โดยวิธีปรับปรุงการเข้าถึงทรัพยากรขั้นพื้นฐานทางด้านการประมง การทำฟาร์ม และผืนดินที่อยู่ให้เท่าเทียมกัน รวมไปถึงลดระดับความเสี่ยงในการย้ายถิ่นอีกด้วย

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# # 5581122024 : MAJOR INTERNATIONAL DEVELOPMENT STUDIES

KEYWORDS: VULNERABILITY / MIGRATION / SMALL SCALE FISHING HOUSEHOLDS / SMALL SCALE FISHING-FARMING HOUSEHOLDS / TONLE SAP LAKE

SEANGLY KHEANG: VULNERABILITY AND MIGRATION OF SMALL-SCALE FISHING AND FISHING-FARMING HOUSEHOLDS AROUND TONLE SAP LAKE. ADVISOR: CARL MIDDLETON, Ph.D., 138 pp.

More than one million people live near the Tonle Sap Lake and many of them, in particular, small scale fishing households, are dependent on fish resources to secure their livelihood. However, in recent years, the declining fish stocks in the lake have been reported to have made it difficult for fishing dependent households to meet basic needs and survive shocks, causing them to become more vulnerable. One of livelihood strategies to minimize this vulnerable situation is migration.

This thesis investigates the extent to which migration, as a livelihood strategy, has been adopted by both small scale fishing and fishing-farming households to reduce vulnerability around the Tonle Sap Lake. This study applied the framework of “Drivers of Migration”, by Black et al (2011) and was conducted using a qualitative case study approach in Prek Trob village of Battambang province in Cambodia.

The study found that, when the fish stock declined and when there were harvesting problems, there was a need for the study community to respond to the problem by diversifying sources of income. Migration, as livelihood strategy, was one response adopted by this community as it had the potential to minimize the livelihood vulnerability. The movement of people was driven by multiple triggers and interacting drivers of migration including environmental, social, economic, demographical, and political in both areas of origin and destination. Remittances that were sent home were reported to be useful to pay back debts, purchase food and pay for the cost of farming production, especially for fishing-farming households. The research revealed that Thailand has increasingly become a work destination of choice for both fishers and fisher-farmers and that there was a pattern of short-term, seasonal and long-term migration. Those that migrated for work preferred to do so illegally because they were able to save time and money especially when the cost of passports and traveling was high.

This case study has revealed two main policy implications: livelihood vulnerability and migration. It was found that the level of vulnerability had a close link with resource degradation and limited access to fish and land resources. Migration was another critical area for policy makers. The illegal preference for migration to Thailand for employment implied a weakness of migration and employment policies as well as slow implementation of policies by government ministries and departments. It, therefore, required the revisiting of relevant policies to reduce vulnerability of households through improving equitable access to potentially fishery resources, farming and land and minimizing the risks of migration.

Field of Study: International Development Studies      Student's Signature .....

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## LIST OF ABBREVIATIONS

ADB	-	Asian Development Bank
CARAM	-	Coordination of Action Research on AIDS and Mobility
CDRI	-	Cambodia Development Resource Institute
CFs	-	Community Fisheries
DFID	-	Department for International Development
FACT	-	Fisheries Action Coalition Team
FIA	-	Fishery Administration
GDP	-	Gross Domestic Product
MAFF	-	Ministry of Agriculture, Fisheries and Forestry
MoFA	-	Ministry of Foreign Affairs
Mol	-	Ministry of Interior
MoP	-	Ministry of Planning
MoVLT	-	Ministry of Labour and Vocational Training
MRC	-	Mekong River Commission
MWG	-	Migration Working Group
RGC	-	Royal Government of Cambodia
TSL	-	Tonle Sap Lake
UNDP	-	United Nations Development Program

# CHAPTER I

## INTRODUCTION

### 1.1 Problem Statement

The Tonle Sap Lake (TSL) of Cambodia is widely recognized as the leading fresh water basin within Southeast Asia and is sited in the Mekong's flood plain (Baran, 2005; Campbell et al., 2006; Kummu et al., 2006; Mak, 2011; Un, 2011). This great lake has an abundant stock of fish and supplies up to eighty percent of protein consumption of the entire Kingdom (Baran, 2005; Mak, 2011). In addition, this particular lake is one among the most of productive inland fishery in the globe according to MRC (2010). Regarding its value, the fishing sector makes up approximately over ten percent of country's Gross Domestic Product (GDP) and supplies correspondingly more employment opportunities and food as means for living than other world's nations. Furthermore, TSL's fisheries constitute sixty percent of country's entire inland fishery yields (Kummu et al., 2006; Mak, 2011). Over one million people live around the TSL and many of them, in particular, small scale fishing households, are dependent on fish resources to secure their livelihood (Kummu et al., 2006). Noticeably, fishing and farming are closely interconnected as main livelihoods in the region (Baran, 2005; Keskinen et al., 2011).

However, in recent years declining fish stocks in the TSL have been reported to cause fishing-dependent households to become more vulnerable (ADB, 2005; Macfadyen & Corcoran, 2002; Mak, 2011; MRC, 2010). Declining fish stock can be attributed to a number of threats including over-fishing, the loss of flooded forests,

dam construction and, recently, climate change (Baran, 2005; Baran & Myschowoda, 2008; Hap et al., 2006; Mensher, 2006; Sneddon, 2007). In order to reduce their vulnerability to these threats, one response by some households is the migration of some of the household members (Un, 2011). In essence, they are adopting a multi-local livelihood strategy (Elmhirst, 2008; Resurreccion, 2006). There are other cases where migration has also involved the whole household.

To date, migration has increasingly been observed as both a challenge and an opportunity (Black et al., 2011). However, there is general consensus that migration is also a multidimensional process and that people migrate for different reasons (Black et al., 2011; Lee, 1966; Oliver-smith et al., 2009). In the wider context, migration is induced by poverty, population growth and natural resource degradation (Heinonen, 2006). Similarly, in the case of Cambodia and the TSL area, migrations are driven by some significant factors or, so called, push factors such as poverty, unpaid debt, limited access to land, job and market, and increasingly natural hazards (Chan, 2009; Heinonen, 2006; Maltoni, 2007; Ministry of Planning, 2012). Heinonen views migration as a challenge because it places undue pressure on cities, particularly in the context of growing urbanization and that cities are the most likely destination for the future settlement of the poor. On the other hand, migration is also viewed as a positive strategy for people living in the Mekong River region to better secure their livelihoods (De Haas, 2010). Another positive factor to consider is that migration could possibly cut down the pressure on fish stocks due to smaller catches once people move to settle in other areas (Baran & Myschowoda, 2008).

There are several different types of migration including short-term, long term or permanent and multi local migration. In addition, migration can be observed as a

daily practice to migration under outstanding circumstances. Generally the decision to migrate is influenced by economic, political and environmental considerations (Black et al., 2011; Oliver-smith et al., 2009). The decision not only affects the individual but wider social implications on the households and the communities in which they live. As mentioned earlier, migration is a multi-dimensional process and there is no single reason behind the decision to migrate. The reasons for migration vary from one place to another and it depends on the specific conditions and circumstances facing the migrants (Black et al., 2011; Oliver-smith et al., 2009).

Fish stocks in the TSL are already in decline and there appears to be a pattern of non-stop development and resource exploitation in the area (ADB, 2005; Macfadyen & Corcoran, 2002; Mak, 2011; MRC, 2010). This puts more pressure on fish productivity and on the poor fish-dependent households. Migration is likely to be one of the livelihood adaptation strategies for people currently living in this area, particularly for the poor. For this reason, this study is conducted to explore the relationship between the vulnerability among fish-dependent households and migration and to find out whether it is a viable livelihood strategy to help reduce their vulnerability. It becomes important to understand the motivation behind the decision to migrate.

## 1.2 Research Questions

The central question of this study is: To what extent is migration, as a livelihood strategy, adopted by small scale fishing and fishing-farming households around the



TSL to reduce household's vulnerability? In addition to this central question, the following sub-questions will guide this study:

- (1) What are the current vulnerabilities facing small scale fishing and fishing-farming households?
- (2) What are the possible livelihood strategies pursued by small scale fishing and fishing-farming households?
- (3) Among those livelihood strategies, under what circumstances do households decide that migration as an option?

### 1.3 Research Objectives

The objectives of this study are linked to the key and sub research questions above. The main objective of the study is “To investigate how migration strategies adopted by fishing and fishing-farming households around the TSL area can reduce household's vulnerability”.

In order to facilitate the main objective of the study, the sub-objectives have been developed:

- (1) To explore the current vulnerabilities of small scale fishing and fishing-farming households.
- (2) To identify the possible livelihood strategies pursued by small scale fishing and fishing-farming households.

- (3) To investigate how members of the small scale fishing and fishing-farming households make decisions about migration.

#### 1.4 Conceptual Framework

In order to answer the key research question and achieve the primary objective of this proposed study, the framework of “Drivers of Migration” by Black et al. (2011) was employed. It is important to note that the framework is applicable for both internal and international migration empirical cases, but different cases might show different interactions among the drivers (economic, social, political, demographical and environmental). In addition, the decision to migrate can be explained through the framework proposed by Lee (1966) in “A Theory of Migration.” Lee’s framework consists of two primary factors: personal/households characteristics and intervening obstacles.

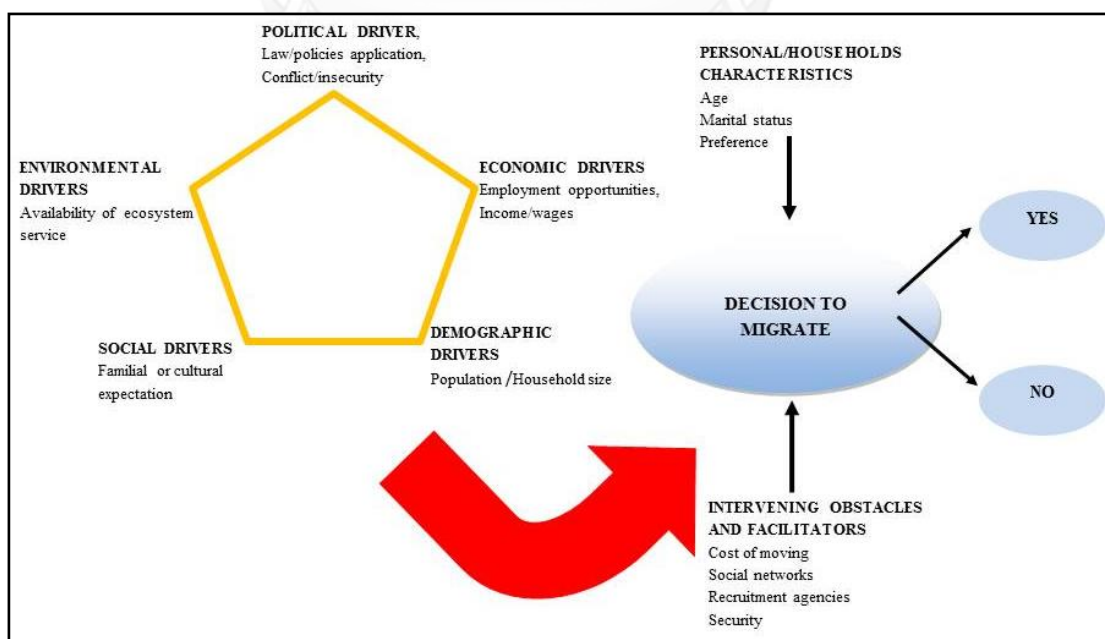
Below is the brief description of the five drivers which affect the decision to migrate (see details in (Black et al., 2011, pp. S6-7)).

- Economic driver: employment opportunities and differences in income between places (Black et al., 2011, p. S6).
- Political driver: conflict, security, discrimination, the political drivers of public or corporate policy over, for example, land ownership (Black et al., 2011, p. S6).

- Demographic driver: size and structure of populations/households (Black et al., 2011, p. S6).
- Social driver: familial or cultural expectations, the search for educational opportunities, and cultural practices over, for instance, inheritance or marriage (Black et al., 2011, p. S7).
- Environmental driver: exposure to hazard and availability of ecosystem services (Black et al., 2011, p. S7).

In order to meet the scope of the study, a modification to the original framework was made (1) the five drivers are discussed in the finding and analysis at the micro level (village) for push factor while macro for pull factors (see Chapter 4 and 5) (2) the effect of environmental change on each driver is not discussed (see Figure 1).

Figure 1: A Framework for the 'Drivers of Migration'



Source: Black et al., 2011

Moreover, in order to understand the framework better and especially the interaction of each component, it requires also understanding the relevant concepts including “vulnerability”, “drivers of migration”, and “decision to migrate”.

#### 1.4.1 Vulnerability

Livelihood refers to capacities, capitals and actions which are needed as a way to support the daily living (Chambers & Conway, 1992). The jeopardy of livelihood failure may possibly limit the level of susceptibility of a household to income, food and health. Therefore, the living may be secure when households have ability to get access to capitals and employments to minimize risks (Chambers, 1989). Livelihoods could be made up from a variety of means and strategies in order for food and income. Thus, each household could have more than one possible source of livelihood options or entitlements. These entitlements could be based on the legacies of the household and also its legal status in the society socially and politically (Drinkwater & McEwan, 1992).

Vulnerability refers to “*the state of susceptibility to harm from exposure to stresses associated with environmental and social change and from the absence of capacity to adapt*” (Adger, 2006, p. 268). According to the Department of International Development (DFID) (2001), vulnerability is the outcome of a number of factors which relate closely to limited capitals such as human, physical, financial, social and natural factors. The impact of policies and institutions on these capitals, in terms of access to resources, also contribute to more vulnerable situations especially among poor people (DFID, 2001).

Vulnerability differs widely from individual up to community and national levels according to sex, age and class. Chambers (1989) points out that vulnerability goes beyond poverty since it relates closely to net capitals. For example, people tend to explore other alternative ways of living when they are facing poverty including asking for loans or doing businesses according to their available resources. However, the risk involved in such activities could expose them to more insecure circumstances and, thus, debt and risk of failure emerge as additional insecurities. It is important to understand that reducing vulnerability could involve increasing security and may not only be concerned with the raising of income in order to reduce poverty (Chambers, 1989).

Vulnerability at a household level has a relationship with the five drivers of migration of Black et al's framework. It is thus important to understand the five different capitals including human capital (skills, knowledge, and health), physical capital (basic infrastructure), social capital (networks and resources), financial capital (income, properties) and natural capital (natural resources) in order to get clearer picture and reflection at the whole village level (DFID, 2001).

#### **1.4.2 Drivers of Migration**

In the past, socioeconomic factors were highlighted as the main push and pull factors driving migration. In recent years, there appears to be consensus among researchers that migration has five drivers which are economic, social, demographical, political and environmental (Black et al., 2011). These drivers closely interconnect to one another and any change in this regard is likely to have both direct and indirect

effects (Black et al., 2011; Lee, 1966). Black and his team have proposed a new conceptual framework called “Drivers of Migration” which is applicable for both internal and international migration. In their framework, they focus on a range of possible environmental changes such as climate changes and land degradation, both of which are likely to influence directly on the environment as a driver and indirectly other drivers of migration.

### 1.4.3 Migration Decision Making

Migration was one amongst several livelihood adaptation methods that have been pursued by households and their individual member to secure and improve their livings (De Haas, 2010). He stressed that this choice was dependent on people, access to assets, their perceptions of opportunities and their aspirations (De Haas, 2010). The patterns of migration were in the form of temporary, seasonal or permanent mobility and displacement and were dependent on the local context.

In addition, the migration outcome was facilitated by two different factors: personal and household characteristics including age, sex, education, preference as well as intervening obstacles and facilitators such as the cost of moving, social networks and technology (Black et al., 2011; Lee, 1966). Most theories assume that the decision to migrate was made by the potential migrants themselves; however, empirical evidences from developing countries have shown that heads of families have been the decision makers on who migrates within their households (De Haas, 2010; Lee, 1966; Rhoda, 1983).

## 1.5 Research Methodology

### 1.5.1 Overview

This research employed a qualitative research approach through different tools and techniques. In order to gain insight into the context, it was important to approach different groups of people ranging from the community level up to the governmental level. Respondents were divided into six groups: (1) government, (2) non-governmental organizations (NGO), (3) community based organizations (CBO), (4) local authorities, (5) community fishery (CF) and (6) small scale fishing and fishing-farming households. Key research tools and techniques were used including key informant interviews (KII), household interviews, and focus groups discussions (FDG), participatory observation, and data documentary in order to collect the needed data as primary and secondary sources.

Data was collected over a period of one month; one week was spent in the target community to collect data from the KIIs including village chief, community fishery committee members, and local villagers. The rest of the period was spent with CBOs, NGOs and government officers at the Battambang and Siem Reap provinces and Phnom Penh, the capital city. Interviews were recorded and questions were asked according to prepared set of guiding questions. All interviews were conducted an informal way to make the interviewee feel more comfortable and at ease.

### 1.5.2 Case study setting

Prek Trob, a rural fishing village in Prek Norin commune of Battambang province, was selected as the research site. Battambang is one of the six provinces located close to the TSL. This village is located close to the TSL and has both a protected lake and a flooded forest which has been the home of fish spawning during flooding season or the wet season. Prek Trob consists of more than three hundred households and fishing remained one of the main sources of food and income (Un, 2011) (see detail in Chapter 3). A recent study by Un (2011) on the “Impact of Cambodian Decentralization Policy in Fishery Management on Human Security of Fishers around the Tonle Sap Lake” found that a number of villagers had engaged in seasonal cross-border migration activities. Thus, the intention of this study was to explore the relationship between the fishing-dependent livelihood and migration activities and, in particular, the reasons why villagers decide to migrate in order answer to the research questions mentioned above (see Section 1.2).

### 1.5.3 Village level research

#### 1.5.3.1 *Participant observation*

Participant observation is one of the key research tools used because it provided more detailed information to and complimented the KII and self-reporting data. It was important to obtain an overall picture of the entire village including the infrastructure, daily business arrangements, livelihood processes and the general



communication mechanisms amongst people. This observation helped to get a better understanding of the challenges facing the livelihoods of the community. The researcher walked around the village and continuously observed all the activities that people were involved in. The researcher had an opportunity to observe the living conditions and the infrastructure throughout all the villages' that make up the Prek Norin commune. Prek Trob is one the most remote areas in Prek Norin commune; it was difficult to get access during the rainy season due to bad road conditions such as a dirt road (see Photograph 1).

#### ***1.5.3.2 Key Informant Interviews***

Interviews were conducted with village headman and head of Community Fishery (CF). In addition, informal interviews were conducted with other CF members as well as the guard of the protected fishing lake. Semi-structure interviews were prepared.

Below is the summary of the guiding questions that were used for the KIIs:

Key Informants	Guiding themes
Village headman	Demographical information (population, infrastructure) Village background and livelihoods Institutional supports Push and pull factors of migration and migration decision making Migration and its impacts on the village and individuals.

Head of community fishery (CF)	History of CF and its roles Fishery polices update and its impacts Fish stock (livelihoods, threats to fish decline) Flooded forest and its situation Migration and its relation to fishery decline Future of fish stock and its impacts
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### ***1.5.3.3 Focus Group Discussion (FGD)***

Two FGDs were conducted which provided more generalized information. It was difficult to find people to participate in the FGDs, however, through observing, people were identified from households close to where the researcher was located. The first group discussion included six people of which three were women. Their houses were located in middle of the village and they were involved in both fishing and farming activities. The FGD mainly focused on discussions about the history of the village, livelihood changes, threats and causes to the decline of fish, migration patterns and decision-making processes linked to that, as well as livelihood conditions of these migrants.

The second FDG, however, was conducted in the last village and all of the participants were engaged mainly in fishing activities. A similar theme and questions were applied to this group to obtain a clearer picture of the issues and their perspectives. It was important to understand people's perceptions and experiences so that a comparison could be made in order to answer the question about why

some people decide to migrate while some do not even though they experience the same insecurities (see Appendix C).

#### ***1.5.3.4 Household Interviews***

Household interviews were conducted with sixteen households. All of them depended on fishing as their main source food and income. Eleven households had access to land where they also did farming for supplementary and the remaining five households had no access to land and they depended solely on fishing as food and source of income. In order to select households for the interviews, the researcher walked from home to home and observed the housing patterns and conditions of each household. Ethical research protocols were applied and the researcher respected the decision when people did not want to be interviewed or to continue with interviews. It must be noted that it was not an easy exercise to obtain people for interviews because they were often busy with their daily schedules and had to leave their homes for fishing, farming and other business activities (see Appendix D).

#### **1.5.4 Key Informant Interviews with Other Stakeholders**

In order to obtain information from different stakeholders, the researcher interviewed representatives from various institutions. The interviews with the officer of Fishery Cantonment of Battambang province, and two local NGOs namely, Village

Support Group (VSG) and Aphiwat Satrey (A.S.) were conducted in the provincial town of Battambang (see Appendix C).

The researcher was fortunate to be offered an opportunity to join in an important stakeholder consultation workshop on “The Aquatic Agricultural System of the Tonle Sap” in Siem Reap province of Cambodia organized by World Fish Center of Cambodia. The researcher also interviewed representatives from the World Fish Center. Informal interviews were also conducted with various participants from government, NGOs and communities.

The researcher visited the office of a local NGO called the Fisheries Action Coalition Team (FACT) based in Siem Reap. Unfortunately, only a short informal interview was conducted because the staff was involved in community meetings. Some relevant reports were collected as secondary data after their meeting ended.

Finally, two more interviews were conducted in Phnom Penh. A brief interview was conducted with an officer from the Ministry of Women Affairs; however, the interview was supplemented by additional reports. Another interview was conducted with a representative from the Coordination of Action Research on AIDS and mobility (CARAM Cambodia). This NGO has worked on issues pertaining to migration and human trafficking for over twenty years (see Appendix B).

### **1.5.5 Data Treatment and Analysis**

After collecting data from the selected informants, the following steps were applied in the data treatment and analysis: transcribing, coding, and analysis. For

transcribing, all the collected data were transcribed and written down in Microsoft Word and Excel to ensure it was kept safely. Coding was used to make sure that all the data was organized and could be easily searched. This also assisted the researcher to sort through information for key quotes for further analysis. The findings were analyzed and interpreted descriptively case by case in accordance with the research objectives and the conceptual framework. The data presented in this thesis is provided in a narrative format with citing from individuals and descriptions of the key issues and trends identified and analyzed according to the conceptual framework.

The following concepts were used in order to respond to each sub research question (see Section 1.4):

- *Sub research question 1:* This question is answered by a description of the five capitals of livelihood against the concept of “vulnerability”. The five capitals are: human capital, financial capital, natural capital, physical capital and social capital. The research community selected was amongst the poorest and it was important to understand the extent to which they had access to resources and the extent to which they were influenced by political policies institutions.
- *Sub research question 2:* This question was dealt with by the responses to the questions covered in the in-depth interviews and the FDGs.
- *Sub research question 3:* This answer to this question was mainly based on the responds given by in-depth interviews with fishing households and fishing-

farming households and the FDGs. The decision to migration at the household level that is considered as part of the conceptual framework of Black, et al 2011 “Drivers of Migration” was used to answer this question.

- The push factors were described based on the series of in-depth interviews with households and KIIs with officials from the government, CBOs, NGOs and from secondary data such as reports. The pull factors are also drawn from areas of destination for migrants such as cities and border areas to Thailand (internal migration) and Thailand (cross border migration).
- Migration decisions were analyzed to understand how migration decisions were made prior to migration. The characteristics of households ascertained through information received during household interviews and partly from the FDGs. The obstacles to and the enablers of migration were supported from information gathered during the household interviews and KIIs.

## 1.6 Research Scope and Limitations

With regard to the scope of the research, the study was confined to one village only because of limited time and because it required extensive travel for

meetings and interviews within the selected site and to other areas. Some limitations were experienced during the fieldwork such as the busy schedules of people, including the cancelation of the interview with the commune chief who was engaged in political campaign meetings. It is important to note that the national election campaign started in early June before the National Election Day that happened on July 28, 2013. Fortunately, the researcher had an opportunity to conduct the interview with the village headman because he was able to work from home.

It was observed that, during this period, the village was quiet and it was discovered that many of the villagers had migrated to Thailand for work. The researcher had to walk from home to home to search for people to participate in KIs and FGDs and this proved to be time consuming.

Heavy rainfall and bad road conditions were other challenges experienced during fieldwork and proved difficult for the researcher to stay longer in the villager to gather data. Interviews were, instead, arranged with key informants from the CBOs in the provincial town of Battambang. It proved difficult requesting appointments with CBO representatives because they were busy with project work and meetings.

When dealing with personal safety, the researcher had been constantly on her guard because of bad weather conditions and when it came to travelling in the village and the surrounding areas as well as in the province.

## 1.7 Ethical Research

The researcher at all times adhered to research protocols and codes of conduct. Throughout the data collecting exercises all informants were treated equally and with deep respect. It was important to build a good relationship with the villagers so that they could trust the researcher as well as the research process. The researcher ensured that the villagers understood the purpose of the research and the background of the researcher. The researcher ensured that the research took place in an environment of friendliness, honesty, trust and respect. This was also important to ensure that people in the village cooperated with the researcher and provided useful information. This also helped in mitigating security issues related to personal security of the researcher. The participation of key informants was voluntary and consent was sought before any interview took place. Whenever informants declined to provide information, his or her decision was always respected. Confidentiality and anonymity was maintained throughout the research process and informants understood this.



## 1.8 Significance of Research

This research is important as it addresses the gap in the knowledge-base on migration around the TSL area. The few studies that were uncovered on migration in this area highlighted mainly the negative impact of migration. This particular study has revealed that migration can have a positive impact on individual and households and could benefit them. In the case of Prek Trob, seasonal migration has been pursued as one of the livelihood strategies among fishermen especially during water receding time when there is less fish to catch. More recently, fish stock decline, an environmental driver, has appeared to be a significant threat for small scale fishers and has made them vulnerable to risk. For this reason, more people had decided to migrate out of the village and the remittance from migration appeared to help improve their situation.

Interpreting the five drivers of migration, namely, the political, environmental, economic, demographic, and social drivers, their interconnectivity and how the drivers related to the motives behind decision making improves ones understanding of migration as an outcome. However, it is possible that it could create more confusion due to its complexity. It was not possible to provide the exact explanation to the question “To what extend do households decide upon migration as a strategy to reduce to their vulnerability?” because it depended on the level of capitals people had and what they could access.

In the case of Prek Trob, migration decision making varied from one household to another according to their level of capital and, in particular, to their financial capital and social network. Since the TSL is recognized as a disaster prone area (due to the impact of climate change and the non-stop development upstream), the people living in this area could become more vulnerable over time which could encourage more people to choose migration as an alternative. On the one hand, the decision to migrate could provide villagers with an opportunity to escape from livelihood vulnerability, but on the other hand, it could be bad for the economy since the fisheries sector is a big contributor to the country's GDP, job creation and income security. Thus, this research will add to the knowledge base of the drivers of migration, migration trends and the decision making processes in this regard, which, in turn, will be important for better policy making and practice.

This thesis is made up of in five chapters. Chapter one describes the research design and methodology. Chapter two includes a literature review of the TSL, the Cambodian inland fishery sector, migration and, in addition, provides an overview of the knowledge gaps in this regard. Chapter three details the findings and analysis answering sub questions one and on the current vulnerabilities of small scale fishing households and other possible livelihood strategies to reduce vulnerability. Chapter four captures the findings and analysis to sub questions three on migration decision making among small scale fishing and fishing-farming households within the study area. Finally, chapter five provides a conclusion and makes recommendations for further research.

## CHAPTER II

### LITERATURE REVIEW

The first part of this chapter provides the background information and contextual information about the TSL such as geography, livelihoods, socio-economic factors as well as and state of. The second part of the chapter provides an overview of the fishery industry of Cambodia including an overview of the fishery policies, industry stakeholders and the threats to Cambodian fishery resources. The third part of the chapter describes briefly the main trends in migration and migration as a livelihood strategy for local subsistence fishermen in the fishing communities of the TSL are. The last part of the chapter presents a summary as well as an overview of the knowledge gaps within the existing knowledge base on research in migration studies and similar themes.

#### 2.1 Introduction to Tonle Sap Basin

##### 2.1.1 An overview of Cambodia

Cambodia is a country situated on the South East Asian mainland with a total population of more than 13 million people and a total land surface areas of 181,035 square kilometers (NIS, 2008). This country shares its border with Thailand to the North and West, Laos to the North and Vietnam to the East (NIS, 2008) (see Figure 2). The country is known to have a tropical climate and only two seasons, namely, the

wet (also known the rainy season) and the dry season. The wet season lasts from May to October while the dry season lasts from November to April.

Cambodia consists of a flat central lowland plain around the Mekong River, the TSL hills in the Southwest and North as its most dominant geographical features. With high population density in the plains around the capital city Phnom Penh, along the Mekong River and around the TSL, bodies of water play significant role in Cambodia. According to the 2008 census, the percentage of the population by industrial sector had shown that agriculture (fishery included) is the lead sector making up more than 70 percent of the economy with the remaining percentage made up from other industries and services (NIS, 2008). The GDP growth per year was projected at over nine percent between 1999 and 2008 and there was an average annual income of more than 700 USD in 2008 (NIS, 2008).

Figure 2: Map of Cambodia



Source: NIS, 2008

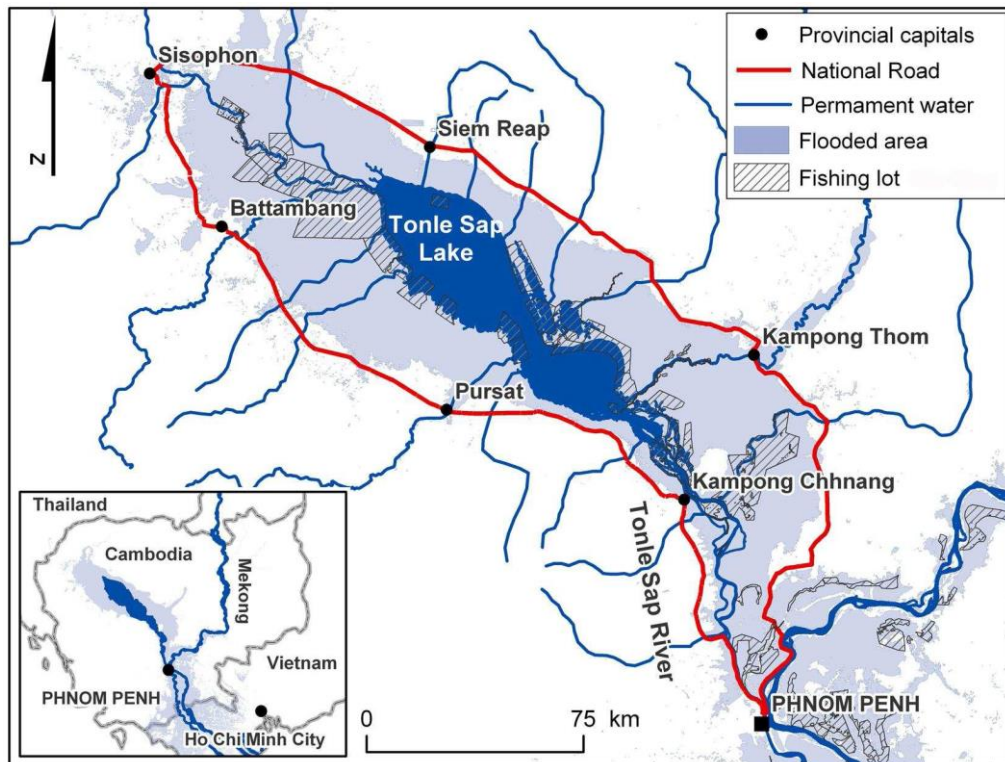
### 2.1.2 A brief background of Tonle Sap Lake

The TSL lies in the central plain of Cambodia and is surrounded by six provinces of the total twenty provinces of the country (Baran, 2005; Mak, 2011). Also, it is the largest and most productive natural freshwater body in Southeast Asia and the world. Connected to the Mekong River through the 100 kilometer long, this lake's inland fisheries and its ecosystem was essentials to the subsistence of people living around the area and also a number of world's significant species (ADB, 2005; MRC, 2010). The TSL, because of its worth ecologically, and socio-economically and culturally, was then labeled as a UNESCO biosphere in the year of 1997 (ADB, 2005).

In addition, the lake's fisheries yield became one among most productive globally and was credited to the flooded forest (Baran, 2005). The fisheries of the TSL occupied between 50 and 70 percent of the total freshwater captured fisheries in the Lower Mekong Basin (LMB) and this signified approximately between fifty and seventy percent of the total catch for the country.

TSL of Cambodia has the largest natural flooded forest within Southeast Asia and it remained being the forest model of this region (ADB, 2005). In addition, this type of forest was a home of countless diverse species both flora and aquatic fauna. In addition, about 200 various plant species were documented; but it was reported there are more to be discovered within the lake. The already recorded species were observed different compared to other wetland areas connected to the Mekong River region.

Figure 3: Map of the Tonle Sap Lake



Source: Kummu et al., 2006

## 2.2 Cambodia's Inland Fishery

### 2.2.1 Fisheries in Cambodia

Fish are considered to be an important part of the daily diet of Cambodian people. The vital contribution of fish in the daily living of people especially the surrounding lake was known through many centuries of country's history. For example, the depicted series of image of aquatic resources including fish and fishing activities were found at the wall of Bayon temple in Siem Reap province (Hortle et

al., 2004). In addition, the inland fisheries of Cambodia were the most significant and were among the largest in the world because of the hundred varieties of fish species. The estimate of the total fish catch was recorded as being more than 400,000 tons per year around and worth approximately 300 million USD (Hortle et al., 2004).

As mentioned earlier, fish and rice have remained the country's primary food and fish has provided up to eighty percent of the total protein intake in the average Cambodian's diet. More importantly, millions of people were involved in fishery related activities, either part time or full time and the fishery-dependent livelihood in TSL bears witness to this. Ministry of Agriculture, Forestry and Fisheries (MAFF) (2006) reported that the small scale catch weighted up to almost fourteen hundred thousand tons per year (MAFF, 2006). A noteworthy role of fisheries was that people could depend on fishing for food and income generation when the farming yield was low (McKenney & Tola, 2002). Baran provided a meaningful summary of the crucial role of Cambodia's inland fisheries: *"Both the Cambodian and the wider Mekong inland fisheries are exceptionally important by global standards, with Cambodian fisheries the most intensive worldwide in terms of catch per individual. The aquatic resources are crucial to the income, livelihoods, and to the very subsistence of the population, fishing essentially providing the last resort of security for the poorest"* (Baran, 2005, p. 40).

### 2.2.2 Fisheries and Livelihood in Cambodia

Inland fisheries of Cambodia were classified into three different scales: commercial or large-scale fishing, medium scale fishing and small-scale or family scale fishing. Here, this study mainly focused on the last category and this type was carried out solely for daily subsistence (Baran, 2005).

Over one million people lived in the lake and its flood plain, while up to half of Cambodia's population was estimated to have benefited directly and indirectly from the lake's resources, in terms of livelihood and food security. The population in the area was, however, growing and the TSL area, similar to the rest of Cambodia, saw large groups of young people enter into the work force (NIS, 1998, 2008). Given the dominance of agriculture and the already heavy pressure on the area's natural resources, the TSL's future depends on the kind of livelihood sources these young people would have access to (Keskinen et al., 2011). At the same time, the livelihood structure of the TSL area is diversifying, with an increasing amount of people been transferred from the traditional agriculture-based livelihoods to modern sources of income. In accordance, Heinonen stressed that Phnom Penh and Siem Reap province especially had absorbed a number of migrant workers from the countryside (Heinonen, 2006). The TSL area was, however, developing unequally and differences were noticeable across the urban and rural areas of the country. Furthermore, the inequalities between the rural and urban areas were accumulative on several aspects and one example was education which suggested possible coming social and political pressures.



The ecology and natural resources of the area were likely to change in the future as there were predictions that the lake floodplain system would be affected by the infrastructure and economic development especially hydropower dams in the upstream of the Mekong River. It was already reported that the TSL region was the most vulnerable to the changes in this regard (Baran & Myschowoda, 2008). At the same time, climate change was causing new kinds of additional threat to the ecological system of the lake. As a consequence of this, the area had an uncertain future exacerbated by external driving forces such as the change in the Tonle Sap's hydrology and the related impacts to fisheries and agriculture, as well as internal driving forces such as the changes in the socio-economic setting of the area (Keskinen et al., 2011).

### **2.2.3 Fisheries Policies and Impacts**

Many studies on livelihoods of the fishing communities confirmed that fishers were among the most vulnerable socio-economic groups (Allison & Ellis, 2001; Baran & Myschowoda, 2008; Béné & Friend, 2009). This particular group was highly dependent on natural resources economically and environmentally and any changes may affect them, for example natural hazards (Béné & Friend, 2009). According to experiences in West Africa and the Mekong Basin, small-scale inland fisheries were a critical element in the livelihoods of many farming households who live closely to water bodies and this was also true in other developing countries including Cambodia. From the study cited, empirical evidence suggested that apart from income, some useful variables needed to be correspondingly considered and those

were access to resources and services such as land, health and education (Béné & Friend, 2009).

In the case of fishing communities in LMB, different arguments have been made by various researchers on the causes of poverty and vulnerability of fishing communities, in particular, small-scale fishing households. Examples of these causes were the limited access to capitals such as land and the decline of fisheries resources (Béné & Friend, 2011). The same authors added that the vulnerability was later argued to be driven by external sources mainly infrastructure development projects including dams project. This argument became essential to many anti-dam project investments at the regional level (Béné & Friend, 2011).

In 2000, the Royal Government of Cambodia (RGC) returned 56 percent of total fishing lot areas to the communities for subsistence uses. This indicated the change within the management policy in fishery sector from fishing lot system to community ownership and management system. Community Fisheries (CFs) were then created after that release; however, the decentralization in fishery policy and management was found limited (Mak, 2011; Un, 2011).

In early 2012, all the fishing lots were returned back to the community which meant that all the lots were cancelled. At the time, fishing was only allowed for small scale fishing consumption. It appeared to be good news to people especially fish dependent households; however, according to Fisheries Coalition Action Team (FACT), a new controversy emerged in the form of uncontrolled open access fishing in the Siem Reap province (FACT, 2012).

Illegal fishing was a problem before the releasing of fishing lots and it was commonly known by both local authorities and communities that it was carried out

by the large-scale or commercial scale operations (Mak, 2011; Un, 2011). The illegal fishing activities were found in both fishing lots areas, but also in the open access and the community fishing areas. However, the CFs could not inhibit it.

#### **2.2.4 Threats to Fisheries Resources in Cambodia**

Cambodian fisheries continued to experience a number of threats such as the changes of the hydrological system due to the infrastructure development like dams and road (Baran, 2005). An example of the threat of dam construction was highlighted as a barrier for fish spawning and movement and this had affected the fish dependent livelihood groups. As a further consequence, this may lead to replacement and seeking livelihood alternative options once fish dependent livelihood could no longer be relied upon and this may take long time to accomplish.

Another threat was over-fishing due to the open access nature of the fishery and the lack of control over the resources. Population growth had, in part, contributed to over-fishing and there was a concern that Cambodia's population will rise to more than 20 million by 2025 while 90 million in same year within the watershed (Baran & Myschowoda, 2008). Baran pointed out that many people remained living in a rural subsistence economy and ecological system dependent livelihood even though a lot of development and investment had been attracted and carried out on the river with the promise of bettering living condition of people within the area (Baran, 2005).

The rapid changes of the ecological system through development could cause fishers and farmers to become even more vulnerable and unable to subsist. According to Baran, this will cause the most vulnerable communities to be left out and become even worse off than before (Baran, 2005). Meanwhile, he also argued that this may reduce the extraction of resources (Baran, 2005). This point was reiterated later by Baran and Myschowoda (2008) that the tough livelihood condition and migration from rural to urban area would maintain the resources in the lake especially fish (Baran & Myschowoda, 2008).

## **2.3 Migration in Cambodia**

### **2.3.1 A brief introduction of Migration in Cambodia**

#### ***2.3.1.1 Internal migration***

According to the National Institute of Statistics (NIS) (2008), migration referred to the changing of dwelling places from one particular dwelling place to another. Internal migration referred to the movement of people from one area of a country to another to establish a new residence. The national census in 2008 had shown that the total migrant population was around 26.5 percent (equivalent to approximately 3.5 million people) and almost sixty percent were concentrated in urban areas and around twenty percent in rural areas. The male migrant population was found to be more than fifty percent higher than the female migrant population. Noticeably, the

young age population (25-29) formed the largest number of total migrant population in both 1998 and 2008 (NIS, 1998, 2008).

Four directions of internal migration were categorized and included rural-rural, rural-urban, urban-rural, and urban-urban (NIS, 2008). According to the national census data conducted in 1998, most of the sending areas were from five different provinces including Battambang. In 2008 it was revealed that Phnom Penh, and Banteay Meanchey, were the receiving area for the largest number of migrant labour (NIS, 2008). In terms of migration patterns, migrations to urban areas were mainly from Phnom Penh and were seasonal and long-term.

The primary motives for migration as push factor that were highlighted by the NIS (2008) included the following of family members who had migrated and the search for employment. It is noted, however, that the searching for employment has been a feature in the Cambodian economic landscape since the mid-1990s when Cambodia entered the free market (Chan, 2009). Generally, in poor countries such as Cambodia, the reasons for migration would be based on push factors and survival strategies rather than on life planning and the improvement of economic standards (Maltoni, 2007). Those who decide to migrate were expelled from the sending communities by a combination of factors ranging from chronic poverty to landlessness, and reasons included the lack of employment, lack of access to markets, materialism, debt and natural disaster such as drought and floods (Chan, 2009; Maltoni, 2007).

Meanwhile, the context and situation at the place of destination acted as pull factors. According to the study conducted by Ministry of Planning (2012), Phnom Penh had high rates of migration for employment especially from rural areas due to

the growing of industries including garment, construction, infrastructure and services. The population in the city was more than one million people and around forty percent of them had migrated from the rural areas and settled down since 2003, prior to national census in 2008 (NIS, 2008). The rural-urban migration increased up to fifty seven percent (Ministry of Planning, 2012). Possible industries for employment for male migrants included construction and non-construction labours such as garment, industries for female migrants. Noticeably, it was observed that the migrants had better living conditions than those who were living in the rural areas after moving. The same study of Ministry of Planning (2012) also found that Banteay Meanchey and Siem Reap were other key destinations for migrants after Phnom Penh. These two provinces are close to Thailand, especially Banteay Meanchey province.

#### ***2.3.1.2 Cross-border migration***

Thailand is one of the biggest receiving countries for Cambodian migrant workers (CARAM, 2013; CARAM Cambodia, 2013; Maltoni, 2007; Ministry of Planning, 2012; MWG, 2012). It emerged that a wave of Cambodians had migrated for work in Thailand in the last decade. Migrants from Banteay Meanchey and Battambang were the biggest total migrant population. These two provinces were also the transit gates for migration movement from different areas entering Thailand (Chan, 2009). According to MoLVT (2010) , the employment in foreign countries like Thailand was

viewed as a way of reducing poverty and many decided to migrate for employment outside the country.

The key pull factor was the increasing demand for low-skilled workers in the country of destination (MoLVT, 2010). More and more people migrated legally and illegally through their channels and social networks. It is important to note that a bilateral Memorandum of Understanding (MoU) in 2003 was signed between Cambodia and Thailand calling for the legal and organized deployment of workers from Cambodia to Thailand (MoLVT, 2010)<sup>1</sup>. It was found that forty percent of migrant workers from Cambodia sent their remittances home and it was used as the main sources of income for their family. The majority of migrant workers worked in aquatic product processing, seasonal farming and domestic workers and manufacturing sector (MoLVT, 2010). Migrant workers also faced some challenges including travel documents kept by employers, payment was delayed or low wage were paid, and tough working conditions.

Migrant workers were divided into two types including (1) legal, documented or regular workers and (2) illegal, undocumented or irregular workers. It was difficult to obtain figures for the exact number of migrant workers since it involved many undocumented migrants. According to (MoLVT, 2010), more than 20,000 workers were officially sent abroad from 1998 to the end of 2008. However, more than one hundred 18,000 workers were found working in Thailand and the majority were undocumented (IOM, 2006). For this reason, Chan (2009) argued for the further

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<sup>1</sup> It aimed to establish (i) a bilateral administrative process that provides for a well-structured employment procedure; (ii) a mechanism for return or repatriation of migrant workers; (iii) guidelines for labour protection; and (iv) a mechanism for prevention of and intervention against irregular migration (MoLVT, 2010) .

investigation of this phenomenon. Unlike documented workers, it was found that undocumented labor migrants to Thailand migrated through middlemen or brokers<sup>2</sup> known as Mekyal in the Khmer language. Maltoni (2007) pointed out that this offered positive spinoffs, but on the other hand, workers could face bad experiences if they followed incompetent or dishonest brokers.

Migration was classified according to three patterns that were related to the period of time (1) long-term migration (minimum seven months and longer); (2) seasonal migration (about three up to four months) and (3) daily mobility (Chan, 2009). The study by Chan (2009) found that labour work inside Thailand offered better income than the work found in nearby border areas and workers were, thus, able to send remittance home for multi consumption purposes. The same study also stressed that legal migrants had better earnings than illegal migrants. There were a few cases that showed that some illegal migrants were facing more debt and losses while working in Thailand (Chan, 2009).

### 2.3.2 Migration policies

The RGC identified migration as a factor that affected development and growth in the country. Remittance from migration could have a potential impact on poverty reduction; however, it could also pose negative impacts such as causing risks

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<sup>2</sup> These people can be the former experienced migrants and also professional brokers from the Thailand side. Fees are charged by brokers from the migrants as compensation. Normally, brokers are familiar with the situation and even have better connection with employers in Thailand who are seeking labours.



and dangers to undocumented migration workers. Labour migration was viewed as a significant challenge facing Cambodia in the next ten years (CARAM Cambodia, 2013).

The national legal and regulatory framework governing labour migration in Cambodia appeared to have limitations. The primary legal framework on *Sending Khmer Migrants to Work Abroad* was developed in the Sub-decree 57 and issued in 1995. This particular framework was drafted by the Ministry of Social Affairs, Ministry of Labour and Vocational Training (MoLVT), the Ministry of Interior (Mol) and the Ministry of Foreign Affairs (MoFA) and aimed to regulate the deployment of Cambodian migrant labourers to work in foreign countries (Heng, 2013). The sub-decree recognized the lack of employment opportunities in the domestic market and that there was a need to improve living standards through income generation and skills acquired by workers from overseas migration (Chan, 2009).

By recognizing the positive contribution of migration abroad, the first legal document Prakas 108 was issued in 2006. This Prakas focused on providing the education on health (HIV and AIDS), safe migration and also the labor rights to the migrants through pre-departure training before leaving for work abroad (Heng, 2013). After that, another Sub-decree 70 issued in same year on the establishment of the training for workers and overseas sending panel and this was essentially for managing the migrants to work in Korea (Chan, 2009).

Prakas 012 issued in 2007 covered the formulation and implementation of policy and action plans including the coordination of technical assistance in the area of labour migration. Passport cost reduction to USD 20 was issued in the Sub-decree 68 in 2009 and aimed at expediting the issuing of passports within twenty days (MoLVT, 2010).

The recent Sub-decree No. 190 issued in 2011 aimed at regulating the sending of Cambodian workers overseas, finding labour markets, providing employment opportunities to Cambodians overseas, promoting their livelihood, ensuring their safety, promoting human resource development and implementing poverty reduction policy of the RGC covering migrant workers and all recruitment agencies in the Kingdom of Cambodia. Relevant authorities, as referred to in this Sub-decree, would cooperate in regulating the sending of labour overseas and partner with the MoLVT, Ministry of Foreign Affairs and International Cooperation and Mol in this regard. Meanwhile, the MoLVT was concerned that this sub-decree could not cover irregular migration and that it was not under the selection of recruitment agencies (MWG, 2012).

### **2.3.3 Migration around Tonle Sap Lake**

#### ***2.3.3.1 Main trends in migration***

In the Tonle Sap area, it was found that the movement of people does, indeed, occur and was linked to the environment and water related resources (Heinonen, 2006; Maltoni, 2007). Meanwhile, according to the census in 1998, some of the provinces located around this area shared the utmost negative net migration rate in Cambodia, including Siem Reap and Battambang (NIS, 1998). Within the great lake region, an increasing rate of population had been recorded in the 1998 census and the last census in 2008 and there was a clear trend of a higher number of young people in the area (Keskinen et al., 2011). According to the national institute of

statistics, the annual population growth rate was 1.6 percent and the total population was estimated to reach over sixteen million by 2010 and more than twenty million by 2020 (Baran & Myschowoda, 2008). The pressure on fish resources was more likely to affect fish livelihood dependence people and migration tended to become an option as the population increased. The reasons for this were the demand for food, employment and resources. The poverty rate, however, remained high in the area which created additional pressure. According to the IOM report by Maltoni (2007), the main push factors that led to a large number of irregular migrants from Cambodia to move to other countries like Thailand were poverty, limited access to land and natural hazards.

According the preliminary findings of research for M-POWER Fellowship Program on Water Governance, and the case study for *“Politics, Governance, Experiences and Responses to Flooding from the Locals and Migrants’ perspectives in ASEAN”* in 2012 found that, the TSL was vulnerable to high floods. People in the community were vulnerable to several aspects of flooding such as limited assets and some people decided to migrate to other areas to look for employment opportunity during high flood periods. One of the popular places of destination was Thailand for labour work and it was noted that factors for migration included limited access to land, unpaid debt, limited employment, and degradation of natural resources.

### ***2.3.3.2 Migration as a livelihood strategy***

The relationship between migration and development has been debated since 1950s. The positive and negative aspects of migration have been the topic of

heated debates, but it is only since the 1990s and 2000s that the debates have changed to include a more positive view of migration. De Haas (2010) in his seminal book titled “Migration and Development: A theoretical Perspective”, pointed out that “the resulting perspectives reveal the naivety of recent reviews celebrating migration as self-help development ‘from below’”(p. 258). Migration in this regard offered positive impacts for country’s development (De Haas, 2010; Elmhirst, 2008). Elmhirst (2008) stressed that in the rural context, the livelihoods of people remained depending on natural resources and had increasingly become multi-local in order to survive. The same author further pointed out that it was a close link between rural development and resource management in the area and the mobility of people were generally associated with the availability and access to resources (Elmhirst, 2008).

There was evidence that suggested that internal migration offered positive impacts on eradicating the poverty and improving the economic status, thus this should be considered (Deshingkar & Grimm, 2005). In addition, international migration from various cases from different developing countries proved the benefits to the country’s infrastructure development. The same author asserted that migration played a significant role in country’s development and in particular among the poor for livelihood security; however, the government even ignored providing services including cost of travelling which was very important for migrants (Deshingkar & Grimm, 2005).

Migration as a livelihood strategy has increasingly been observed positively the approach to reduce vulnerability and poverty. According to Carney, to make a living it required capitals, competencies and accomplishments (Carney, 1998). In

addition, a livelihood also involved with institutions, social network and the means how to get access to resources (Ellis, 1998). Empirically and generally, people structured their living not just for individuals, but within larger social contexts including households and communities. McDowell and De Haan stressed that in many social settings, when it came to analysis, household was the most suitable unit for evaluation study (McDowell & De Haan, 1997). Meanwhile, De Haas suggested research that ignored migration and migrants from their socio-economic setting would be impossible to evaluate the connection between migration and the processes under the term development (De Haas, 2010).

According to Béné and Friend (2009), remittances from any form of migration occupied up to eighty percent as income generation in South Africa's rural livelihood. It became an important source for investment especially fishing related capitals. In their conclusion, they suggested that the mobility of people to other places could maintain and even conserve the fish stock from depletion (Béné & Friend, 2009). Similar view was also shared by Allison & Ellis that remittance was essential for rural people and it was not necessarily that it would be used for fishery related capital investment for income generation (Allison & Ellis, 2001).

## 2.4 Knowledge Gaps

To date, the environment is increasingly considered to be another driving factor to induce migration and the attention has been concentrated at regional and global level. Through several reviews, most migration-related research studies were

more focused on socio-economics as drivers that determine the mobility of people, a movement that was perceived as coming mainly from the rural areas.

When talking about migration, in most cases poor people were identified as those who are more vulnerable. Keskinen points out that extensive poverty and a significant dependency on natural resources was alarming particularly since the products from natural resources appear to be declining (Keskinen, 2003). To date, declining fish stocks have been reported to cause fishing dependent households to become more vulnerable (ADB, 2005; Macfadyen & Corcoran, 2002; MRC, 2010). Other factors observed that put fish under threat have included climate change, dam construction, deforestation, and pesticide use in agriculture and population growth (Baran & Myschowoda, 2008; Hap et al., 2006). In addition, the poverty rate in this area was considerably high even though it was rich in natural resources. This too was the cause of local people, especially small-scale fishing households, to be more vulnerable. Hap et al (2006) pointed out that this threat could lead to limited options for employment within the area.

In the TSL area, the movement of people was linked to the environment and water related resources (Heinonen, 2006; Maltoni, 2007). However, these interconnections have not been widely studied in Cambodia, even though the study of water related migration could provide unique socio-economic information for the development aims of the Mekong Basin, the urbanization trends, and the future problems in the poor settlements in urban areas. The research paper by Heinonen (2006) on "Environmental Impact on Migration in Cambodia: Water-related Migration from the Tonle Sap Lake Region" tried to explore the push that drives people from

the TSL and its linkages with environment and water by using literature reviews and participatory field of studies.

Noticeably, in the TSL area the rising population increased the demand for food, water and also built up an enormous pollution and nutrient load for the water systems. The region already suffered from the resources degradation and the growing population would accelerate the fight for these resources. This area was a useful case study for research on the environmental impact on migration because there is a strong connection between water resources and livelihoods as well as the high out-migration, the region provides (Heinonen, 2006). There is an assumption that the migration of people is a positive livelihood strategy to reduce their livelihood vulnerability especially in relation to fish stock decline. Therefore, this study aims to contribute to the limited knowledge base of migration activities in the TSL area.

### CHAPTER III

#### FINDING: FISHING AND LIVELIHOOD STRATEGIES

This chapter presents the results of the findings from the data collected on livelihood vulnerabilities and adaptation strategies of fishing and fishing-farming households in the area, Prek Trob village. This chapter is divided into the following five sub sections: Section 3.1 provides an overview of the study area that includes geographical and infrastructural information, population and livelihoods information, and information regarding the natural resources that were available in the village. Section 3.2 describes the livelihood vulnerabilities of the two groups in the area of study by explaining the nature of livelihood vulnerabilities faced by them. In order to understand the nature of these vulnerabilities it is important to unpack the five categories of capitals necessary for the pursuit of positive livelihood outcomes. These include human capital; social capital; financial capital; physical capital; and natural capital. Sections 3.3 and 3.4 present the findings of the livelihood adaptation strategies of fishing and fish-farming households respectively and migration as a livelihood strategy is highlighted. It is useful to note that there are differences between these two groups in the area of study. Section 3.5 provides a conclusion to the chapter.



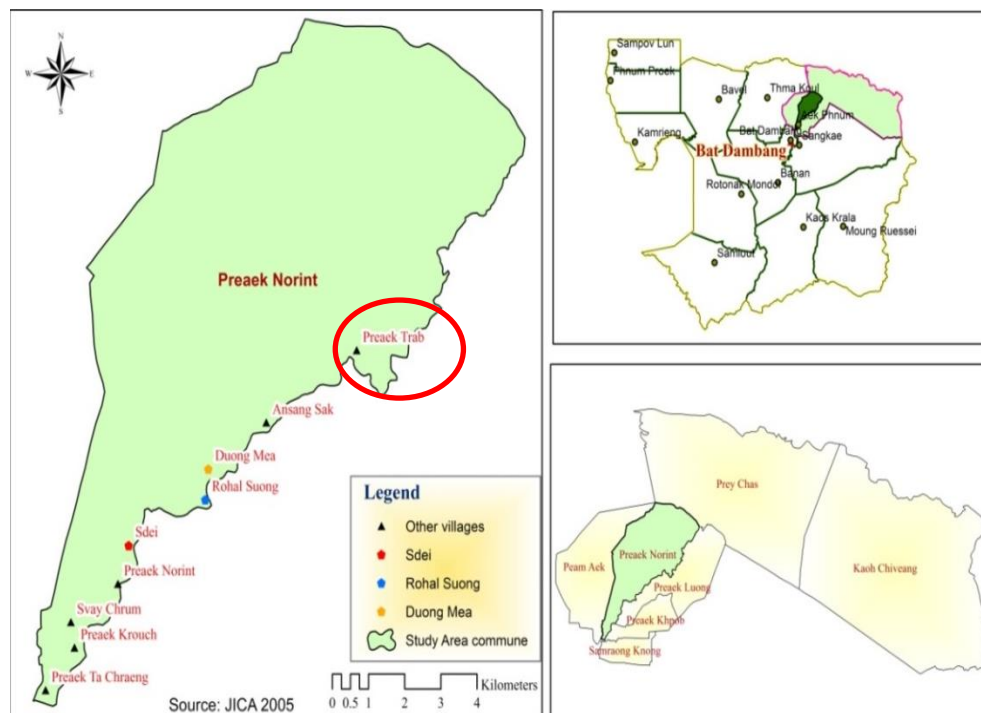
### 3.1 An overview of Prek Trob village

#### 3.1.1 Geography and Infrastructure

Prek Trob is located more than 25 kilometers away from the provincial town Battambang province in Prek Norin commune of Ek Phnom (see the map in Figure 2). This remote village shares the border to Angsorn Sork village to the South, Prey Chas commune to the North, Duon Inn and Bak Rortesh villages of Prey Luang commune to the East and the flooded forest to the West (Vida, 2012). In addition, the village gently slopes toward the TSL and connects to the Sangke River 20 kilometers away. The Sangke River is one of the main water sources provided to the whole village for multi-purposes consumption.

It is important to note that the land use management in this village depends on natural hydrology. During the rainy season, most of the land is flooded and can reach up to approximately one and a half meters in height; water remains there for three to five months per year. If the flood is not too deep these conditions become appropriate for growing a type of rice and is floating rice cultivation.

Figure 4: Map of selected study site in Prek Norin commune



Source: JICA, 2005

The dirt road becomes extremely muddy during the rainy season and restricts access to the village (see Photograph 1). During the dry season, villagers and outsiders could gain easier access by using different kinds of vehicles such as cars, motorbikes, bicycles and truck). In 2011, the village experienced big floods and the only way to access to the village was by boat. This isolated village has only one old and dilapidated primary school (grade one up to grade six), and one Buddhist pagoda (only three young monks). The public health center is located more than ten kilometers away from the village. There is also a private healthcare clinic available in the village but the services are irregular and the treatment is unaffordable for most of the people.

Photograph 1: An image of road condition in Prek Trob village after raining



Source: Seangly Kheang (June, 2013)

### 3.1.2 Population and Livelihoods

Prek Trob consisted of 315 households and a total population of 1, 555 people of which 810 are female (Prek Norin commune, 2011). Some households had more than one family living under one roof. According to the village chief, the total population had increased by 334 in 2012 and 365 in 2013. The total number of village population in 2013 was not confirmed at the time of this research because it has only been sent for checking and approval at the commune level. Nearly half the total population had been reported as the poorest, in particular the fishing families, due to the fact that they had no access to land and permanent homes (Head of village, Interview, June 07, 2013). More than fifty percent of houses in the village were concentrated along the small dirt road which started with the primary school as

the front border line down to the end of the village's boundary while the rest lived along the small river and stream. These small rivers and streams were an important source of water supply for fishing and agricultural cultivation and other purposes that included drinking, washing, bathing, and cooking for the entire village (see Figure 5).

Figure 5: Sketch map of Prek Trob village drawn by the head of CF



Source: Seangly Kheang (June, 2013)

Fish and farming were the main sources of food and income in this village. Fishing remained one of the main occupations for more than fifty percent of total population especially households who have limited or no access to land. The number of fishers had dropped compared to five years ago due to fish decline and many of them had switched to farming, but continued to fish during the fishing

season. Fish is the main important daily diet for almost the entire village especially poor fishing households. According to the village headman, approximately forty percent of total households were considered the poorest and this figure was concurred by the Identification of Poor Households (ID poor). The poorest households had received their ID number 1 which indicates they are the poorest<sup>3</sup>.

### 3.1.3 Natural Resources

Prek Trob was a rural fishing village based in the Prek Norin commune, Battambang province. The key resources available in this village included natural water resources such as rivers and streams; flooded forests which is the home to non-time forest products and bird and fish spawning during flooding season; protected lakes such as the Teuk Khmao lake; fish and crops such as rice, water melon, corn, bean and other types of vegetable. The water sources especially from Sangke River, served as the main source of water for all the villagers all year round. Unfortunately, the lack of water for agricultural activities had become an issue and there was a very limited irrigation system in place. People still depended heavily on the rain during rainy season. Both dry and rainy seasons brought unpredictable conditions and were a concern among villagers. Another concern was the blockage of water at the upstream level that was used for agricultural purposes and daily use.

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<sup>3</sup> The Identification of Poor Households (IDPoor) Programme was established in 2006 and the service providers can use ID Poor data to directly target development services and assistance to the poorest households in a village or a geographical area (Ministry of Planning, 2012).

Prek Trob had a large complex flooded forest which was home to different fish species throughout the rainy season. During this time the water flooded from the TSL and brought nutrients, fish and spread water all over the rice fields in the village. People could benefit from these conditions for their livelihood. The flooded forest covered a permanent area of more than two hundred hectares, and this area was under the protection of the Community Fishery (CF) of Prek Trob. In addition, the village could extract non-timber forest products from the forest such as honey bees, fuel wood, traditional medicines and dead trees for columns of building and repairing their wooden houses.

Prek Trob had its own protected lake which consisted of two hundred and forty three meters in length and served as a water source and home for many breeding fish species. This lake was under the management of CF who did not allow access to water and fish resources without the permission of the CF committee. During rainy and flooding season the fish were released so that they could breed naturally in a larger space and provided an opportunity for subsistence fishers to catch more fish. Once the water receded, the lake became a strictly protected area and no one was allowed access to the fish and water.

#### **3.1.4 An overview of Community Fishery (CF)**

Following serious conflict between fishing lots owners and the community between the late 1990s to early 2000s, the CF was established in 2002. The CF was established four years before the release of the Fishery Laws in 2006. This resulted in

there being no proper guidelines in place and that it operated as an initiative of the people of the village (Un, 2011).

The CF establishment was organized through a democratic voting process with the participation from the community and the local authorities that included the Head of commune and the Head of village. Unfortunately, there were no representatives from the FiA. This CF was created initially to manage and protect the fish resources in the village. At the time of this research, the CF committees had a membership of seven people who were in charge of patrolling and investigating any illegal fishing activities within the Prek Trob territory and especially in the protected lake (see Photograph 2).

The CF had no authority to arrest people and file a court case but they could foster good cooperation with the Fishery Administrative (FiA) in the nearest areas as well as with the police. They would produce reports of cases immediately to the Fishery Administrative Cantonment and district levels for their information and intervention. The CF team could arrest and keep the violators in place for a short time and would wait for cooperation and interventions from the authorities. According to the fishing law, illegal fishing was considered to be a crime and was punishable with either a fine or jail according to the conditions of violation.

Photograph 2: Protected Lake (243 meters in length) under of CF



Source: Seangly Kheang (June, 2013)

### 3.2 Current vulnerabilities facing fishing and fishing-farming households

This section presents the vulnerability context of the fishing and fishing-farming households in Prek Trob village. These vulnerabilities describe the external factors that influence their livelihood opportunities and that are out of their control. This section describes the five categories of assets that are necessary to achieve positive livelihoods. Assets considered being key for the achievement of positive livelihood outcomes have been grouped into the following five categories, namely, human capital, social capital, financial capital, physical capital, and natural capital. The researcher found that, when comparing fishing-farming household and fishing households in the village, there are significant differences in the capitals they hold. The trends with regard to livelihood changes in the village are provided.



### 3.2.1 Human Capital

At the household level, human capital can be evaluated by household size, education, health, and skills. In the case of Prek Trob village, the household's human capital varied from one house to another accordingly. First, the household size<sup>4</sup> ranged from four to fourteen people per household. The size differed from one household to another which could be seen through family patterns.

Some households had more than one family which included siblings and relatives who were all living under one roof. The households who had less than five members were relatively new families which meant that after marriage they lived separately from their parents. It is important to note that it was common for people in the village to get married under the age of twenty years old.

Fishing households had more family members per household compared to fishing-farming households and in many cases women gave birth according to the traditional practices. It was significant that the fishing households consisted of extended families (see Photograph 3). The fishing household community was given named by the local authorities as the "bird nest" community because of the large number of children in these families.

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<sup>4</sup> 12 representative households from two focus group discussions and 16 household interviews

Photograph 3: A fishing household that has more than ten members



Source: Seangly Kheang (June, 2013)

Skills are considered to be an important indicator in measuring human capital. Fishing-farming households were found to have multitude of skills such as farming and cropping techniques and management, fishing, raising livestock, and running small businesses from their homes. Subsistence fishing households, however, depended solely on fishing. According to those interviewed, these skills were learnt informally from elderly people especially parents and by observing their daily practices.

Issues were experienced with fishing tools and the technique use. The local villagers, particularly fishing dependent households, used traditional fishing tools. Fishing households reported that the issues came about from outsiders and better-off households who could afford modern tools and techniques, such as nylon gillnets, modern speed boats, poison and electric fishing gear to catch the fish.

These tools and technologies created extra burdens for the fishing dependent households and made them more vulnerable.

There were also some noticeable significant changes with regard to farming techniques in the village. People noted that it saved time and energy; however, the expense of fuel increased and those who could not afford to own the technology had to revert to a rental which was an added fee. Data showed that, over the last few years, that the majority of farmers had used chemical fertilizers and herbicides in order to increase their yields. Herbicides were used to kill the long grasses which grew in the rice paddy fields and hampered the growth of rice. According to the village headman and the head of CF, in the past and after the Khmer Rouge regime was in place, most of the village people grew jute crop and sold it to a factory located in a nearby village in the commune. At the time there were no problems with long bushes because it could not compete with the strong roots of the jute crops. However, due to market failure, the factory was close unexpectedly and the farmers had to switch to rice farming instead. At first, farmers used traditional based farming tools and techniques, and then switched over to modern machinery tools and techniques. To increase the yield, engines replaced cattle for plowing and different chemical fertilizers and herbicides were used to get rid of long bushes.

With regard to the health of people in the village, the household interviews had indicated that illness occurred mainly amongst small children and elderly people. This fact was reiterated during the interview with the head of the village. The older people suffered with high blood pressure, back problems, weak bones and cancer while small kids mainly suffered with high temperatures, dengue fever, and diarrhea. Many houses did not have proper toilets and clean water. A common

practice in the rainy season was for people to store rain water in tanks or jars and would drink it without boiling it. In the dry season, the village people depended on common water sources such as the Sangke River and other small streams. Interviewees report that many households had no access to clean water and experienced water shortages during the dry season.

Fishing households had only twice a day and ate mainly rice since they could not afford the cost of food. Women from the fishing households in practiced traditional ways of maternity care and the delivery of their babies. An interviewee said:

“All of my 12 kids were delivered by traditional mid-wife and they are okay. I did not go to hospital since it is located far from the village and I could not afford the cost of transportation and food. Delivering at home is much better, I have my family and relatives around and essentially I have time to take care of other kids as well because I have many.” (Hf#3, June 09, 2013)

An additional indicator of human capital is education and, in this case, a low level of formal education. All fishing-farming households were found to have some primary school education and some had completed up to grade two at the very least. Only a few members of some households had finished up to grade nine and grade twelve at secondary school. It was indicated that there was only one old

primary school which offered classes from grade one to six. Classes were not held regularly, especially during farming and cropping season, because the teachers were busy with their own farming activities. In 2011 for example, there were no classes provided during flooding. Those who wanted to pursue higher education would have to attend a secondary school to district located far from the village and would involve costs for accommodation, food and transportation. In fishing households the highest level of education obtained was grade two. It was noted that most of the women did not go to school. Children reported that teachers were strict and many of them were afraid to go to school. The class schedules tended to be arranged according to the availability of teachers.

### **3.2.2 Social Capital**

Social capital refers to formal and informal social relationships or social resources which provided various opportunities and benefits for people in their pursuit of sustainable livelihoods. These social resources were developed through investments through: interactions; memberships of formal groups and relationships of trust.

It was found that the people in the village cooperated well and helped each other when needed. An example of this was when the head of village initiated a charity saving for those who help the poor. Money was collected in a box and the donations were used for expenses such as serious illnesses or for funerals for poor families who could not afford this. It was common that everyone knew each other

and mostly they shared common cultural practices. For example people would gather at the pagoda during common traditional festivals such as Khmer New Year, the Water festival and Pchum Ben (Ancestors' day). Old people normally visited pagoda on holydays for religious practices.

Although there were cultural and religious ties amongst the villages, there were also notable differences revealed. Exchange labour was a traditional practice common among fisher-farmers in the village especially for those who had a limited piece of land. Villagers negotiated with the owner of the land in order to share the benefits<sup>5</sup>; for example, on a piece of land that was one hectare villagers negotiated to work the land and harvest the crops in return for a percentage of the harvest (typically between thirty percent or fifty percent). In addition to rice farming, fishing-farming households, especially those who have large tracts of land, also used their land to plant crops in order to earn extra money. However, recent farming harvest failure created barrier for small land farming holder households and this also affected fishing households since they were mostly hired to work on farming land for additional income. They were also, increasingly, unable to rely on fishing anymore, thus the unemployment was a critical issue in the village.

*“I have farm land 2-3 Rai<sup>6</sup> and I also work on other's farm land so in total I've got around 1ha. We share the harvest productivity after the harvest ends. For those who have small farm land like me, we mostly go to others who have big land and*

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<sup>5</sup>Refers to who have bigger land and willing to accept other to harvest and share the benefits

<sup>6</sup>6.25rai=1ha

*discuss. In the last two years the farming harvest is not good, so we have to find other whatever jobs available to do.” (Hff#5, June 08, 2013)*

*“My family own 3.5 Rai of land and this used to be enough, but now [started from 2012] I also work on my parents-in-law’s land for 2 Rai because the harvest is less and less and we have to spend a lot on buying chemical fertilizer and seeds. Not only us, but everyone has faced the same problem with harvest. My husband also fishes sometimes and it is only for food. Everything is expensive and we have very limited income as you can see our living condition here.” (FGD#1, June 08, 2013)*

Most fishing-farming households had participated in community activities such as the saving groups and the CF. Many people interviewed said that their savings from the saving group was not sufficient since their expenses had to cover farming production including the purchase of seeds, fuel, chemical fertilizers, and herbicides as well as the renting of machine trucks. Only a few households could afford to purchase machine trucks while the rest had opted for the renting of trucks. There were no exact figures provided of people who had access to loans from the bank, however, ninety percent of interviewees had bank loans and if they did not make repayments would lose their land or their homes. In order to qualify for the loans,

the villagers were required to have a certificate of entitlement, land or house or both. If a new loan was needed they were required to pay back the interest of the old loan or the entire debt. This made people borrow money from others and having to bear the cost of higher interest rates which, at times, was doubled or tripled to the interest rates offered by community savings and banks.

On the other hand, fishing households had limited property, no access to land and did not own houses making them not eligible for a bank loan. People shared the food and costs among their small community. These fishing households had limited networks and the income earned from the fish was only for food security.

### **3.2.3 Financial Capital**

Financial capital refers to the resources that people use to achieve their objectives. It could be described as a stock of money or savings in liquid form. It includes income levels, variability over time and the distribution in terms of financial savings, access to credit, and debt level.

It was difficult to obtain an indication of the income of fishing and fishing-farming households. For the fishing-farming households, the income came from different sources and the exact amount of income they earned on a monthly and annual basis varied. The income from fishing-farming households came from the selling of rice, crops, fish and other home business goods. Most of the income was spent on daily food provisions, cost of agricultural production and the paying of bank



loans while the income of fishing households' covered only the daily food provisions. Fishing-farming were indebted because of water shortages, low market prices, infrastructure and high cost of production such as fuel, chemical fertilizers and seeds.

The income of fishing households was mainly generated from fishing. Fish decline as a result of high competition amongst fishers and limited access to fishing areas was considered a key problem facing fishing households. It was difficult to obtain exact figures for the income of subsistence households, particularly since the unpredictability of fish yield per catch. According to responses from the FGD held within the fishing household group, it was reported that less fish had been caught in more recent years. The big flood of 2011 provided one of the few occasions where fish stock was more abundant. Before and after that year, only small fish and other aquatic species had been available and people have had to seek alternative jobs in order to survive. Thus, these conditions had resulted in seasonal fishing practices and people have had to seek other forms of work inside and outside of the village and outside the village to generate an income to support the family. Fishing dependent families have large, extended families all of which were required to work. Outside of the fishing season, the men would seek work outside the village and return in time for the new season whilst the women would mostly work inside the village working with crops.

Both fishing-farming and fishing households had been affected by competitive market prices which did not allow them to profit more from their fish catches and farming products. The earnings were reported not enough to cover other expenditures such as gasoline, seeds, rental truck especially for fishing-farming

households. Fishing households earned limited money, so they had to limit their spending as much as possible for example, eating mainly rice and only two times per day.

### 3.2.4 Physical Capital

Physical capital refers to basic infrastructure such as roads, irrigation works, electricity, reticulated equipment and housing that are needed to support livelihoods. These sorts of infrastructure are created by economic production and contribute to changes to the physical environment that help people to meet their basic needs and to be more productive.

Poor road conditions were cited by interviewees as another barrier for villagers. As a rural village, Prek Trob was located about 25 kilometers outside of the provincial town. The road system was inadequately developed and caused tremendous problems for the village people. During the dry season they could easily move back and forth on the dirt road, however, during the rainy season travel proved to be difficult because the roads became wet and muddy (see Photograph 1). Boats were used for travelling during the floods of 2011. The road conditions were not conducive to long distance travel and it proved difficult to bring their products to the markets for trade. Instead, middlemen or traders who were willing to buy their products were used but at the risk of selling products at a lower price and not at the market rate.

“I have no choice, but I have to sell my products to the middlemen. The buyers always ask for cheap price, but again no other better option. If I keep then all the products the quality will be damage. The market is far and I have to spend a lot on the cost of transportation especially gasoline. What can I do?”(Hff#4, June 08, 2013)

Poor road infrastructure impacted on health care, particularly, during time of emergencies. The public health center, which was located outside the village, became inaccessible during time of health emergencies such as the outbreak of disease or during natural disasters. Subsistence fishing families experienced more challenges because only a few families owned motorbikes and could not afford the cost of gasoline.

The electrification rate in Cambodia is considered to be quite low and Prek Trob received electricity only in 2012. The price per kilowatt per hour was 1,150 Riel (=0.26\$/Kwh) and those who opted for electricity had to pay for the installation fee which varied according to the location of the houses. Interviewees claimed that villagers found it expensive; however, full time access to electricity was convenient and safer than using kerosene lamps, flashlights and candles. Access to electricity was viewed in a positive light because the villagers could use fans during warm weather, watch television or listen to the radio. On the other hand, it created more burdens because it meant that there were extra monthly charges and installation fees. Many fishing-farming households had access to electricity compared to two out

of the eight households in the small fishing community. Of the two households only one household had a television and would share this facility with others.

Another challenge facing villagers, particularly in fishing-farming households, was the lack of irrigation systems for agricultural production. Villagers reported that one or two streams had been blocked so that the people upstream could have access to water for farming. Interviewees reported that the water shortage also became a problem for farming and claimed that they had heard that another stream was to be blocked to stock water.

The head of the village and the head of CF and community people raised a similar concern about the access to water. The concern from the headman was:

“The main water source from Sangke will perhaps become dry too in the near future if other small water body connected to this small river is blocked in the village”.

There was not enough water since water sources had been blocked by small dykes. They also reported that they could no longer depend only on the rain and that an irrigation system was needed need or people would face a water crisis which would impact on farming and cropping consumption as well as their daily lives. This reality had serious implications for living security of fishing-farming and subsistence fishing households.

Most villagers lived in wooden houses and more than 50 percent of these houses were old and in bad condition. In some instances the houses had collapsed

because of the strong winds experienced during the dry season. Interviewees from fishing households stated that their houses were threatened in both the dry and rainy seasons but were especially vulnerable during the rainy season. Many houses were damaged during the flooding in 2011. When motorized boats drove across the area, it created huge waves that caused tremors inside houses and resulted in objects falling. The continuous waves affected the stability of the house; with houses vulnerable to collapse especially if the waves continued. Fortunately, the water receded after two months and most structures remained standing. Fishing households reported that they had to go and collect dead wood and other useful materials in the forest to rebuild homes to live in. All the houses of fishing households observed were old and fragile.

“During the flooding in 2011, on one hand, it was good for fisherman like us since we had more fish to catch. On the other hand, it was also a disaster because the flooding water level was so high and it destroyed some of our properties and we had to build a shelter bar close to the roof to keep our children and everything safe. We had a lot of children and the house is small, so it was terrible but no choice. If the children wanted to play then they had to climb up the roof top and jumped into the water. Also, when the machine boat came across this village, a lot of big waves came continuously then most of the

kitchen stuff started shaking and fell down”(FDG#2, June 09,2013).

### 3.2.5 Natural Capital

Natural capital refers to the natural resources such as trees, land, clean air and coastal resources upon which people rely on for their survival. The productivity of these resources may be degraded or improved upon by human management.

In the case of the Prek Trob community, the villagers relied on fish, water-related resources, land and the flooded forest as part of natural capital. The most significant natural resources were water and fish but these resources, however, were facing decline and degradation. Water sources played a very significant role for multi-purpose consumption throughout the village and the water shortage was a particular problem. Fisher-farmers felt that, without an adequate water supply of water, they were unable to operate. The fact that some water sources were blocked for the use of upstream farmers impacted negatively on all farming in the village. There was a strong possibility that the main water source, the Sangke River, could dry in up in the future, especially if its connected water body, such as small streams or canals, were blocked.

Fish were another important resource for people, especially for fishing households, however, over the past five years; the fish catch had decreased in both quantity and quality. The majority of fishers noted that they hardly caught fish and that the fish catch had declined for years. They did, however, stated that they were

unsure of the exact reasons this was the case but they all agreed the quantity of fish quantity had been less and less per catch.

In addition to water and fish, flooded forest shrinking and land fertility which declined due to changes in farming techniques, also contributed to the insecurity of the natural capital. Prek Trob had a large flooded forest and people reported that there had been cases of forest burning to increase farming land extensions. The burning of land or forests was against the law. The forest was located close to the rice fields and was divided and demarcated by setting up of boundary poles. It was also reported that the thickness of the forest had been shrinking because some villagers had cleared the forest for agricultural land extension. The flooded forest was a home for fish spawning during the rainy season.

The decline in the fertility of land was caused by changes in farming techniques. The decrease in land nutrients resulted in the production of fewer crops which led to a greater use of chemical fertilizers. It is important to note that farmers believed the more chemical substance they used the better yield they would get (see Photograph 4). They stated that as, long as they could afford buying the chemical fertilizers and herbicides to kill the grass, they would get better crop yield. People interviewed noted that they needed more water for farming activities given that they cannot only depend only on the rain as they did in the past.

Photograph 4: Fisher-farmers are using fertilizers on their rice paddy field



Source: Seangly Kheang (June, 2013)

### 3.3 Livelihood strategies pursued by small scale fishing households to reduce their vulnerabilities

#### 3.3.1 Livelihood strategies of small scale fishing households

This section describes the livelihood strategies pursued by fishing households in the village of Prek Trob. As discussed earlier, small scale fishing households depended heavily on fishing as the main livelihood strategy and this group had no access to land and permanent homes (see section 3.2). Fish dependent households reported that they caught fish all year round for their daily living. The fish became food for the household and became income through the selling of fish to other



households. However, the quantity of fish had decreased dramatically in the past five to ten years and they were no longer able to survive on fish alone. This has led to more competition for resources that further impacted on their ability to survive. Therefore, people reported the need to seek other available work in order to increase the family's income so that they could survive.

Apart from fishing, fishers also worked as part time labourers, doing jobs such as rice and crops transplanting and harvesting on other villager's land during rice and crop seasons when the harvest was good (see photograph 5). Fishers interviewed stated that this work helped them earn additional income to support the family, especially since there was a growth in the size of households. Farmers who had larger tracts of land often provided jobs and hired some of fishing household's members (both male and female) who were physically strong enough to work in the field. Those who worked as labours were paid daily and the more household members that joined the work, the greater the extra income they were able to make. Money earned was used for the daily consumption needs, which was mainly food. In the past two years the cost of labour was higher due to labour shortages. Though the cost had increased, the demand tended to decrease from year to year, especially from 2012 and 2013; this was attributed to low productivity than in the past.

“Now the cost of labour working on the farm is increased up to 13,000 Riel to 1, 5000 Riel (USD 3.25 to USD 3.5) per person per day which is higher than in the past two years. They could get only 7000 Riel up to 8000 Riel (USD 1.75 to USD 2) per person per day. Young women between 5 to 10

people work on the one plot of land (2-3 Rai<sup>7</sup>) and they dig small holes for water melon seeds transplantation.”

(Hf#5, June 12, 2013)

Photograph 5: A female fisher is harvesting the corn in corn farm



Source: Seangly Kheang (June, 2013)

Construction work was another livelihood diversification for fishermen. Mainly practiced by males, construction work typically began when the man reached the age of fourteen or fifteen years. It was important to note that young people from fishing households received a very limited education and had to work in order to support the family. However, it was not easy to get work without the assistance from social networks due to a limited construction work opportunities or other projects which required more labour. As with workers who worked in the rice or crop fields,

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<sup>7</sup>1 Rai= 0.16 Ha

the construction labourer was paid a daily wage which was reportedly low, with workers earning between 2.5 USD to 4 USD per day. Construction work was very challenging and physically hard and taxing.

### **3.3.2 Migration as a livelihood strategy**

#### **3.3.2.1 Internal migration**

Migration was not a new livelihood strategy among fishing households in Prek Trob village. It was a normal for some fishers to migrate seasonally and settle nearby the TSL to fish for a few months during the dry season. The migration of fishermen in some cases involved only a few members of the households while in other cases the whole family migrated together.

The number of people who migrated solely for fishing had decreased because they were no longer able to catch enough fish to support their livelihood. In recent years, people preferred to send some of their family members to work outside the village as labour workers. Members interviewed from fishing households indicated that people were most likely to work in cities such as Phnom Penh and Siem Reap; finding jobs as factory workers or work as construction workers. Some migrated so that they could work in situations where they were to collect and/or harvest crops near border areas. It was possible for people to earn up to maximum 5 USD to 6 USD per day, depending on the type and availability of job they may be required to stay. Earning ones livelihood from migrant work options was reported to

improve the household income and to reduce household vulnerability. The remittance from work was normally spent on food for the household as well as for other household consumption, such as fishing gear, gasoline, and household repairs if needed.

### ***3.3.2.2 Cross border migration***

Because of the decline of employment opportunities within the village, cross border migration had become another viable option for fishing households. According to the village headman cross border migration started to occur in 2012. This was echoed by participants in the focus groups. Again, fish decline was described as the main threat for fishing households because fishing was the main source of both food and income security. People reported that working in Thailand enabled them to earn more money so that they could send remittances home. Initially migrants were able to earn between 5 USD to 8 USD per day (150 Baht up to 250 Baht per day)<sup>8</sup> and were provided accommodation, although they needed to buy some utilities for their own use.

However, the cost of transport to the workplace was expensive (around 84 USD or THB 2500) and the salary received was not enough to cover the costs. It is important to note that fishers preferred to migrate illegally as undocumented migrants into Thailand because of high cost of obtaining a passport and the cost involved in procedures required for legal migration. It was common for the employer

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<sup>8</sup> 1USD=30 Baht

to deduct an amount from their monthly wage to reduce the debt, a process that would last between one to three months. Fishers preferred to migrate seasonally before and after the fish season and because of the debt that owed, they had limited money to send back home. It was a common belief among fishers was that, if they migrated for longer periods, they tended to earn more and could send more remittances home.

Most of the villagers interviewed stated that migration for work was a last option; if they had a secure job in the village and/or sufficient fish to catch then they would decide not to go anywhere. Many people interviewed were of the opinion that there was home was best and said: *“no place is better than own home”*. However, they had limited options apart from migrating.

“It was so hard when I got sick. I really missed my wife, children and relatives. I could not speak and understand Thai and I had no one to talk to. I had to work day and night to earn more money to pay back the debt and send money home. I was always kept thinking of my home and everyone.” (Hf#2, June 09, 2013)

### 3.4 Livelihood strategies pursued by fishing-farming households to reduce their vulnerabilities

#### 3.4.1 Livelihood strategies of fishing-farming households

Besides fishing and farming, fishing-farming households also had other ways to minimize their vulnerabilities. Many people interviewed said that they could not depend solely on fishing and farming because the returns were not enough to secure their livelihood. In the past, they were able to fish, and the catches were sufficient to provide food and enable the household to sell the excess. However, with the declining quantity and quality of the fish and the need for increased spending on food, many households were facing major challenges. Added burdens included increasing debts regardless of the size of the land owned. It was, thus, imperative to find additional work to supplement their income and avoid further hardship.

Exchange labour was a traditional practice common in the village, especially for those who had a limited piece of land. Villagers negotiated with the owner of the land

in order to share the benefits<sup>9</sup>; for example, on a piece of land that was one hectare villagers negotiated to work the land and harvest the crops in return for a percentage of the harvest (typically between thirty percent or fifty percent). In addition to rice farming, fishing-farming households, especially those who have large tracts of land, also used their land to plant crops in order to earn extra money.

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<sup>9</sup> who have bigger land and willing to accept other to harvest and share the benefits.

Some households in the village reported that they also had additional home businesses such as selling goods for daily consumption, raising livestock and tailoring. These kinds of business were done throughout the year in order to supplement the household income. However, it was stated that better earnings were achieved during the dry season as compared to the rainy season. It was observed that women were mainly involved in the home businesses.

Working as construction worker was another additional livelihood strategy pursued by some members of fishing-farming households in the village (see photograph 6). The work was reported to be either part time or full time depending on the demand earnings were between 4 USD to 4.5 USD per person per day. Construction jobs were not easy to come by and it was easier to get such jobs through a network or connection.

Photograph 6: Construction work in the pagoda



Source: Seangly Kheang (June, 2013)

### 3.4.2 Migration as a livelihood strategy

#### 3.4.1.1 *Internal migration*

Similar to fishing households, fishing-farming households sent some of their members to work at the nearby border areas and in the cities, especially Phnom Penh where they worked on corn or sesame farms. In some cases, the whole family would migrate because they had no other work in the village and would then return after the cropping season ended. Working on farms paid up to a maximum of 5 USD per working family member per day. Such work was often obtained through information from their relatives or someone they knew at the area of destination, who would advise when the corn or sesame season started and what opportunities were available.

The remittance from migration was mostly used for repaying debts and household food consumption. Food costs had risen due to the higher costs of food production including expenses incurred such as seeds and chemical fertilizers. Though remittances were good for reducing debt and food cost, it was, in most cases, still not sufficient to secure the livelihood per household. There were also a few cases reported in the interviews with fisher-farmers of workers being cheated while working in Phnom Penh and the nearby village. The employers had promised to pay them, but in the end they were paid very little for their labour and, thus, were unable to send money home.



### *3.4.1.2 Cross border migration*

According to the village chief, there were more than fifty percent of the total households in the village who had migrated to Thailand for work and these were mainly the members from fishing-farming households. This constituted a mass of people from the village that migrated across border to Thailand.

“The village is so quiet and you can see now. Many have left the village for work in Thailand and this year the number is so high. Most of people here are old and children. One of the main reasons behind this movement is farming failure and most migrants are fisher-farmers. Mostly only those who migrate legally and they need legal authorized document from me then they come to inform me, but many who go there illegally they do not come to me” (Head of village, June 07, 2013)

“Even fishing and farming now people cannot get enough for survival, so they migrate to Thailand especially young people 17-18 up to 40-50 years old. Most of them as I heard they are working as construction and factories worker.”(Hff6, June 08, 2013)

Villagers interviewed confirmed the high numbers of people who had migrated from the village to work in Thailand; and noted that they worked mainly as construction and factory workers in various places. The majority of people migrated without any legal document since migrating legally was costly and time consuming. An increasing number of migrants were women who mostly migrated as a group both through brokers and their networks. People interviewed stated that there was plenty of work and money was available for all those who were motivated and energetic enough to work. Work was available both day and night, but work may be hampered if the polices or local authorities visited the workplace. They meant that they would have to stay at home and earn nothing.

In Thailand, migrants could earn at least 7 USD and possibly 10 USD per person per day (THB 230 to THB 300). The wagers varied from place to place and it also depended on the type of work. Wages in Thailand were double that of wages in their own country. People also reported that they received free accommodation and health care, but that they had to be responsible for their own living expenses and materials used for their own needs. The better wages in Thailand enabled migrants to send more remittance home and this was normally done through informal banks. Significantly, people reported that they could earn if they were put in good and secured places. In some cases, illegal migrants had negative experiences when they were placed in risky situations, and were forced to work day and night without rest and little financial rewards. Such situations were more common with migrants who had no network to rely on or who had no experience in migration before, and who depended solely on brokers. Following unscrupulous brokers often resulted in risky working environments.

### 3.5 Conclusion

The livelihoods of fishing households were more vulnerable than fishing-farming households and it was found that fishing households had very limited capital which impacted on their security. The most significant factors facing fishing household were the decline of fish quantity and quality (natural capital) and no access to land (physical capital). This created very limited opportunities for them to survive the whole year, especially those with larger households. For fishing-farming households, both fish stock declines and farming failures were the main issues impacting on household security. In short, both natural capital and physical capital appeared significantly important for livelihood security for both groups of households. The remaining capitals, including human, social and financial capitals, also affected livelihoods both directly and indirectly, although to a lesser extent.

Fish stock used to play significant role in supporting fishing and fishing-farming household as food and income security. More recently, people had to spend more money on food and other non-food consumption which created more burdens to their livelihood. Both fishing households and fishing-farming households suffered due to the increasing expense of food coupled with the fact that there was limited work in the village. As a result, more and more households sent their members to seek jobs outside the village, especially close to the Thailand border areas and increasingly in Thailand.

Migration was not a new phenomenon in the Prek Trob village, especially in fishing households as it was one of the livelihood strategies utilized to improve their living situation. Recently, migration had become a popular option among people

from both fishing and fishing-farming households, and many had migrated to Thailand for work. The remittances were mainly used for paying back debts and for food. The majority of people preferred to migrate illegally, and therefore ran the risk of ending up in dangerous or exploitative situations; thus creating more burdens and in some cases workers returned with nothing. In conclusion, it was clear that, on the one hand migration potentially could reduce the vulnerability, but on the other hand, it involved in risks, especially for undocumented migrants.



## CHAPTER IV

### FINDING MIGRATION AND DECISION MAKING

The purpose of this chapter is to provide a description of the drivers of migration that influence decision making among the fisher group and fisher-farmers group in Prek Trob village. The first section explores what circumstances impact on the decisions that individuals in fishing households make about migration, highlighting the push and pull factors influencing their decision to migrate. The push and pull factors are described based on the responses given by the fishers in the interviews. The second section focuses on fishing-farming households and their migration decisions. The third section draws conclusion on the push and pulls factors for migration and decision to migrate.

#### 4.1 Fishing households: Decision to migrate

Five drivers are observed as push factors including political, economic, environmental, social and demographical. Social and economic drivers were considered to be the main pull factors at the place of destination. The description that follows is based on the responses from the fishers with quotations. In addition, decisions to migrate which are influenced by personal/households characteristics and intervening obstacles/facilitators are also described in order to gain a more in-depth understanding.

#### 4.1.1 Push factors

##### 4.1.1.1 Political

The most challenging political issue was the conflict of extracting fish resource. In early 2012, the government cancelled all the fishing lots and returned them to communities for subsistence consumption. However, this had created burdens to the community, as fishing became uncontrolled open access and everyone could fish freely. People interviewed noted that there were more and more outsiders who came to fish in the village and many of them used different fishing gear. The number of fish was declining due to the high competition and the use of modern fishing gear (used by more affluent households), pumping the lake, electrocuting and poisoning fish. These activities were against the fishery law established in 2006; however, the fishers had observed that there was very limited or no intervention from the authorities especially at the top level. Limited access to markets was cited as another political issue because the fish catch was sold at a much lower price to the middlemen.

“Last year, there was many outsiders came and fished in this village. Most of them stay for a few days with their mobile boats and they kept staying and catching until they got more fish enough then they left.” (FDG#2, June 09, 2013)

“Pumping the lake is more serious than electrocuting. I am aware of how to even electrocute the fish. They [other villagers] use modern tools, so they can get more fish while traditional tools sometimes get nothing meaning old tools cannot compete. The most serious case is again pumping the water leading the lake becoming dry (Beoung Khas) and even the smallest fish also get caught. Even the herons also keep crying because of no food then they die. A lot of worms keep pounding the soil or basement of the lake.”(Hf#7, June 08, 2013)

According to head of CF, there were a lot of cases that involved illegal fishing, but the CF alone could not control the situation due to limited power, staff and budget. Whenever a case of illegal fishing was found, the CF member had to make an immediate report and contacted the fishery administrative staff for intervention, but they rarely came (Interview, Head of CF, June 07, 2013). This seemed to motivate more illegal cases due to limited action taken by the authorities. The CF was reported to get involved in corruption as well (FDG#2, June 09, 2013).

“They [CF] really do it and villagers are not allowed to come in [protected lake] and catch....They [anyone] can pay 1 million Riel<sup>10</sup> / 3hours...People cannot say anything. If

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<sup>10</sup> 1million Riel=250\$

they [villagers] dare say then they will be put in jail and it is just a waste of time since we have to work for living”.

(FDG#2, June 09, 2013)

It was noted that there was no emergency responses to environmental crises such as, flooding. The extreme flooding in 2011 had positive and negative consequences, on the one hand the flooding provided more fish to catch, but on the other hand the high levels of water destroyed villagers’ properties.

“A lot of properties were broken and one cow died. We ate vegetable grow on the water and other wild plants.”

(Hff#7, June 08, 2013)

“[The experience of flooding in 2011] we had to adjust the house and we had a small space for everyone due to many children.” (FDG#2, June 09, 2013)

In summary, there were a number of politically related factors that acted as push factors for migration, such as the limited access to fishing due to high competition and uncontrolled fishing. As mentioned earlier, fishers normally depended heavily on fishing as their main livelihood option, so they seemed to have very little motivation to stay inside the village when fishing stock was in decline. It



could be observed that there was very limited intervention or response from the local authorities and the CF in the village to the political issues; therefore, moving out from the village for work had increasingly become an option for fishing households to escape from a vulnerable situation.

#### **4.1.1.2 Economic**

Fishing was no longer a secure livelihood for most of the fishing households in Prek Trob village. In the past, fishers did not need to worry about their food since the fish catch was enough and they were able to sell the remaining fish for money. However, during the last five years, obtaining sufficient fish to support the daily food demand in households was as difficult as earning a living from selling fish in an unstable market. The middlemen bought the fish from the fishers at a much lower price than that of the market. However, the higher cost of gasoline and poor road conditions created barriers for the fishers as they did not have the resources to get the fish to the market and sell to the middlemen according to the offered price. The fish catch varied from day to day and there was no guarantee that they would catch fish on the days to follow. This meant that there was a possibility that there would not be any fish to sell or even though for their own consumption.

Unlike fishing-farming households, subsistence fishing households did not own any farm land and were, thus, unable to grow crops. They were able to work as hired labour on the farms during cropping seasons and they would be paid a daily wage. This, however, depended on the availability and the decision of the farm owners.

Another economic push factor was that, because they had no access to land and did not own houses, they were unable to secure any loans from the banks. They were living on the land of others and they had to settle in another place if the owners cancelled their lease or if they were unable to pay the annual rent.

“I am afraid this year, no one comes and hires us to work on their farm land. It used to have some people come and hired us during this month, but no one came till now. I am so worried. Parents normally send these young girls to work on their land including digging small holes for water melon plantation and harvesting. Normally 8-10 people work on 2-3 Rai of land and we got between 4.5 to 5 dollars per day.” (Hf#5, June 12, 2013)

This indicates how interrelated farming and fishing was in the village. Fishing households also depended on farming and cropping to secure their livelihood, especially when they had not caught fish between June and August. Those who owned farmland normally hired those from fishing farming. However, because of the recent harvest failure, there were fewer jobs available for fishing household's members.

There were limited jobs available in the village, so fishing household members had to leave the village for work. Families would send members of their families to work in the cities and to border areas. Increasingly, a new phenomenon

was for people to migrate to Thailand where the wages were higher and could be almost double. For example, one man interviewed stated that when he was working as construction worker in Siem Reap he was paid a maximum of 5 USD per day (Hf#1, June 09, 2013) but whilst working in Thailand he could get at least 8 USD per day. The working hours were unlimited in Thailand which meant that they could work in the day time and night time (FGD#1, June 08, 2013 and FDG#2, June 09, 2013).

#### ***4.1.1.3 Demographical***

Demographic factors were closely related to the economic drivers. In Prek Trob, the growing number of population was significant. In 2011, the total population was 315 households (1555 people) (Prek Norin commune record 2011) and it increased up to 334 households (1650 people) in 2012 and 365 households (approximately 1679 people) in 2013, according to village headman (Interview, June 07, 2013). He also stated that there were a growing number of young unemployed people in the village. Due to limited employment opportunities in the village, and lower wages in the country, more and more young people chose to migrate to work in Thailand. The issue of job limitations had been a concern for people for the last five years because of the decline in fish catch. As a result, more and more young people had decided to migrate to work outside the village in order to reduce the burden in the family.

The village families tended to be big, with up to twelve children which increased the economic burden and need for food security. Young families faced landlessness and homelessness as they had been unable to secure sufficient resources to acquire land; thus they had to migrate to improve their lives or live

somewhere near the river or stay under the same roof as their parents until they were able to own their own house. Small scale fishing families lived on farm land belonging to other's inside the village. In order to survive, some of the household members had to be sent to work outside the village.

In short, demographic drivers were linked to the growing populations of fishing households and the increased demand for employment opportunities in the village. This was a result of the risk involved in fishing and that it could no longer be dependent on for supporting the livelihood of fishers and fishing farmers. In addition, the limited property available and the limited access to houses and land created more vulnerable conditions.

#### **4.1.1.4 Social**

Most of the interviewees said that they had accumulated large debt because they needed to buy resources such as food in order to survive. People interviewed reported that they battled with the high cost of food and the difficulties of feeding all household members, particularly small children. In many cases, they were in debt with their close relatives and with mobile sellers who sold food inside the village, because they could not earn money from fishing. Fishing households had limited networks inside the village whom they could borrow money from unlike in fishing-farming households. In many instances, they reported that they were unable to request for loans from the banks because they did not own land and had limited property to act as collateral. Fishing-farming households were able to access finances easier because they often had relatives who owned pieces of land and who they could turn to for help.

Although the majority of fishing households had limited social networks both inside and outside the village, there were some cases cited of household's members migrating because they had received advice or suggestions from their relatives. The decision making was also driven by the expectation of the family especially parents and the children felt themselves that this is their responsibility to help the family. There were also cases where household members were asked to join their relatives in order so that they could travel with somebody they knew. It is important to note that migrating as a group, especially with relatives, created a better environment and the parents would worry less about their children.

*“I was convinced by my relatives (uncle and aunt) then I also wanted to join thus I migrated. They saw my living is bad since I had only old father (fisher) while my mother died a few years ago due to blood pressure when she aged over 66 years old.” (FGD#2, June 09, 2013)*

In summary, social drivers emphasized the limited networks available in the areas of destination, cultural expectation (family and responsibility) and the motivation of social networks inside the village (relatives). This created a push factor among fishing households in their decision to migrate or not. Social drivers influenced other drivers directly and indirectly which turn migration decision making into an outcome.

#### *4.2.1.5 Environmental*

Environmental factors mainly focused on the decline of the quality and the quantity of fish especially in the last five years. As mentioned above, there were some significant reasons for the decline of fish stock including the blocking of water for upstream use, pumping the lake to catch more fish, and uncontrolled opening access fishing in the village. Flooded forest shrinkage was another critical concern because the flooded forest was home to many aquatic species during rainy and spawning seasons. As noted above, all the drivers were directly or indirectly linked. There was limited or an absence of interventions among authorities though CF due to their limited power.

Fishers also faced problems with seasonal changes in the environment such as floods and drought. Flooding seemed to offer more opportunities to fishers since they were able to catch more fish. For example, during flooding in 2011 more than ten kilograms of fish were caught per day, compared to 2010 and 2012 were fishers caught less than five kilograms per day even though they had the same gear and used the same methods. People reported that if the water levels were high it was good for catching fish. Less water resulted in fewer fish. Thus they need to go and find other additional work to do. In contrast, flooding over long periods was not good for fishers because they lived in small and fragile wooden houses.

Drought was a major concern for fishers because a certain level of water was required to ensure the survival of fish and if the available water source was limited there was a danger that the lake would become too shallow in many places. Some water sources were blocked for rice farming by farmers living upstream. Some small lakes became shallow and dried out and some villagers used it for rice cultivation

purpose. This pushed fishers to search for other options to secure their livelihood when fishing was no longer enough. It is important to note that fishing was viewed as a secure livelihood option for fishers and, when there was an abundant stock, there was never a need to seek alternative forms of income.

It was found that there were direct and indirect relationships among the different drivers of migration as push factors that includes political, environmental, economic, social and demographical. Political factors included the limited intervention on fishery issues (fish stock decline due to open access uncontrolled fishing and high competition) and access to markets (no market structure in place) in the area, which created very limited options for fishers to secure their daily living. Environmental drivers focused on declining fish stock and limited access to resources among small-scale fishers in the village. Economic and demographical drivers dealt with limited access to employment opportunities, low-paid wages, and the increased demand of employment among fishers. Social drivers focused on the relationships that family members had with each other and the power that relatives had in motivating their family members to migrate.

#### **4.1.2 Pull factors**

##### ***4.1.2.1 Social***

Some households reported that they knew someone or were familiar with someone in a destination country such as Thailand. The tendency existed for them to send their children to work in nearby places. Networking played an important role in facilitating people to move from one place to another and was applicable for

both internal and cross border migration. With the support of technology, especially mobile phones, the migrants and their families could communicate and could share information such as their safe arrival, their living conditions as well as information about remittances that have been sent home.

*“I call my daughters and they inform me how much money they can send this month and which date will arrive so I call and check with the bank. It is very safe.”*  
(Hf#5, June 12, 2013)

#### **4.1.2.2 Economic**

Economic and political drivers appeared to be significant pull factors. Infrastructure development in the capital city and other big provinces of Cambodia have attracted and absorbed many of migrant labourers from rural areas such as Prek Trob village. According to the villagers, some migrants worked as construction workers and cash crop collectors in Siem Reap, Phnom Penh and in nearby border areas and the possibility of higher wages that could be earned in other locations seemed less of a priority than having a job and a steady income.

However, more recently, a growing number of people had decided to work in Thailand due to higher wages. As stated earlier in (see section 4.1.1.2), the wages paid in Thailand were almost double that paid in Cambodia and the wages were paid more regularly according to the experienced migrant villagers. Most of the work was either in construction, factories or agriculture-related. What was important for the



migrant workers working in Thailand was the offer of free accommodation and free health care treatment in some cases. This demonstrated “better” conditions compared with many work places in Cambodia where neither accommodation nor health treatment were covered by the employers.

Members of fishing households migrate mostly seasonally and increasingly long term to work either internally or crossed the border in order to find work. They often came back to the village during the fish season. People interviewed reported that they would work for longer periods in Thailand if the fish supplies continued to diminish.

#### **4.1.3 Decision to migrate**

##### ***4.1.3.1 Personal/Households characteristics***

Migration decision-making was made through family discussions, and especially with parents. In the past, the migration decision-making was made by the head of the family but, more recently, more open discussions have occurred amongst all family members. Women have been increasingly allowed to leave the villages for outside job opportunities, both internally and in Thailand. Young fishers, once they reached the age of 17 and were mature enough to live independently, were sent to work in Thailand in order to earn more money and send the remittances back home.

*“I decided to leave the village to work in Thailand in 2012 during water receding season. Normally we have discussion with family especially the father and he just told me not to play around.”(Hf#4, June 11, 2013)*

Migrants who were sent to work far away from home felt that it is their responsibility to support the family. Although they did not want to migrate and preferred to stay in the village or at a nearby location, it was critical to do so to ensure the family livelihood.

*“If there are fish to catch then I won't move. Here in the village I can be with my own family and relatives. There, I always missed my family and I knew they are having nothing to eat”. (Hf#2, June 09, 2013)*

*“I worked there for only 45 days and came back. If there are factories in the country then it would great since I can work here, the government should consider” (Hf#1, June 09, 2013)*

#### *4.1.3.2 Intervening obstacles/facilitators*

The cost of travelling was one of the main concerns among those who wished to migrate. People reported that they entered Thailand mainly through brokers and this could cost upwards of 83 USD (THB 2500). As noted earlier, fishing households were poor and they had little money to pay towards their transportation fee to enter Thailand and reach their place of work. Employers usually paid the cost of travel and the fishers had to pay back through deductions to their wages over a one to three month period. Although the cost of migration was high, and this was seen as a barrier, people interviewed stated that they had no choice and had to go even though they knew they were taking many risks.

Another barrier highlighted was that of being an undocumented migrant worker. As noted earlier migrant's preferred to enter Thailand through informal or illegal way because it was cheaper and less time consuming. People complained that the cost of legal document was high and involved many processes which added to the waiting period until they could migrate. Given that the family was often in crisis, and needed the remittance monies urgently, it was not feasible for fishers to wait until they were legal and could begin to earn money. Illegal migrants noted that they were in a precarious situation if the authorities visited their work-place – and they were forced to hide and not be seen. Despite all the high risks the decision to migrate was based on the potential higher income generation

Counteracting the barriers were facilitating factors that motivated the villagers toward migration. Social networks were limited amongst fishing households compared to fishing-farming ones, but those who decided to migrate were more likely to migrate if they knew a person in the place of destination. Knowing someone

in the place of destination was reported as being very helpful. Experienced migrants were able to provide information about the working conditions and the situation in destination countries. In the past, people risked entering Thailand if they did not know anyone there. However, most people knew of other's bad experiences so moving to a place where no one was known was avoided if at all possible.

*“I worked in Thailand as construction worker for a few months and I came back home to help my wife since she just gave another birth. I have another brother working there and he has been longer than me. I will go again after the election [Cambodian national election June 28, 2013]”. (Hf#4, June 11, 2013)*

Technologies such as mobile telephones were important in creating better communication between the family and the migrant worker. For example, they could share information about their situation and advise when they had sent remittances. Mostly, those who migrated wanted their family to telephone them since it was cheaper. In the case of sending remittance, they normally called and informed the family some days in advance to expect a remittance so that the member could receive the money from the nearest banks.

*“Normally I call home to let them know they will get the money from me soon. The banker will ask for phone and address.” (Hf#2, June 09, 2013)*

## **4.2 Decision to migrate: Fishing-farming households**

This section presents the details of drivers of migration as both push and pulls factors for fishing-farming households. Political, economic, environment, social and demographical are the five drivers serving push factors in the case of fishing-farming households in Prek Trob. Social and economic drivers are the main pull factors at the place of destination. The subsequent description is based on the responses from the interviews fisher-farmers. In addition, decisions to migrate, influenced by personal/households characteristics and intervening obstacles/facilitators is also defined in order to gain further insight and understanding.

### **4.2.1 Push factors**

#### **4.2.1.1 Political**

One of the main challenges facing fishing-farming- households was the limited market available. They normally had to sell their product at a lower price to a middleman or other businesses. This was partly because of bad road conditions as

well as the high cost of transporting goods. People interviewed raised concerns that the price of gasoline was high and the condition of the road made it difficult to travel. Another challenge was the limited irrigation systems in place which meant that they were unable to grow rice or crops well. It was evident that the village needed more support from the government and the relevant sectors.

*“It would be great if we can sell my products in a good price then we will not let our children migrate. We have to pay for the debt and increase the farming productivity. Everything is expensive including seeds, fuels, and chemical fertilizers and herbicides. We have to sell my product in cheap rice all the time and if we do not release it, then the quality will become worse” (FGD#1, June 08, 2013)*

The drop in fish catch was cited as another concern and made many people decided to leave fishing. As with the group of fishing households, the fishing-farming group also shared similar concerns and influencing factors. The open and uncontrolled access to fishing caused great pressure to the households who used to depend on fishing. Fishing was another important source of food and income in some cases but depleting resources were impacting negatively on livelihoods.

*“Now we could get catch only 3 to 5 kilogram per day and it was 3 times decrease compared to the fish catch*

*during the flooding in 2011 and in the last 5 to 10 years back. During the flooding, we could not at least 10-15kilogram per day and it was good. However, less and less fish and maybe no more in the near future if many people keep catching like this with any proper control and management.” (FGD#1, June 08, 2013)*

In 2012, the government announced publicly that it would return all the fishing lots back to the community; with Prek Trob receiving fishing lot number eight. However, according to the CF and villagers, the fishing had become open with uncontrolled access which enabled anyone to fish. Richer households were able to purchase modern fishing tools and, thus, were more successful at fishing. Furthermore, the presence of outsiders had increased in number and people not attached to the village would come and go when they needed to fish. Pumping of the lake was another serious concern raised by interviewees since many fish were caught using that method but only added to the livelihoods of a small group of elite people. It was stated that another method used was the use of poisons to get more fish, which resulted in other fish dying.

*“I went to fish alone and I saw many fish died in the dry lake. Actually it was a lake, but a few people pumped the water out from the lake to catch the fish. The fish that they did not need remained there untouched and it died. I wanted to find a proper place to stay at night, but I could not*

*find any and it was so smelly. Thus I decided to build a shelter just enough for me above the ground and a bit far from the dry lake.” (FGD#1, June 08, 2013)*

People raised similar concerns with regard to having limited access to fishing areas. The protected lake was a big target for fishers to come and catch and the locations available for fishing had were limited for fishing families. Fishers were also aware of the laws and regulation, but some people insisted on violating regulations specifically the consistent use of illegal fishing tools. People were invited to meetings by the CF and local authorities.

*“We used to join the meeting called by the CF and we raised the issues. They told us that they will try to solve it later and they will update us in the next meeting. Most of the meetings took place in the pagoda, but mostly people like us are busy with our farming work and find limited or no time to join.” (FGD#1, June 08, 2013)*

The flooded forest was shrinking due to burning; however, it was unclear who was responsible for the burning and whether it was deliberate burning or accidental. Interviewees noted that there were some villagers who had land nearby



the forest but used the burning technique to clear their land for extending their farms.

#### **4.2.1.2 Economic**

The low market price for fish and crops had led to households being economically vulnerable and insecure. The economic drivers were linked closely to the political drivers of migration. As mentioned earlier, in the village, farmers had to sell their products at a lower price since there was no market management or intervention in place. The cost of the products was much higher than the returns and benefits received. The main costs were purchasing seeds, fuel and chemical fertilizers and herbicides. In many cases, fishing-farming households had to rent machinery and tools for plowing the soil which increases costs. Some households reported having to ask for a loan from different sources including saving groups, banks and other rich families. It was noted that saving groups provide the most affordable access to money (at three percent interest), however they were only able to provide small loans and often this was not sufficient capital. Thus households often had to approach banks or other sources of money. Banks reportedly charged three to five percent interest on loans and some people interviewed noted higher rates of interest. Part of the contract also required using collateral, for example one's house or land, to secure the loan. Given the loss of household income due to the market failure, it was more and more difficult for people to pay back loans. This situation necessitated securing other loans to pay off the initial debt; the interest on the second loans was even higher (at least eight percent interest) and perpetuates the cycle of poverty. In some cases households were unable to pay off their debts and

needed to sell off either their home or land, or sometimes both, in order to reduce or pay back all the debt owing.

*“I sold my home and land a few years ago to pay back all the debt. I used to have farm land, but it did not produce much crop as wished. My husband also fished sometimes and now he is working in Thailand and got married with another woman. My old mother, children and I are living on other’s land.” (Hff#3, June 06, 2013)*

Fish were another source of food and income security; however high competition and fish stock declines were causing people and households to be more vulnerable. Fishing-farming households had to buy fish or other kinds of meat such as pork or beef for their daily living. The depleted fish catches increased their spending, this was especially a challenge for the households who had more members in the house and had more mouths to feed. Similar challenges were faced by households who had no land or whom had small pieces of land that were unable to provide sufficiently for their household members.

Some households reported having diversified and had set up small businesses including tailoring, selling goods and raising livestock. The businesses were mainly run by the women. Selling goods was more profitable in the dry season compared to the rainy season, also the economic situation of households impacted on the number of customers. Tailoring was another additional job for women and

that could be done from home. Women were often paid less than the market value for the clothes that they sold.

#### ***4.2.1.3 Social***

Fishing-farming households had a better social network compared to that of fishing households. People residing in the village tended to know one another, and this was especially true for the people who lived in the center of the village. These social networks were important to facilitate information sharing and to maintain the culture. Thus they were able to get updates of news, for example, employment opportunities in other areas. It is important to note that fishing-farming households had access to land and better and faster information networks than the fishing households. Many of the fishing-farming households reported being members of saving groups, so they more savings compared to fishing households. People interviewed in the fishing-farming household group tended to have higher levels of education and had at least finished grade two at the primary school level. However, despite having a higher level of education many of them could not read and write well.

#### ***4.2.1.4 Demographical***

Compared to fishing households, the fishing-farming households had smaller number of family members living under the same roof. The average size of households was between four and five persons, thus having fewer financial burdens

than fishing households. Most new families to the community were given a small piece of land to secure their livelihoods. Some members worked as exchange labourers with other households who had more land, so they were able to get more rice stocks. In cases where they got surplus rice over and above their household needs, they were able to sell the excess. A growing trend was the increase in the village population which necessitated more space, land and job opportunities. A common theme between the farming and the fishing communities was that of early marriages, with people getting married at seventeen or eighteen years old. This created a faster growing population within the village.

#### **4.2.1.5 Environmental**

A limited water supply was the main concern for farming production. People reported that a few water bodies had been blocked in order to keep the store of water for people at the upper parts of the land. There, people were facing very limited water supplies especially during the dry season. However, this also affected the lives of farmers further down and affected fishers who also needed good water supplies to successfully fish.

*“If any year has less rain then we can sell only a little. For example, if we need only 10-20 rice sacks (1sack=50Kg)/year then we keep it and the remaining is to sell for money to release the debt. Sometimes it is not enough so it becomes the debt and mostly those who migrate is because of this*

*way. The debt is getting higher and people cannot find other ways to reduce the debt so migration is the best option". (Hff#7, June 08, 2013)*

Chemical fertilizers and herbicides were cited as another threat to farming as they impacted negatively on soil fertility and food nutrients for species during the rainy season. There was evidence that the chemical substances were harmful to the lives of animals such frogs and chickens. This created more health issues to villagers as well as to fish during the rainy season.

*"They [fisher-farmers] use chemical fertilizer to kill the grass. If not kill it, they cannot do their farming at all. The rice field has a lot of long bushes and people cannot kill it by using traditional way."*  
(Hff6, June 08, 2013)

#### 4.2.2 Pull factors

Because of very limited options to secure household livelihoods, people had to look for other opportunities to supplement their income. Migration offered opportunities for people; however this was seen as the last resort and was not their first choice. Migration was an option pursued mainly by fishing-farming households. The challenges raised in the interviews and discussed above clearly impacted on the quality of life and "pushed" households to consider migration as a viable option.

Meanwhile, social and economic drivers played a significant role in attracting more people to work outside the village especially in Thailand. Higher wage offers to workers in Thailand attracted people to consider moving, especially if the information and experience was shared among people in the village. The information was shared from one person to another and this offered further motivation to migrate among households especially those who were in debt.

*“Here in this village, people are facing poverty and parents let their mature children migrate for job outside the village. They heard people can get 4000B/month working in Thailand.”(Hff6, June 08, 2013)*

The high demand for unskilled labour both in cities within Cambodia and increasingly in Thailand provided a motivation to migrate. With limited skill, knowledge and finances it was difficult to find better jobs locally. People worked as unskilled labourers; for example as factory workers, construction workers, crop collectors amongst other jobs. In the case of cross border migration, according to different interviews with people, a pull factor was having a network and/or relatives in the country of destination; however, most of them were undocumented migrant workers. This enabled the person considering migration to access information about the situation in the work place at the destination area. This could be done either by communicating on the telephone or discussing face to face when they came home for a visit. People interviewed from fishing-farming households preferred long term

migration because they were able to earn more; however, they tended to come back home and help the family if the harvest was good.

#### **4.2.3 Decision to migrate**

##### ***4.2.3.1 Personal/Households characteristics***

It was a common theme that the decision to migrate was made through family discussions especially with the parents. In only a few cases did people leave home without informing their family but they called home after they reach their place of destination. In the past, parents preferred to send the most mature children to work outside the home, but more recently, the parents preferred to consult with their children to determine who was willing to leave. This demonstrated that the decision was less authoritarian and that children had more freedom to raise their concerns and willingness and could decide if they wanted to leave or not. People tended to move around the age of 17 and 18 and both males and females were increasingly allowed to migrate. Both males and females were given advice concerning their security, health care issues and the importance of saving. They were also advised to remain in contact with their parents and to phone them as much as they could. In many cases females received more advice concerning their security and they were usually only allowed to migrate as a group and to make sure that they had proper accommodation and staying with other girls. It appeared that parents gave more concern to their daughters. In many cases, parents allowed the girls to migrate only if they had sufficient and acceptable information concerning the

working conditions, payment and accommodation, especially from any of their relatives who were working there and were viewed as reliable sources of information.

*“Now no force... We just discuss among family members and get some comments from relatives and neighbor regarding the information or experience shared. They have no intervention on stopping the decision. Sometimes they share information about the benefits and we have to consider whether it is good or bad, possible or not. Just think together how to improve or secure the livelihood of the family. Generally the oldest and second oldest are allowed migrating due to maturity.” (Hff#1, June 06, 2013)*

*“We normally discuss among family members who is willing to leave then go. Most people migrate to Poi Pet and Thailand. I follow the broker and each person pays 2,500B/person... Alone is not safe, but migrate as group is safe.” (Hff#10, June 09, 2013)*

*“Because of the harsh livelihood condition then I decided to let two of my kids go. Both of them are female. We discussed as well the 1st and 3rd kids decided to leave because there are nothing to do here and the other kids want to keep studying.” (Hff#4, June 08, 2013)*



#### 4.2.3.2 Intervening obstacles/facilitators

As with fishing households, fishing-farming households also found the cost of moving as the main barrier to migration. They migrated into Thailand illegally and it was usually via brokers. As mentioned previously, illegal migrant workers needed to work for a certain period in order to pay back all the debt accumulated by migrating before they could send remittance home. Due to the higher wages in Thailand, migrants were able to save more money and send it back home through the banks. However, they initially had to work and reduce the debt for between one to three months.

Migration experiences were not always positive – and these experiences were shared by other migrants which impacted on decision making. If the migrant worker was successful in the placement then they were able to earn money and send the remittances back home. However, as expanded upon above illegal migration was risky and increased the vulnerability of the worker. Some examples were shared by others in the village especially from the relatives.

*“Migration is not that easy. A case of my brother Yorn, his children thought he already passed away after disappeared more than 15 years but he just came back and swore not to go back.” (Hff#4, June 08, 2013)*

*“One or two cases of women (divorced 21 years old when left) from this village have disappeared 3-4 years till now. She has one kid 4-5 years old and the parents are here. Some relatives were trying to seek her, but no clue. This disappearance I am afraid that she is trafficked.” (Hff#5, June 08, 2013)*

However, in many cases of fishing-farming households, they knew or had relatives working inside Thailand. Those who wished to migrate were able to get information that was related to the situation as well as to the working conditions there. People reported that they mainly communicated via telephone. Telephones were helpful because they were able to access updated information before deciding to migrate and kept their family members informed about their living and working conditions at the place of destination.

*“They can stop working and come back home anytime, but here there is nothing to do. Anything happens or for family update then we can connecting via phone”. (Hff#10, June 09, 2013)*

### 4.3 Conclusion

The decision to migrate is influenced and driven by the push and pull factors mentioned in detail above. These include environmental, social, economic, political

and demographical factors. For fishing households, significant push factors included fish decline (environmental driver), limited employment, debt and landlessness (economic and demographical driver). These three drivers were influenced both directly and indirectly by political drivers. For fishing-farming households, harvest decline and debt (economical) plus fish decline (environmental driver) were the main push factors behind the decision to migrate. The higher demand for a work force in Thailand, offering better wages, having a social network in the destination country as well as advances in technology (phone communication) were the pull factors that facilitated people's decisions to migrate. Both fishing and fishing-farming groups were attracted by these pull factors in similar ways. The common view shared by both types of villager groups was that migration was the option as a means to overcome their livelihood challenges because they were aware of the difficulties and risks of being migrant workers, especially if they had undocumented migrant worker status.

For both groups, the decision to migrate was made through family discussions and with parents. Most often parents sent the most mature children to work outside the village in order to support the family. This demonstrated that the decision-making was less rigid and that children had more freedom to raise their concern and willingness to migrate. Migration began at around seventeen to eighteen years and both males and females were increasingly allowed to migrate equally. Both were given advice essentially concerning their security, health care, and the importance of saving. They were also advised to contact home as often as possible. Mostly,

females received more advice concerning their security and they were only allowed to migrate as a group ensuring that they had accommodation with other girls. In many cases, parents allowed the girls to migrate only if they had detailed information concerning their working conditions, wages and accommodation. This information was especially valued from relatives who were currently working there.



## CHAPTER V

### CONCLUSION AND RECOMMENDATION

The purpose of this chapter is to respond to the main research question: To what extent is migration as a livelihood strategy adopted by small scale fishing households around Tonle Sap Lake to reduce household's vulnerability? The chapter is divided into four separate sections: Section 5.1 summarizes the key findings of each sub research question; Section 5.2 provides an assessment of the conceptual framework; Section 5.3 discusses the policy implications and provides recommendations for the future; and section 5.4 suggests the agenda for further research.

#### 5.1 Conclusion

##### 5.1.1 Recognizing multiple triggers and interacting drivers of migration

The movement of people is driven by different drivers known as both push and pull factors. These drivers include environmental driver, social driver, economic driver, demographic driver, and political driver and they have interconnection with one another directly and indirectly. These multi drivers could provide the overall picture in order to explain the phenomenon; however, it cannot be avoided its complexity.

In the case of Prek Trob, it was found that, when the fish stock declined and when there were harvesting problems, there was a need for community to respond

to the problem by diversifying sources of income. Fish stock decline seemed to be influenced by political drivers. Some activities seemed to put more pressure on fish stock including pumping the lake, poisoning and electrocuting the fish, especially due to the new issue of uncontrolled open access fishing. This could be observed by the increasing number of people from outside the village that came and fished in the village. It was observed that the intervention from the local authority and CF have been limited. In addition, there was also farming harvest problems which both fishing and fishing-farming households had relied on as livelihood options. Fishing households were worse off than fishing-farming households, given that they had no access to land which put them in more vulnerable situation. Migration, as livelihood strategy, had been one response adopted by this community as it has the potential to minimize the livelihood vulnerability. The research revealed that Thailand has increasingly become a work destination of choice for both fishers and fisher-farmers and that there is a pattern of short-term, seasonal and long-term migration.

### **5.1.2 Current vulnerabilities of fishing and fishing-farming households**

Adger (2006) defines vulnerability as “the state of susceptibility to harm from exposure to stresses associated with environmental and social change and from the absence of capacity to adapt”(p. 268). Thus, vulnerability could be assessed through the limitations of human, physical, financial, social and natural capital that is required to achieve positive livelihood outcomes (DFID, 2001) (see details in section 1.4.1). In the case of Prek Trob village, the research revealed that there are weaknesses within

each capital and these weaknesses have been the cause of vulnerabilities in both fishing and fishing-farming households.

Human capital could be observed through the size of households, education levels, and skill capacity. Most of the fishing households were made up of an extended family who live together under one roof. This caused livelihood insecurity for fishing household especially because it placed more demands for the family such as the availability of food. However, it was noted that there were also positive aspects to having an extended families as it provided more labour capacity. Low levels of education and the lack of diverse skills (they have only fishing skills) in each household had caused additional burden because it limited their options when seeking employment in their own community and outside of that. The previous chapters have shown that fishers had faced livelihood threats because of the decline in fish stock and lack of employment in the community. As mentioned in section 3.2.1 of Chapter 3, both fishing households and fishing-farming households depended heavily on fishing as their main livelihood option and fish stock declines together with fewer employment options, have resulted in burdens and hardships. In this case, human capital shares similar qualities with natural capital.

Limited access to a developed physical infrastructure especially road, irrigation and housing also perpetuated the vulnerable position of the villagers. All the respondents interviewed reported that they were unable to take their products (fish and crops) to sell at the market due to the bad road conditions and the far distances of the market from the village. Irrigation systems were not in place, thus causing fishing-farming households in particular to be more vulnerable as they relied heavily on access to water for rice and crops farming. The condition of the houses in

the village created problems and structures were observed to be old and fragile. Most of the houses were made of wood and leaves and were negatively affected in cases of flooding or strong winds.

Due to their dependency on fishing as the main livelihood option, fishing households had limited financial capital. As described in section 3.2.3 of Chapter 3, this group had no access to land and permanent housing, so it was even more difficult for them to borrow from the bank, as they were unable to offer any collateral as surety for a mortgage. This resulted in them borrowing from other banks with a higher rate in the event that they were unable to secure help from their own neighbors or relatives. With the higher interest rates, they created more debt and they battled to reduce or cancel these debts because the income from fishing was limited. Unlike fishing households, fishing-farming households had access to land and housing so they were able to practice rice and crop cultivation. In the past this enabled them to borrow the money from the bank if needed. However, in the recent years of farm harvesting failure and fish stock decline, fishing-farming households had to face similar problems to fishing households. Most households that were interviewed reported having greater debts than before.

In summary, it appeared that limited employment and debt in the households had a negative influence on the livelihood vulnerability of both fishing and fishing-farming households. The limited employment was linked to the declining fish stocks, which has reduced opportunities to make a living as fishers, and that the number of household members exceeded the needed labour of farming in the available land, or that land the households was landless or land poor (see also Middleton, Un, and Thabchumpon (2013)). The latter seemed to be also



compounded by increasingly fragmented landholdings that were not viable to make a full-time living. The intensifying and mechanization of farming also reduced the opportunities for local labourers to be hired. Furthermore, local work in farming was mostly seasonal, and was perceived by potential farm labourers as short-term, irregular and low paid work making work outside of Cambodia, or domestically in urban areas more attractive as it was perceived to be more regular and with better wages. Most debts resulted from a failure of farming harvest. This revealed the gap between fishing and farming-farming households and the limitation of the local government in reducing poverty and vulnerability of people at the community level.

### **5.1.3 Adaptation strategies of fishing and fishing-farming households**

Given that households could no longer depend on fishing and farming in order to secure their livelihoods, both fishing and fishing-farming households had responded to the crisis by diversifying their options. Livelihood diversification helped them to reduce the stress brought on by the decline in dependent resources such as fish.

Compared to fishing-farming households, fishing households had limited options to diversify their livelihoods because they did not own land. Unlike fishing-farming households who owned at least one piece of land and in some cases more, the fishers worked mainly as hired labour on farming land and as construction workers in the village when jobs became available.

It was found that migration practices became yet another livelihood option for these households to reduce vulnerability. Employment was found in different cities and, in some cases, in other countries, and families would survive through the remittances that were sent home. Migration could involve the whole family or some members of the family. Though migration was not a new phenomenon to Prek Trob villagers, there was an increase of migration in 2012 to 2013 due to fish stock decline and harvest failure (see section 3.4.1). Mostly, people migrated to work in cities such as Phnom Penh, near the border areas and increasingly in Thailand (see section 3.4.2). Migration was seasonal, short term and long term. Migration had increasingly become a diversified livelihood option to minimize the livelihood vulnerability.

#### **5.1.4 Decision to migrate**

The decision to migrate was influenced by a number of influences known as push and pull factors, applicable to the place of origin and/or destination. Migration decision-making was driven by five interlinking factors, including political, economic social, demographical and environmental. Decisions to migrate were also influenced by personal and households' characteristics as well as intervening obstacles and facilitators (see section 1.4.3).

In the case of Prek Trob village, it appeared that limited access to, and the quality of, natural resources in the village were the main push factors. The limited access to natural resources seemed to be significantly shaped by the water level

that flow from the TSL which the harvest of the resources relies upon. More importantly, the increased cost in farming production and fishing was linked closely with the ongoing environmental changes including fish stock decline, land degradation, and the observation that water level was less and less significantly in the last five years till today. This seemed to motivate households to look for other alternative livelihood options and migration had increasingly become popular option to reduce their vulnerability. Meanwhile, it was observed that most of the migrants were young, starting from seventeen or eighteen years old. The growing demand of employment in the village pushed this group to leave their place to look for job. The study conducted by Keskinen et al (2011) also observed the trend of young people entering into labour work around Tonle Sap Lake, no longer being able to depend on the natural resources due to continuous changes as indicated above. Meanwhile, Heinonin (2006) found out in her research study that big movement of people migrated to cities, especially the capital city Phnom Penh in early 2000s who had had been induced by the environment change such as natural hazard (heavy flood and drought) and natural resource degradation. This was also echoed by Maltoni (2007) and similar cases were also found in other developing countries.

Pull factors, however, was the demand of unskilled workers in the cities, near the border areas and increasingly in Thailand which were likely to attract more and more people to leave their home to seek job opportunities. The growing infrastructure development like factories partly due to more foreign direct investments in the city which demand more labours to come and work. The trends of people migrating into the city for employment, included those were from TSL's area, had been observed since the mid1990s when Cambodia was open for free market (see Chan, 2009; NIS, 2008). Domestically, females seemed to increasingly migrate more and more due to the demand for the especially garment factories

while male mostly worked for construction workers (see also Chan, 2009; MoP, 2012). Also, it was observed that those who migrated had better living conditions compared to those who stayed in the rural areas.

Recently, the growing number of people who migrated into Thailand was noticed. Distance seemed to be one of the key indicators since the majority of migrants had migrated from the provinces where located close the border of Thailand especially Battambang (Prek Trob included) and Banteay Meanchey (see also Ministry of Planning, 2012). Social networking, especially amongst family members and relatives in the area of destination, was found as a key motivation. In many cases, information was shared back and forth through word of mouth and increasingly through mobile phone which were reported more convenient among migrants and their families. A connection between networks of relatives living in destination area and the aspirations to migrate was also observed. Most of the youth aspiring to migrate reported having family members or relatives who had migrated and this was especially true among fishing-farming households. This could be a result of continuous contact with their social or personal network; youth become more interested in migration and they were able to get information and advice prior to migration. In addition, they felt that helping the family was their responsibilities.

There were also cases that some villagers still decided to migrate even though they did not know anyone in the target areas and they mostly took risks including debt and security risks.

In fishing-farming households, remittances were used for different purposes. Larger households with more members to migrate were able to save more money and send it back home. Places with better working condition and wages were the most popular destinations amongst migrants. Migration in fishing households was

good if they worked away for long time. If migration was only for a few months or seasonally it seemed to be more of a risk rather than opportunity as there was an initial outlay purchasing the needed products for daily living plus debts that needed to be paid back. If they migrated again they often worked in new places and had to spend more money on buying the needed stuff again which wasted a lot of money. Consequently, they had only small amount of remittances to send home or in some cases none. Migrating as a group was more cost effective as they were able to share costs and send more remittances home. This was especially true working in Thailand and, provided they had energy, they were able to work day and night.

Migration could result in economic benefits but it could also result in debt. In many cases, the villagers preferred to migrate illegally through brokers. In some cases they had honest brokers who took them to a fair workplace where they were able to earn good wages and get paid regularly. Most of the migrants from fishing households did not have social networks. With limited information the chance of getting arrested by the local Thai authority was high and this related to security risk. Also, in cases where they migrated for short period, they had to spend their money on their own living expenses and return the debt covering the cost of transportation and brokers back to the employer for at least a one to three month period. Although the family expected the remittance to be sent, such cases were more likely to end up with more debt.

Migration was increasingly one of the best options for villagers and their family. Though there was awareness among villagers that migration could be either successful or risky, it appeared that often villagers had no other better options to reduce their vulnerable situation. It is hoped that this study will be useful in informing development workers and policy makers to develop strategies to help the rural poor who depend on fisheries. Revisiting and amending the policies of fisheries,

agriculture and migration is very important because it is more likely to minimize the risk and vulnerable situation of the rural households especially fishing dependent households living around the Tonle Sap Lake.

#### **5.1.5 Migration as livelihood adaption strategy to reduce vulnerabilities**

This section aims to answer to the key research question: To what extent is migration as a livelihood strategy adopted by small scale fishing households around Tonle Sap Lake to reduce household's vulnerability?

Migration played a significant role in diversifying sources of income with the potential to minimize the livelihood failure within the households. As mentioned in Chapter 3, migration had been adopted by both fishing and fishing-farming households to secure new sources of income and migration had become an additional multi-local livelihood. Fishing-farming households were able to use the remittances to pay for the cost of production. Making the decision to migrate or not is influenced by different drivers including environmental, demographic, social, economic and political known as push and pull factors. Significant pushes were fisheries decline, the impacts of farming intensification, soil degradation and growing landlessness. There was an increasing tendency for fishing over farming as main livelihood option in the area; however, limited access to land was the main barrier for them. Given the dominance of agriculture and the already heavy pressure on the areas' natural resources, migration was more likely the viable livelihood option.

Meanwhile, the need for unskilled employment coupled with higher wages in the place of destination, such as Thailand, was a pull factor. Personal networks, including family members, relatives and neighbors as well as access to mobile

phones seemed to motivate people to go even though the cost of moving was a concern. It was obvious, in the case of Prek Trob village, that migration helped reduce their vulnerability during stressful situations, especially when the fish stock declined and the farming harvest also faced problems. Long term migration seemed to be of more benefit than short term and seasonal migration because they could earn and save more money and send home regularly over a longer period of time. In most cases, they had to work and pay back the “migration” debt, and often had limited money left for saving and sending home.

It was possible that migration could lead to more risks and debt especially when circumstances dictated that people migrated illegally through brokers because it saved both money and time. If they had a good and trustworthy middleman then they tended to have a secure work and better income. However, if they unluckily had a middleman who cheated or was irresponsible, they tended to end up with more debt and greater risks in the workplace in the destination country. Paying a broker for the travel costs and guidance service was not a guarantee that they would have a secure place especially because they were working illegally. The cost of a passport and other legal procedures were costly, as well as time consuming, thus they seemed to have no better option but to go illegally. Most of the respondents reported that those who decided to go stated that they needed some information either from their network or relatives before they migrated.

## **5.2 Assessment of conceptual framework**

This research applied the framework of “Drivers of Migration” by Black et al, 2011 to investigate the migration decision-making among fishing and fishing-farming

households in the Prek Trob village. By recognizing that migration is a multidimensional process and that there are multi-drivers facilitating migration decision-making such as economics, social and environment factors, this framework was found to be useful in providing empirical evidence of the phenomenon. The framework helped in understanding the five categories of drivers, including economic, social, political, demographic and environmental drivers, and how they would they be affected directly and indirectly by environmental change. It was noted that drivers do not work in isolation, but in combination to shape the movement. This can be termed driver complexes. The five categories of drivers served as both push and pull factors and there were two facilitators to turn decision of migration into outcome and this included household characteristics and intervening obstacles.

Some limitations of this framework were also observed. The framework was too broad to obtain specific measurements or assessments for each driver. The main limitation was the drivers of migration, including economic, social, political, demographical and environmental on the left hand side of the diagram focused on macro processes, while the left hand side (decision to migrate) was a micro-level process (see section 1.4). When the researcher tried to convert the macro frame to the micro frame, as per the DFID sustainable livelihood framework model, the capitals did not match the drivers but, instead, added overlapping points. More recently, also recognizing this limitation, WARNER et al. (2012) have sought to develop a conceptual framework that links the DFID livelihoods framework to Black et al's Drivers of Migration framework. However, it is complex to apply in practice due to the inconsistencies noted above, and this author argues that a more fundamental reformulation that systematically links DFID livelihoods framework to Black et al's Drivers of Migration framework based on a consistent set of variables would be useful.



### 5.3 Policy implications and recommendations

This case study of Prek Trob village has highlighted two main policy implications: livelihood vulnerability and migration. The level of vulnerability experienced in the village was caused by resource degradation and limited access to resources, especially in relation to fish and land. Other causes related to the limited access to markets, poor infrastructure and under developed networks. This was especially true for fishing households given that their livelihoods depended heavily on fishing. The research has revealed the weakness of the management at different levels and the poor implementation of services by stakeholders, including authorities at the grass root level. The livelihoods of villagers depended on natural resources for both fishing and farming. In the case of fishing, it appeared that the access to fish becoming uncontrolled open access fishing after the elimination of fishing lots around Tonle Sap Lake was a key factor in the challenges faced by the villagers. The increase of people fishing, including people from outside the village coupled with the increased use of modern invented fishing tools caused threats in fish stock and made especially subsistence fishers more vulnerable. Also, the limited access to land was another important issue to be addressed because most of the fishers had no access to land or even permanent housing making them more vulnerable. Increasing access to markets and improving and developing infrastructure was also required to improve livelihoods.

Migration is another critical area for policy makers. More and more villagers made decisions to migrate for employment opportunities, increasingly to Thailand, in order to reduce their vulnerabilities. Regardless of the type of migration (seasonal, short term or long term), migrants in many cases preferred to migrate illegally which meant becoming an undocumented migrant worker. People reported, initially, that

they had wanted to migrate legally, but they were unable to afford the cost of a passport and the cost of other legal procedures needed, nor were they able to wait for long time period needed to register legally. Implied was a weakness of migration and employment policies as well as slow implementation of policies in government ministries and departments. A policy gap identified was the monitoring of the migration situation in the area of destination making it hard for migrants to get access for support and protection if needed.

Below is the list recommendations addressed to all stakeholders, in particularly, to the ministries of the government. These recommendations are based on the findings of this research:

(a) For government

➤ *Fishery:*

- Reform and adjust the fishery related laws and policies and make the reformed laws accessible publicly through training programmes, public dialog and media engagement.
- Encourage and cooperate with research institutions to conduct research; monitoring and evaluation and environmental impact assessments in relevant areas such as fish stock decline, water crisis and so forth. Included should be other areas of interest such as livelihood changes at the community level around the Tonle Sap Lake.

- Provide funding and capacity building to the CF to monitor and protect the fish in the protected lake in the areas at the community. This will encourage accountability and effectiveness of the work among the members of CFs.
- Improve water management policies in order to help create easier ways to farmers to work on their land. This is mentioned in the rectangular strategies but has found to have limitations.
- Integrate fishery, agriculture and migration policies since migration contributes to vulnerability reduction when fish and farming face threats.

➤ *Migration:*

- Make the cost of a passport and other legal documents for migrants affordable, similar to other neighboring countries like Laos, Myanmar and Thailand.
- Provide legal support and information for migrants at the place of destination by cooperating closely with the local authorities and government.
- Create jobs in the country by attracting FDI (Foreign Direct Investment) and adjust the policies and minimize the corruption.
- Cut down the undocumented migration by encouraging the development of more SME (small medium enterprise). The government should encourage the creation of SME's and also offer funding and other support.

(b) at the village level

- Improve the healthcare and education system and service available for especially the poorest families.
- Provide information to villagers in relation to migration (impacts, policies of destination countries, legal support and contacts, sending remittance) to help them make a better and safer decision.
- Cooperate closely with other relevant NGOs and community to get updated cases of migration in the community (before, during and after migration)
- Improve the agricultural product (rice, crops, and fish) market and reinforce the monitoring and cooperation among local authorities and community.
- Manage to find the available space (land and home) for small scale fishing households.
- Set clear guideline of fishing gear to be allowed and monitor usage
- Reform and adjust the fishery related laws and policies and make it accessible publicly (training, meeting).
- Provide funding and training support to the CFs to ensure they have enough funding to run the patrolling and monitoring at the spot (salary, materials, and staff). This will help ensure accountability and improve the effectiveness of the work.
- Enhance communication and cooperation among stakeholders (local authority, fishery administrative and community) including reporting cases and dealing with the illegal cases.

#### 5.4 Directions for further research

This study of Prek Trob village has provided a picture of the relationship between livelihood vulnerability and migration of fishing and fishing-farming households who were heavily dependent on natural resources. More qualitative in-depth research in different communities in various provinces around the Tonle Sap Lake is needed to see the bigger picture. Tonle Sap Lake is big area and livelihoods may be different according to a specific geographical location and available resources.

Three possible research questions for further investigation into an in-depth analysis of the relationship between fisheries resources and migration are suggested below. These research questions could contribute to narrowing the gaps of related research on livelihood security and migration around Tonle Sap Lake.

- (1) How do the new fishing laws after the release of fishing lots affect the livelihoods of fishing community around the Tonle Sap Lake?
- (2) What are the potential impacts of illegal border crossing migration among young fishers and farmers on the community around the Tonle Sap Lake?
- (3) Under what conditions do women decide to migrate from the community and what are the possible impacts on households and community?

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APPENDIX

จุฬาลงกรณ์มหาวิทยาลัย  
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## APPENDIX A

Participants of Focus Group Discussion (FGD#1) in Prek Trob village, June 08, 2013

No.	Age	Sex	Occupation	Location
1	31	Female	Fishing, Farming*	Prek Trob
2	35	Female	Fishing, Farming	Prek Trob
3	28	Female	Fishing, Farming	Prek Trob
4	33	Male	Fishing, Farming	Prek Trob
5	54	Male	Fishing, Farming	Prek Trob
6	36	Male	Fishing, Farmer	Prek Trob

Note: Primary source of income come from fish.

Participants of Focus Group Discussion (FGD#2) in Prek Trob village, June 09, 2013

No.	Age	Sex	Occupation	Location
1	52	Female	Fishing	Prek Trob
2	29	Female	Fishing	Prek Trob
3	48	Male	Fishing	Prek Trob
4	25	Male	Fishing	Prek Trob
5	30	Male	Fishing	Prek Trob
6	19	Male	Fishing	Prek Trob

## APPENDIX B

## List of Households Interviews

No.	Coding label	Age	Sex	No. of Household members	Occupation	Date of Interview
1	Hff#1	30	Male	4*	Fishing; Farming	June 06, 2013
2	Hff#2	32	Male	4*	Fishing; Farming	June 06, 2013
3	Hff#3	35	Female	4*	Fishing; Farming	June 06, 2013
4	Hff#4	54	Male	7	Fishing; Farming	June 08, 2013
5	Hff#5	54	Male	7	Fishing; Farming	June 08, 2013
6	Hff#6	61	Female	6	Fishing; Farming	June 08, 2013
7	Hff#7	55	Female	7	Fishing; Farming	June 08, 2013
8	Hff#8	33	Male	4*	Fishing; Farming	June 08, 2013
9	Hff#9	32	Male	6	Fishing; Farming	June 09, 2013
10	Hff#10	49	Female	4*	Fishing; Farming	June 09, 2013
11	Hff#11	54	Male	8	Fishing; Farming	June 11, 2013
12	Hf#1	25	Male	3*	Fishing	June 09, 2013
13	Hf#2	30	Male	7	Fishing	June 09, 2013

14	Hf#3	52	Female	14	Fishing	June 09, 2013
15	Hf#4	19	Male	6	Fishing	June 11, 2013
16	Hf#5	63	Female	5	Fishing	June 12, 2013

Note: \* Nuclear family; Hff=farming-fishing household; Hf=fishing household



## APPENDIX C

## List of Key Informants Interview

No	Coding label	Occupation	Institution	Location	Date of Interview
1	Head of village	Head of village	Local Authority	Prek Trob	June 07, 2013
2	CF	Head of community fishery	Community	Prek Trob	June 07, 2013
3	CBO#1	Director of Aphiwat Satrey	CBO	Battambang	June 14, 2013
4	CBO#2	Deputy of Executive Director of Village Support Group (VSG)	CBO	Battambang	June 14, 2013
5	GO#1	Cantonment Fishery Officer	Government	Battambang	June 15, 2013
6	NGO#1	Research Analyst, World Fish Center	NGO	Siem Reap	June 20, 2013
7	NGO#2	Director of CARAM	NGO	Phnom Penh	June 24, 2013

## Informal Interview and Secondary Data collection

No	Coding label	Occupation	Institution	Location	Date
1	NGO#3	Officer, FACT	NGO	Siem Reap	June 20, 2013
2	GO#2	Officer, Ministry of Women Affair	Government	Phnom Penh	June 25, 2013

## VITA

Seangly Kheang was born in Kompong Cham province, Kingdom of Cambodia. She earned her Bachelor of Science in Environmental Science and a Bachelor of Education in English from Royal University of Phnom Penh in 2009 and Institute of Foreign Languages in 2011 respectively. Ms. Kheang was awarded a scholarship by the Consortium of Development Studies in Southeast Asia (CDSSEA) to pursue her Master degree (M.A) majoring in International Development Studies shortly known as MAIDS in Chulalongkorn University, Thailand. Prior to her M.A study, she has volunteered, interned and served as a short term consultant for environmental projects including biodiversity conservation, natural resources management, agriculture, and climate change. Through her academic background and work experience, she has further developed her experience in development with a focus on climate change and natural resources management.

