The Experiences and Perspectives on Birth Preparedness from Women and Communities in Rural Cambodia : Rethinking the "The First Delay"

By

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A thesis submitted to a partial fulfilment of the requirements of
the Master of Science Programs in International Health
tropEd Erasmus Mundus Program

The Royal Tropical Institute
Amsterdam, The Netherland

August 2010

Table of Contents

Declaration

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Total word count of the main text: 14,592
Date of Submission: August 20, 2010

List of Tables, Figures, and Boxes

Tables

Figures

Boxes

Abbreviation

ANC	: Antenatal Care
AoP	: Annual Operational Plan
CBA	: Community Based Animator
CBD	: Community Based Distributor
CPHSP	: Community and Public Health Support Program
DOTS	: Directory Observed Treatments
FP	: Family Planning
HC	: Health Centre
HCMC	: Health Centre Management Committee
HEF	: Health Equity Fund
HIV	: Human Immunodeficiency Virus
IUD	: Intrauterine device
JICA	: Japan International Cooperation Agency
MCH	: Maternal and Child Health
OD	: Operational District
PHD	: Provincial Health Department
PNC	: Postnatal Care
RH	: Referral Hospital
TB	: Tuberculosis
TBA	: Traditional Birth Attendant (*Chmob Boran*)
TbK-KC OD	: Tboung Khmum-Krouch Chhmar Operational District
ToGo Health	: *Together for good health*
UNICEF	: United Nations Children's Fund
UNFPA	: United Nation Population Fund
USAID	: United States Agency for International Development
VHSG	: Village Health Support Group
WHO	: World Health Organization

Executive Summary

Author: Ayako Hiwasa
Year submitted: 2009/2010 academic year

Thesis title:
The Experiences and Perspectives on Birth Preparedness from Women and Communities in Rural Cambodia: Rethinking the "The First Delay"

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Abstract
High maternal mortality is a major health and social problem in Cambodia, particularly in rural areas where many women still deliver at home without the assistance of skilled birth attendants. As a majority of maternal deaths could be prevented with timely and adequate medical treatment, it is important to unpack the factors that cause what Thaddeus and Maine refer to as the "three stages of delay" (1994). Current policies do not address women and their families' barriers in getting medical treatment on time.

Primary data was collected using an ethnographic approach to uncover community perspectives with an emphasis on factors leading to the "first delay". This study worked with a local non-governmental organization that has supported community based interventions on birth preparedness and financial supports since 2008 in rural Cambodia.

The utilization of antenatal care and delivery at the health centre (HC) has increased rapidly since 2008 but more than half of pregnant women are still not delivering at the HC. Identified factors are reframed into a model that explains how social relationships and economic status strongly influence women's access to information and financial supports.

Various stakeholders influence key decisions at each stage of childbearing. However, HC staff and village volunteers are not effectively influential in decision-making as women do not seek information or advice from them. The strategies for community participation in birth preparedness need to be revised and strengthened taking the factors leading to the first delay into account.

Key words: birth preparedness, safe motherhood, community participation, maternal health, maternal mortality, three delay model, Cambodia.

INTRODUCTION

This study is proposed as the partial fulfilment of the requirements of tropEd Masters of Science Program in International Health for 2009/2010 academic year, which is submitted to the Royal Tropical Institute, Amsterdam.

As in many other developing countries, high maternal mortality is a major health and social problem in Cambodia, particularly in rural area where many women still deliver at home without assistances of skilled birth attendants. The policies to tackle high maternal mortality has addressed the supply side of the issues, which is to improve availability of trained birth attendants such as midwifes and on the provision of prenatal, childbirth, reproductive and family planning health services based around the health centres. However demand side; women's and their families' barriers in getting timely and adequate care have not been effectively addressed. Birth preparedness through community interventions has been promoted since 2006 to address the issues of delay in making a decision to seek care when complications arise.

This study explorer the factors leading to the delay in making decision to seek care, and how community based interventions on birth preparedness and financial supports to pregnant women influence those factors in rural Cambodia through the analysis of women's and communities' experiences.

This study was conducted in close cooperation with a local non-governmental organization (NGO), Reproductive Health Association of Cambodia (RHAC) and the Royal Government of Cambodia (RGC) to look at RHAC's community interventions in Tboung Khmum-Krouch Chhmar Operational District (TbK-KC OD), Kampong Cham province. The research design reflected RHAC's needs in assessing effectiveness of the village volunteers and financial supports in order to propose practical recommendations for RHAC as well as other relevant stakeholders.

Organization of this paper

Chapter 1 provides information on socioeconomic background, the health system, a problem analysis with regard to maternal health in Cambodia, and a justification to conduct this study. Chapter 2 addresses the objectives of this study and discusses the conceptual framework used in the study. Chapter 3 provides the research methodologies used to conduct this study with a detailed account of how the study was conducted. Chapter 4 discusses the findings from the case study in TbK-KC OD where RHAC has been actively providing such interventions. Chapter 5 discusses the three delay model and implications for discussing birth preparedness. Lastly, chapter 6 provides the conclusion and practical recommendations for the stakeholders who work on birth preparedness and maternal health care in Cambodia.

CHAPTER 1 BACKGROUND

This chapter provides background information of the study setting and addresses the needs of conducting this study.

1.1. Demography and Socioeconomic Background of Cambodia

Cambodia is in Southeast Asia, bordering Thailand, Vietnam and Laos. Cambodia has a land area of 181,035 square kilometres and lies completely within the tropics. It has a population of 13.389 million (2009), from which 51.4 percent are females. The population is growing at an estimated rate of 1.54 percent per annum (MoP 2009). Due to a baby boom in 1979, it is a young population with around 60.8 percent being 24 years old or younger. More importantly, 53.7 percent of those who are 20 year old or younger are women. Cambodia is 90 percent Khmer, five percent each of Chinese and Vietnamese and a small fraction of Cham (Muslims), Burmese, and minority hill tribes. Theravada Buddhism is the predominant religion of Cambodia. This paper solely focuses on the majority "Khmer". Local currency is Riel[1] which is used interchangeably along with US dollars. In this study, Riel is often used in discussions of user fees and other charges.

Around 81 percent of the population lives in rural areas and the majority of the rural population engage in subsistence agriculture. Urban and rural disparity is widening with increasing urbanization and inequality. Migration from the rural areas to urban areas accelerated in 2004 as the garment industry opened up opportunities, especially for young women. This sector continues to grow (CDRI 2007). In the past few years, increased needs for low skilled workers in neighbouring countries like Thailand, Malaysia, Korea and elsewhere have encouraged the young, economically active population (ILO 2009) to emigrate from both urban and rural areas (CDRI 2007).

1.1.1. Development Challenges

The society and economy have rapidly grown since the end of civil conflict. Since 1991, the economy has made significant progress as it has achieved economic growth of about 7.1 percent per annum from 1994 to 2004, increased to 13.5 percent in 2005, and decreased to 3 percent prediction for 2010 (ASEAN Affair 2009), albeit built on extremely narrow sectors, such as garment manufacturing including textiles and footwear, tourism, construction and, only more recently, paddy cultivation. In the social sector, the education and health sector show significant improvement as literacy has risen and the infant mortality rate has fallen. While reducing poverty by 10 to 15 percent, however the inequality increased as reflected in a Gini coefficient of 42.0 in 2004 (WHO 2009). In 2008, GDP per capita was 635USD with 35 percent of the total population still living below the official rural and urban poverty limes of 0.46 USD and 0.63USD (WHO 2009).

The Royal Government of Cambodia (RGC) recently announced the National Strategic Development Plan (NSDP) 2006-2010, which synthesized and prioritized the Cambodian

[1] 1 USD was equivalent to around 4,200 Riel to 4,280 Riel at the time of the data collection.

Millennium Development Goals and the country's National Poverty Reduction Strategy (NSDP). NSDP raises current challenges in development and identified themes such as urban-based, with sectorally-uneven economic growth, in addition to the widening persistent inequities and high prevalence of poverty in rural areas.

1.1.2. Health System and Some Indicators

After overthrow of Khmer Rouge in 1979, Vietnamese lead People's Republic of Kampuchea period of 1979-1989 built foundation for a socialist health system (Grundy et al 2009). The Ministry of Health (MoH) introduced the health coverage plan in 1996, which integrated 121 district hospitals and about 1,500 commune clinics into 71 Operational Districts (OD), and started to build new referral hospitals (RH) and health centres (HC) (MoH 2008b, and Yanagisawa et al. 2004). Figure 1 illustrates the structure of sub-national level and detail description is included in Annex A. A Minimum Package of Activities (MPA)[2] was also formulated, which aims at using public money more efficiently for priority health problems (Soeters and Griffiths 2003).

Current demographic trend show significant improvement in health, particularly in decline of infant mortality from 109 to 58 per 1000 and child mortality from 123 to 44 per 1,000 live births during the period of 2000 and 2008 (Table 1). However maternal mortality ration (MMR) remains to be very high as 461 per 100,000 live births, one of the highest in the region (MoP 2009). Maternal and child health related indicators are discussed in the following section.

Table 1 Key Health Indicators of Cambodia

	MMR (per 100,000)			Infant mortality per 1,000 live births			Under five mortality per 1,000 live births			Fertility Rate		
	Total	Urban	Rural	Total	Urban	Rural	Total	Urban	Rural	Total	Urban	Rural
2000 CDHS	437	N.A	N.A	109	72	96	124	93	126	4.0	3.1	4.2
2005 CDHS	472	N.A	N.A	66	65	92	83	76	111	3.4	2.8	3.5
2008 census	461	287	490	58	34	62	44	22	48	3.1	2.15	3.25

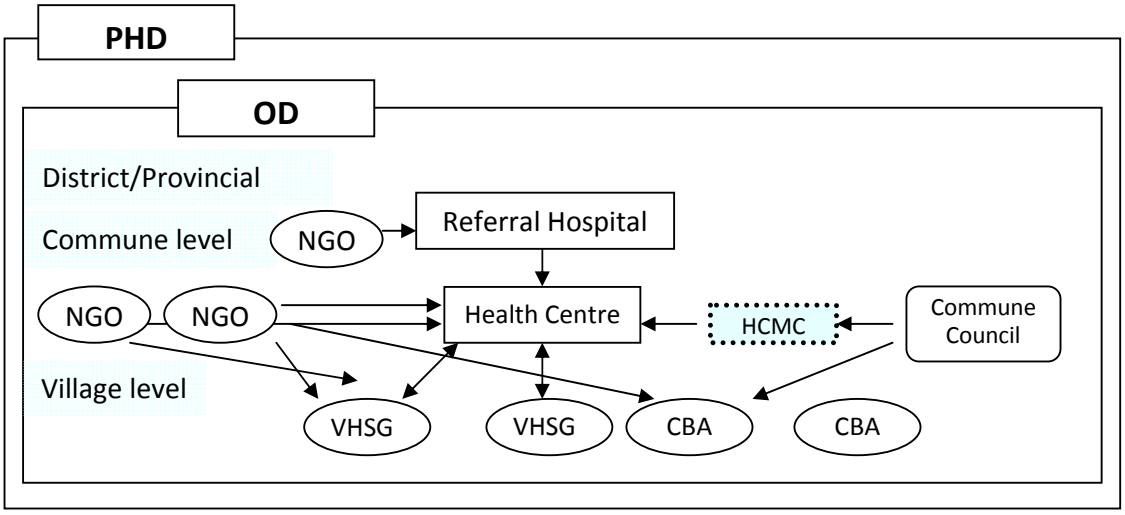
Source: MoP 2009, NIPH et al 2006.

Cambodia is currently in the mid stage of the second Health Sector Strategic Plan 2008-2015 (HSSP2), which identified 15 elements that need to be implemented by health institutions at all levels in order to achieve three main goals of the plan: reduce newborn, child and maternal morbidity and mortality with increased reproductive health, reduce morbidity and mortality of HIV/AIDS, Malaria, Tuberculosis, and other communicable diseases, and reduce the burden of non-communicable diseases and other health problems (MoH 2008b). Community participation is considered as an integral component of the working principle of HSSP2 and the MoH revised the National Community Participations Policy for Health (NCPH) in 2008 (MoH 2008a).

[2] MPA includes basic preventive and curative care such as immunization, family planning, ANC, provision of micronutrients and other nutritional support, and simple curative care for diarrhea, acute respiratory tract infections, and tuberculosis.

NCPH (MoH 2008a) outlines the structure of community participation (Annex A). Community participation is guided through appointment and activities of Village Health Support Group (VHSG), whose role is to assist health centre in collecting information for health information system (HIS) such as vital registration statistics and verbal autopsies for death using the check list, provide health education, report outbreak of diseases to HC, and provision and follow up of essential diagnosis and treatment services including directory observed treatments (DOTS) for tuberculosis patients, first aid, and many others, and provision of essential commodities including vitamin A, iron, folic acid and so forth. They are also responsible to attend meetings with HC and Health Centre Management Committee (HCMC) to provide feedback from their communities to the HC and HCMC and discuss health issues affecting the communities. All the NGOs and donors are encouraged to work through VHSG in provision of community based intervention at the village level.

Figure 1 The health system structure at the Provincial Level



Source: MoH 2008b, Yanagisawa 2004.

Financing

Since 1996, the Ministry of Health has pursued significant reforms in the areas of health financing, health planning and health services management (Grundy et al 2009) including three major policy interventions in response to the health barriers and access inequities. These are health equity funds, internal contract, and public private collaboration.

There was no official user-charge in public health facilities until the user fee was introduced at operational district in 1996 under Health Financing Charter (WHO 2009) in order to improve health care service delivery, and consequently service utilization as the user fee supposedly increase salaries for health facility staffs and operational budgets by additional revenue. It was also expected to reduce unofficial payment and household expenditure on health care.

Low quality of public service due to low motivation of the health facility staffs was commonly reported as public service was poorly funded and resulted in low utilization of the facilities. Although treatment by public service was officially free, many informal fees created financial barriers to users (Grundy et al 2009, Soeters and Griffiths 2003, Yanagisawa et al 2004). Experiences of introduction of user fee in past decade present

important issues in efficiency and equity of health care service, particularly to the poor (Jacobs and Price 2004, and Yanagisawa 2004). Combination of user fee and health equity fund seems to be a better option in order to lower financial barrier to the poor.
Significantly large portion of the health expenditure per capita is generated from out of pocket (24USD by household expenditure, 7.95 USD by MoH and 8.27 USD by donor) in 2008[3]. 11.3 percent of total government expenditure is spent on health (2007). Largest portion of health expenditure comes from out of pocket sources and mostly go to unregulated private health care. Therefore socio-economic factors affect accessibility and outcomes of health service particularly by facility based service delivery (Grundy et al 2009).

Human Resources

During the Democratic Kampuchea period, 1975 – 1979, less than 50 trained medical doctors survived due to targeting of educated class for execution. Despites current numerous efforts in training health care personnel, there is persistent shortage of human resource in health and large inequalities especially between urban and rural areas in human resource distribution across Cambodia (Sherratt et al 2006, Grundy et al 2009, WHO 2009). Out of 960 HCs in total, 146 HCs do not have a primary midwife and 532 HCs do not have a secondary midwife (cited in Grundy et al 2009, originally from MoH 2007).

1.2.Problem Analysis

According to the health related Millennium Development Goals (MDGs), high maternal mortality remains a major challenge in many developing countries (UN 2009). The goal to reduce three quarters of MMR by 2015 requires political will, health system transformation and improved care (UN 2009). Haemorrhage and hypertensive disorders are the leading causes of maternal death in developing countries, and sepsis and anaemia are context specific causes of death after haemorrhage in Asia (Khan et al 2006). A majority of deaths could be preventable with timely and adequate medical treatment. Therefore, looking at delays in deciding to seek care, delays in reaching an adequate health care facility, and delays in receiving adequate care at the facility are a useful framework to examine factors that causes maternal deaths (Thaddeus and Maine 1994).
Safe motherhood initiative, the global campaign to reduce maternal mortality was launched in 1987, which focused on two elements, ANC with a focus on screening women to identify those at risk of complications; and training of traditional birth attendants (TBA) to improve delivery care at the community level (Starrs 2006). Since then, safe motherhood initiatives have shifted its approach based on important lesson learnt and achievement over 20 years. Since 1997, the concept of birth preparedness was included in the Safe Motherhood interventions. Birth preparedness is viewed as one of the needed responses to the three delays (Staton 2004 and McPherson et al 2006); delay in deciding to seek care[4], delays in reaching care, and delays in receiving care (Thaddeus and Maine 1994).

[3] Cited in Fujita 2009 from MoH. 2009. *Annual Health Financing Report 2008*. MOH.
[4] Except otherwise noted, the discussion of the decision to see care and the utilization of health care services focus exclusive on modern medical care, since the major complications are not treatable at the traditional health care level. Hence when this paper discusses about seeking are, it means modern medical care (Thaddeus and Maine 1994).

As in many developing countries, Cambodia's MMR is very high as 461 per 100,000 live births (MoP 2009) and is responsible for 17 percent of overall mortality in women aged 15-49 years (WHO 2009). It did not make much progress since the demographic and health survey (DHS) in 2000, which found the MMR of 437 deaths per 100,000 live births and increased to 472 deaths per 100,00 live births at the time of DHS in 2005 (Table 1). The total fertility rate (TFR) during 2005-2008 is estimated between 2.7 and 3.4, or an average of the two, 3.1, which shows significant decline as DHS 2000 gave a TFR of 4.0 (Table 1).

In Cambodia, the leading cause of maternal death is postpartum haemorrhage, followed by infections, complications from abortions, and hypertension (WHO 2009 and Skinner 2006). Although MMR remains high, there is significant improvement in uptake of antenatal care (ANC) from 38% in 2000 to 60.8% in 2005 (NIPH et al 2006). However, the majority of deliveries take place at home (78% of birth in 2000-2005, NIPH et al 2006), with a significantly higher rate in rural areas: 82.9% and only 39% of birth in rural area is attended by skilled birth attendants (SBA)[5] (NIPH et al 2006). Therefore MMR is persistently high and most mothers in remote areas deliver at home despite increased utilization of ANC.

In such context, the combination of the community based interventions including interventions based on community participation, family planning, treatment of perinatal sepsis, management of postpartum haemorrhage, and collaboration with traditional birth attendants is strongly recommended in communities where maternal mortality is above 150 per 100,000 live births and neonatal mortality is above 35 per 1,000 live births (Costello et al 2004).

The community participatory approach was proven to be effective in improving birth outcomes in countries like Bangladesh, India, Indonesia, Nepal, Tanzania, and elsewhere (Ahluwalia, et al 2003, Costello et al. 2004, JHPIEGO 2004, Manandhar et al. 2004). In Indonesia for example, *SIAGA* (alert) initiative encourages and engages a village to be alert for obstetric emergency based on shared responsibility. Its strategy is to make women, their husbands and community recognize danger signs and to prepare for child birth by saving funds, arrange for transportation to a health facility if necessary, and identifying a skilled provider and birthing place (JHPIEGO 2004).

In Cambodia, the policy to tackle high MMR is centred on improving availability of trained birth attendants such as midwifes and on the provision of prenatal, childbirth, reproductive and family planning health services based around the health centres. These efforts have only focused on addressing supply side issues. However such efforts have not reached and benefited women particularly those who live in remote areas as these services are poorly provided, unaffordable and inaccessible due to lump-sum cash payment required for delivery, the distance and cost of travelling (Skinner 2006, Matuoka et al 2010). If services were available, many factors such as lack of health awareness, traditional practice and beliefs, decision making process, and other social factors influence women's decision of attending ANC with SBAs and subsequently result in low utilization of SBAs at labour due to lack of contact during pregnancy, as well as cause delays in seeking care (Matuoka et al 2010). In order to effectively address those demand side barriers, birth preparedness and

[5] SBA refers to the health workers who are trained in modern medical care.

emergency awareness programs through community based intervention have been promoted in Cambodia since 2006, and it is still a new concept as an intervention for maternal health care.

Skinner addressed the lack of awareness in birth preparedness in the Cambodian context emphasizing the importance of tackling the first delay, delay in making decision to getting to emergency obstetric care (Skinner 2006, 11-12) as well as seeking ANC and skilled birth attendants (SBA) at the time of labour (Matsuoka et al 2010). The problems related to birth preparedness are identified as followed:

- The concept of birth planning is almost absent in communities.
- Women do not perceive the necessity of ANC and SBAs' presence at delivery for normal pregnancy.
- Emergency preparedness is not common.
- Decision making processes are complex.
- Traditional healers' and elderly' perceptions of use of hospital services.
- There is a passive role of husbands and other heads of households, usually men.

1.3.Justification

Amongst the three delays, the two of later ones, delay in arriving at appropriate care and delay in receiving care, are well documented as health system factors. Those are considered as a major causes and responsible factors for high MMR, particularly in rural areas due to lack of service availability as well as high cost of services. However, the issues around the first delay, which is affected by many factors; socioeconomic and cultural, accessibility of facilities and quality of care (Thaddeus and Maine 1994), and the communities' role and participation often receive insufficient attention in larger programs and is rarely seen as a part of the health system.

In this study, the first delay, the delay in deciding to seek care refers to the neglect in seeking ANC, delay in recognizing danger signs, and making decision to seek care when the danger signs are recognized. The factors leading to the first delay and how pregnant women themselves and other actors play a role in decision making process are highly complex and require detailed analysis to understand. Interventions to tackle the first delay need to be informed by such analysis; however it is often neglected as it is context specific and a time consuming process.

Community participation for birth preparedness is viewed as a one of the needed interventions to the three delays, however strategies for effective community participation in enhancing birth preparedness are not clearly understood. There are only a few studies done in Cambodia to understand the factors leading to the first delay. Anthropological study on women's beliefs and practices during pregnancy, birth and postpartum (White 1997) provides a depth of knowledge of Khmer women's beliefs and practices surrounding pregnancy and birth. However the study was conducted in 1990s when there was no service available other than traditional birth attendant (TBA). The most recent qualitative study was conducted in 2006 (Matsuoka et al 2010) on the perceived barriers to utilizing maternal health services in rural area, which illustrates five barriers to the utilization of maternal

health services in their current setting and suggests to explorer the barriers in accessing the services further in order to inform policies in improving utilization of SBAs.

Since the Matsuoka's study in 2006, community Birth Preparedness (CBP) was pilot tested in 2006 by the National Maternal and Child Health Service (NMCHS) with support of the World Health Organization (WHO). Currently it is an integral part of the basic care package of the health centres since 2006 (Skinner et al 2008, Skinner 2006). Some local and International non-governmental organizations (NGO) have supported and supplemented activities by providing funding, outreach, and facilitating community participation in cooperation with government facilities. However many of the efforts have not been well documented and lesson learnt from different approaches are not available for the local or International community.

One important player, Reproductive Health Association of Cambodia (RHAC) expresses its needs of assessing the effectiveness of village volunteers in educating women for birth preparedness and two financial supports for pregnant women to determine further expansions of assistances. Details of RHAC's interventions are found in Annex C. This study provides practical recommendations for the communities and RHAC, as well as other stakeholders who are keen to know how the RHAC's approach of community participation effectively tackles the factors that delay decision to seek care.

CHAPTER 2 RESEARCH OBJECTIVES AND CONCEPTUAL FRAMEWORK

The main objective of this study is to understand women's and communities' perceptions on factors leading to the first delay as well as their experience with community based interventions. In order to do so, the sub-objectives to be achieved are:

1) To describe women's and communities' perception about the factors leading to the first delay.
2) To discuss how they make decision and what their priorities are at each stage of childbearing.
3) To explore women's and their communities' experiences of community interventions and financial assistances.
4) To propose recommendation for the further expansion of the program to RHAC as well as other stakeholders working on birth preparedness.

2.1. Conceptual Framework

The collected primary data is analyzed using the three delays model (Thaddeus and Maine 1994, see Annex B) as a basis for discussion. The three delays model was chosen as it is a model often used in both qualitative and quantitative studies assessing the factors of maternal death (Barkat et al. 1997, Barnes-Josiah et al. 1998, Cham et al. 2005) and newborn death (Waiswa et al. 2010). Thaddeus and Maine (1994) argued that not getting timely adequate care is the pertinent factor that responsible for maternal death in developing countries.

Many of past studies used the three delay models to assess the causes of death by collecting information using verbal autopsy technique[6]. In this study, it attempts to use qualitative methods to look at the live birth cases from women's experiences of childbearing. Using the framework, it guides analysis of how different factors influence women's decision making, and how birth preparedness and financial supports have addressed various factors that lead to the first delay.

[6] Data collection methods of the study by Barkat et al. 1997 is unknown. There is no mention about it.

CHAPTER 3 RESEARCH METHODOLOGY

This chapter explains methodologies used in this study and outlines the process and techniques of primary data collection that was conducted in rural Cambodia.

3.1 Literature Review

Extensive literature review was conducted before, during and after the fieldwork, using online data base and grey literatures, both printed and electronic formats. These were gathered from available sources within Cambodia such as government agency publications, NGO reports and evaluation documents. Such literature was sought from the relevant government offices, local and International NGOs, and resource libraries in Cambodia.

Online databases used to search relevant literatures were primarily *pubmed* and *medline*, as well as *Interventions to improve maternal and newborn survival*[7] and *Google Scholar.* Mainly used search terms were: birth preparedness, safe motherhood, community participation, maternal health, maternal mortality, three delay model, Cambodia, and Southeast Asia.

The literature has been used in different parts of the analysis and development of this thesis. Most extensively it was used in the chapters on the background of Cambodia, problem analysis, and the conceptual framework.

3.2 Primary Data Collection

This study employs an ethnographic approach to study the case villages to understand the factors leading to the first delay from the perspective of the experiences of women and local communities. It goes on to analyse how the program of RHAC (see the detail in Annex C) has addressed those factors in Tboung Khmum-Krouch Chhmar Operational District (TbK-KC OD) (see the detailed description of TbK-KC OD in Annex D). Various methods were used to collect contextual and in-depth data at case study sites.

This section presents how the fieldwork was undertaken and how the case studies were identified. Originally proposed research methods and sample are found in Annex E.

3.2.1. Selection of Study Site and Participants

Case study of the Villages in Birth Preparedness

TbK-KC OD was suggested as a study site as it is the oldest operational district that RHAC has been working in since 2004. In TbK-KC OD, RHAC has actively engaged in birth preparedness activities by assisting the health centre's activities with Village Health Support Groups (VHSGs) and providing financial supports for women to deliver at the health facilities for almost two years with USAID and UNFPA funded programs.

[7] http://www.towards4and5.org.uk/search.php

This study covers two villages as case studies under one HC catchment area within TbK-KC OD. A "village "is considered a case as this research focuses on community participation. A case can be in many forms, such as a single individual or a group, particular events or situations, a specific organization or institution (Brewer 2000). It is a strategy of inquiry in which, a "village" as a case has been studied using in-depth data collected using various techniques (Creswell 2008). Studying a Village As a case study is to investigate causal arguments (Walton 1992) about how Village Health Support Groups (VHSGs) are supported and engaged in activities in villages, and how women and community members experience and perceive such activities and support they receive in birth preparedness.

Selection Process of the Study Sites

Within TbK-KC OD, one HC (hereinafter referred as "the HC") out 16 HCs was selected as a study site based on the following criteria:

- ethnic Khmer
- rice cultivation as a main source of livelihood

These criteria represent the typical characteristic of rural communities in Cambodia. Within TbK-KC OD, only two HCs met these criteria. More than half of the communes in TbK-KC OD are mix of Khmer and Cham (Muslim minority). Around 20% of the entire population's livelihood is based on plantation farming. Another 40-50% of the population is a mix of plantation and rice farming. After consulting with the OD chief, one of the HCs was recommended as the HC is considered to be typical in terms of the capacity to provide care within TbK-KC OD.

After selecting the HC, the HC staff was consulted for selecting the villages. There are 25 villages within the HC catchment area consisting of two administrative communes in a nine kilometre distance. One staff in charge of providing vaccinations by outreach service and a midwife were interviewed as they go to the villages in the area every month and have good knowledge of the VHSGs' activities and farming activities in the area. Initial criteria were:

- Rural villages
- Similar distance to the health centre
- One with highest utilization and one with lowest utilization of services

After consulting the staffs about the situation in the villages and activities of the volunteers, Village A was selected. Village A is farthest from the HC but VHSGs are active and service utilization is relatively high (according to the HC staff) so the village was highly recommended.

In Village A, both the VHSG and CBA are late 20s and early 30s women who have children, but being active in the village and the distance from the village to the HC does not seem to matter.

In the selection of one more case village, I was curious about how activities can be different if the VHSG is a man. Within the HC, only 36.4 percent of VHSG/CBAs are women. Village B was selected from the list of VHSG/CBAs by looking for a male VHSG leader in a village relatively close to the HC. Surprisingly, one of the RHAC's interventions was almost nonexistent in village B and there were a high number of home deliveries in 2010. Village B

appeared to be the only one that was different from those neighbouring villages and Village A. This is why Village B was selected to be the case study to explorer further.

Study Participants and Selection Process

Primary data collection was only possible in the case villages starting from July 1. July is the busiest period of the year for rice growing farmers. Typically, the whole family works in the rice field from as early as five o'clock in the morning until as late as five o'clock in the evening. When the villagers come back home, women are busy cooking dinner for their family and men are busy cleaning farming equipment and preparing for next day's work. It gets dark by around six o'clock in the evening and most of the families in rural areas prefer having dinner and a bath before it gets dark as there is no electricity. This made it almost impossible to ask for people's time to interview.

Given this situation, women with infants were the only available study participants. Women with infants tend to stay home to give breast feeding as well as to recover from delivery. Women with a child older than 10 to 12 months old leave their child with elderly women and work in the rice field (see Annex K for the list of the study participants).

The initial plan did not specify whether currently pregnant women would be interviewed or not. Currently pregnant women were not visited since a discussion of whether they are eligible to have financial supports or not could have potentially made the women nervous about going to the HC for delivery. If they do not have an ANC check for four times or more, they are not eligible for the financial support.

While staying in the villages, I had some informal discussion with a group of elderly who were sitting for chitchat, some women who were gathering in the evening for chitchat, or neighbour who came by to the women's house who was interviewed.

Figure 2 Informal discussion with elderly in village A

One *chhmob boran*[8]in village B was interviewed as she was found to be still actively assisting women in her and neighbouring villages and I was curious to know her view about changes in her villages and how she deals with pregnant women who come to ask her help.

All the VHSGs/CBAS in village A and B were interviewed. At the occasions of the VHSG and CBAs meetings, I informally discussed with both male and female VHSGs and CBAs who were sitting nearby or who raised some important about issues I learnt in village A and B to discuss if they have similar issues in their village or not.

[8] C*hhmob boran* is an indigenous midwife in Khmer society. Detail is discussed in Chapter 4.

3.2.2. Research techniques

Summary of activities conducted

Various activities were conducted in order to collect primary data and to understand the context.

- About 10-12 hours of semi-structured observation at the HC (number?)
- Semi-structured observation of two meetings of VHSG / CBAs (number?)
- Open observation of the HC outreach at the village B
- 18 in-depth individual interviews with women using semi-structured interview guide
- One focus group discussion
- One open in depth interview with *chhmob boran*
- Four in-depth individual interviews with VHSGs/CBAs using semi-structured interview guide
- One open discussion with the commune chief
- Informal discussions with the HC chief and midwife
- Informal discussions with villagers and VHSGs/CBAs
- Informal discussions with elderly in the villages
- Semi-structured observation of social relationship and livelihood activities in the villages

The research table which summarizes the activities and the study participants are found in Annex J.

Participant Observation in the Study Areas

Participant observation allows the researcher to understand complex situation more than what people say about it by observing behaviours, actions, activities and interactions between people (Bowling 2002). The purpose was to spend as much time as possible in the case villages in order to build rapport with study participants as well as to gain contextual understanding.

Activities in the villages started by meeting with the VHSG leaders in their homes. He or she was consulted about conducting this study in their village and accommodation arrangements. After getting agreement, the research assistant and I (research team) moved into the village the following day. In both village A and B, researchers stayed overnight at the VHSG leader's house during the data collection in the villages– six nights at village A and five nights at village B. The number of days spent at each village was shorter than planned and adjusted according to the available days in the field.

After settling in, the research team obtained a list of women who had delivered since 2008 from the VHSG leader. We walked from one edge of the village to the other edge to draw a map and locate those women's houses and available transportation (Annex J). At the same time, the research team tried to socialize with the villagers and let the villagers know about the presence of the researchers in their village.

After identifying potential study participants, the research team visited those study participants' homes at least once to introduce themselves and get to know each other. During the period of the stay in the villages, the research team walked around in the villages and tried to have contact with the study participants as much as possible before conducting an individual interview. These informal meetings were very important for the research team to build some level of rapport with the study participants prior to an individual interview given limited time available for data collection.

Figure 3 Focus group discussion with women in Village A

Semi-structured Individual Interview

Individual interviews were conducted in Phnom Penh, at the provincial and district level, the health centres, and the women, VHSGs/CBAs and community members in the villages.

Figure 4 An individual interview with a woman in Village A

In Phnom Penh, relevant staff at the following organizations were interviewed; WHO, JICA, USAID, UNFPA, FHI, RHAC, RACHA. Interview with one staff member of the Centre for Maternal and Child Health at MoH and UNICEF were sought but it was not possible to schedule a meeting.

At the HC, a number of informal discussions were conducted with the HC chief and midwife over the study period with some main discussion points prepared beforehand. In the case villages, many interviews were conducted as time allowed and as participants were available:

- 18 in-depth individual interviews with women (ten in village A and eight in village B, see Annex K for detailed list of study participants)
- Four in-depth individual interviews with VHSGs/CBAs using the semi-structured interview guidelines (two interviews each)
- One focus group discussion
- One open in-depth interview with *chhmob boran*[9]
- Informal discussions with villagers and village volunteers
- Informal discussions with elderly in the villages

Focus Group Discussion

Focus group discussion (FGD) was tried once in village A. All the participants brought their babies and other small children who could not be left home. It was very difficult for anyone to continue participation as babies cried, many of them needed to be fed during the discussion, and many children were playing around. Therefore it was not conducted in the

[9] C*hhmob boran* is an indigenous midwife in Khmer society. Detail is discussed in Chapter 4.

village B as all the participants would have bought their babies as same as in village A. So in village B, the researcher team tried informal discussion with groups of women at various occasions to discuss the same topics.

Observation of the VHSG/CBA's Meetings

There was one meeting of VHSG and one meeting of CBA during the data collection period. The researcher team participated and discussed informally with the VHSG/CBAs about various issues that came up during data collection in the villages to hear their perspective and whether they shared similar issues with other villages.

Figure 5 VHSG meeting with the HC

Triangulation of Data

A number of issues discussed by the women and VHSGs/CBAs were confirmed with the HC staff, RHAC staff, and the OD director to hear their perspective.

Development of Interview Guide and Tools

The interview guide for semi-structured interviews with women and volunteers was developed based on firsthand informal discussion with VHSGs, the HC staff and RHAC staff at the OD. While waiting for the letter from MoH and PHD, I made a brief visit to the study area accompanying my local supervisor who is a staff member of RHAC from Phnom Penh. These informal observations and discussions gave me good basis to revise the interview guide prepared.

The interview guide was continuously revised as data collection proceeded. As the research assistant accumulated experience discussing topics with the women, the interview guide was adjusted to the flow the conversation with the women.

3.2.3. Limitations and Challenges of Primary Data Collection

The fieldwork was conducted in July, which is the busiest time of the year for rice cultivating farmers. Hence it was not the ideal timing to conduct fieldwork as it is nearly impossible to ask for villagers' time. For landless poor, it is an important time to earn their daily wage by working in other villagers' rice fields and this study cannot compensate for their loss of income.

The time remaining for the data collection at the villages was very limited. Only eight weeks were allowed for the trip to undertake this fieldwork, and four weeks were left for data collection at two case villages, translation and transcribing of the data, analysis and reporting as it was necessary to wait for the letter from ethical committee at MoH as well as the letter from PHD.

All the villagers, except elderly, women with small children of less than 10-12 months old, and young children who were not able to help farming yet, were not present at their homes during the study period so the study participants were limited amongst the available villagers.

The research assistant who assisted all the individual interviews and participant observation at the villages was very effective in keeping up all the notes and maintaining good communication with the villagers. This made the data collection and data entry process very smooth. A voice recorder was prepared but it was not necessary to use it as the assistant's note taking skills, her good memory and my notes were enough to give detailed narratives of the informants.

Due to lack of time after obtaining the letter from MoH and PHD, many of interviews were not conducted at the provincial and district level unless it was very important. The priority was to spend as much as time possible at the case study villages.

I planned to spend more days in the case villages in order to build rapport with study participants and to gain deeper understanding of the issues, however only six nights in village A and five nights of stay were possible. Observations of actual VHSGs/CBAs' activities in the villages were also limited as VHSGs/CBAs are only active a few days a month.

CHAPTER 4 STUDY RESULTS

This chapter presents the analysis of the primary data. Primary data was coded and categorised based on themes emerging from the data. The experiences told by all the women regarding their child birth illustrate various issues associated with birth preparedness and are organized in this chapter according to the study objectives. At first, it discusses women and communities' perceptions about the factors leading to the first delay, the delay in the decision to seek care. Secondly, it looks at the decision-making and various stakeholders involved in decision-making at the different stage of the childbearing process. Lastly, it discusses women and communities' experiences of community based interventions and financial supports provided by RHAC. All the discussions in this chapter are based on the findings from the primary data analysis and literature to supplement or support the discussion.

4.1. Women and Community Members' Perceptions about the Factors Leading to the First Delay

This section is divided into two. The first section discusses the environmental factors that may contribute to women and communities' changing perceptions about ANC and the increased number of deliveries at the HC. The second part discusses the factors leading to the delay in making a decision to seek healthcare.

4.1.1. Perceptions on Availability of ANC and Delivery at the Facility

There was a general notion among different age groups and genders that women should receive ANC and should go to deliver at the HC. According to the midwife, until 2009 there were only 10 or fewer cases of delivering at the HC in a year. However, the record in RHAC's monitoring database suggested there were 20 cases in 2008. The HC staff attended deliveries at women's homes as a private practice so the HC did not keep a record of the deliveries at the HC.

From 2008 to 2009, the number of deliveries at the HC increased rapidly from 20 to 233, more than 10 times (Table 2). Out of the 489 pregnant women this year (Table 3) within the HC catchment area, only about 48 percent of pregnant women came to deliver at the HC. Although the total number of the deliveries increased, more than half of the pregnant women in the area still delivered at home.

Number of ANC provided between 2008 and 2009 almost doubled. According to the monitoring indicators, the total ANC provided in 2008 was 1,131 ANCs (2.3 times per pregnant woman) increasing to 2,141 ANCs in 2009 (4.38 times per pregnant woman). This could estimate that all the pregnant women had access to ANC more than four times, which is recommended by the government. However it does not mean that all the pregnant women actually received ANC because some women who have good access to ANC receive ANC more than four times. Some of the women interviewed received ANC for seven or eight times during their pregnancy.

Table 2 Number of Deliveries and ANC at the HC and Study Areas

	Total # of deliveries at the HC	Average # of deliveries per month	ANC	# of deliveries at the HC (Study Commune)	# of deliveries at the HC (Village A)	# of deliveries at the HC (Village B)
2008*1	20	1.67	1,131	N/A	N/A	N/A
2009*1	233	19.4	2,141	N/A	N/A	N/A
2009 (Apr- Dec)*2	179	19.9	N/A	133	8	6
January-July 2010 (period: 7 months)*2	120	17.1	unknown	101	11	1

Source:
**1 - The monitoring sheet prepared by RHAC OD staffs who collect information from each HC in the OD.*
**2- Record book at the HC with permission of the HC staff Data was updated as of July 19, 2010.*

Table 3 Demography of the Tboung Khmum-Krouch Chhmar Operational District and the Health Center

Health Centre	# of Village	Population	Average size of village	# of Pregnant women	# of Women age of 15-49
Total TbK-KC OD	218	204,550	938.3	3,916	18,272
HC[10]	25	16,285	651.4	489	2,280

Source: Data obtained from the OD office in July 2010 and interview with the Commune Chief.

All the women interviewed also expressed the importance of receiving an ANC check-up. Taking iron supplements and a tetanus vaccination are described as important for keeping them healthy. Some women are also aware of necessity to monitor and make sure that their baby does not have any problems to prevent any risks. Some women are curious to know the gender of their baby so they go to a private clinic because the HC cannot perform ultrasonography.

These figures, rapidly increased number of deliveries at the HC and doubled utilization of ANC present great achievement made by the HC, the OD, VHSGs/CBAs, RHAC and all the stakeholder involved in service provision in the area.

The three major factors may influence such changes. These factors are the performance incentives for facility-based deliveries, inactive *chhmob boran*, and NGO's presence. These factors may have influenced the attitudes and motivations of the HC staff, and also the perceptions of the women and their families in the area and their decision to seek care.

Three major factors that may influence such changes are 15 USD incentives for midwives to attend delivery at the HC, inactive *chhmob boran*, and NGO's presence. These factors may have influenced the attitude and motivation of the HC staffs, and also perceptions of the women and their families in the area and their decision making to seek care.

Performance Incentives for Facility-Based Deliveries

One strong factor is that midwives stopped attending delivery at women's homes. Since September 2008, the government introduced performance incentives for facility-based deliveries, which provides 15 USD incentives to midwives per live birth at health centres and

[10] There are two communes within the HC catchment area. Study commune comprises of 18 villages, and other commune comprises of 7 villages.

10 USD for referral hospitals (Vathiny and Hourn 2009, WHO 2009). A midwife working for the HC said she completely stopped attending delivery at women's home since 2010, and now she encourages women to come to the HC for delivery. The OD provides this incentive to the HC every three months and it is shared by all the HC staff.

At the national level in 2008, 39% of the expected number of births took place in a public health facility, compared with 26% in 2007 and only 18% in 2006 (WHO 2009). In the HC in this study, around 38 percent of women came to deliver at the HC in between April 2009 and July 2010 which corresponds to the national figure of 39 percent in 2008. The performance incentives resulted in a sharp increase in the proportion of births assisted by trained health professionals (Vathiny and Hourn 2009, WHO 2009, and from a interview with the midwife).

No more active "chhmob boran"

Chhmob boran[11] is an indigenous midwife in Khmer society (Ovesen and Trankell 2010), some of whom are still active in some parts of the country. In the HC catchment area, the commune council called *chhmob boran* in the area for a meeting to discuss their practice. Some of *chhmob boran* were criticised of causing maternal death due to lack of skills and unhygienic practices. Many of *chhmob boran* are very old and they voluntary stopped being active. They cooperate with the HC by referring women from villages if pregnant women came to ask *chhmob boran* for help.

The women in Village A are aware that *chhmob boran* in their area are very old and no longer active and they are concerned about their safety. On the other hand, in Village B, despite the *chhmob boran*'s reluctance to help, there were three women who delivered with the *chhmob boran's* assistance in 2010 up until July. The midwife and c*hhmob boran* in Village B know each other. The midwife said she asks the *chhmob boran* to help women when the midwife cannot come to women's home or when women cannot go to the HC on time. Most of the women who delivered at home with the *chhmob boran*'s help in the past year said they delivered at home because they were not able to go to the HC on time . Otherwise, the *chhmob boran* encourages women to go to the HC for delivery according to the *chhmob boran* interviewed in Village B.

NGO's presence with financial supports

The presence of RHAC and its financial supports provided to all the pregnant women made a significant difference in the utilization of services. Many of the stakeholders agreed that RHAC's efforts have brought women to the ANC check-up and delivery at the HC.
In the past few years, the HC's monthly outreach became frequent as RHAC financially assisted the HC. When the HC's outreach service comes to the village, pregnant women have much easier access to ANC and also vaccinations for children. VHSGs are responsible to call all the pregnant women to come for an ANC check-up. When pregnant women come to receive ANC, the HC staff suggest to women to go to the HC for delivery. There is more frequent contact between the HC staff and pregnant women than before 2008.

[11] C*hhmob boran* is an indigenous specialist who checks the position of the foetus, monitor the opening of the uterus, give comfort and encouragement during the labour, cut and bind the umbilical code, and handle the placenta (Ovesen and Trankell 2010).

Despite the environmental factors that have influenced the awareness of ANC and delivery at the HC, there are a number of barriers to receive ANC check-up and delivery at the HC. If these barriers are effectively addressed and dealt with, the utilization of the services could be enormously improved. The next sections discuss the factors that influence women and communities' decision to seek care by the themes emerging from the data analysis.

4.1.2. Perception of Factors Related to Access to ANC and Delivery at HC

Despite the enabling factors mentioned above, there are number of issues identified by women as barriers and difficulties to seek care. These are financial barriers, transportation and the road condition. The following sections discuss each barrier.

Availability and interpretation of health service costs

There is much confusion about the mechanisms of health financing. Several mechanisms co-exist: user fees, informal user fee (including suturing the wound after delivery; *de tvea*[12]), appreciation gifts (*sakun*) and external financial supports by NGOs. The confusions caused by several mechanisms are told from villager to villager and create the rumour that the HC is an expensive place to seek care.

There are two external financial supports by NGOs: the health card and the Health Equity Fund (HEF) for reproductive and maternal health care. The health card, which provides financial supports to all the pregnant women regardless of their economic status through package payment services (PPS). Pregnant women receive free services if they complete all the services including HIV status counselling and testing, receive ANC at least four times, deliver at the HC/RH, and a minimum six hours of PNC. Upon completion of the package services, the HC receives 10 USD from RHAC to cover the cost of all the package services. HEF provides fee exemptions through a voucher for registered households who are considered poor. More details are provided in Annex C.

<u>External support – the health card and HEF</u>

The women in Village A had relatively clear information about both the health card and HEF, and these contributed to their decision to deliver at the HC. The HEF registered woman decided to deliver at the HC and she did so because she knew that she would be exempted from paying the user fee, otherwise she could not have afforded it (Box 1 A-HEF-8[13]).

Box 1 Reasons to go to the HC-1

She had an HEF card, so she didn't need to pay. If she didn't have the HEF, she wouldn't have gone to the HC (for delivery). She'd just deliver at home. (From an interview with a woman, but her husband commented. A-HEF-8. See Annex J)

[12] "De" means sewing, and "tvea" means door. In Village A, there was a strong perception among women that if they do not suture their wound after delivery, they might have uterine prolapse. It is not clear that the midwife makes a judgment based on clinical necessity, however the midwife charges around 60,000 Riel for women who asked for it.

[13] In the boxes, the code is used to note the respondent. "A" and "B" refer to the study village. "HC" refers to the health card holder. "HEF" refers to the HEF registered. "No" refers to respondents who did not have both the health card and were not registered for HEF. "V" refers to both VHSG and CBA. A number is given accordingly.

Six women who used the health card in Village A were interviewed. They knew clearly about the condition of needing to receive an ANC four times and the benefits of using the health card.

On the other hand, in Village B, there was so much confusion about the health card. Some women had the health card without the knowledge of the actual conditions for being eligible for the financial supports by RHAC (see Annex C for details). They ended up paying for the user fee when they did not expect it and became doubtful about the service provided (Box 2). This was a common perception in Village B where VHSGs were not actively involved in the HC activities and less information was available in the community about different assistances that they deserved.

Box 2 Reasons to go to the HC-2

Q: Why did you decide to go to HC for delivery?
A: I went to HC because I was afraid that it's not safe for me (to deliver at home) because it's my first child. I didn't trust the HC. I would prefer to deliver at a private clinic if I had the money. HC staff didn't pay attention to me (when I was in labour).

At that time (when I went to the HC for delivery), I thought that if I go to the HC, HC will not charge. *If I knew that the HC would have charged, I wouldn't have gone there.* If I delivered at home, I was afraid that the midwife would blame me. (Emphasis added. From an interview with a woman in Village B. B-HC-3. Also see Box 3 and Annex J).

Official and unofficial user fees

The official user fee of the delivery at the HC is 10,000 Riel, which was set when the HC started to provide care in 1999 and is still displayed on the wall in the HC building. According to the HC chief, 10,000 Riel is too cheap to cover the cost and the HC wants to increase the user fee. However, due to lack of budget to organize the meeting of the Health Centre Management Committee (HCMC), which is the opportunity for the HC to discuss and change the user fee, the HC has been unable to increase the user fee until now (according to the HC chief and OD director). The HC chief said that the HC would stop accepting or demanding unofficial payment if the user fee were increased to between 40,000 to 60,000 Riel. By saying so, he justified that the HC charged 60,000 Riel from the woman I interviewed (Box 3, B-HC-3).

Box 3 Unclear information about the financial supports and the user fee

Q: What are the benefits of using the pink card?
A: I don't know. HC staffs told me to bring it when I come for check-ups and delivery at the HC. If I don't bring the health card, HC won't help me to deliver at HC.
I heard from others that if we go to HC and deliver there, HC will charge 50,000-100,000 Riel even though we have the health card and have had enough check-ups.
(From an interview with a woman in Village B, two children. B-HC-1. See Annex J)

A: HC charged 60,000 Riel (for delivery) without "*de tvea" (footnote 11)*.
Q: Did the midwife ask you?
A: No, the midwife didn't ask me if I want to do *de tvea* or not. I gave 20,000 Riel as *sakun*. The midwife told me that I don't need to tell about 60,000 Riel to others.
Q: How many times did you have the ANC check?
A: I had it three times. At that time (when I delivered), the midwife told me that even if women had four ANC checks, they would have to pay for the service. The HC doesn't charge if women have five or more ANC checks.
(From an interview with a woman in Village B, one child. B-HC-3. See Annex J)

The midwife described charging women 60,000 Riel for deliver as “punishment” for not receiving ANC check-up more than four times. Even for the woman who paid for the user fee as demanded, she still paid *sakun* and her mother angrily said “the midwife asked for it”.

De tvea

The HC also charges for “*de tvea*”, which implays suturing the wound after the delivery. For the first child, the HC does not charge for it. However, it depends on the negotiation between women and the midwife for the second child or more. That’s why women pay around 60,000 Riel for suturing their wound (according to the HC chief and midwife).

Appreciation gift

“*Sakun*” is an appreciation gift, which is offered on many occasions to express appreciation to someone in kind or in cash in Khmer culture. It is a persistent practice for patients to give *sakun* to care providers at a public health centre or hospitals. The HC staffs justify it by saying that they do not ask for it, but the patients or their family give *sakun* to them when they leave the HC.

Box 4 "*Sakun*" as a Form of Appreciation Gift

A: I gave 40,000 Riel as *sakun* after the delivery.
Q: what do you think about giving *sakun*?
A: It’s just an appreciation because the midwife paid attention and took care. I tried to give as much as possible. If I had a lot of money, I would give her lots of money”.
(From an interview with a woman in Village B, one child, B-HC-2.See Annex J)

A: I heard from others that if women have the health card, they just pay *sakun*, 10,000-20,000 Riel for delivery.
Q: When did you hear this?
A: I heard this when I was 5 month pregnant. So I wanted the health card but I didn’t have any transportation to go to the HC.
I was afraid that midwife would ask for *sakun* more than 10,000-20,000 Riel. So I decided to deliver at home. I kept this money to buy food after delivery.
(From an interview with a woman in Village B, three children, B-No-4. See Annex J)

The introduction of user fees and exemption of poor from paying the user fee through HEF were intended to prevent patients from paying such informal or unregulated fees, which consist of high out-of-pocket payments. However, among 18 women interviewed, all the women who delivered at the HC gave *sakun* regardless of whether they had the health card or HEF card. The amont they offered are varied from 7,000 Riel to 60,000 Riel depending on their willingness and ability to pay. The women and their families openly discussed the amont of *sakun* they offered without the research team asking specific questions.
Although this practice is considered acceptable by many stakeholders, including patients themselves, the pressure of giving *sakun* prevents some poor women from going to the HC and using the services (Box 2).

Figure 6 *Romok* pulled by a hand tractor

Transportation / Road Conditions

All the villages in the OD are accessible by a car. However, the ambulance at the OD does not go into the villages. It only goes to the HCs and picks up referred patients from the HCs

to the referral hospital. So the villagers need to make their way to the HC in order to be further referred to the referral hospital to receive emergency obstetric care.
The most used transportation in the area is a motorbike, which sometime carries an entire family. Other options are a cart pulled by a motor bike called a *romok*, which is used to transport goods and lots of people. A *romok* pulled by hand tractor (Figure 6) is typically used for ploughing farmland, horse and cart, and cars.
Transportation is one of the biggest concerns expressed by the women who do not own any transportation other than a bicycle. Poor people have difficulty making arrangements to travel to the HC especially for emergencies and at night time. Some transportation owners charge a higher rate at night.

When women start to have labour pain at home, their husbands borrow a motorbike from a neighbour, or hire a motor taxi or other form of transportation from the neighbour to take their wives to go to the HC. If their husband is absent from home at that time, they neglect going to the HC. If they personally have a good relationship with the transportation owner, they only pay for the fuel. So it really depends on the social relationship whether the women feel comfortable to go to the HC or not in terms of the transportation arrangement.

Not only the transportation but weather also makes travel difficult in certain areas where the road condition gets very difficult after raining (Figure 7).

Figure 7 Road condition in Village B after rain

4.1.3. Gendered and Social Dimensions of Birth Preparedness

Even though it is possible and affordable to hire transportation to go to the HC, absence of the husband or male adult makes not the physical but the psychological distance to the HC farther.

Many of the women who delivered at home said they could not go to the HC on time because their husbands were not at home. Although women make a decision of whether they go to the HC or not, women prefer getting their husband's consent about going to the HC a large expense in incurred due to transportation and fees at the HC. Women also prefer their husband accompanying to the HC and the husband is the one arranging the transportation. Moreover, for security reasons, women do not feel comfortable travelling without an adult male companion especially at night time.

Box 5 Absence of the husband

A: Labor pain started at night time. My husband and mother-in-law were at the farm in Snoul. I wanted to go to the HC. But nobody could accompany me to the HC. If my husband had been at home, I would have gone to the HC.
Q: You couldn't ask other people to help you?
A: It was at night, I didn't dare to ask (for help). I didn't have money but still I wanted to deliver at the HC. If the HC charges, I could find money later to pay to the HC. So the money is not the issue.
Q: Did you know how much the HC would charge?
A: I didn't know about the user fee because I have never gone to an ANC check. I was in Snoul. I wanted to go to the HC because it's safe." (From an interview with a woman in Village B, two children. B-No-8. See Annex J)

Childbirth is a very private matter in Cambodia (Ovesen and Trankell 2010) and a lack of social relationship makes women less comfortable seeking help from others, especially at night time. In case of the story in Box 3, she moved into Village B after her marriage, and her family spendt a significant amount of time a year in Snuol[14] where many of the villagers from Village B rent land to farm. VHSGs were not aware of her pregnancy and she had very little social relationship with others as she hardly spent time in the village after marriage.

In Cambodia, women tend to live closely with their own mother and female line relatives as matrilocal marriage is more common. So women could have full support from their mother, aunts, and sisters and their childhood friends if they remain in their own birth village after marriage. However, in rare cases, such as in Box 3, when women marry and come to live with the husband's side of the family, their decision-making and control over family finance are different from women who live with their own parents. In such situation, absence of the husband and also the mother-in-law at the time of labour pain makes the woman hesitant to go to the HC.

Strong Influence of the Immediate Family Members

In rural Cambodia, the whole family, especially elderly women who are married and have the experience of childbearing are involved in taking care of pregnant women and advising them. In particulary, many traditional practices during the postpartum period are advised by the elderly. Most of the women said the husband and their mother or mother-in-law significantly influence their decision making during the childbearing process, not the health care providers.

When it comes to family planning and financial issues, women consult with their husband about saving and borrowing money. Aside from one woman, all the women interviewed borrowed money from relatives if their relatives had money. Otherwise, they borrowed from private lenders or took money from *tong tin*[15] in order to cover the cost of delivery including transportation to the HC, and the expenses of food after delivery.

Box 6 Strong opinion of mother-in-law
(Discussion about an episode from the first-born child in November 2005)

A: Labour pain started at 23:00. I didn't think it was time for delivery. Pain was sleight so I walked around. The *chhmob boran* came. At 2:30, I started to bleed. The *chhmob boran* was afraid about bleeding and suggested I go to the HC. The *chhmob boran* accompanied me and took a horse and cart to go to the HC. On the way to HC, I delivered at 3:00 and came back home.
Q: Why you didn't think of going to HC from the beginning?
A: I didn't want to go to the HC. I didn't know anything about the HC. I only knew that the HC asks for *sakun*.

Mother-in-law: I was afraid about injections and afraid that the midwife would blame my daughter-in-law about not receiving her ANC check-ups. If she didn't bleed, I wouldn't have tried to send her to the HC. If she had had a serious problem, the HC could have sent her to the referral hospital. Before, I didn't dare to go to the HC. I was afraid to go to the HC. (An interview with a woman in Village B, two children. B-HC-1. See Annex J)

[14] Snuol is in the neighbouring province around110 kilometres away from Village B to the town of Snuol.
[15] This is an informal money circulating/rending practice, often played by women. One woman in Village A took 150 USD from the *tong tin*. She and her group play twice a month, 30,000 Riel for one play. 23 people in a group. It means, every time they play, 690,000 Riel is gathered, and when they "play", they bet the interest. Whoever bet highest interest (highest risk) can take all the money. Every time they play, different member gets to win the bet.

When women begin their labour pains, especially for a young couple, the mother or mother-in-law suggests what to do and their opinions seem to dominate women's decision of whether they go to deliver at the HC or not. The husband's role seems to be passive in this situation (also in Skinner 2006). Pregnant women or elderly women tell their husbands to arrange transportation and accompany the women to go the HC if their decision is to go to the HC or to bring the *chhmob boran* to their home.

Conclusion for the section

Decision making of whether women decide to go to a HC for delivery or not seems to be complex as many issues affect the women's decision. Having the right information about the user fee and fee exemption program, access to transportation through social network and associated cost, and presence of a family member (especially her husband), all make a significant difference. A combination of various payments and expectations created by misinformation make the HC as an expensive place to seek care. This consequently makes the perceived accessibility lower for women who have financial constraints.

4.2. Priority Setting and Decision Making Processes at Different Stages of the Childbearing Process

During different stages of childbearing, different issues are important for women's decision to seek care. From the previous chapter, we have seen that different stakeholders and gendered and social relationships significantly influence first delay factors. The following sections examine in more detail the factors that influence women's decision-making and priority setting at each stage of the childbearing process, in particular the role of different stakeholders.

4.2.1. Before pregnancy

Family planning is important to avoid unwanted pregnancy. Some women stated that they never thought about planning their pregnancy, never used any contraceptives, and never discussed with their husbands about it. In other studies, use of contraceptives are higher for those who were more educated (NIS and ORC Macro 2006 and WHO 2009), but this tendency did not correspond to the education level of the women interviewed (See Table 7 and 8 in Annex K). Even the lowest educated and poorest woman was using the pill she bought from the HC because she was concerned about her health and economic status. Women with better education and better economic status actually did not use any contraceptives.

The most commonly used birth spacing method was the pill. One volunteer in Village A plays a role as a community based distributer whose role is to sell pills to the villagers. It makes access to the pill easier for the women in Village A if women are aware that she was selling the pills. For those who are older and thinking of stopping having children, they are keen to discuss birth spacing methods. Some women do not prefer using the pill as they are concerned about the impact on their health.

Women often seek information of birth spacing from neighbours when they want to stop having children. Limited knowledge and misperception of the use of various birth spacing

methods within the village, especially condoms, prevents women from using the method that fits with their needs. Some women were keen to know about intrauterine devices (IUD) and the side effect of IUDs. One woman interviewed used to use an IUD but did not know the side effect such as intermenstrual bleeding for the first month (FHI 2000). She had intermenstrual bleeding so she took it out after one month of installation.

It was clear that women have an unmet need for family planning (WHO 2009, interviews with women) and that they are in need of accessible information to make informed choices. The husband seems to have a stronger influence over the decision-making of whether to use birth spacing methods or which types of methods they use according to the women interviewed (A-HC-2, A-HC-3, A-HC-6). Some women discuss with their husbands about stopping having children, especially when they are getting old (mid 30's or more) or frequently falling ill (A-HC-4, A-No-10).

4.2.2. During pregnancy

During pregnancy, women seek information from various sources, mostly from their neighbours and mother or mother-in-law of how they should take care of themselves. The husband, mother-in-law and mother are the most influential.

Many women expressed that the important things to consider during pregnancy are not doing heavy work, saving money, eating well, and receiving ANC. Although they are aware of the importance of not doing heavy work, some poor women work in the field until the very last minute as day labourers and some women carry water and do other heavy work because nobody helps them or not feel comfortable asking for help. This is particularly critical for the poor who depend on their work for their day-to-day living.

As for saving money, women tend to think it is important and discuss with their husband to try saving some money. However, most of them are unable to save at all or they try but do not manage to hold onto enough to cover all the expenses occurring due to the pregnancy. For women who work as day labours, once they stop working or stop being economically active due to delivery and the postpartum period, they have to rely only on their husband's income.

Many women mentioned that they need to eat good foods and variety of foods like meat, fish, vegetables, and fruit during their pregnancy. However many of them are poor and cannot afford to do so.

4.2.3. Delivery

For those who delivered at the HC or attempted to go to the HC, they left their home to go to the HC when the labour pain became stronger but not immediately after labour pain began.

Box 7 Timing to go to the HC after beginning labor pain

A: Labour pain started at 22:00, and I went to the HC at 2:00. I gave birth at 6:00. I rested at the HC for 10-15 min and came home. I was very weak and it was very difficult to deliver. If they could have done a caesarean section, I would have preferred to do that. I called the HC at 2:00 before I left the house because I wanted the HC to prepare for me.

Q: Why you didn't think of going to the HC sooner?

A: Because the pain was sleight, I told my husband that it was simple so I prepared everything by myself. After the pain became stronger, I went to the HC by motorbike with my husband and sister-in-law.

(From an interview with a woman. A-HC-4)

They did not contact the midwife or the HC chief until just before they left their home. As in Boxes 6 and 7, it seems that beginning labour pain does not compel women to go to the HC or seek health care providers' help. By travelling after the labour pain gets stronger, their risk of delivering on the way becomes higher. In case of the episode in Box 7, she took a motor bike. It is not an ideal mode of transportation after beginning strong labour pain. She could have had the choice of hiring a car as some of her close neighbours have cars but she chose to take a motor bike that she has.

Choice between Health Centre and Referral Hospital

Some women prefer going straight to the referral hospital (RH) rather than the health centre. RH is considered as more advanced because it has more equipment or a better technique. Some women know that if they stay at the RH for five days after delivery, they could receive free care. This is a slight misperception because it is true that five days of stay is a requirement for user fee exemption but only for HEF registered women or poor women who are identified after arriving to the RH.

For the episode of a woman in Village A (Box 8), she is a HEF registered woman but she did not develop any complications so she was supposed to go to the HC first, but she had a desire that she wanted to go to the RH. She could not do so because of her first daughter who needed to be taken care of by someone if she was to stay at the RH for five days. It is difficult for women to stay at any health care facilities if they already have some children even though PNC is provided for.

Box 8 Choice between the health centre and the referral hospital - 1

Labour pain started at 1 am. It was difficult because the labour pain started at home and I had no transportation. I wanted to go to the referral hospital because I could rest there for 5 days, receiving injections and getting free food but I couldn't go because of my first child. It's difficult to keep her with others. (From an interview with a woman. A-HEF-3)

For a woman in Box 9, she went straight to RH knowing that she would be exempted from paying the fee. However, as she was planning to go to the private clinic, she could actually afford to pay for the high user fee at the private clinic. She is not registered for HEF nor did she have a health card so she was not eligible for any exemption except being identified as a poor household. However she is not as poor as other poor households in Village A or B which are registered for HEF.

Box 9 Choice between the health centre and the referral hospital - 2

A: My labour pains started at 2am. I took a horse and cart to go to the RH. My father was visiting me at that time and he went to call the horse and cart. I paid 10,000 Riel. I rested 5 days after the delivery. I didn't pay for the delivery or for inpatient service. The RH gave me 4,000 Riel per day as an allowance for food and 12,000 Riel for transportation fees to go back home. I took a horse and cart to come home. They interviewed me and I told them that I was very poor. So RH didn't charge me even the cost of the bed. I heard that if I were not poor, I would have had to pay 85,000 for the bed for 5 days.
Q: How did you know about this?
A: My mother accompanied someone else to go to the RH before. I wanted to deliver at the RH because the RH has good technique and my parents live in the area. At that time, I was old and I was concerned that it might be a difficult delivery. Before I heard that the RH that doesn't charge, I wanted to deliver at private clinic. I would have gone to the HC too because the HC is safe. I heard that the HC doesn't charge for delivery.
(From an interview with a woman. B-No-5)

In terms of delivery, women themselves make a decision of what to do in consultations with various stakeholders. Husbands appear to be less important when labour pain begins except accompanying women to go to the health facilities.

4.2.4. After delivery

Decision-making after delivery does not relate to the first delay, however resting six hours or possibly 24 hours at the HC is the condition of getting their user fee paid by RHAC's financial support. However, all the women who delivered at the HC came home almost immediately after delivery. A few of them stayed for around two hours. Some women expressed that they wanted to come home or were told to go home immediately after delivery by the midwife (B-HC-2, B-HC-3, and A-HC-4). Postpartum haemorrhage is one of the leading causes for maternal death in Cambodia. However, postpartum care is not adequately provided as women receive a visit from a midwife and an injection if they can afford it.

4.2.5. Conclusion for the section

It seems that women rely on information from their surrounding peers, especially from immediate family members and neighbours who may or may not have accurate information. Both VHSGs/CBAs and the HC staffs are almost non-existent as stakeholders in these women's view, unless they happen to be amongst their family members or friends. They are not considered as people women want to consult with or as a source of information for any issue. This results frequently in women having inaccurate information about services and fees, leading them to often make unsafe decisions.

4.3. Women' and Communities' Perceptions and Experiences of RHAC's Initiatives

The village volunteers, including both VHSGs and CBAs, are important for the HC and NGOs in extending their services to the villagers. For the villagers, VHSGs and CBAs are point of access to information and knowledge about the available services at the HC and external assistances such as NGOs' financial assistances. Volunteers in the community are expected to influence decision-making of the women and their families in seeking care. Therefore, they have an important influence on birth preparedness. Active participation of and empowerment of VHSGs and CBAs are significant for effective implementation of community based birth preparedness. However, there are number of issues identified by VHSGs/CBAs themselves and the villagers regarding their role and responsibilities.

4.3.1. Selection of VHSGs/CBAs

VHSGs/CBAs are volunteers but they do not represent the communities. Their job description and role and responsibilities are not clear for members of these communities. In the MoH framework, a leader of the VHSG is supposedly elected by community

Box 10 Comments about VHSGs

Q: What do you think about village volunteers' activities?
A: Village volunteers don't care about all the people in the Village. But only care her friends and relatives.
Q: Did they come and talk to you during your pregnancy and after delivery?
A: Volunteer never visited me. They give information to own relatives but not others including myself.
(From an interview with a woman in Village A. A-HC-4)

members in a Village But this was not the case in either Village A and B.

In both Village A and B, VHSGs/CBAs are both directly appointed by the village chiefs and there is no information available in the villages of what they actually do and how they are selected. It seems that there is not much motivation to hold a village election to select VHSG leader in many of villages.

In Village B, both the VHSG and CBA are invisible. The village chief plays a role as a leader of the VHSG. Most of the villagers think that it is his responsibility as a village chief to call pregnant women for ANC check-up and for children to receive vaccinations at his house when the HC staffs come for monthly outreach.

4.3.2. Community participation of VHSGs/CBAs

VHSGs/CBAs themselves do not have the self-consciousness to represent the community or to be responsible for their communities. Their activities are sometimes too personal and are seen as if they are only acting for their personal benefits (see Box 11 and 12).

VHSGs/CBAs are provided with trainings, which benefit them as an individual since they can acquire more knowledge. When they join trainings or meetings, they are paid a per diem and transportation fee according to the distance they travel, which are considered as benefits. VHSGs/CBAs and their family members are exempted from paying all the user fees at the HC and the RH so these are another benefit for themselves and their families (Box 11).

Box 11 Conversation with a volunteer

Q: What would you do when you notice that there is a woman who has started labour pain at her house?
A: I'll accompany her to go to the HC if it's my friend. (From an interview with a volunteer in Village A. A-V-2)

Some of VHSGs/CBAs express their demand of having salary, bicycle, or fuel support for them to work more actively. Payment of community health workers is often criticised as unsustainable by groups of people who rely on volunteers to perform community work. RHAC is also on this side. However, the evidence shows that investing in community health workers result in enormous cost saving (Mukherjee and Eustache 2007).

Not only the monetary factors that motivate individual volunteers, but also non-monetary, community level factors, the factors that motivates VHSGs/CBAs to support the HC, and the factors that motivate communities to support and sustain village volunteers can give both incentives and disincentives to village volunteers (Bhattacharyya et al 2001).

4.3.3. Accountability and relations between VHSG/CBA and the HC

All the VHSGs are requested to attend bi-monthly meetings with the HC, which is currently financially supported by RHAC. CBAs have quarterly meetings with the commune council and RHAC to discuss the issues they face in their activities. Many of VHSGs also play a role as CBAs, community DOT, and so forth.

There is a visible frustration among VHSGs/CBAs towards the HC about the inconsistency of its attitude. VHSGs and CBAs complain a lot about the way informal fees have been charged. The HC has promised to pay an incentive for VHSGs if they accompany pregnant women to the HC for delivery. But the HC does not pay as it has promised. When such problems are raised by VHSGs in the meetings, the HC chief does not respond to it and the grumbling of the meeting participants got very loud. The HC is not accountable to VHSGs.

Box 12 VHSG's frustration

Q: What do you think about people talking about the HC charges to women besides the health card and high user fee?
A: I don't know. I'm tired of raising the problems in the meeting. The HC always says one thing and then does something else. The HC said it will pay volunteers if we accompany pregnant women to the HC for delivery but never paid us (From a discussion with a VHSG. B-V-1).

While not being accountable to the VHSGs/CBAs, the HC demands a lot from them. For example, when the delivery rate at the HC goes down, the HC demands VHSGs to be more responsible in making sure that pregnant women in their villages come to deliver at the HC. In Village B, the leader of the VHSGs is frustrated with these issues and feels discouraged from actively participating in activities (Box 10). He did not attend several meetings before and he misses a lot of information that is supposed to benefit his villagers. On the other hand, in Village A there was not such frustration among the VHSGs/CBAs. Both VHSGs/CBAs there attend the meetings regularly and seem to have no problem working with the HC.

This makes a difference for women's access to the services provided at the HC. Consequently, women in Village A have utilized the health card better than women in Village B and the number of deliveries at the HC is higher.

4.3.4. Relationships between VHSGs/CBAs and the communities determine access to information and the services

Social relationships between VHSGs/CBAs and community members

VHSGs/CBAs are members of the community. They have a personal social relationship with other the community members. Although they are responsible to identify all the poor or contact all the pregnant women in their communities, their personal relationship with other community members affects their activities.

Box 13 shows a very typical problem encountered by a poor woman. Her parents used to have some problems with the volunteers in the village so she is ignored and does not benefit from any services although she is very poor and were in need of help when she was pregnant.

However, since there is no measure to deal with such biased activities of VHSGs/CBAs, people in most need

Box 13 Unfairness of VHSG/CBAs

Q: Has village chief ever come to talk to you about the service when you were pregnant?
A: My father used to work with the village chief and had a problem. So the village chief never comes to my house to tell me about ANC check.
Q: How about CBA?
A: My mother has problem with CBA and so she doesn't help me. She skipped my house and went to others' house for interview to register poor household (for HEF) (From an interview with a woman in Village B. B-No-4)

are sometimes neglected from the benefits they deserve. It is not easy to hire external agents to be the ones identifying the households for HEF as it is politically sensitive for the commune council (according to the RHAC staff in charge of HEF). It is also costly to hire an external agent to work at the village level identifying poor households.

Access to service information

Both package service payment and HEF have not been actively promoted publicly. No public announcements were made through any media or information bulletins to make this information available to the general public. These two schemes were only promoted through VHSGs/CBAs and the HC staffs.

In Village B, the health card was almost unknown. Even for the women who received an ANC check-up at the village chief's house were not aware of the service. The same issue applies to HEF where pre-identification of poor by CBAs has the risk of not making HEF accessible to all the poor in need. In Village B, CBAs are not actively communicating with all the villagers. If the poor do not feel it easy to ask CBAs to register them for HEF, and CBAs do not acknowledge them, then those poor are not eligible to receive the service (Box 13). They might be identified after arriving at the HC or referral hospital. But most poor hesitate to go to the health facilities because of their lack of money and uncertainty (Hardeman et al 2004, B-No-4 in Box 4).
In contrast, all the women interviewed or contacted in Village A were aware of the health card and HEF and consequently utilization of both services are higher. When VHSGs/CBAs are women, their communication with other women in the communities seems to be better. Their visibility as volunteers is also much higher among women.

4.3.5. Conclusion for the section

Village A is significantly larger than Village B, and the distance to the HC is twice as far than Village B. However, the women in Village A actively utilize the services and women's knowledge of available services is higher than Village B. Physical distance to the HC is not the issue. The main factor that affects the difference is that *the women in Village A have a greater understanding about the existing services of the HC through VHSGs/CBAs' activities*. Both VHSGs/CBAs are women in Village A and that makes women's social relationship more active and also they actively participate in the meetings and always have updated information from the HC and RHAC. Hence they benefit from the services more than the women in Village B.

CHAPTER 5 ANALYSIS AND DISCUSSION

This chapter discusses the findings using the three delay model to further explore the factors leading to the first delay, limitations of explaining the context of rural Cambodia, and suggests the refined version of the model.

5.1. Reframing the Factors Leading to the First Delay

This study found that the factors addressed in the model are relevant to the Cambodian context but these do not fully illustrate the reality and the complex situation of the context. The context specific factors, which are relevant and critical, are difficult to locate within the framework.

In the three delays model, it is difficult to assess which factors influence each decision, who has the most influence over key decisions and what factors are prioritized. It is important to consider it because, for example, migratory labour does affect women's social relationship and consequently affect access to information about the available services, which results in decision of not accessing the care that she might have needed.

The followings are some of the factors that should be included for each category.

Socioeconomic and cultural factors should include;
- women's and family's 'type of labour (migratory labour and day labour)
- social relationship of women and their family in their community
- power relations (for example fact that VHSG are not paid)

Perceived accessibility should include;
- access to and explanation of available information about available services and information on birth preparedness, including family planning, healthy food, financial assistances by NGO,
- status of community participation or village volunteers' participation that influence the women's access to information in their communities.
- the external interventions, especially financial assistances.

Perceived quality of care should include:
- transparency and accountability of health care provider
- communities' relationship with health care provider

5.2. Limitations of the Three Delay Model

The three delay model is useful in identifying which delay of the three delay model is responsible for maternal death by looking at the causes. However it has limitation in assessing various factors that need to be addressed for birth preparedness. The social relationship and economic status do influence key decisions, which are not adequately

framed. Overall, it is difficult to locate the contextual factors and stakeholders that influence different factors that determine decision making of pregnant women.

Based on this discussion, this study proposes a framework that can illustrate all of aforementioned elements as it is presented in Figure 8. Figure 8 relates and illustrates all the factors to key decisions that result in respective negative consequence or risks that can be potentially dangerous for maternal health.

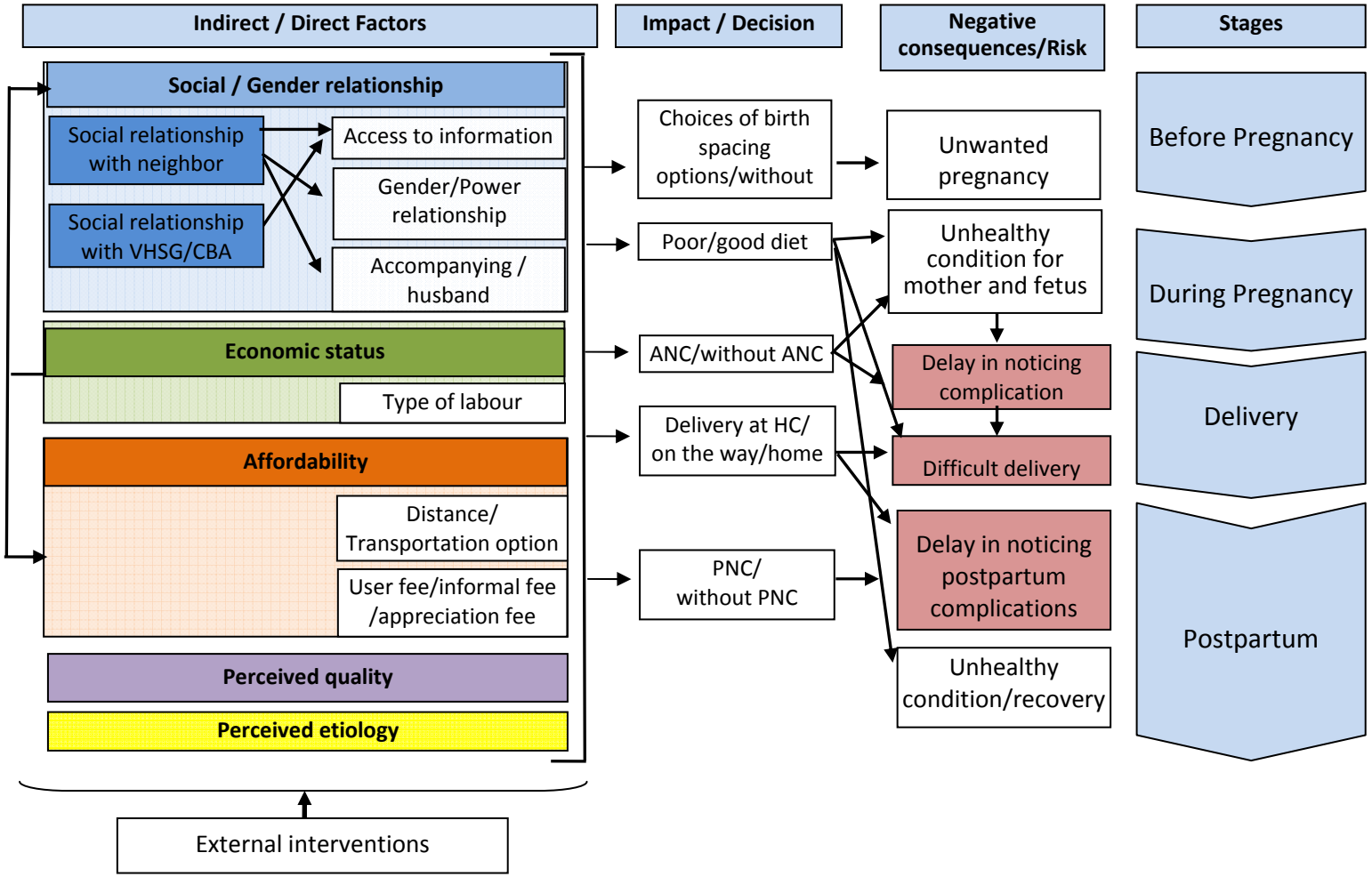
5.3. Validity and Relevance of the Findings

Although the primary data was collected in two villages only and within very limited period, the findings are confirmed to be applicable throughout the OD and the province of the study area.

The findings and recommendations were shared with RHAC's provincial and district staffs in Kampong Cham province and also with the director of the OD to discuss practical implication for their activities. They all agreed that the findings are useful and relevant to their works. As each finding was presented, many of the staffs added their own experiences that related to it and there were lively discussions. The power point presentation used for the feedback session is in Annex M.

Given the limitation mentioned in Chapter 3, the qualitative methods used to collect data and analysis of the narratives produced some outcomes. FGD was not possible due to the characteristic of the participant, however individual interview and informal conversations with women, their mothers and mother in laws, occasionally available husbands provided me with great insights to explorer their views. Triangulation of understanding with various informants' views helped to confirm accuracy of the data.
Although it was a small scale case study of two villages, the findings are applicable and relevant to the entire OD, which has 218 villages. The study design has a potential to conduct a qualitative study that can inform policy makers relevant information within short period of time.

Figure 8 Reframed Factors Leading to the First Delay



CHAPTER 6 CONCLUSIONS

6.1. Practical Recommendations

This section provides practical recommendations based on the findings. These recommendations are directed to different levels of the government, NGOs, donors, and other actors working on birth preparedness using community based interventions. Many of the activities have to be invested in through a multi-stakeholder approach. However, there are some roles that each stakeholder could effectively play in improving birth preparedness.

6.1.1. Policy Makers

It is important to take into account context specific factors when designing a program, especially the potentially negative influence of social and economic status on women's decisions. Health facility based interventions do not address such issues but these significantly influence birth outcomes. Strong social supports have great potential in increasing women's access to information and available services. It is worth investing in community based interventions for birth preparedness.

Investing external resources to provide free services is not a sustainable option. Local resources can also be mobilized in order to support poor families during their childbearing process. The poor are not only facing difficulties financing health care for pregnant women but also day-to-day living.
In order to design effective strategies to deal with various factors that affect women's decisions, programs should carry out extensive investigation to understand context specific factors, and learn from existing lessons learnt within Cambodia as well as other developing countries where the social context is similar.

Policy makers should also ensure effective and efficient harmonization of donor support. When designing any community based intervention, HC and communities should be always consulted in setting priorities, allocating resources, and monitoring progresses.

6.1.2. NGOs

Birth preparedness activities should target not only pregnant women, but also their families and other women in the communities. Pregnant women make most decisions in consultation with elderly women who live nearby.

As part of birth preparedness, do not only tell women that it is important to identify transportation in case of emergency, but provide available information and assist them in identifying options.
There is no need of telling women to save money as they are aware of it. Difficulties of saving cannot be solved as women are poor. Information of available financial schemes and how to access to them should be provided. It might also be effective to set up emergency funds and mother support funds within communities in order to assist women who are going through the childbearing process. The emphasis here is that not only emergency

funds should be prepared, there should a scheme where poor women who cannot afford to have a proper diet during pregnancy and after delivery should be able to access funds that they can borrow with a low interest rate.

6.1.3. Rethinking community participation

It is not clear what is meant by community participation in birth preparedness. In the case of TbK-KC OD, VHSGs and CBAs are the only community members involved in the HC activities. The structure of the activities is top-down. VHSGs and CBAs are told what to do, but the HC and RHAC are not accountable to their demands and issues that they raise.

Reactivating the health centre management committee would make communities' voices heard effectively. NGOs should play a role in making sure that communities are represented. RHAC is in a good position to assist in mobilizing community members to be more active and engage in the HC activities for the benefit of their communities. Community monitoring could be a strategy to enhance trust and utilizations, for example using community scorecards, satisfaction surveys and so forth.

Education materials

Many of the education materials developed for birth preparedness and maternal health care were not used. It is important to design the material with the inputs from the users, in this case, VHSGs' opinions. Many of the information materials are costly to produce, especially colour printed materials. There are many other cost effective ways to disseminate information and educate people in the communities such as radio programs and storytelling.

6.1.4. HC and Commune Council

The research showed that service utilization as well as healthy behaviour depends on the trust users have in providers. HCs should be more transparent in terms of user fees and how other financial supports are provided. HC and VHSGs/CBAs need to build trust and relationships so that they can be more effective in implementing activities.

Making information available to the public

Lack of information can create unnecessary problems, which can be avoided if information is accessible by members of communities and interpretation is supported.
For example, use of a loud speaker to make public announcements can let community members know about services, where to go and who to ask for more information. Broadcasting through radio could also be a potential option as many poor households have radios. Written information is not relevant as many people are functionally illiterate or are not used to reading. This information should include the types of services provided at health facilities, the eligibility of receiving these services, and who and where to ask for more information in communities.

VHSGs/CBAs

The current approach of working with VHSGs/CBAs does not involve them in planning or defining how they contribute to programs. Being a volunteer does not give them any status, credibility or reputation and does not provide enough incentives for the VHSGs/CBAs to be more active as key players in delivery services.

VHSGs/CBAs need continuous empowerment and frequent contact and follow up with the HC and NGOs. VHSGs/CBAs should be made more visible in the communities in order to make the community members acknowledge their presence and activities as well as making them more accessible by the community members.

OD and NGOs should support HCs in redefining the VHSG's role and responsibility in birth preparedness with VHSG's participation.

If VHSGs/CBAs could extend their contact and communication to not only their relatives and friends but to all the villagers in their communities, there is a potential for more equitable access to the services and utilization of the services should increase enormously.

Figure 9 One of the VHSGs interviewed demonstrating how she uses the IEC material

6.2. Conclusion and Recommendations for Further Studies

This study assesses community perceptions of the factors leading to the first delay. Various stakeholders influence key decisions at each stage of childbearing. However, since women do not seek information or advice from them, HC staff and village volunteers are not effectively influential in decision-making. The strategies for community participation in birth preparedness need to be revised and strengthened taking the factors leading to the first delay into account.

The existing three delays model is useful in identifying the factors, however it is difficult to see the context specific issues that are critical. This study proposes a reframed model to explain the factors leading to the first delay in the rural Cambodian context. It also helps to suggest more effective methods for birth preparedness and community interventions through VHSGs/CBAs.

The model should be developed using a similar approach but examining the factors leading to the second and third delays. A richer contextual understanding of these factors and how they are related to each other will give policy makers a solid foundation for development of effective interventions to reduce maternal mortality. This model may also be useful in analysing different approaches on birth preparedness in rural Cambodia, which would be informative for international and domestic policy makers.

Acknowledgements

I am pleased to complete this work and I would like to dedicate this paper to all the women and their families who shared their time and experiences.

I wish to express my gratitude to my supervisor, Dr.Elsbet Lodenstein, the back stopper, Dr. Prisca Zwanikken, and the local supervisor, Dr. Var Chivorn, for their understanding and continuous support to develop this research work and undertaking of the fieldwork.

I wish to thank Erasmus Mundus program for financial support and flexibility of the tropEd secretariat, which made my fieldwork and my commitment to tropEd Masters of Science Programs in International Health possible.

I would like to give special thanks to the RHAC staff members in Tboung Khmum-Khrouch Chhmar Operational District and Kampong Cham office, especially to Mr. Kea Bou and Mr. Va Pisal who understood my interests of undertaking this study in their project sites and provided me with great assistance in administration and understanding the activities. Their office space within the OD provided me with insightful environment for my research.

I also would like to thank to the RHAC office in Phnom Penh, especially to Ms. Kuoch Socheat, for her administrative supports.

Ms. Sok Saro deserves my appreciation for her tireless and instrumental supports in undertaking this fieldwork as a research assistant, as well as a friend accompanying me through difficult time in the field.

Special remarks to Mr. Ezra Goldman, as a great supporter who gave me great hands and companionship throughout my fieldwork and continuous encouragements and supports to finish the writing process.

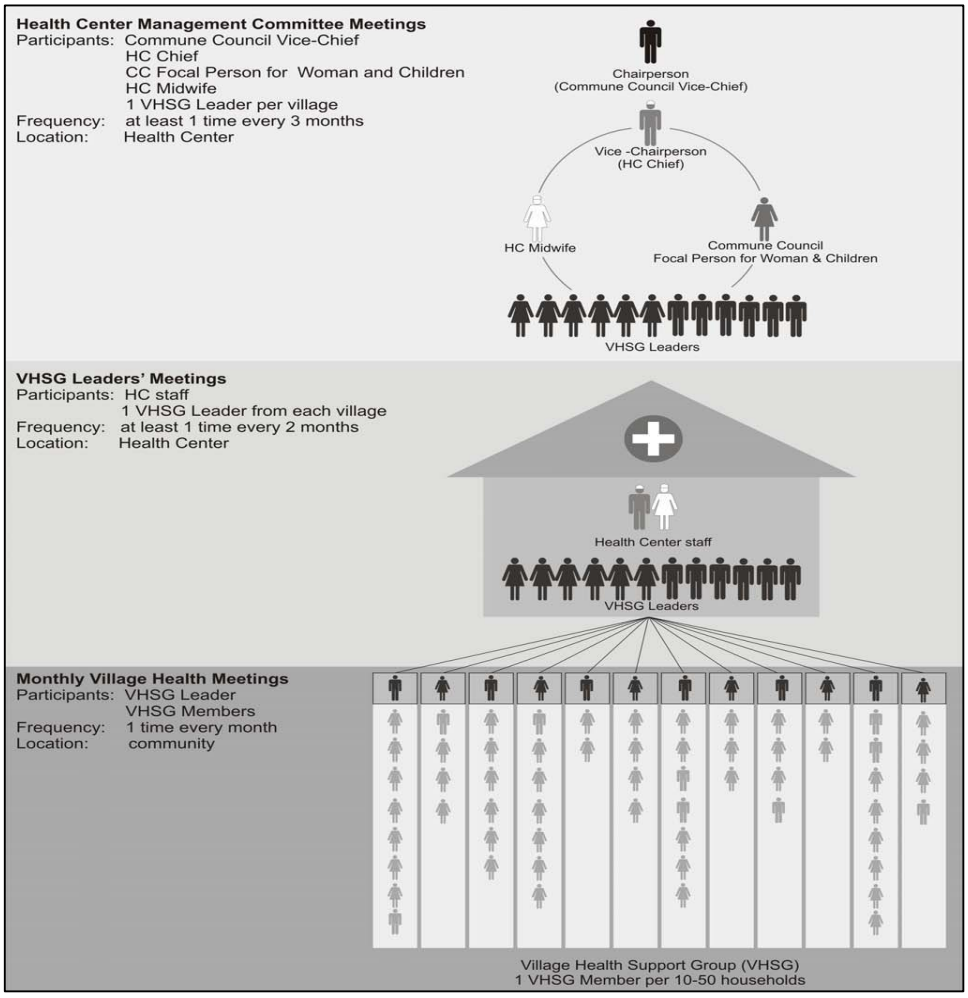
Lastly but not least, I would like to take this opportunity to thank KIT staff members especially Ms. Lisanna Gerstel and Ms. Kim Vandenberghe. Without their continuous support and boundless generosity I was not able to accomplish this work.

HIWASA, Ayako
August 2010

Annexes

Annex A Community Participation Structure

Figure 10 Community Participation Structure



Source: MoH 2008a, page 16.

Annex B The Three Delay Model

Figure 11 Three delays model

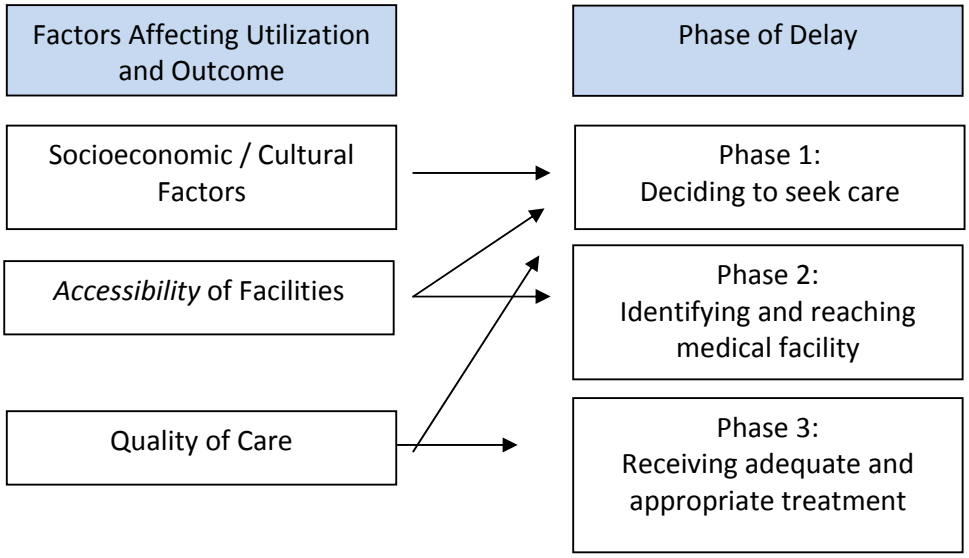


Table 4 Phase 1 delay, detail

Delay in deciding to Seek care	**Factors**		
	Socioeconomic and cultural	Illness factors	Recognition of complication Perceived severity Perceived etiology
		Socio-legal issues	Illegal abortion Sanctions of infidelity
		Women's status	Access to money Restricted mobility Values of women's health
		Economic status	
		Education level	Positive and negative association
	Perceived accessibility	Distance	Disincentive
		Transportation	Motorized / animal Seasons (dry/rainy) Road condition
		Cost	Transportation Physician/facility fee Medications Other supplies Opportunity cost Accompanying people Bribes
	Perceived quality of care	Reputation/previous experiences, satisfaction with outcome	Effectiveness of treatments and prescribed remedies
		Satisfaction with services	Staff attitude Availability of supplies Waiting time Efficiency Consistent with local beliefs Privacy Visitor rules (limiting social/family support)

Source: Thaddeus and Maine 1994

Annex C Description of RHAC and RHAC's community interventions

RHAC is the largest local nongovernmental organizations (NGO) in the health sector of Cambodia. RHAC has played an active role in improving maternal and new-born care throughout two cities and eight provinces since 1996. RHAC was initially a project funded by United States Agency for International Development (USAID) and developed to be an organization to expand its activities.

RHAC is in the second year of the program, *Together for Good Health* (ToGo Health) funded by USAID, which has birth preparedness components that mobilize village health support group (VHSG)[16] for health education and financial support to pregnant women through package service payment (PSP). PSP finances the cost of HIV status testing and counselling, four antenatal care (ANC), delivery at the facility, and 24 hours of postnatal care (PNC) at the facility.

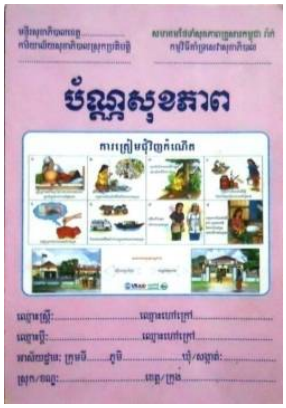


Figure 12 The Health Card for PSP, sponsored by RHAC-USAID

PSP supports all the women regardless of their socioeconomic status. All the women who are eligible for the PSP needs to have the health card (Figure 9), and receive all the aforementioned cares. Upon completion of all the service, health care providers receive payment of 10 USD to cover the cost of the services.

Another parallel program is to support poor household financially through Health Equity Fund (HEF) for reproductive and maternal health care, which is supported by UNFPA. This HEF has different volunteers, Community Based Agent (CBA), whose role is to identify poor household in their communities and register them in consultation with village chief and commune council.

CBA is responsible to provide information about the services at health facilities and the vouchers (Figure 10) to the HEF registered households. HEF registered households take the vouchers to receive services at health centre and referral hospital. Transportation and daily allowance for accompany are paid in case of hospitalization at referral hospital. This HEF scheme only reimburses the cost of services for reproductive and maternal health care, and HC bear the cost of other general services. Referral hospital (RH) does not support the cost of other services unlike HC.

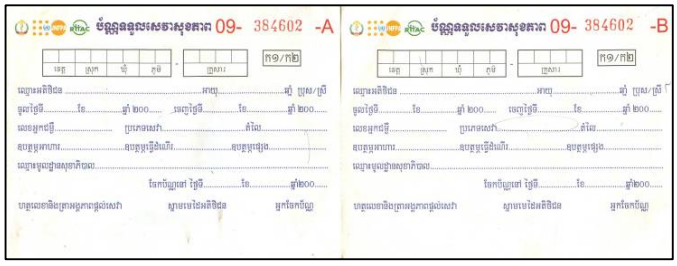


Figure 13 HEF Voucher

RHAC provides training to government staffs of operational districts and health centres that will provide training to VHSG. VHSGs are encouraged to identify pregnant women, register them in

[16] Each village in Cambodia has one VHSG which includes one VHSG leader and other supporting members. VHSG is formally recognized by the local health authorities (MoH 2008a). VHSGs work closely with health centre in the area. Detail is found in Annex --.

the book provided by RHAC, educate pregnant women using the two sheets of education materials, and provide them with the health card and explain about PSP. VHSGs are given trainings on how to use those education materials; one is on birth preparedness and the other is on danger signs (Figure 11 and Figure 12).

Birth preparedness education material includes 1) importance of receiving ANC, 2) eating balanced food, 3) taking iron supplement, 4) not to carry heavy thing, take drugs, drink alcohol or smoke, 5) saving money, 6) prepare transportation for in case of problem arising, 7) identify midwife for deliver, and 8) get good guidance on blest feeding.

Figure 14 Education material on birth preparedness

Danger sign education material says if women have any problems, go to HC or RH. The problems includes 1) leaking of or water break, 2) bleeding during labour pain, 3) bleeding after delivery, 4) high fever, 5) long labour pain, and 6) swelling, unclear vision, convulsion.

Figure 15 Education material for danger signs

VHSGs have bimonthly meetings with HC and RHAC to discuss problem raised, refresher training, and additional instruction of what to do.

CBAs have quarterly meetings to discuss the problems they face during their work, and occasionally meet RHAC staffs to give the half of the voucher back to RHAC in order to receive 400 Riel incentive per voucher.

VHSG and CBA have different roles but many of them are same villagers. And both services are on-going at the same time in TbK-KC OD.

Annex D Descriptions and Maps the Study Site

Kampong Cham province is located at North East of Phnom Penh, the capital city of the country. Kampong Cham province is politically unique as the homeland of current Prime Minister. Kampong Cham province is sharing border with Vietnam and has active trading route. It has population of 1.68 million and 369,468 households, the most populated province in Cambodia as 12 percent of population resident in the province. The average household size is 4.5.

Figure 16 Map of Cambodia

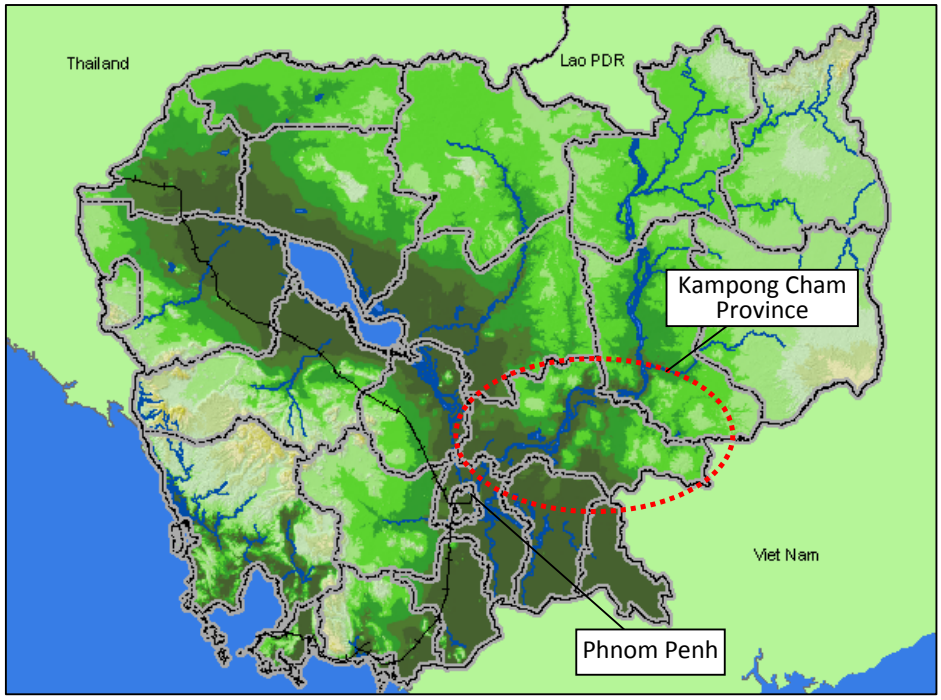
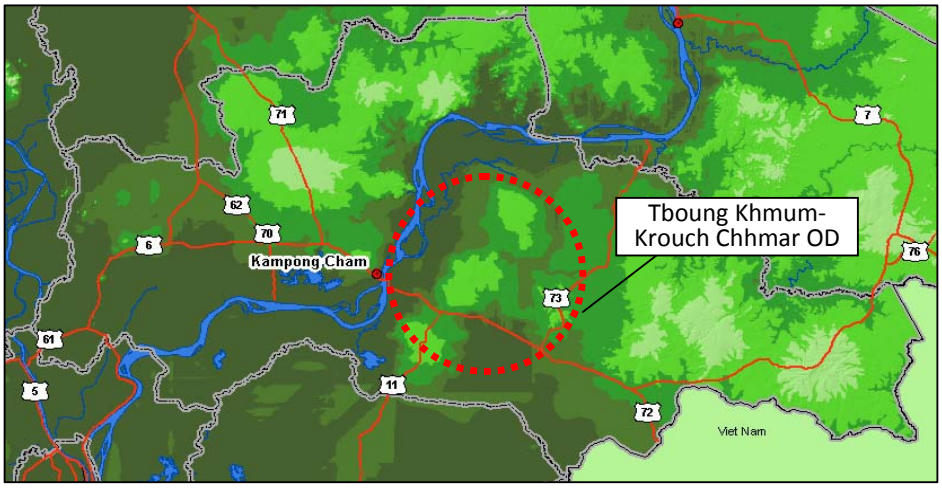


Figure 17 Map of Kampong Cham Province



Source: NREM Data tool box 2007.

Tboung Khmum – Krouch Chhumar Operational District

Tboung Khmum- Krouch Chhmar Operational District (TbK-KC OD) is composed of entire Tboung Khmum administrative district and two administrative commune of Krouch Chhmar District. Total population is 204,550 and 218 villages. The national road 73 is running through the OD and major markets are located on this road. South of this national road is mostly rice field with some vegetables plantation, and inhabited by Khmer. North of this road is mostly rubber plantation with some vegetable farms, and inhabited by Khmer and Cham.

TbK-KC OD has 130 staffs including 17 office staffs. There are 13 secondary midwives and 17 primary midwives who are not allowed to attend delivery by themselves. The referral hospital located next to the OD office building and has the capacity to provide caesarean section for needed women. They can accommodate women to rest at the RH for five days after delivery. Within TbK-KC OD, there are 16 health centres (HC). Some of HCs cover more than one administrative commune. Average population covered by one HC is 12,784.

Figure 18 One of the HCs visited during the fieldwork

This OD was suggested by RHAC as a study site with consideration that case study sites need to be typical Cambodian rural communities during development of the research proposal. The typical characteristics of the rural communities are communities of ethnic Khmer and rice cultivation as a basis of livelihood. However, this OD turned out to be mix of ethnic Khmer and Cham[17], and half of population relay on plantation (mostly rubber and some fruit and vegetable crops) for their livelihood. Only six health centres' catchment areas are of ethnic Khmer and rice cultivation for their livelihood. Within six health centres, four of them are located on the national road with market activities and have higher living standard than average rural communities. Therefore, within limited two options of health centres, one HC was selected as a study site for this study as the health centre capacity is considered to be an average according to the director of OD.


Figure 19 Typical bed used for delivery at HC

[17] Cham is the ethnic minority in Cambodia, less than 5 percent of the whole population. All Cham communities are Muslim mostly living in Kampong Chhnang and Kampong Cham province.

The HC

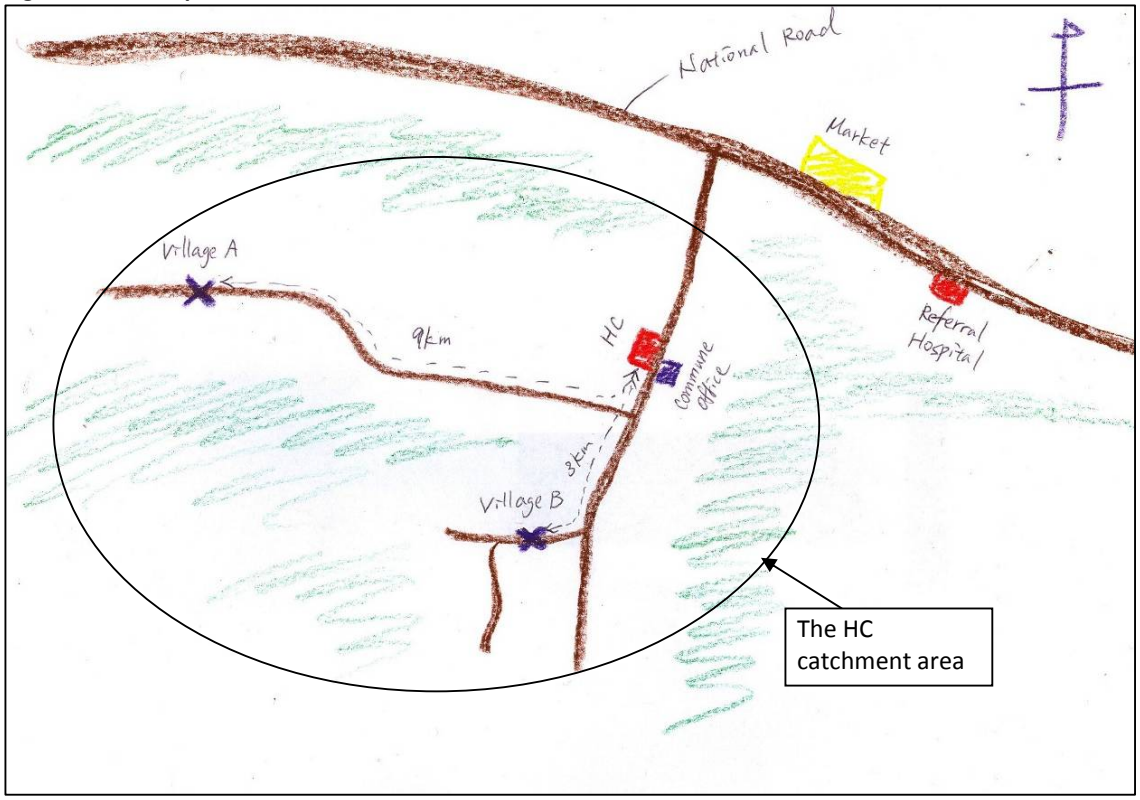
The HC covers 25 villages of two administrative communes. The total population is 16,285. The HC has two primary midwives. The HC has 1 delivery room with 1 bed for delivery, and 1 bed for resting in other room. Staffs attend at HC for 24 hours, 7 days a week (according to the HC chief), however I used to see the staffs going home around 10:30 in the morning and nobody comes back unless community members call them. The HC conduct outreach activities once a month to the villages, except three villages which are very close by.

Table 5 Demography and volunteer information of the HC catchment area

	# Village	# Population	Average # of HH per village	Average population of village	# VHSG and CSG		# Pregnant women	# Women 15-49
					Total	Female		
TbK OD	218	204,550	208.5	938.3	465	181	3916	18272
HC	25	16,285	144.8	651.4	75	35	489	2280

Figure 21 is the map of the HC area which illustrates the area. Farthest distance from the village to the HC in the catchment area is nine kilometre where Village A is located.

Figure 20 The Map of the HC Area



Annex E Ethical Approval and Planned Methods

The ethical approval was sought from the ethical committee of the Ministry of Health. With the letter of approval, the Provincial Health Department (PHD) in Kampong Cham was contacted to further facilitate the communication with TbK-KC OD. PHD prepared the letter to TbK-KC OD to ask for cooperation in conducting the study. After discussion with the OD director, the letters were further submitted to the HC chief and the commune council of the commune where the study was conducted. The letters were also submitted to the village chiefs of both Village A and B when the researchers introduced themselves in the beginning of the activities in the villages.

Participant observation

Participant observation allows the researcher to understand complex situation more than what people say about it by observing behaviours, actions, activities and interaction (Bowling 2002). The purpose is to spend as much time as possible in the case villages in order to build rapport with study participants as well as to gain contextual understanding.

Participant observation in each village will be carried out for around two to three weeks. It will start with observation and participation in the Village By home-staying at a family which is actively involved as Village Health Support Group (VHSG) in the case villages. The settings for the observation will be purposively selected. These setting include activities of village health support group (VHSG), community based agent (CBA), and other community organizing activities. Some of pregnant women who receive services through two financial schemes will be followed up throughout the study together with VHSG, and possibly accompany her visiting health centre or district hospital.

First one week will be spent for socializing and gaining understanding of the community and social relationship, and identifying possible informants including current pregnant women and women who have given birth in past 2 years. During the first week, informal discussion on childbearing issues, health care services, and other relevant topic will be discussed with villagers around.
After identifying participants for FGD and individual interviews, appointments with participants are made to conduct these activities during second and third weeks. During second and third weeks, participant observation will continue as individual interview and FGD happen.

During participant observation, the following information will be collected:

- Livelihood related information (source of income, farming practice and other income generation activities)
- Available social and economic infrastructure and resources (source of water, source of firewood/other fuel, education institution, pharmacy, market, small grocery store, etc.)
- Village organizing activities such as farmer association.
- Ton Ting practice and other saving activities if there is any.

- Type of information related to health and health care service provided and circulated in the village.
- Name and house location of currently pregnant women and women who have given birth in past 2 years.
- Type of and number of available transportation other than individually owned motor bike and bicycle such as romok or tuktuk (a cart pulled by a motor bike, usually used for transporting goods and people), car, truck, etc.
- Numbers and name of women who have received any kind of assistances from VHSG and CBA.
- Distance to and type of available health care facilities, skilled health care personnel, TBA/Kru Khmer.

Above mentioned information will be collected and mapped together with the villagers around as information accumulates.

Focus Group

Focus group is characterized by 'explicit use of group interaction to generate data' (Barbour and Kitzinger, 1999: 4), such as group meaning, group processes of meaning generation, and importantly group norms (Bloor et al 2001, 17). Therefore, it is a useful method to understand how community perceive and experience VHSG's and CBA's activities and the financial support, however it is not the alternative to understand intra-group variation as it will be "under-reported" (Bloor et al 2001, 17). This can be overcome by individual interviews with the participants of focus group and non-participants, and through participant observation.

Six FGDs will be conducted during participation observation in the case villages with group of six to eight participants for the each type of group as listed in the below:

- group a: women at reproductive age [18] who have received VHSG's and CBA's supports and financial support.
- group b: women at the reproductive age who have not received VHSG's and CBA's supports and financial support.
- group c: elderly women who support younger mothers in childbearing, traditional birth attendants and Kru Khmer.
- group d: men at age of between 15-49 who have received VHSG's and financial support.
- involved in VHSG's CBA's activities.
- group e: men at age of between 15-49 who have not received VHSG's and financial support.
- group f: VHSG, health workers and midwives who play important role in providing community outreach.

Especially for group a, b, d, and e, sub group will be formed if the mixed age group prevent some of younger participants from being active during discussion.

[18] Reproductive age: between 15-49 years old.

The topics for focus group discussion will be decided during the first week of participant observation after gaining broad understanding of the situation and socializing in the case villages. Examples of the topics would be a short brainstorming of the stages of childbearing process, and issues arise at the each stage. The predesigned tools (Annex 1) will be adapted and used depending on the topic. The tools will be tested with small group of villagers prior to the FGD at the village.
Flipchart, pens, post-it, button, and various illustrations for different topics and activities will be prepared in order to encourage illiterate participant to fully participate in.

Recruitment of FGD participants will be done during the first week of the participant observation. Recruitment strategy will be different from group to group. Based on socialization, observation and data collection during the first week of participant observation, the participants will be determined and asked for cooperation.

Individual Interviews

Number of face to face individual in-depth interviews will be conducted at different stages of the primary data collection using various instruments including semi-structured interview guide (Annex 1), which will be tested prior to the actual interviews. Purposive sampling will be used to select interviewees depending on how research proceeds. Purposive sampling refers to the selection of informants based on specific characteristics of the informant. Purpose and possible interviewees are described in the following sections.

In Phnom Penh, interviews with relevant stakeholders including MoH, NMCHS, donor agencies and NGOs active in maternal health care will be conducted for mainly two reasons. One is to first gain an overall perspectives of challenges faced by the health system in Cambodia in tackling high MMR. Secondly it is to review on going intervention by the government, local and international NGOs using community participatory approach to reduce MMR. These provide overall understanding on what are the issues are and how these issues have been addressed by various approaches. Possible interviewees and number of interviewees (in blanket) are:

- The government (MoH, NMCHS, MoWA, 2-3)
- Major donors and technical assistance providers (WHO, UNFPA, USAID, and JICA, 2-3)
- Local and International NGOs (RACHA, PATH, HealthNet, Family Health International, 3-4)
- Others

At provincial and district level, various stakeholders such as local authorities and active NGOs in the area will be interviewed in order to understand the overall development situation and on-going community organizing and health related activities in the area that might affect the situation of the study sites as well as those who might be interested in this study.

- Relevant government offices (department of health, planning, women's affair, and others, 3-4)

- NGOs active in relevant fields (health, community organizing, women's empowerment, etc.) within Kampong Cham province, particularly in Tbong Khum-Kroch Chma Operational District (2-3)

The following informants will be interviewed in order to understand the service providers' view to compare women's and communities' perceptions and experiences. The service providers who have been working with RHAC in providing services to the case study village particularly:

- District officers of department of health at Tbong Khum-Kroch Chma Operational District (1-2)
- Health centre staffs of the facilities where the villagers of the case study village go within Tbong Khum-Kroch Chma Operational District (4-6)
- Midwives (2-3) who take care of the villagers of the case study villages.

At the case study village, some of FGD participants will be selected purposively as participants for individual interviews. A sample size of each type of interviewees will be determined when same stories, themes, issue and topics are emerging from the study subjects because it implies that a sufficient sample size has been reached (Bowling 2002). At the case villages, the principal researcher and research assistant will review the interviews and discuss themes, issues and topics every end of the interview date and determine whether sufficient information collected or not. The number in blanket is approximate number of interviewees for each category per village.

- TBAs/Kur Khmer (1-2/village)
- Village Health Support Group (VHSG) (2-3/village)
- Community Based Agent (CBA) (1/village)
- Village chiefs (1/village)
- Women, who are at reproductive age, have received VHSG's support including financial assistances (3/village), and who have not (3/village).
- Husbands of aforementioned women (6/village).

For the individual interview at the case villages, the same tools as FGD or modified version will be used to discuss the topics. Annex 2 is the interview guide for individual interview with women. For other category of interviewee, similar interview guide will be prepared.

Each method of data collection will supplement and validate data obtained from other methods. Such triangulated approach would enable in-depth understanding of social meaning and appropriate interpretation of data.

Annex F Informed Consent Forms Used

Informed consent forms were prepared for individual interview participants and focus group discussion (FGD) participants. The both were translated into Khmer. The research assistant explained the content of the informed consent to the study participants in the beginning of the interview of FGD. Two set of documents were signed by both the study participants and the researcher and both side kept one copy each.
In the actual consent form, there are place for the researcher and study participants to sign and write the date, contact information of the researcher in Cambodia and in the Netherlands.

Request Letter for Participation (individual interview)

Dear Sir/Madam,

I, HIWASA, Ayako am a Japanese master student from the Royal Tropical Institute (KIT) in Amsterdam, the Netherlands. I am undertaking a research for my master thesis on community participation in birth preparedness in collaboration with Reproductive Health Association of Cambodia (RHAC). It is to understand your and communities' view about how you make decision to seek care when you are pregnant and are going to give birth. And also to understand your and communities' experiences of the services provided by RHAC. The result of the study will be discussed with you, and shared with RHAC and also other people to provide recommendation for improving the services for mothers and communities.
In this interview, I will ask some of your personal information such as family structure, and some questions regarding your view and experiences about childbearing, for example difficulties you faced, and experiences of using the services at the health facilities and financial support if you have received any. Please feel free to express and discuss your ideas. I would like to conduct this interview at your home, or wherever you feel comfortable to speak with us.

This interview will take about one hour. This is a voluntary participation, therefore there will not be any monetary or material compensation for it. I would really appreciate your participation, but it is up to you and please do not feel obliged to participate. Your experiences and opinions are vital for understanding how services are delivered. I promise that your privacy and confidentiality will be protected. Your personal information and opinions that you will share with me will not be disclosed.

This interview will take about one hour. I would like to record our conversation. Please feel free to tell me if you feel discomfort about this. The record will be used only for me and assistants to confirm understanding of your opinions. This record will not be copied or given to RHAC or any other parties. The record will be destroyed at the end of this research. You are free to decline participation in or withdraw from this study at any time without suffering from prejudice or disadvantage even after giving us your consent.

Sincerely,
Ayako

Request Letter for Participation (focus group discussion)

Dear Sir/Madam,

I, HIWASA, Ayako am a Japanese master student from the Royal Tropical Institute (KIT) in Amsterdam, the Netherlands. I am undertaking a research for my master thesis on community participation in birth preparedness in collaboration with Reproductive Health Association of Cambodia (RHAC). It is to understand your and communities' view about how you make decision to seek care when you are pregnant and are going to give birth. And also to understand your and communities' experiences of the services provided by RHAC. The result of the study will be discussed with you, and shared with RHAC and also other people to provide recommendation for improving the services for mothers and communities.

During this group discussion, we will discuss about the process of childbearing, and your experiences about services provided to this community. I would like to do some activities to stimulate your opinions. Please feel free to express and discuss your ideas.
This group discussion will take about one hour. I would like to organize this discussion at community assembly or one of the participants' homes. This is a voluntary participation, therefore there will not be any monetary or material compensation for it. I would really appreciate your participation, but it is up to you and please do not feel obliged to participate. Your experiences and opinions are vital for understanding how services are delivered.

If you want to share your experiences and feelings of this group discussion afterwards, please come and talk to us.
I would like to record conversation of this group discussion. I would also like to take some photos. Please feel free to tell us if you feel discomfort about this. The record will be used only for me and assistants to confirm understanding of your opinions. This record will not be copied or given to RHAC or any other parties. The record will be destroyed at the end of this research.

You are free to decline participation in or withdraw from this study at any time without suffering from prejudice or disadvantage even after giving us your consent.

Sincerely,
Ayako

Annex G Research Table

This table summarises the data collection methods used to achieve each research objective.

Table 6 The research table

	Method	Participant
Objective 1: To describe women's and communities' perception about the factors leading to the first delay.	Participant observation	Villagers in Village A and B
	Individual interview using semi structured interview guide	18 women who recently delivered a baby
		Midwife
		Health centre chief
		VHSGs/CBAs
		RHAC staff at the OD
	Informal discussion	General villagers
		18 women who recently delivered a baby
		Midwife
		RHAC staff at the OD
Objective 2 To discuss how they make decision and what their priorities are at the each stage of childbearing.	Individual interview using semi structured interview guide	18 women who recently delivered a baby
		Midwife
	Informal discussion	Mother and mother in law of the women interviewed
Objective 3 To explorer women's and their communities' experiences of community interventions and financial assistances.	Participant observation	Villagers in Village A and B
	Individual interview using semi structured interview guide	18 women who recently delivered a baby
		VHSGs/CBAs
	Informal discussion	18 women who recently delivered a baby
		RHAC staffs at the OD
Objective 4: To propose recommendation for the further expansion of the program to RHAC as well as other stakeholders.	Individual interview using semi structured interview guide	18 women who recently delivered a baby
	Informal discussion	Midwife
		RHAC staffs at the OD
	Presentation of the brief research findings and	RHAC staffs at the OD and provincial level
		OD director

Annex H Interview Guide for Women

Interview Guide for Women

Code: Interview date: ____/____/ 2010 Interviewer: _____

Village: _____ HC: _____

General Question

Name: (Kh)_____ (Eng)_____ Village of birth:_____

Age: _____Education level:_____Marital status: single/married/divorced/widow/( )

Main source of income: _____

Size of rice field or other type of land: _____# of Cattle: _____

Housing material (observation only): _____

Average daily expenditure: _____Riel( )

Possessed transportation: bicycle/motor/romok (ko-yun/motor)/ox cart /car/truck / others ( )

Child	Year of Birth	Place of Birth	Who assisted the birth	Transportation if not at home / Problems encountered (any kind)/how much they spend. Place labor pain started. who was at home/how much they
1st				
2nd				
3rd				
4th				

Q: Would you still go to HC even if you don't have Health card/ HEF? If yes / no, why?

Q: What do you think about giving "*sakun*"

1. Past Experiences of Service Utilization

1.1. Do you have a health card / card for HEF?

Yes / No (Health card) Yes / No (HEF)

1.1.1. If yes, when did you get it? Health Card: HEF:

1.1.2. Who gave you the card? Village volunteer / HC staffs / village chief / others ( )

1.1.3. What benefits this card can give you? _____

_____

1.1.4. When (at how many months of pregnancy) did village volunteers come to talk to you? _____ months (for latest child)

1.1.5. How often (how many times) village volunteers had contact with you while you were pregnant and after delivery?

_____

1.1.6. What did village volunteers tell you? / what did you learn from them?

_____

1.1.7. What do you think about their supports? _____

_____

1.1.8. What supports do you wish more from them?_____

_____

1.2. You have__children. What problems did you face when you were pregnant at delivery, and after delivery? (financial difficulties, available services, access to services; distance/transportation)

1.2.1. Difficulties (problems) during pregnancy _____

_____

1.2.2. Difficulties (problems) when you deliver at home / HC _____

_____

1.2.3. After delivery_____

_____

1.2.4. Among all of these problems, what are the three most difficult problems for you?

1st: _____ why: _____

2nd: _____ why: _____

3rd: _____ why: _____

1.3. You delivered ____children at _____with ( )'s assistance and delivered _____children at _____ with( ). Why did you decide to deliver at home and HC and what do you think about it?

_____ ( ):_____

_____

_____ ( ) :_____

_____

_____ ( ):_____

_____

1.4. When labour pain started, what did you do? _____

_____

1.4.1 What are the difficulties when you begin labour pain? _____

_____

1.4.2 Who did help you? _____

1.4.3 Who decide what you should do and where you should go? _____

1.4.4 Did you go to HC for delivery? **Yes / No**

For Yes

1.4.4.1 Who arrange the transportation to go to HC? _____

1.4.4.2 How much did it cost and did you have enough money to pay?

_____ Riel _____

For No

1.4.4.3 Did someone come to assist you in delivery? _____

2. Birth Preparedness

2.1. What are the important things you have to think during your pregnancy? _____

_____

2.2. What do you think about receiving check up at HC during pregnancy and what are the benefits of ANC check?

_____

2.2.1. While you are pregnant, do you think you need to go to HC?

Yes / No

Why? _____

2.2.2. How many times do you need to go? _____ times

2.2.3. What are the difficulties of going to HC during your pregnancy? _____

_____

2.2.4. When you go to HC for your pregnancy, do you discuss with anyone when you go there?

2.3. Did (do) you think about saving money when you were pregnant before delivery?

Yes

2.3.1. Who did you discuss with about saving money?

2.3.2. How much money did you save? 1st: Riel 2nd: Riel 3rd: Riel

2.3.3. What did you save money for?

2.3.4. Was it enough?

No

2.2.3. What are the expenses needed for you to deliver a baby?

2.2.4. How did you manage to pay for all the expenses needed to deliver your baby?

For both Yes and No

2.2.5. How your financial difficulties can be solve?

2.4. What should you do and shouldn't do when you are pregnant / deliver / after delivery? Who do you discuss with, and whose opinions influence you most? (use stakeholder analysis and decision making table)

2.4.1. During Pregnancy (including about diet)

Should do

Shouldn't do

2.4.1.1. At how many months of pregnancy you stop working in rice field and how many months after you start to work in rice field again?

During pregnancy months. After delivery months

2.4.2. Delivery

Should do

Shouldn't do

2.4.3. After delivery

Should do

Shouldn't do

What do you think about "*Ang-pleung*"

3. Decision making process

3.1 Who have the strongest influence over what should be done regarding childbearing process?

Who:

Why:

Anything would you like to tell us, or share with us?

Annex I Stakeholder Analysis Tool

Code:												
Discuss/Counselling	**Before pregnancy**		**Pregnancy**	**During Pregnancy**		**Delivery**		**After delivery**	
Herself /Himself									
Own mother / mother in law									
Husband / Wife									
Sisters / Brothers / Friends									
Village volunteers									
TBA/Kru Khmer/other elderly									
Health centre staff									
Private doctor / midwife / nurse									
Others ( )									

The tool used during the interviews has more space for each column and in two pages. The interviewer checked the left column and write down what interviewees discuss with each stakeholder.

Decision making	**Before pregnancy**		**Pregnancy**	**During Pregnancy**		**Delivery**		**After delivery**	
Herself/Himself									
Own mother / mother in law									
Husband / Wife									
Sisters / Brothers / Friends									
Village volunteers									
TBA/Kru Khmer/other elderly									
Health centre staffs									
Private doctor / midwife / nurse									
Others ( )									

Annex J Background of the Study Villages

This section provides background information of the village where primary data was collected.

Case Village A

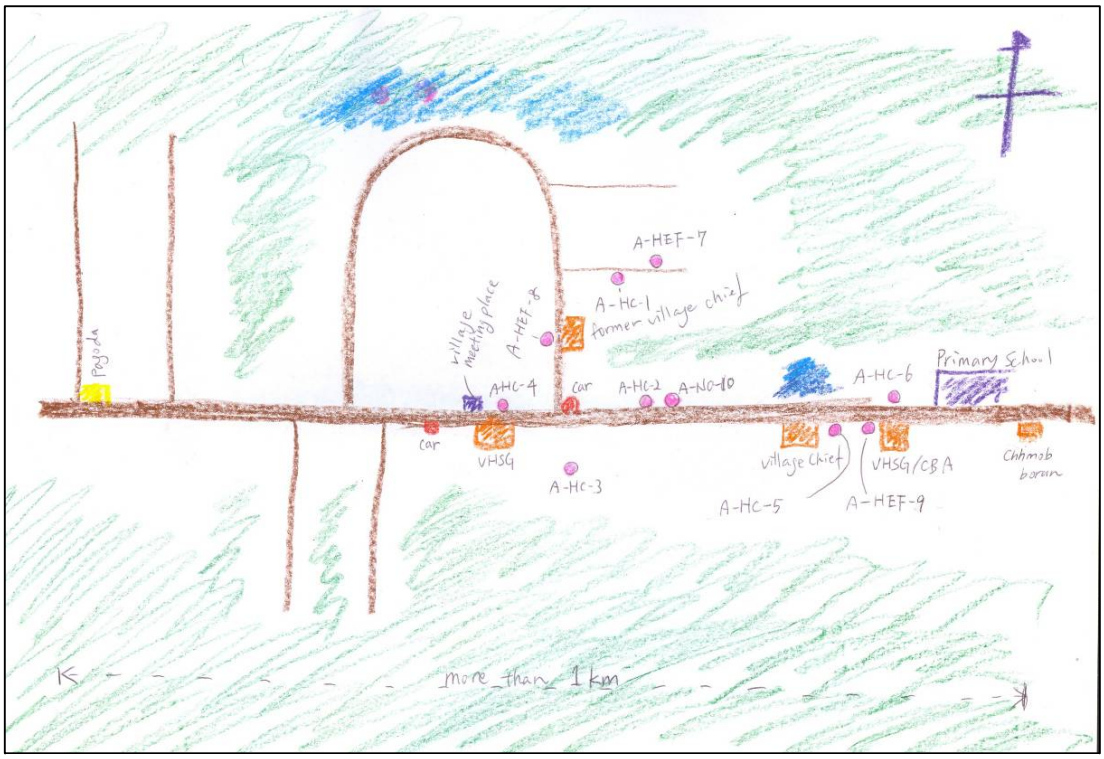


Figure 21 Map of study Village A

Village A is populated with over 1,000 villagers consisted of 223 households. The number of villagers was not clear as the village chief is new and he did not have information. 46 households registered for HEF and nine more households were to be registered soon at the time of data collection. Village A is 9 kilometres away from the HC.

Residential area is spread along the main road runs through the village between East and West, which is connected the Village A to a secondary school and commune council.

The leader of VHSG is woman who is 30 years old and mother of four children. Her mother is the former village chief of Village A, and she was appointed by her mother to be the leader VHSG as she is literate.
Another CBA/VHSG is also a woman who is 29 years old and mother of two children. Her cousin used to be a volunteer and she took over it after her cousin got married and pregnant.

Case Village B

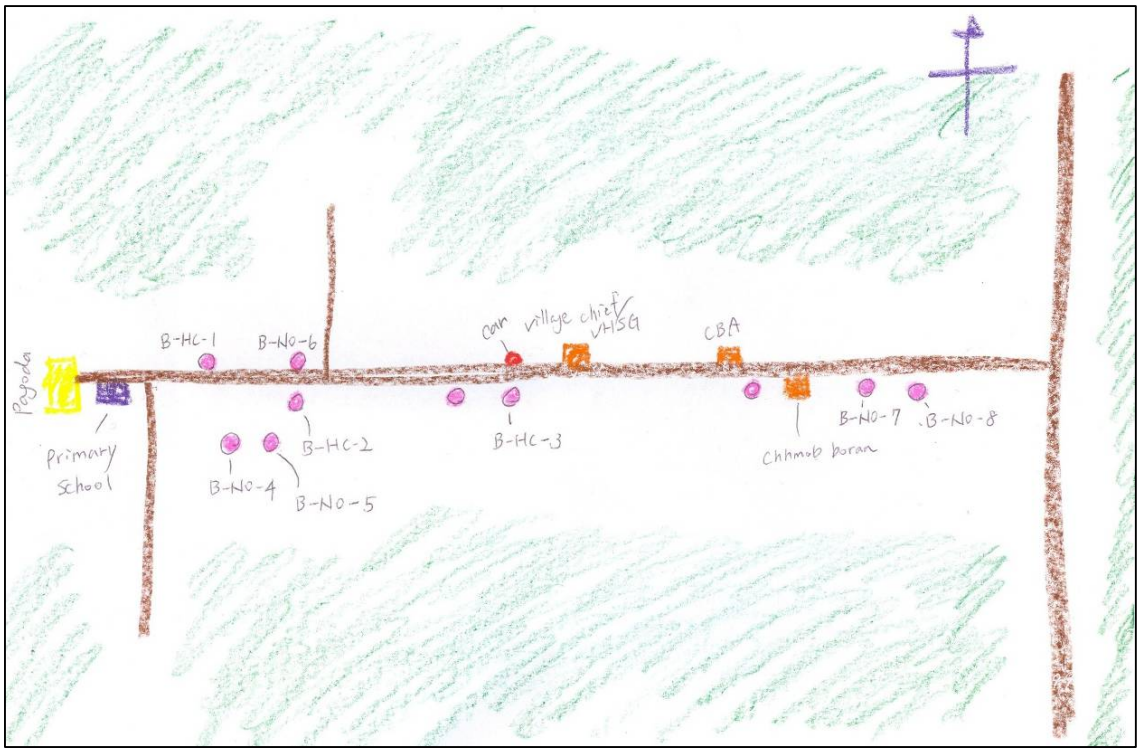


Figure 22 Map of study Village B

Village B has population of 489 villagers, consisted of 114 households. There are 29 households registered for HEF. Village B is 3 kilometres away from the HC.

All the villagers' houses are located along the main road, which gets muddy after rain. Residential area is within close proximity. There is a huge pickup truck from West of the village run through Village B every morning to provide transportation to the market in Suong, the nearest district market along the national road. For those who do not own any mode of transportation, it is important transportation option they have.

Many of the villagers, especially poorer villagers tend to rent a land in Snoul, next province to farm more than half of the year. Once they go to the farm, they seldom come back to the village.

There are significantly high numbers of young women who are currently working in Malaysia as house maids and tendency of going to work at factories in Phnom Penh is decreasing.

Annex K List of Study Participants

Village A

Table 7List of the Study Participants - Village A

Code	Health Card	HEF	Age	Edu level	Source of Income	# of children	Year of deliver	Location of delivery	Birth Attendant	Remark
A-HC-1	○		25	G1	Rice cultivation (0.3h)/day labour	2	2005	Home	TBA	Labour pain came and delivered quickly so couldn't go to HC.
							2010	Home	TBA	
A-HC-2	○		29	G5	Rice cultivation (0.1h)/day labour	5	2003	Home	TBA	Last two children are twin. Delivered at RH because of twin.
							2004	Home	TBA	
							2006	Home	TBA	
							2010	Home	TBA	
							2010	RH	Midwife	
A-HC-3	○		30	G3	Rice cultivation (0.3h)/vegetable farm (1.3h)/looking after phone tower, $50	2	2005	Private clinic in Phnom Penh	Midwife	Used to work at a factory in Phnom Penh and delivered her first child at the private clinic. Looking after phone tower. Initially intended to go to a private clinic in Kampong Cham town but the labour pain was strong and decided to deliver at the HC. There is a family owns a car in front of her house and they took her to the HC.
							March 2010	HC	Midwife	
A-HC-4	○		28	G8	Rice cultivation (0.4h, parents' land)/vegetable farm (0.2h, sister in law's)	2	2005	House of private doctor	Private doctor	Her sister and her baby died 10 years ago when she delivered with TBA's assistance. Baby died before mother. She saw it happened. TBA was drunk. Her sister was bleeding a lot. She used to live nearby Kampong Cham town working at a factor when she had the first child. Her house was very far from the HC at the time. Very weak. Living in front of Mach's house but no communication at all. Second child: Labour pain started at 10pm, went to HC at 2am. and gave birth at 6am. rest at HC for 10-15 min and came home. I was very weak and very difficult to deliver. If they could have do cesarean section, I wanted to do that. I called HC at 2am before I left the house because I wanted HC to prepare all.
							May 2010	HC	Midwife	
A-HC-5	○		33	G4	Rice cultivation (0.09h)/vegetable farm	2	2005	Home	TBA	Labour pain started at rice field and came back home. She had very long labour pain.
							March	HC	Midwife	Had a problem during pregnancy so went to RHAC clinic in Suong. When she

					(1.5h)/day labour		2010			started labour pain at 9am, her husband was at home and took her to the HC by borrowing a motor bike from neighbour. But the motor bike got flat tire on the way and repaired it and went to the HC. She waited while repairing a motor bike.
A-HC-6	○		31	G5	Rice cultivation (0.3h)/vegetable farm (1h)	3	2003	Private doctor	Midwife	Sister in law of CBA. Living in front of CBA's house.
							2006	Home	TBA	
							2010	HC	Midwife	
A-HEF-7		○	41	G1	No land/day labour/cultivate father in law's land (0.09h)	2	2003	Home	Midwife	Very poor. HEF holder but didn't go to HC for delivery.
							2008	Home	TBA	
A-HEF-8		○	30	G2	No land/fishing /day labour	3	1999	Home	TBA	Hearing problem. Very poor.
							2002	Home	TBA	
							2009	HC	Midwife	
A-HEF-9		○	36	G6	Rice cultivation (0.09h)/day labour	2	2006	National hospital	Midwife	Nearby CBA's house. Good friend of CBA. Used to work at factory in Phnom Penh. Delivered her first child at the national hospital.
							2009	HC	Midwife	Wanted to go to RH because she could stay there but she didn't go because of her first daughter. it's difficult to keep her with others.
A-NO-10			30	G3	N land/day labour (husband works in different province)	4	1995	Home	TBA	Next to twin mother. She asked for the health card but she was told that it's run out. She had free service at RH.
							2001	Home	TBA	
							2005	Home	TBA	
							2010	RH	Midwife	
A-V-1			30	G7	Rice cultivation (0.26h)/vegetable farm (0.1h)	4	1995	Home	TBA	Daughter of former village chief. Volunteering since 2006.
							2000	Home	TBA	
							2003	Home	TBA	
							2008	RH	Midwife	
A-V-2			29	G5	Rice cultivation (father's land)/vegetable farm (0.3h)	2	2003	Home	Midwife	Volunteering since November 2009.
							2007	Home	Private doctor	

Village B

Table 8 List of the Study Participants - Village B

Code	Health Card	HEF	Age	Edu level	Land/occupation	# of children	Year of deliver	Location of delivery	Birth Attendant	Remark
B-HC-1	○		25	G5	Rice cultivation(0.25h) /renting a vegetable farm nearby and in Snuol	2	Nov 2005	on the way to the HC	TBA	For the first child, she was bleeding and tried to go to HC but delivered on the way. For the 2nd child, it was at night and raining hard. So she had the health card but didn't go to HC. She had check up for 2nd child and paid 2000 Riel.
							Sep 2009	Home	TBA	
B-HC-2	○		19	G7	Rice cultivation (1h)/farm (0.8a)	1	Sep-09	HC	Midwife	Gave 40,000 Riel sakun.
B-HC-3	○		20	G6	Rice cultivation(0.3h)/renting a farm	1	Jan-10	HC	Midwife	She paid 60,000 Riel for delivery as she had ANC check for 3 times only. She didn't know that she needs 4 times. She was asked sakun, and paid 20,000 Riel.
B-No-4			30	G4	No land/day labour	3	2003	Home	TBA	She is really poor but not registered for HEF. Her parents used to have problems with volunteers so they ignored her.
							2005	Home	TBA	
							May 2009	Home	TBA	
B-No-5			37	G4	Rice cultivation (0.2h)	2	1995	Home in home village	Private doctor	Her mother told her about service at RH. If she is poor, she has free service and can rest for 5 days without pay (with post identification of HEF). She is not registered for HEF but was interviewed during her stay at RH.
							May 2009	RH	Midwife	
B-No-6			32	G4	Rice cultivation /vegetable farm (0.5h)	4	1996	Home	TBA	Before, she was too shy to have ANC checkduring her pregnancy. She wanted to go to HC for the 4th child but delivered on the way while she was traveling to HC on ko-yon. HC blamed her that why she didn't go to deliver at HC when her family member took the baby to HC for injection next morning.
							1998	Home	TBA	
							2005	Home	TBA	
							Mar 2010	On the way to HC	TBA	
B-No-7			42	G3	Rice cultivation (0.4h)/renting a vegetable farm	4	1990	Home	TBA	Her baby is extremely small. When she was born, around 2000 g. She doesn't have breast milk so feeding her with formula. She had an abortion once, and got pregnant again but was expensive to have an abortion again so delivered. She used to use pill and IUD. She said she could not go to the HC on time but her attitude seems didn't care about it. As she went to chhmob boran's house after labour started by foot.
							1993	Home	TBA	
							1999	Home	TBA	
							July 2010	Home	TBA	

B-No-8			22	G2	Rice cultivation (0.25h)/vegetable farming (2h in Snuol)	2	2007	Home	TBA	When she started labour pain for the 2nd, it was at night and her husband and parents in law weren't at home.
							2010	Home	TBA	
B-V-1			61		Rice cultivation/vegetable farming	4		Home	TBA	Village chief. Serving as VHSG leader for six years.
								Home	TBA	
								Home	TBA	
								Home	TBA	
B-V-2			29	G6	Rice cultivation (1.5h)/Vegetable farming (3h)	2	1998	Home	Private midwife from Phnom Penh	CBA but not active. Many villagers do not know that she is CBA or doing anything as health volunteer.

Reference

Ahluwalia, I.B., schmid, T., Kouletio, M., and Kanenda, O. 2003. An evaluation of community-based approach to safe motherhood in northwestern Tanzania. *International Journal of Gynaecology and Obstetrics*. 82(2003)231-240.

ASEAN Affair. 2009. World Bank: Cambodia's economy to recover in 2010. Found at http://www.aseanaffairs.com/cambodia_daily_news_updates/economy/world_bank_cambodia_s_economy_to_recover_in_2010 [Accessed on August 13, 2010].

Barbour, R.S., and Kitzinger, J. 1999. *Developing focus group research: Politics, theory, and practice*. London and Thousand Oaks: Sage Publication.

Barkar, A., Rahman, M., Bose, Manik Lal, Com, M., Akhter, S. 1997. Modeling the First Two Delays of the "Three-Delays Model"for Emergency Obstetric Care in Bangladesh: A Choice Model Approach. *Journal of Health and Population in Developing Counties*; 1(1): 57-67.

Barnes-Josiah, D., Myntti, C., Augustin, A. 1998. The "three delays" as a framework for examining maternal mortality in Haiti. *Social Science and Medicine*. 1998 April; 46(8):981-93.

Bhattacharyya, B., Winch, P., LeBan, K., and Tien, M. 2001 *Community Health Worker Incentives and Disincentives: How They Affect Motivation, Retention, and Sustainability*. Basic Support for Institutionalizing Child Survival Project (BASICS II) for USAID: Virginia.

Bloor, M., Frankland, J., Tomas, M., and Stewart, K. 2001. *Focus groups in social research.* London: Sage Publications.

Bowling, Ann. 2002. *Research methods in health: Investigating health and health services*. Buckingham: Open University Press.

Brewer, J. D. 2000. *Ethnography*. Buckingham: Open University Press.

CDRI. 2007. *Youth Migration and Urbanisation in Cambodia*. Working Paper 36. CDRI: Phnom Penh.

Cham, M., Sundby, J., and Vangen, s. 2005. Maternal mortality in the rural Gambia, a qualitative study on access to emergency obstetric care.

Chan, Theary. 1999. *Appropriate Intervention for the reduction of maternal morbidity and mortality in Svay Rieng Province, Cambodia*. Master thesis. Amsterdam: KIT.

Costello, A., Osrin, D., Manandhar, D. 2004. Reducing maternal and neonatal mortality in the poorest communities. *British Medical Journal* 329, 1166–1168.

Creswell, J. W. 2008. The selection of research design. IN *Research Design: Qualitative, Quantitative, and Mixed Methods Approaches.* Sage: California

FHI. 2000. *Network: Intrauterine Devices*. 2000, Volume 20, Number 1. Available at http://www.fhi.org/en/RH/Pubs/Network/v20_1/index.htm [accessed on August 15].

Fujita, Noriko. 2009. *Assessment of health systems in relation to interventions between disease-specific programs and health system strengthening*. International Medical Center of Japan.

Gil-González, D., Carrasco-Portiño, M and Ruiz, M. T. 2006. aKnowledge gaps in scientific literature on maternal mortality: a systematic review. *Bulletin of the World Health Organization.* 2006; 84:903-909.

Grundy, J., Khut, Q.Y., Oum, S., Annear, Peter., Ky, Veng. 2009. Health systems strengthening in Cambodia – A case study of health policy response to social transition. *Health Policy,* 92: 107-115.

Hardeman, W., Van Damme, W., Van Pelt, M., Ir P, Heng, K., Meessen, B. 2004. Access to health care for all? User fees plus a health equity fund in Sotnikum, Cambodia. *Health Policy and Planning, 2004*;19:22-32.

ILO. 2009. *Programme final consultative workshop*. MOLVT-ILO/Japan Final Consultative Workshop on Formulation of Foreign Employment Policies for Cambodia. http://www.ilo.org/asia/whatwedo/events/lang--en/WCMS_118313/index.htm [accessed on August 10, 2010]

Jacobs, B., and Price, N. 2004. The impact of the introduction of user fees at a district hospital in Cambodia. *Health Policy and Planning.* 19(5):310-321.

JHPIEGO. 2004. *Mobilizing for Impact: Indonesia's SIAGA Campaign Promotes Shared Responsibility.* http://www.jhuccp.org/pubs/cp/mnh/Indonesia.pdf (accessed on February 25, 2010)

Khan, K,S,, Wojdyla, D., Say, L., Gülmezoglu, A.M., Van Look, P.F. 2006. WHO analysis of causes of maternal death: a systematic review. *The Lancet.* 2006 Apr 1;367(9516):1066-74.

Kitzinger, J. and Barbour, R.S. 1999. *Developing focus group research: Politics, theory, and practice*. London and Thousand Oaks: Sage Publication

Lr, P., Hoewmn, D., Narin, S., and Damme, W. V. 2008. Improving access to safe delivery for poor pregnant women: a case study of vouchers plus health equity funds in three health districts in Cambodia. IN Richard, F., Witter, S., and Brouwere, V. D. (Ed) *Reducing financial barriers to obstetric care in low-income countries. Studies in Health Services Organization & Policy, 24, 2008*

Manandhar, D., Osrin, D., Shrestha, B., Mesko, N., Morrison, J., Tumbahangphe, K., et al. 2004. The effect of a participatory intervention with women's groups on birth outcomes in Nepal: cluster randomized controlled trial. *Lancet*; 364:970-9.

Marshall. M. N. 1996. Sampling for qualitative research. *Family Practice*. Vol 13, No.6.

Maternal and Neonatal Health Program. 2004. *Birth preparedness and complication readiness: A matrix of shared responsibilities*. Baltimore: JHPIEGO.

Matsuoka, S., Aiga, H., Rasmey, L.C., Rathavy, T., Okitsu, A. 2010. Perceived barriers to utilization of maternal health services in rural Cambodia. *Health Policy* (2010), doi:10.1016/j.healthpol.200912.011.

McPherson, R. A., Khadka, N., Moore, J. M., Sharma, M. 2006. Are Birth-preparedness Programmes Effective? Results From a Field Trial in Siraha District, Nepal *Journal of Health, Population and Nutrition.* Vol. 24, No. 4. pp.479 - 488

MoH. 2006. *National Strategy for Reproductive and Sexual Health in Cambodia*, 2006-2010. Phnom Penh: MoH

. 2007. *Joint Annual program review 2007*. Department of Planning and health information: Phnom Penh.

. 2008a. *Community Participation Policy for Health*. Phnom Penh: MoH

. 2008b. *Health Strategic Plan 2008-2015: Accountability, Efficiency, Quality, Equity*. Phnom Penh: MoH

MoP. 2009. *General Population Census of Cambodia 2008: National Report on Final Census Results*. NIS, MoP

MoP. 2005. *Millennium Development Goals 2005 Update*. Phnom Penh: MoP

Mukherjee, J.S., and Eustache, Fr. E. 2007. Community health workers as a cornerstone for integrating HIV and primary healthcare. *AIDS Care*. 2007; 19(Supplement 2): S73-S82

NIPH, NIS, [Cambodia] and ORC Macro. 2006. *Cambodia Demographic and Health Survey 2005.* Phnom Penh: National Institute of Public Health and National Institute of Statistics, and Maryland: ORC Macro.

NMCHC, MoH. 2010. *Community Collaboration Handbook for Operational Districts*. NMCHC, MoH: Phnom Penh.

NREM DATA TOOL BOX. 2007. *Atlas of Cambodia*. Phnom Penh: DANIDA.

Ovesen, Jan. and Trankell, Ing-Britt. 2010. *Cambodians and their doctors: A medical anthropology of Colonial and Post-Colonial Cambodia*. NIAS Press.

Rosenfield, A. and Maine, D. 1999. The Safe motherhood initiative: Why has it stalled? *American Journal of Public Health*. 1999; 89:480-482.

Saker, M., Schmid, G., Larsson, E., Kirenga, S., Allegri, M. D., Neuhann, F., Mbunda, T., Lekule, I., and Muller, O. 2010. Quality of antenatal care in rural southern Tanzania: a reality check. *BMC Research Notes* 2010, 3: 209.

Sherratt, D. R., White, P, and Chhuong, C. K. 2006. *Comprehensive Midwifery Review: Draft final report*. MoH: Phnom Penh.

Skinner, J. 2006. *Birth Preparedness: Tackling the first delay*. Implementation and evaluation of a pilot project which, using a community participatory approach, introduced an intervention to prevent maternal mortality. A project of the Cambodian National Maternal and Child Health Service supported by the World Health Organization.

Skinner, J., Rathavy, T., Design and evaluation of a community participatory, birth preparedness project in Cambodia. *Midwifery* (2008), doi:10.1016/j.midw.2008.01.006\

Soeters, R., and Griffiths, F. 2003. Improving government health services through contract management: a case from Cambodia. Health Policy and Planning.2003; 18:74-83.

Sokkohnn, S, McConnel, F., Tharith, S., Heffernan, P., Grundy, J. *Building partnerships in the south East Asian region: a progress report on the development of the Cambodian Medical Association*. Melbourne, May 1-3, 2002. World rural health 2002 international conference, available online: http://www.abc.net.au/rural/worldhealth/papers/31.htm [accessed online on August 10, 2010]

Sophal Ly. *A Khmer Rouge regime's midwife*. Cambodia Documentation Centre, Phnom Penh, http://www.dccam.org/Survivors/3.htm [accessed online on August 10, 2010]

Stanton, Cynthia. K. 2004. Methodological Issues in the Measurement of Birth Preparedness in Support of Safe Motherhood. *Evaluation Review.* 2004; 28; 179

Starrs, A. M. 2006. Safe motherhood initiative: 20 years and counting. *The Lancet*. September 28, 2006. DOI:10.1016/S0140-6736(06)69385-9

Takahashi, Miwa. 2005 Marriage, Gender, and Labor: Female-Headed Households in a Rural Cambodian Village. *Southeast Asian Studies*, Vol. 42, No. 4, March 2005.

Thaddeus, S., and D, Maine. 1994. Too Far to Walk: Maternal Mortality in Context. *Social Science and Medicine,* 38 (8), pp 1091 – 1110

UN. 2009. *The Millennium Development Goals Report 2009*. New York: UN

Vathiny, O.V., and Hourn, K. K., 2009. Barriers to Contraceptive Use in Cambodia. Kuala Lumpur: The Asia-Pacific Resource and Research Centre for Women.

Waiswa, P., Kallander, K., Peterson, S., Tomson, G., and Pariyo, G. W. 2010. *Tropical Medicine and International Health*. Vol. 15. No. 18. Pp 964-972

Walton, John. 1992. Making the theoretical case. IN C.C. Ragin & H.S., *What is A Case?* pp. 121–137. Cambridge: Cambridge University Press.

White, P. M. 2002. Crossing the river: Khmer women's perceptions of pregnancy and postpartum. *Journal of Midwifery and Women's Health*. Vol. 47, No.4, July/August 2002.

WHO. 1994. *Mother–Baby Package: Implementing safe motherhood in countries*. WHO: Geneva. 2009. Country Health Information Profiles: Cambodia. WHO. Available at http://www.wpro.who.int/NR/rdonlyres/4A0D3372-8A69-4DE9-A643-1B5F875F8CEE/0/8finalCAMpro09.pdf [Accessed on August 13, 2010]

Yanagisawa, Satoko. 2004. Crossing the river: health of mothers and children in rural Cambodia. *International Congress Series.* 1267 (2004) 113– 126

Yanagisawa, S., Mey, V., Wakai, S. 2004. Comparison of health-seeking behavior between poor and better-off people after health sector reform in Cambodia. *Public Health* (2004) 118, 21-30.