



CIAI

Defending Health Rights of Bunong Community

A Study Research

KaohNheaek and Pechr Chenda Districts

Mondulkiri Province

**October 2012
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Frequently Used Abbreviations

Action for Health (AFH)

Baby Friendly Community Initiative (BFCl)

Baby-Friendly Hospital Initiative (BFHI)

Cambodia Demographic and Health Survey (CDHS)

Focus Group Discussions (FGD)

Health Centre (HC)

Health Equity Fund (HEF)

Health Sector Strategic Plan 2003-2007 (HSSP)

Health Unlimited (HU)

Infant and Young Child Feeding (IYCF)

In-Patient Department (IPD)

Integrated Management Childhood Illness (IMCI)

International Confederation of Midwives (ICM)

International Federation of Gynaecology & Obstetrics (FIGO)

Ministry of Health (MoH)

Out-Patient Department (OPD)

Provincial Health Department (PHD)

Reproductive Maternal Newborn and Child Health (RMNCH)

Referral Hospital (RH)

Reproductive Health Association of Cambodia (RHAC)

Skilled Birth Attendant (SBA)

Traditional Birth Attendants (TBAs)

United Nations Millennium Development Goal (MDG)

US Government (USG)

Voluntary Service Overseas (VSO)

Village Health Support Group (VHSG)

World Health Organization (WHO)

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Executive Summary

Background

Since 2000, Cambodia has shown notable improvements in the areas of Reproductive Maternal Newborn and Child Health (RMNCH). Maternal mortality and under-five mortality rates decreased significantly, together with an increase in birth delivery at health facilities. However, despite these advancements, remote provinces in the country have not fully benefitted. For example, in Mondulakiri/Ratanakiri, where 44% of the female population have not received schooling (CDHS 2010), the under-five mortality rate of 106 per 1,000 live births is twice the national average (54 per 1,000 live births).

The objective of this study is to gain knowledge on Bunong women's perceptions and views on delivery care and empower them to: (1) Be included in public health system; (2) Be part of the health policy-making processes; (3) Strengthen the capacity of local organizations (e.g. IPHIA, AFH, RHAC) to participate in defending Bunong health rights; (4) Reinforce interaction between the Bunong community, local organizations, and local authorities (especially PHD); (5) Assure the participation of the most vulnerable sections of the population, particularly women; and (6) Reinforce Bunong assets.

The study provides (1) Analysis of health system in place; (2) Analysis of child delivery; (3) Analysis of umbilical cord care; and (4) Examination of practices related to breastfeeding. To achieve this, four types of data were collected: (1) Literature review of relevant sources; (2) Primary data by interviewing 113 women in 13 villages; (3) Secondary data from available sources; and (4) Qualitative data from Focus Group Discussions (FGDs).

The Bunong traditional belief system and its relationship to delivery, maternal, and newborn health is also considered. Among the Bunong, illness is often thought to be caused by adverse spiritual forces, and the time during and after delivery is believed to be potentially dangerous for mother and newborn. The traditional beliefs are very persistent, and, on occasion, injurious to mother and child. For example, the need to perform the sacrificial ceremonies sometimes meant they reached public health facilities too late to receive necessary care.

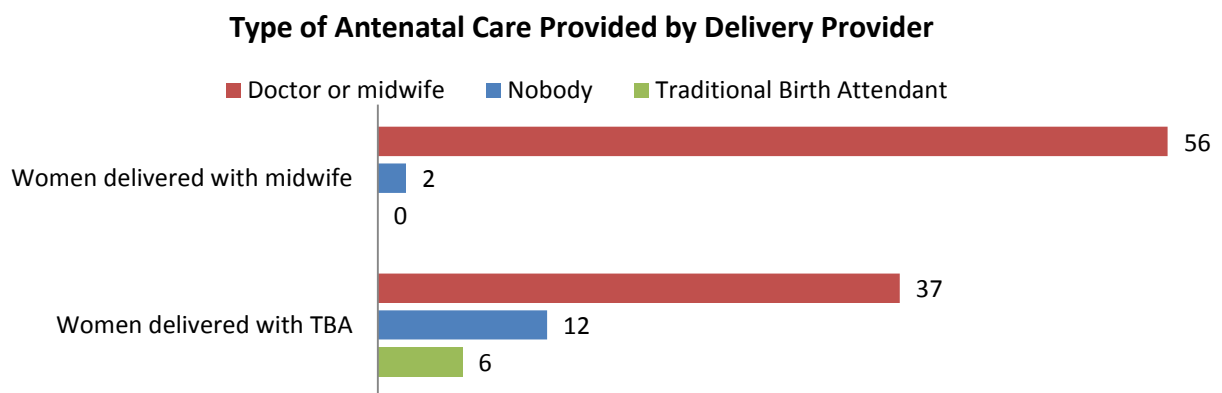
The study finds that health facilities (typically a health centre) are definitively not the first choice of delivery among Bunong women. Absent health workers, limited opening hours, and generally poor quality services, make these a less desirable option, offering perceived low-value for money and wasting scarce household resources. For this reason, for normal delivery women will first choose to delivered by traditional birth

assistants (TBAs) from their own community. In the event of emergency, women seeking biomedical care often choose to go directly to the private clinic to obtain a better standard of care and to avoid waiting times at HCs and HPs.

Trained TBAs are clearly the first choice for delivery for the Bunong women interviewed. Their reputation among villagers depends on training received from public health staff, in addition to knowledge in the spirits and traditional medicine. Community members are confident of their skills. Trained TBAs play an important role in the referral process. In case of emergency they encouraged women to seek rapid care and possessed sufficient power in the community to have the ceremony to the spirits postponed until the woman had returned to the village.

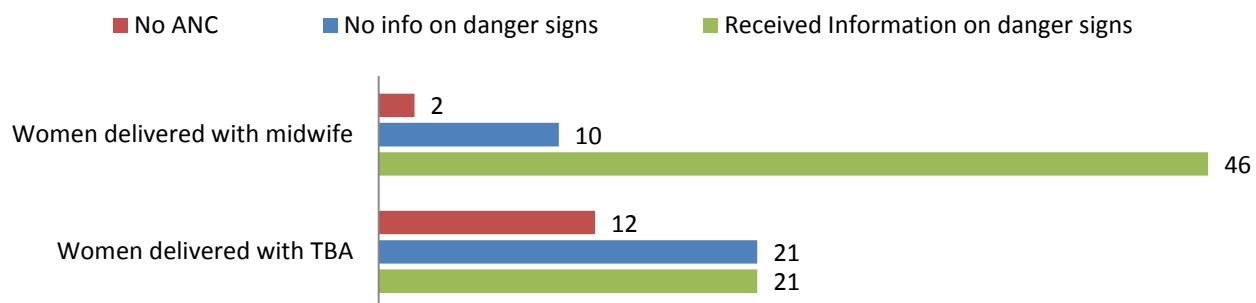
65% of the interviewees had never been to school, and half of women interviewed were delivered assisted by a TBA. When comparing women who delivered by TBA, and women who delivered by Skilled Birth Attendant (SBA), those with higher level of schooling were more likely to be delivered by SBA or doctor ($p < 0.02$): Also, resort to TBA for delivery is correlated to distance from health centre. When service is available, and particularly when it is free, women are positively changing practice and demonstrably turning to SBAs for delivery.

When comparing women by type of delivery provider, there is a significant difference among the two groups ($p < 0.001$): women who delivered with TBA are less likely go for ANC visits (see figure below).



The finding on information of danger signs is similar: women who are delivered by TBA are less likely to be informed of danger signs than women who delivered with doctor, nurse or midwife (SBA) ($p < 0.001$)

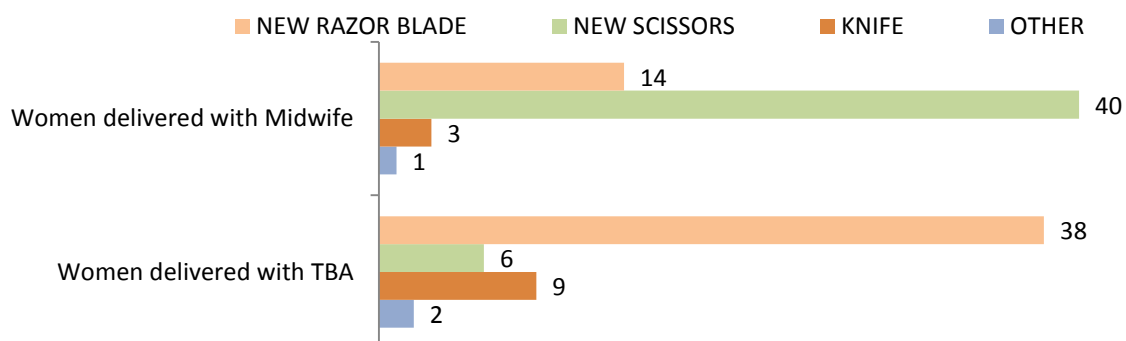
Information on danger signs by type of delivery provider



The study findings clearly show that women who delivered with TBA were less likely to have antenatal care than women who delivered with SBA, and, in consequence, they were also less likely to receive information on danger signs. Only a minority of women recognized essential maternity danger signs, and only 12% of women identified vaginal bleeding, and 9% ‘baby stopping moving’, as a danger sign during pregnancy. In addition, only 28% of the women identified heavy bleeding, and 16% retained placenta, as a danger sign during delivery. This reveals a profound gap in knowledge in the Bunong community surveyed on safe delivery and places a considerable restraint on referral in case of danger.

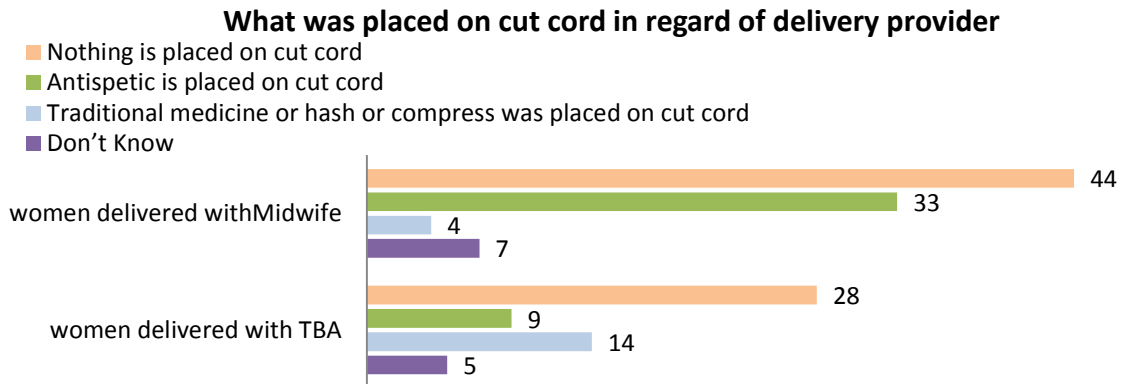
Comparing women delivered by TBA and those delivered by SBA, three significant differences between the two groups are apparent in relation to cord cutting and care, and newborn drying. TBAs were more likely to use a new razor blade, while SBAs more frequently used scissors ($p < 0.001$). More TBAs used a knife to cut the cord than SBAs did.

Instrument used to cut the cord in regard of delivery provider

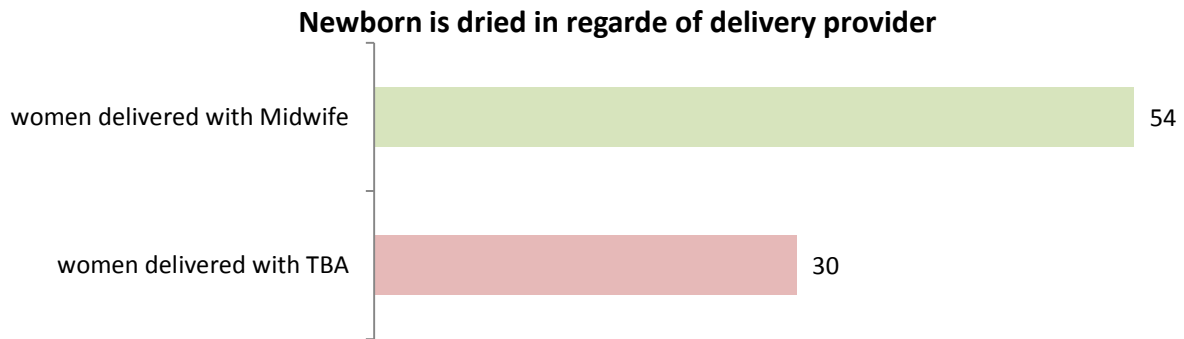


Women delivered by TBA are less likely to have unguent placed on the umbilical cord than women delivered by SBA. If delivered by TBA, these women are more likely to have a traditional medicine compress

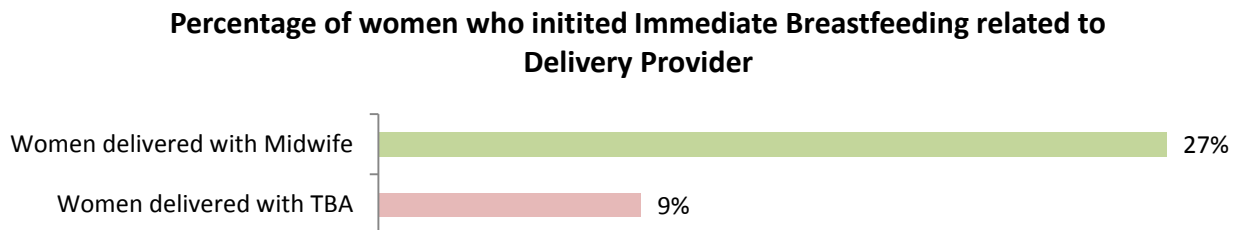
than antiseptic unguent placed on umbilical cord stump than women delivered by SBA ($p < 0.001$).



Newborn delivered by TBA are less likely to be dried than women who were delivered by an SBA ($p, 0.001$).



For 36% of children, breastfeeding was initiated within one hour of delivery. The Bunong mothers often reported to not having started breastfeeding until one to three days after birth. They claimed various reasons for this practice, such as not having milk or that the baby could not suckle. More than half of the women who delivered with a SBA started breastfeeding immediately after giving birth.



The national CDHS data presented in the study display a decrease in maternal and child mortality, together

with a decrease in the number of deliveries with TBAs. In the meantime, data collected in studied villages illustrates that distance from health services has an immense impact on pre- and post- natal costs, unless free services are provided at point of use.

In remote villages public health services are effectively unaffordable for Bunong women. The distance and road conditions, associated with extremely poor livelihoods, restrain women from travelling to deliver at public health facilities. As health costs can be large and include unforeseen expenses, many families find they do not have enough money to pay for the care they need. Also, experiences and testimonies reveal that, in absence of operational roads, some villages continue to be isolated and over-looked by public health staff during outreach services and Education and Information Campaign (EIC). In the meantime, Bunong women in remote villages are fearful to talk about maternity and newborn care issues. Often when health staff reach remote villages to provide information and education, community members are reserved and sometimes don't want to talk with them.

This shows the impact of health education on the choice of delivery attendant; when Bunong community is participating in health education, women are more likely to be referred to the HC. Conversely, women in remote villages who did not get access to basic health education are more likely to depend on traditional practices and medicine to cope with disease and the delivery process. Some have an injurious impact on the health of mother and baby, and also on the livelihood of the family unit. These beliefs are an important barrier to care being sought in the event of emergency.

In deciding where to go for delivery, women said that they discussed the matter with their family and came to a joint agreement. However, there were stories reported of when pregnant women had to follow the choice of parents and other community members. Amongst the Bunong, the local village chief, as community leader, can be involved in these discussions, and, as a respected person, he can also have an impact on the final decision reached on maternity issues. In fact, Bunong women's lack of knowledge on matters of reproductive health, allied with lack of participation in the community on health promotion, limit their ability to make decisions about health care. As a result the final decision reached may not fully reflect a woman's wishes or needs. For this reason, village authorities – especially village elders and chiefs – need to receive education on maternal health issues to promote safe motherhood practices, and use their influence to initiate access for Bunong women to skilled health providers at public health facilities.

Community leaders, allied with TBAs, are definitely the key stakeholders in promoting and advocating community ownership of the health services being offered.

Analysis of Possible Actions

The health and well-being of women and their children is completely linked. There is a strong consensus that Reproductive Maternal Newborn and Child Health (RMNCH) programmes will only be effective if there is a horizontal Continuum of Care, from pre-pregnancy, through pregnancy, birth, and childhood, and vertically, from household to hospital. This requires the following actions:

Develop community awareness of using Bunong Language

1. **Mobilize and support community leaders on maternal and child health**(including village leaders, VHSG, and TBAs) by engaging them to take an active role in health care delivery in their communities.
2. **Increase knowledge and adoption of good health practices** by educating communities about positive health behaviours for themselves and their newborn.
3. **Empower the role of Traditional Birth Attendant** as a key actor for referral from community to health centre. A new approach may be needed to include the younger functioning and prospective TBAs.
4. **Train VHSG members to provide accurate health information** on pregnancy, delivery, post-natal care, and family planning.
5. **Develop partnerships between TBA, Health Services and VHSGs** by setting up regular meetings and organizing home visits for each other.
6. **Develop fast referral system** with collaboration of village leaders, TBAs, and health services

At Health Centre level

Despite outreach awareness-raising and improved coordination between communes and health centres, change came only after villagers began seeing demonstrable success at the HCs. As is acknowledged in the latest WHO publication (2010), a broad approach to health system strengthening is essential for lasting improvements. Countries have achieved progress on maternal mortality by increasing the number and skill-development of health workers, as well as ensuring the availability of an integrated package of services across the whole Continuum of Care, free at the point of use. Also, national capacities must be developed to recruit and increase the pay of health workers, and provide on-going training, support, and supervision throughout the system.

1. **Providing free birth delivery at HC for poor women**
2. **Provide skills and equipment to HC staff for safe delivery** in (1) Pre- and in-service training,

- supervision, and mentoring; (2) Ensure supply of Oxytocin and Magnesium Sulphate
3. **Integrate family planning (FP) and other maternal child health (MCH) services**, namely post-natal care, immunization, and nutrition.
 4. **Provide training sessions for public health staff** on cultural sensitivity and ethical treatment of patients – a ‘friendly’ approach is needed from health staff to Bunong traditional practices.
 5. **Develop the ‘Waiting House’ concept at HC**. Women from remote areas don’t want delivery at HC, because they cannot stay at the HC town or Sen Monorom for 15 days or more waiting for delivery.
 6. **Strengthened referral linkages**. A critical gap for women living in rural areas is the limited access to hospitals and emergency health care services. HCMC assisted by VHSGs need to establish an emergency transportation system that ensures pre-paid, pre-arranged transport.

Contents

Frequently Used Abbreviations	1
Sources and References	2
Executive Summary	4
Background.....	4
Analysis of Possible Actions.....	9
1 Cambodian Maternal and Child Health Strategy.....	15
1.1 National Policy and Plan	15
1.2 Cambodian Health Strategic Plan 2008-2015.....	17
1.3 Integrated Management of Childhood Illness.....	19
1.4 Infant and Young Child Feeding.....	20
2 Practices and Beliefs in Maternity and Newborn Child Care in Bunong Community.....	23
2.1 Background.....	23
2.2 Antenatal Care	24
2.3 Child Delivery.....	26
2.4 Analysis of Umbilical Cord Care	26
2.5 Breastfeeding.....	27
3 Survey Purpose and Methodology	28
3.1 Objective.....	28
3.2 Main Outputs of the Analysis	29

3.3	Methodology for Maternity and Newborn Care Study	29
3.3.1	Methodology for Quantitative Data Collection	30
3.3.1.1	Selection of Studied Clusters	31
3.3.1.2	Sample Size and Studied Villages	31
3.3.2	Methodology for Qualitative Data Collection	34
4	Health Services Available in Studied Villages	35
4.1	Public Health Service in Place for Delivery	36
4.1.1	Sen Monorom Referral Hospital	36
4.1.2	Health Centre and Health Post in the Studied Area	38
4.1.3	Delivery at Health Centre	39
4.1.4	RHAC Project in Pechr Chenda District	40
4.2	Private Midwife	41
4.3	Traditional Birth Attendant (TBA)	42
5	Maternal and Child Mortality in Mondulkiri	45
5.1	Mondulkiri & Ratanakiri	45
5.2	Kaev Seima, Kaoh Nheak and Pechr Chenda Districts	46
6	Survey Finding in Bunong Community	50
6.1	Characteristics of the Bunong Women Studied	50
6.2	Antenatal Care	52
6.3	Newborn Care at Delivery	55
6.4	Breastfeeding	58

6.5	Knowledge of Danger Signs during Pregnancy	59
7	Discussion	61
7.1	Accessibility and Choice of Delivery Provider.....	61
7.2	Strong Traditional Beliefs and Safe Delivery	62
7.3	Role of Community Leaders in Safe Delivery Process	63
7.4	The TBA: A link between the Community and Public Health Systems	64
8	Analysis of Possible Actions.....	67
8.1	A Continuum of Care from Household to Hospital.....	68
8.2	At Community Level.....	68
8.3	At Health Centre Level.....	69

Table of Figures

FIGURE 1: MATERNAL MORTALITY IN CAMBODIA	13	FIGURE 2: TRENDS IN CHILDREN MORTALITY IN CAMBODIA	16
FIGURE 3 EARLY INITIATION OF BREASTFEEDING IN CAMBODIA FROM 2000-2010	21		
FIGURE 4 PRE-LACTEAL FEEDING IN CAMBODIA FROM 2000-2010	21		
FIGURE 5 MAP OF MONDULKIRI AND VILLAGES STUDIED	35		
FIGURE 6 IPD DISCHARGES AT SEN MONOROM REFERRAL HOSPITAL	37		
FIGURE 7 INFANT MORTALITY RATES BY SOCIOECONOMIC CHARACTERISTICS	45		
FIGURE 8 UNDER-FIVE MORTALITY RATE CDHS 2005-2010	46		
FIGURE 9 MATERNAL AND NEONATAL MORTALITY RATES	47		
FIGURE 10 DELIVERY PROVIDERS IN PECHR CHENDA DISTRICT	48		
FIGURE 11 DELIVERY PROVIDERS IN KAEV SEIMA DISTRICT	48		
FIGURE 12 DELIVERY PROVIDERS IN KAOH NHEAEK DISTRICT	49		
FIGURE 13 DELIVERY	50		
FIGURE 14 CHARACTERISTICS OF THE BUNONG VILLAGES STUDIED	50		
FIGURE 15 CHARACTERISTICS OF THE BUNONG WOMEN STUDIED	51		
FIGURE 16 LEVEL OF SCHOOLING AND DELIVERY PROVIDER	52		
FIGURE 17 ANTENATAL CARE	53		
FIGURE 18 TYPE OF ANTENATAL CARE PROVIDER IN REGARD OF DELIVERY PROVIDER	54		
FIGURE 19 INFORMATION ON DANGER SIGNS BY TYPE OF DELIVERY PROVIDER	54		
FIGURE 20 INSTRUMENT USED TO CUT THE CORD IN REGARD OF DELIVERY PROVIDER	57		
FIGURE 21 UNGENT PLACED ON CUT CORD IN REGARD OF DELIVERY PROVIDER	57		
FIGURE 22 NEWBORN IS DRIED IN REGARD OF DELIVERY PROVIDER	57		
FIGURE 23 IMMEDIATE BREASTFEEDING RELATED TO DELIVERY PROVIDER	59		

Table of Tables

TABLE 1 MATERNAL MORTALITY CAMBODIA 2010.....	16
TABLE 2 VILLAGES STUDIED	32
TABLE 3 PUBLIC HEALTH STAFF WORKING IN THE STUDIED AREA.....	38
TABLE 4 NUMBER OF DELIVERIES IN MAY, JUNE, AND JULY 2012 (3 MONTHS)	39
TABLE 5 ADVANTAGES/DISADVANTAGES OF DELIVERY AT HEALTH CENTRE.....	40
TABLE 6 RHAC ACHIEVEMENT INDICATORS: 2010 TO 2012	41
TABLE 7 ADVANTAGES/DISADVANTAGES OF DELIVERY WITH TBA.....	44
TABLE 8 DELIVERY.....	55
TABLE 9 BREASTFEEDING	58
TABLE 10 KNOWLEDGE OF DANGER SIGNS DURING PREGNANCY.....	60

1 Cambodian Maternal and Child Health Strategy

1.1 National Policy and Plan

The Cambodian Ministry of Health provide “...stewardship for the entire health sector and ensure supportive environment for increased demand and equitable access to quality health services in order that all the peoples of Cambodia are able to achieve the highest level of health and well-being.”

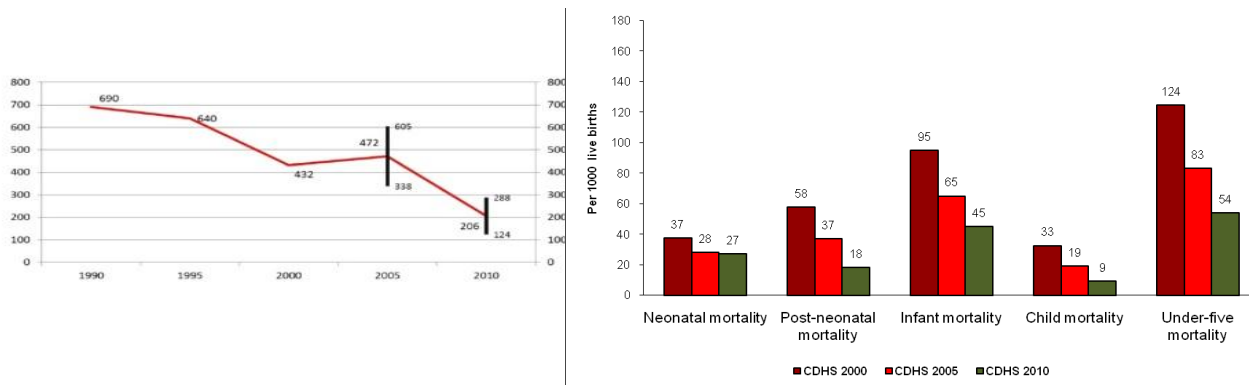
Health and poverty are closely related in Cambodia, where about one-third of the population are too poor to pay for qualified health care. Treatment rates vary significantly depending on a person’s location and economic status. Access to public health care facilities by the poor is still limited as a result of their inability to pay user fees and other related costs, such as food and transportation. To address these problems, as part of health care system reform in 1997, a new **health care financing approach** was introduced; namely, the **Health Equity Fund (HEF)** and subsidy schemes in some health facilities .The first HEF schemes were launched in 2000 through the Urban Health Project, sponsored by the World Health Organization (WHO) and Options UK.

In 2003, HEFs became an essential part of the Health Sector Strategic Plan 2003-2007 (HSSP) and also of the subsequent, current, plan (2008-2015).HEFs reimburse public facilities for healthcare expenses and associated costs of the poor. HEFs initially covered the user fees related to hospitalization (CPA health services).This new approach was introduced and implemented in some areas by different agencies .Maternal health services for clients is purchased by large NGOs in some districts, for example, the **RHAC Voucher Scheme** which includes four Antenatal Clinic (ANC) visits, delivery at health facility, postnatal check-up.

Since 2000,Cambodia has shown **notable improvements** in the areas of **Reproductive Maternal Newborn and Child Health (RMNCH)**¹. Maternal mortality and infant and under-five mortality rates decreased significantly together with an increase in birth delivery at health facilities. Neonatal mortality has slowly decreased from 37 to 27 since 2000. Child mortality rates also display good progress during this period. Post neonatal fell from 58 to 18, infant mortality from 95 to 45, and children under-five from 124 to 54 deaths (all per 1,000 live births).However, in the latter respect Cambodia is still among the highest in the region.

1. *The 32nd National Health Congress and 9th Joint Annual Performance Review (JAPR) held 14th-15th March,2011 (Draft MEDICAM Position Paper: 2011: 1)*

Figure 1: Maternal Mortality in Cambodia Figure 2: Trends in Children Mortality in Cambodia



Maternal Mortality Ratio in Cambodia²

Children Mortality Ratio in Cambodia³

Maternal mortality ratio decreased from 472 per 100,000 live births in 2005, to 206 per 100,000 live births in 2010. Maternal death accounted for 8.5% of all deaths of women aged 15-49; in other words, about one in eleven Cambodian women died as a result of pregnancy or pregnancy-related causes.

Table 1 Maternal Mortality Cambodia 2010

Cambodia	CDHS 2005	CDHS 2010
Maternal mortality ratio (per 100,000 live births)	472 CI (338-605)	206 CI (124-288)

Definitions of under-five mortality rate

- **Neonatal mortality:** the probability of dying within the first month of life
- **Post-neonatal mortality:** the probability of dying between the first month of life and first birthday (computed as the difference between infant and neonatal mortality)
- **Infant mortality:** the probability of dying between birth and the first birthday
- **Child mortality:** the probability of dying between the first and fifth birthday
- **Under-five mortality:** the probability of dying between birth and the fifth birthday

Government Incentive

2. Health Equity Fund Implementation in Cambodia, Dhaka, 2-6 May 2012 Prof. Koum Kanal MOH Advisor

3. CDHS 2010

In 2007, the Royal Government of Cambodia (RGC) commenced making financial incentives to motivate midwives to provide services. All over the country, midwives at local health facilities receive payment (known as the 'Live Birth Incentive') from RGC when attending live births. The incentive is intended to increase the number of women giving birth with a Skilled Birth Attendant (SBA)⁴, a key **United Nations Millennium Development Goal (MDG)** indicator for reducing maternal mortality. The midwives receive \$15 for a Health Centre (HC) birth, or \$10 for a Referral Hospital (RH) birth. However, anecdotal evidence indicates that midwives at health facilities will sometimes delay the referral of complicated deliveries to hospital in the hope of solving the situation locally, and thereby being eligible for payment⁵.

The University Research Co. (URC)⁶' Better Health Services' programme (BHS) designed and tested an approach to remunerate the referring health facility for this 'lost' payment, provided that the referral to a higher unit was correct and timely. Preliminary results of the approach, which began in April 2010, are positive. Obstetric referrals are now more often timely and correct, with accurate reasons for referral, qualified staff accompanying the woman, and more transfers occurring with adequate documentation such as the partogram and referral form.

1.2 Cambodian Health Strategic Plan 2008-2015

In 2008, the Cambodian Health Strategic Plan placed maternal health as a priority. To reduce maternal mortality, SBAs were identified as a critical cadre, especially in rural and remote areas where there is a dearth of doctors.

Also, the day-to-day activities to Reduce Maternal, Newborn and Child Morbidity and Mortality (RMNCH), were focused on five principles: (1) Social health protection, especially for poor and vulnerable groups; (2) Client-focused approach to health service delivery; (3) Quality health service delivery and public health interventions; (4) Human resources management; and (5) Good governance and accountability.

Social health protection, especially for the poor and vulnerable groups, appears to have played an important role in RMNCH, by promoting a pro-poor approach which focuses on targeting resources to this

4. A skilled birth attendant is an accredited health professional – such as a midwife, doctor or nurse – who has been educated and trained to proficiency in the skills needed to manage normal (uncomplicated) pregnancies, childbirth and the immediate postnatal period, and in the identification, management and referral of complications in women and newborns. Definition WHO

5. URC Improving referral systems for obstetric emergencies in Cambodia

6. University Research Co., LLC (URC) is a global company dedicated to improving the quality of health care, social services, and health education worldwide.

sector, especially in rural and remote areas. The analysis on Health Equity in Cambodia⁷ also suggests that HEF, especially when combined with improved management practices, provides increased access to public health services for the poor.

In Cambodia pregnant women die mostly of complicated pregnancy (e.g. haemorrhage, eclampsia, prolonged or difficult labour), infection at delivery, or improper post-neonatal care. When emergency obstetric services are required, poor rural women frequently have no practical way of accessing them. Most women die at home, or on the way to public health facilities, when in this situation. Others die upon reaching hospital due to their inability to pay the fees. Despite the progress achieved by the 2008-2015 health strategic plan, health NGOs working in the field have pointed out priority areas to maintain the improvements in RMNCH. These included (1) Emergency Obstetric and Newborn Care; (2) Neonatal Care and Nutrition; (3) ANC/PNC; and (4) Skilled Birth Attendance (SBA).

Referral of women from HC to RH is subject to delay. The availability and quality of service at public health providers is also questioned. The limited skills of SBAs at HC level, the relationship between HC SBAs and their counterparts at RH, and the live birth incentive to HC SBAs, are all suggested as having a potentially adverse effect on the referral process.

NGOs such as URC, RHAC, and RACHA have addressed several of these issues by: (1) supplying on-going training and supervision to improve SBAs skills; (2) providing a 'hot-line' number at RHs so that SBAs can establish problem areas prior to referral; (3) addressing the relationship between HC and RH SBAs; and (4) conducting Midwifery Coordination Alliance Team (MCAT) meetings to solve problems on the ground.

Challenge of Human Resources for Health

The primary challenge of human resources for health is the shortfall in the number and distribution of SBAs between Phnom Penh and the rest of the country, together with low level of competencies.

The Midwifery Review suggests that the level of competency amongst primary SBAs is inadequate⁸. Rural areas need a more multi-skilled staff cadre, such as a secondary nurse/midwife. Available multi-skilled staff also needs to be given broad multi-skill tasks. Many of the SBAs and other health professionals are working in both public and private practice. In consequence, Traditional Birth Attendants (TBAs) are still the first choice for many women giving birth in rural areas.

7. *Providing access to health services for the poor: Health equity in Cambodia* by Peter Leslie Annear, Maryam Bigdeli, Ros Chhun Eang and Bart Jacobs (2008).

8. *Report of Comprehensive Midwifery Review; September 2006*; Della R Sherratt, Patrice White, and Chan K Chhuong
7. *MEDINEWS: June 2010: 9: 6*

External Support

The Health Sector Support Program II, jointly funded by seven donors (UNFPA, UNICEF, World Bank, AFD, AUSAID, BTC and DFID), pledged \$15 to \$20 million per year for 2009-2013. Funds will be used to provide support to the Ministry of Health in various areas, including human resource development. Other organizations, such as USAID, GTZ, and JICA, have on-going programs to support human resource development and maternal and newborn health. Child health receives the largest share.

1.3 Integrated Management of Childhood Illness

The **Integrated Management Childhood Illness (IMCI)** is strategy which has been implemented in more than 30 countries in order to reduce morbidity and mortality in children under-five years old. The strategy is designed with the aim of improving: (1) Case-management skills of health care staff; (2) Family and community health practices; and (3) The overall system of health care aimed at children aged under-five. The Ministry of Health (MoH) introduced IMCI into Cambodia in 1998, supported by NGOs such as RHAC, RHACHA, and World Vision⁹.

In 2009, the number of HCs in Cambodia that had implemented the system stood at 78% (up from 67% in 2008). Out of a total of 984 HCs in the country, 780 have implemented the strategy in their public health facilities. At least two members of staff in each HC have been trained in IMCI. Based on a health facility survey in 2006, this has resulted in improved service delivery, compared to HCs whose staff had not been IMCI-trained¹⁰.

Challenges faced during implementation and monitoring of IMCI were identified as: (1) Consultation of children under-five not reaching its target; (2) Public health facilities being inadequately equipped to provide supply and maintain IMCI; and (3) Adequate supplies of drugs that adhere to IMCI guidelines not being given to public health facilities. It is also reported that the existing guidelines did not have the monitoring tools for operation, and the focal persons in charge of implementing the strategy at provincial health department level had not been officially assigned to the role. This was suggested as a possible key determinant factor that fails the IMCI strategy to achieve MDG4¹¹.

In eventual response, in May 2010, the MoH, in partnership with WHO and UNICEF, conducted a workshop aimed at improving implementation of IMCI at all levels. This responsibility now rests with the Provincial

10. *MEDiNEWS June 2010: 9: 6: 2*

11. *MEDiNEWS June 2010: 9: 6: 36*

Child Survival Management Committee (PCSMC), based at provincial level. This consists of the IMCI focal point, Provincial Health Department (PHD) director, deputy director, chief of technical bureau, finance officer, and the provincial FPs for maternal and child health, malaria/dengue, nutrition, immunization, health promotion, and operational district chief and key child survival partners. The PCSMC is responsible for (1) Reviewing twelve child survival interventions; (2) Planning, coordinating and directing implementations of the interventions; and (3) Monitoring their coverage rates. The committee reports to the National Child Survival Management Committee, and works in close cooperation with development agencies and NGOs active at provincial and operational district level. Eight of the twelve child survival interventions can be implemented through IMCI. These are (1) Early initiation of breastfeeding; (2) Exclusive breastfeeding; (3) Complementary feeding; (4) Vitamin A; (5) Measles vaccine; (6) Oral re-hydration therapy; (7) Antibiotic for pneumonia; and (8) Malaria treatment.

1.4 Infant and Young Child Feeding

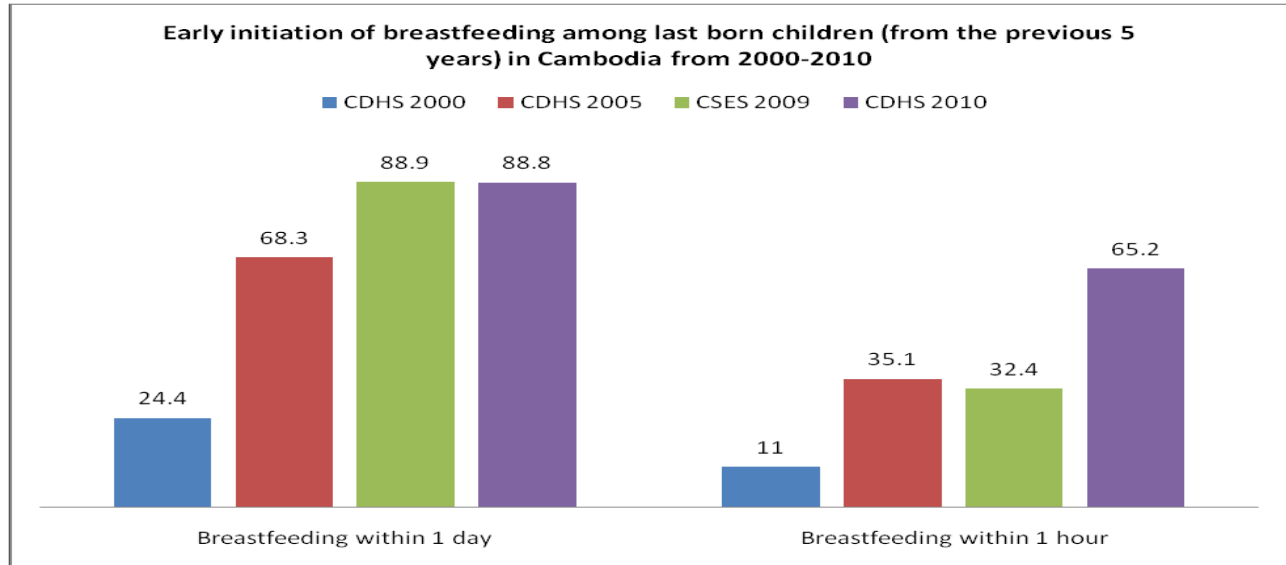
Health indicators related to infant and child mortality in Cambodia have generally improved since the Cambodia Demographic and Health Survey (CDHS) in 2005. However, analysis of the 2010 CDHS results indicated stagnation in indicators related to childhood nutrition and neonatal mortality. Nutrition indicators for children under 5 years are generally very poor. For example, a healthy population should have 2.5% underweight; at 28.3% Cambodia is more than eleven times the rate of a healthy population. Underweight is a composite indicator that indicates acute and chronic malnutrition. Data from the Anthropometrics Survey in Cambodia¹² for wasting and underweight both showed a slight increase between 2006 to 2008, and CDHS 2010 confirmed stagnation in improvement after the 2008 food price crisis.

In 2002, The National Nutrition Program was established by the MoH's National Maternal and Child Health Center to coordinate the implementation of national policy on Infant and Young Child Feeding (IYCF). The policy articulates the benefits of exclusive breastfeeding and appropriate complementary feeding, to prevent disease and death and benefit children's overall health and well-being. Trends in early breastfeeding rates 2000-2010 show these steps have resulted in significant improvements. Early breastfeeding within one hour rose from 11% in 2000 to 35.1% in 2005, and then to 65% in 2010. During the same period, initiation of breastfeeding within one day rose from 24.4% in 2000 to 68.3% in 2005, and

¹²English supplement to the National Institute of Statistics, Ministry of Planning 2008 Cambodia Anthropometrics Survey Prepared by UNICEF Cambodia

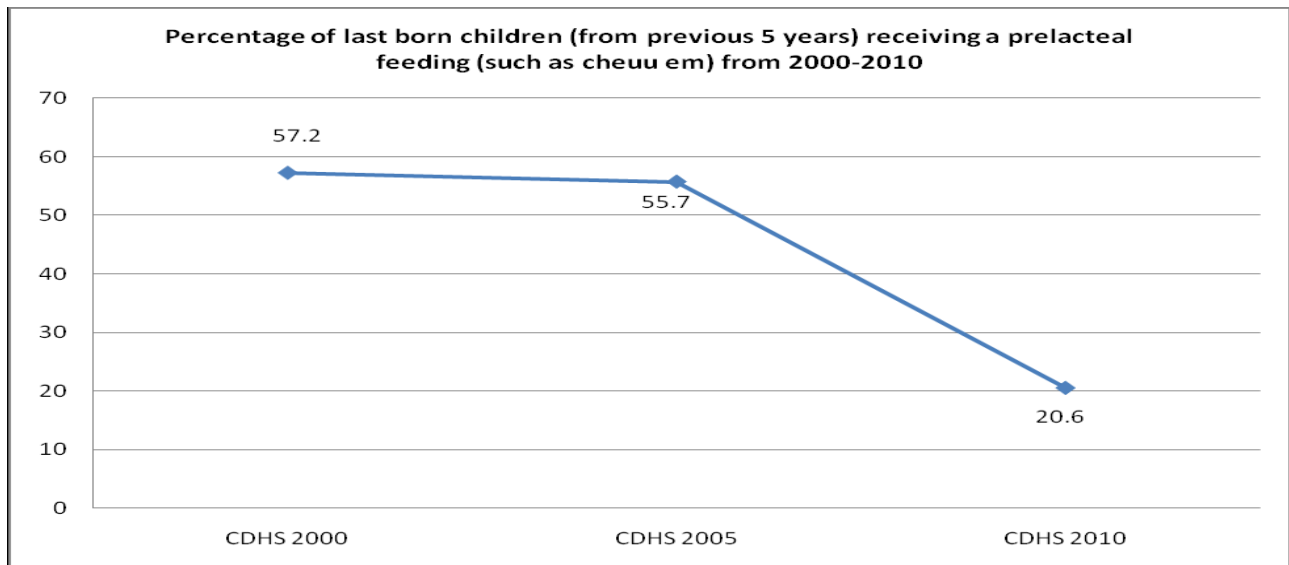
then 88.8% in 2010. Exclusive breastfeeding showed similar levels of increase (from 11% in 2000; to 60% in 2005, and 74% in 2010).

Figure 3 Early Initiation of Breastfeeding in Cambodia from 2000-2010



The incidence of pre-lacteal feeding has declined significantly, but 20% of Cambodian babies still receive pre-lacteal feeding¹³

Figure 4 Pre-lacteal Feeding in Cambodia from 2000-2010



Against this background of positive maternal and child health data, IYCF launched the **Baby Friendly Community Initiative (BFICI)**. This is a community-based initiative to support, promote, and protect

¹³: CDHS 2010

breastfeeding, and to promote complementary feeding. The main components of the Initiative include breastfeeding, maternal nutrition, early childhood and development, and hygiene. It works through the formation and training of a 'Mother Support Group' at village level, and has close links to HCs. The BFCI was begun in 2004, with support from UNICEF, CARE, RACHA and others, and, by the end of 2007, had been introduced in over 3,360 villages (about 20% of all villages in Cambodia). Results show increased early breastfeeding in 'baby friendly' villages of 72%, and an exclusive breastfeeding rate in these villages of 79%¹⁴.

In the meantime, the national **Baby-Friendly Hospital Initiative** (BFHI) aims to promote early and exclusive breastfeeding in the maternity ward. The BFHI targets strengthened links between hospitals, health centres, and community breastfeeding support groups. Ten hospitals have been certified as 'baby friendly' since 2004. Training of 25 trainers on BFHI, and an orientation workshop with decision makers, was conducted in five hospitals implementing BFHI.

14. BFCI monitoring data, UNICEF January to August 2007

2 Practices and Beliefs in Maternity and Newborn Child Care in Bunong Community

2.1 Background

There is a paucity of information available in respect of the Bunong (aka Bunong) people in Monduliri province. 'Phnong Ethnicity: Documentation of Customary Rules' published by UNDP Cambodia, in association with the Ministry of Justice and Ministry of Interior, is a key work in this respect¹⁵. On the subject of their practices and beliefs during pregnancy, however, the document makes only passing reference. Much work has been done by Brigitte Nikles, and it is from her researches¹⁶ that much of the subsequent exposition, unless otherwise cited, is taken.

The traditional belief system of the Bunong people is Animism. They believe in spiritual forces which are present in the natural environment i.e. sky, earth, forest - even household items. These spirits have power to influence health, well-being and prosperity. The Bunong also believe ancestral spirits have the power to protect or to harm people, and practice a variety of ceremonies to appease both ancestral spirits and spirits of the natural environment.

The community structure of the Bunong consists of self-governing villages. Each village is governed by two to five elders who are noted for their skills in conflict resolution, and capacity to take care of village well-being. The elders implement customary law governing different aspects of life coupled with obligations to the spirits and ancestors. Due to the community's deep sense of belief in the harmony of the spirits, customary law largely works as the legal system¹⁷.

The village consists of family groups. Solidarity between husband and wife is essential for the structure of the community. Evidence has shown great respect and sense of equal status between husband and wives. Marriage is practiced - children born out of wedlock are rare. Marriages are arranged by the parents who will also seek advice from village elders familiar with families and lineage. A marriage between cross-cousins is common. Generally, the newlyweds would live with the maternal family. Inheritance is matriarchal. It is expected that a couple will have children, although childless couples do not appear to be subject to criticism.

15. UNDP Cambodia 2010 'Phnong Ethnicity: Documentation of Customary Rules'

16. 'Women, Pregnancy and Health; Case Studies among the Bunong in Monduliri, Cambodia' 2009 NIKLES, B.

17. UNDP Cambodia: 2010: iii

The average marriage age for girls is between 15 and 18 years¹⁸. In 2006, the provinces of Monduliri and Ratanakiri (which are combined in the CDHS) had the highest rate of teenage pregnancy in Cambodia; 17.2% had begun child-bearing within the age range 15 to 19 years. Conversely, contraception usage was low in the provinces (43.1%), being most popular with women over 30 (possibly those who had had children and wanted family spacing). Pills and injections rather than condoms were the most popular method of contraception. It appeared that the birth rate was falling¹⁹. The mean ideal number of children for all women 15-49 by background characteristics in Monduliri/Ratanakiri is 3.5²⁰.

In Cambodia, many women deliver their babies at home with the assistance of a traditional midwife (TBA) or contact her at least once before, during, or after giving birth. This is particularly the case for indigenous people such as the Bunong. Official CDHS statistics support this; in the latest data available (2010) 59.6% of deliveries in Monduliri/Ratanakiri are assisted by a TBA, and 67.9% of newborn are delivered at home. In the survey by Nikles, which drew on the 2005 data, these percentages were 83.2% and 90.6% respectively. However, these numbers may be higher related solely to the Bunong.

There is no doubt that the TBA plays an integral role during pregnancy, delivery, and early motherhood. The TBA is usually a relative or a close friend of the family. In general, their role is to take care of mothers as soon as labour starts, massage their abdomen, cut the umbilical cord, wait for the placenta to be expelled, and advise the women to drink traditional medicine and eat the right food. She visits her regularly during the first few days after birth and prepares *wengoi*, the fire that warms the woman's body ('roasting').

2.2 Antenatal Care

During pregnancy women will be visited by a TBA only in case of problems or pain. Ailments are addressed by massaging the abdomen or providing traditional medicine. Antenatal visits to health facilities are not common. Precautionary visits are hardly ever made, and help and advice is usually sought only if the pregnant woman is faced with difficulties that the TBA cannot cure. Villages reported that public health personnel occasionally visited the village to give vaccinations, contraceptives, and general advice, but there was no regular schedule for the missions, and more remote villages were left out. Public health staff confirmed that Bunong did not regularly attend antenatal check-ups. This could be explained by the fact

18. NIKLES, B. 2009: 11

19. NIKLES, B. 2009: 13

20. CDHS: 2010: 105

that pregnancy is seen as a 'natural' stage in a woman's lifecycle – a state which needs supervision, but not, usually, medical intervention²¹.

Equally, contact between TBAs and public health facilities was very limited, especially if they lived in remote villages. As noted above, public health missions rarely reach these locations, and TBAs hardly ever visited HCs. Almost none of the TBAs interviewed by Nikles had been to the RH in Sen Monorom, the provincial capital. The study suggests an absence of understanding in the relationship between the two entities.

Among the Bunong illness is often thought to be caused by adverse spiritual forces, and in this connection the time during and after delivery is considered potentially dangerous for mother and newborn. Nikles cites numerous studies carried out in Cambodia concerning these beliefs. Despite the different settings '...all talk about the precarious situation regarding spiritual activity in this specific stage of life'²². Most pregnant women contacted the TBA as their first choice. If they had a problem, and their treatment and advice did not help, they then turned to the traditional healer to find out what kind of spirit was responsible, and the steps required placating it. Brown et al found that only after an apologetic sacrifice (*Kway Katis*) had been performed would the woman be allowed to leave the village and seek modern health care²³. The traditional beliefs are very persistent, and the need to perform the sacrifice ceremony sometimes meant they reached the public health facility too late²⁴. The *Kway Katis* may be required if someone in the village breaks a customary rule related to sexual intercourse and marriage causing the spirits to be angry. Among the people facing dangers are pregnant women²⁵.

There are other reasons for Bunong women turning to the TBA. Remoteness to public health facilities is noted above, but accessibility brought its own problems. Hoban reports that in some places, particularly where an HC or RH was nearby, there was scepticism among women on the information they received from the HC midwives, since they were seen as being in 'competition' with the TBAs²⁶. Thus, if a midwife told women that they had a high-risk pregnancy (such as breech) the diagnosis was not accepted, especially if it contradicted what the TBA had previously told them. Hoban '...found no examples where a woman took

21. Nikles, B: 2009: 16

22. Nikles, B: 2009: 17

23. 'Uniting Indigenous Communities in Cambodia to Claim the Right to Maternal Healthcare' Brown E, Godden C, & Noun S, from 'Gender & Development', 2006: 14 (2): 213

24. *Pilot Training Workshops for Traditional Birth Attendants (TBAs) in Monduliri Province, Cambodia: Health Unlimited: 2009: 12*

25. *UNDP Cambodia: 2010: 43*

26. *We're safe and happy already: Traditional birth attendants and safe motherhood in a Cambodian rural commune: Hoban, E: 2006: 174*

the midwife's diagnosis in preference to what the *yiemyaap*[TBA]told her. In all cases the woman disregarded the health centre midwives diagnosis and delivered at home with the *yiemyaap*[TBA]²⁷. This obviously placed the TBA in a difficult position with the HC personnel, and women were told they would not be treated at the RH if complications arose for ignoring the earlier advice.

2.3 Child Delivery

Work for the pregnant women stops when labour pains start. The family chooses the TBA (usually a relative or close family friend) and whether or not to have spiritual intervention. The Bunong women deliver their babies mostly in birthing huts. These are temporary shelters erected in a quiet place, possibly next to family house. When the TBA arrives, she massages the abdomen and erects string for the women to hold. As previously mentioned, accessibility to HCs and RHs is extremely limited due to road access and often the TBA is obligated to assist with delivery.

Some of the traditional practices used by TBAs are condemned by modern health professionals as harmful to mother and child²⁸. For example, they may push the mother's abdomen during labour to help the baby out. Hoban also remarks on this potentially life-threatening procedure. The biomedical notion of involuntary uterine muscle is unknown, and it is believed that women cannot push a 'stuck baby' out by herself²⁹. None of the TBA that Brown et al surveyed described routinely checking on women after delivery³⁰.

2.4 Analysis of Umbilical Cord Care

The TBA cuts the umbilical cord with a blade and ties it with cotton and string³¹. The placenta and cord are buried next to the house or birthing hut. Thorns will cover the burial sites to keep away animals rather than appease bad spirits. In the past, the afterbirth was put in a gourd and hung on a tree not far from the house. However because of deforestation this custom has been discontinued. After delivery the TBA will prepare *wengoi* ('roasting')³².

27. Hoban E: 2006: 174

28. Brown et al: 2006: 213

29. Hoban E; 2006: 178

30. Brown et al: 2006:213

31. Nikles B: 2009: 19

32. Nikles B: 2009; 19

Local understanding of the ethno-physiology of reproduction conflicts with biomedical explanation that is taught during TBA training programs. Trained TBAs disregarded what they were taught during training because it was in opposition to the local knowledge system³³.

2.5 Breastfeeding

The start of breastfeeding differed from woman to woman. Some mothers started immediately following delivery, but the majority not until two to three days later. Until they started, the newborn did not drink anything. A variety of reasons were given for this, including mothers not having milk or the newborn not knowing how to suckle. At this stage, if the mother didn't have any milk she either prepared a mixture of condensed milk and water, or arranged for another woman to breastfeed the baby. After commencing breastfeeding it was continued until the mother could not produce milk any longer. With children being conceived and born at fairly short intervals, mothers would breastfeed older children with the milk produced for the newborn, and the age when a mother stopped breastfeeding was difficult to determine. Women continued to breastfeed where possible, augmented by food such as watery rice porridge³⁴.

33. Hoban E: 2006: 179

34. Nikles B: 2009: *ibid*

3 Survey Purpose and Methodology

3.1 Objective

The objective of the survey is to gain knowledge on Bunong women's perceptions and views on delivery care and empower them to: (1) Be included in public health system; (2) Be part of the health policy-making processes; (3) Strengthen the capacity of local organizations (e.g. IPHIA, AFH, RHAC) to participate in defending Bunong health rights; (4) Reinforce interaction between the Bunong community, local organizations, and local authorities (especially PHD); (5) Assure the participation of the most vulnerable sections of the population, particularly women; and (6) Reinforce Bunong assets.

CIAI proposed identification of the extent of neonatal deaths and also the underlying causes. Studies from elsewhere suggest that community acceptance of health service providers, umbilical cord care, and breastfeeding practices are significant contributory factors in neonatal death rates. The survey specifically examines these factors together with any other reasons for poor neonatal health.

Since the majority of births in Mondulkiri are overseen by TBAs the survey will also examine their knowledge and practice and the reason that the Bunong community uses them.

First Objective: Analysis of the Problematic

1. Analysis of existing background research in Cambodia (with special attention to Mondulkiri region) and review of relevant national documents, policies, and plans related to **maternity health, newborn, and infants**. These include Community Integrated Management of Childhood Illness (CIMCI), Baby Friendly Community Initiative (BFCl), Health Strategic Plan (2008-2015).

2. Analysis of existing data in Mondulkiri region (with special attention in Kaoh Nheaek and Pechr Chenda districts) and research of primary data in the two districts mentioned, including interviews with stakeholders. Relevant primary and secondary data on health system use, birth delivery, umbilical cord care, and breast feeding in the two districts.

3. Stakeholder analysis.

3.1 Target groups - Pregnant women, woman with children below one year of age, women with children with disabilities due to birth delivery (special attention to groups unable to access basic services and resources, and excluded from policy-making processes); health staff midwives, traditional birth attendants, drugs suppliers, traditional doctors and nurses, health volunteers, chief of village, and key representatives of Bunong community.

3.2 Local Government - Policies on maternity health, newborn, and infants. Training programs on umbilical cord care and breast feeding (with special attention to PHD).

3.3. Major Donor Agencies - Strategies and programs in place related to maternity health and newborn and infants (with special attention to European Union).

3.4 Local and International NGOs - Strategies, projects, views and perceptions on maternity health, newborn and infants (with special attention to Nomad, Health Unlimited, IPHIA, AFH, RHAC, MEDICAM).

Second Objective: Analysis of Possible Actions

The main aim of possible actions is a decrease in the mortality rate of newborn children through the empowerment of the Bunong community.

3.2 Main Outputs of the Analysis

- A. **Analysis of health system in place.** Study of the HC in Kaoh Nheak and Pechr Chenda districts (including HP in case there is delivery room), population covered by each (16,060 and 6,373), numbers of people working in them (10 and 9), how qualified they are, and how and when population uses the health system. The aim of the analysis is to understand how the Bunong community (especially women) feels about the health system.
- B. **Analysis of child delivery.** Differences between traditional birth attendance and delivery by health services .Comparative data of child mortality and disabilities caused by delivery. The aim of the analysis is to recognize advantages and disadvantages for each type of delivery and how Bunong community address them.
- C. **Analysis of cord umbilical care.** Level of care following delivery. Number of infections and deaths caused by a bad care .Perceptions of Bunong community.
- D. **Study on practices related to breast feeding.** Consequences of pre-lacteal feed. Perceptions of Bunong community.

3.3 Methodology for Maternity and Newborn Care Study

To analyse child delivery practices and beliefs in the Bunong community four types of data were collected:

(1) Literature review of available sources

(2) Primary data was collected by interviewing 113 women. The questionnaire was made using tools initially

developed by the PVO Child Survival Support Project (CSSP) of The Johns Hopkins University, and updated in 2000 by Technical Support Project (CSTS) and the CORE Monitoring and Evaluation Working Group. Rapid catch indicators for maternal and newborn care were developed by CORE group in 2007³⁵. Knowledge, Practices, and Coverage indicators developed in KPC2000+, related to Maternity and Newborn Care cover the time-continuum from pregnancy, delivery, to the post-partum period. The questionnaire developed for the survey encompasses four rapid catch indicators, six key indicators, and seven other standard indicators. The questionnaire was used to interview 113 Bunong mothers with a child less than two years old, allowing comparison of delivery practices and newborn care among women interviewed in regard to the type of delivery provider engaged (TBA or medical staff). Questionnaire- CF annex 1

(3) The secondary data was collected from Ministry of Planning, CDHS 2010, and WWF Household Study 2006 to describe district health status, and corroborate CIAI Maternity and Newborn Care survey findings.

(4) The qualitative data was collected from a variety of respondents to obtain perspective and illustrate quantitative findings on practices and beliefs of the Bunong women regarding maternity and newborn health care. Focus Group Discussions (FGD) and qualitative interviews were done in each village with Bunong women, TBAs, SBAs, Village Chiefs, and older people in villages. Focus Group Discussion - CF annex 2

3.3.1 Methodology for Quantitative Data Collection

The gold standard methodology to examine knowledge, attitudes, and practices is to select the respondents by random selection, where everyone has the same opportunity of being chosen and interviewed. In practice, this is not always possible. A counter-procedure of probability sampling is *non-probability sampling*, in other words sampling without using random selection methods. In this respect, **convenience sampling** is used when access to a wider population is not practical due to time or cost constraints. **Convenience sampling** is used in exploratory research where the researcher is interested in getting an inexpensive approximation of the facts. With non-probability sampling, **it cannot be calculated how accurately the sample represents the population as a whole, but only the population studied.**

35. Knowledge, Practices, and Coverage Survey 2000 + FIELD GUIDE August 2001 developed by Donna Espeut; The Child Survival Technical Support Project <http://www.coregroup.org/resources/core-tools>

3.3.1.1 Selection of Studied Clusters

(NB 'cluster' is defined as a village, and is the smallest administrative-level unit)

Clusters were selected using the **convenience sampling** methodology on the following basis. First, we selected from among the Bunong villages those with more than 90% of Bunong population (Cf:2008 census). Consequently, a total of 15 communes and 34 villages were identified.

Secondly, as road conditions and the wet season do not allow for travel to some communes within the time-frame available on the project, non-accessible communes, as defined on this basis, were excluded from the sample. In total, eight communes were excluded from the survey due to difficulties of access. This left four districts, seven communes, and 20 villages remaining.

Third, we tried to follow the initial ToR in terms of (1) Location of studied population; (2) Number of communes to be studied; and (3) Distance from HC. The ToR suggests focusing the study on four communes within two districts, namely Pechr Chenda and Kaoh Nheaek. We retained the initial selection of Pechr Chenda District, where more than 90% of the population is Bunong and communes were easily accessible. In Sok San commune, Kaoh Nheaek district (20 km from nearest HC), three villages were selected. These were the only villages in the district with more than 90% of Bunong people and easy access. To balance the lack of Bunong population in Kaoh Nheaek district, we choose Kaev Seima district, with two communes (Sre Khtum and Sre Phah). To conclude, we selected 13 villages in five communes and three districts.

Selection of eight households from each cluster

The period that the survey took place is very busy time in rural Cambodia, and villagers were in the fields farming, making it difficult and time-consuming to locate women with children less than two years old. In consequence, the research team contacted village chiefs prior our visit to ask potential respondents to stay home for interview.

When interviewers reached each village, they met with the village chief and drew a map of the villages with identification of households with children less than two years .Once the survey team had identified the first household, the EPI Random Walk method was employed.

3.3.1.2 Sample Size and Studied Villages

The TOR does not specify the degree of precision (confidence interval or margin of error) that the indicator values should be measured by. A confidence interval is related to the population size and sample size. The sample proportions will have a confidence interval of $\pm 10\%$. This is an acceptable confidence interval for

baseline and exploratory studies, and means that, with a sample size of 113, the survey results for a given indicator will be in a range of $\pm 10\%$ of the value. The error margins signify that the true population proportion is within the range of the margins for 95% of the time.

The following Table lists the 13 clusters villages and their respective sample sizes surveyed in this evaluation study:

Table 2 Villages Studied

District	Commune	Name of Village	inter view	HC name	Distance from HC	Bunong pop. 2010	# of women 2010	# of family in 2010	%of Bunong	
Pechr Chenda	Srea Ampum	Pu Raeng	8	HP Srea Ampum	26 km	291	150	62	92	
	Krang Test	Pura Pet	8	HP Krang Test	39km	519	267	113	95	
		Krang Test	9		43 km	821	314	192	99	
		Lao Romeat	10		60 km	298	148	73	95	
	Bu Sra	Puluk	8	HC Pechr Chenda	2 km	794	384	150	95	
		Purang	7		2 km	624	326	132	99	
		Putit	8		1km	616	299	143	97	
		Putel	8		2 km	699	334	150	95	
	KaohNhe aek	Sok San	Ji Klob	8	HP Sre Thum	15 km	892	367	211	95
			Sre Thum	9		26 km	916	462	191	99
Sre Huy		Sre Huy	8	HC Kaoh Nheak	26 km	916	462	191	99	
Keo Siema	Sre Khtum	Sre Lawee	11	HC Keo Siema	15 Km	292	149	65	95	
		Srea ktum	12		8 km	343	173	68	97	

3.3.1.3 Indicators for Quantitative Data Collection

- Antenatal Care: Percentage of mothers of children aged 0-23 months that had four or more antenatal visits when they were pregnant with the youngest child
- Knowledge of Danger Signs during Pregnancy: Percentage of mothers of children aged 0-23 months who knew at least two danger signs during pregnancy

- Tetanus Toxoid: Percentage of mothers with children aged 0-23 months who received at least two tetanus toxoid vaccinations before the birth of their youngest child
- Clean Cord Cutting: Percentage of children aged 0-23 months that had clean cord cutting at the time of birth
- Clean Cord Care: Percentage of children aged 0-23 months that had clean cord care at the time of birth
- Thermal Care (immediate drying and wrapping): Percentage of children aged 0-23 months who were dried and wrapped with a warm cloth or blanket immediately after birth
- Immediate Drying: Percentage of children aged 0-23 months that were dried immediately after birth
- Immediate Wrapping: Percentage of children aged 0-23 months that were wrapped with a cloth or blanket immediately after birth
- Knowledge of Maternal Danger Signs During Delivery: Percentage of mothers of children aged 0-23 months who know at least two danger signs during delivery
- Immediate breastfeeding of newborn: Percentage of children aged 0-23 months who were put to the breast within one hour of delivery
- Feeding Colostrum: Percentage of children aged 0-23 months that were fed colostrum after birth
- Pre-lacteal Feeds: Percentage of children aged 0-23 months that did not receive pre-lacteal feeds
- Essential Newborn Care: Percentage of children aged 0-23 months that received all three elements of essential newborn care: thermal protection immediately after birth, clean cord care, and immediate and exclusive breastfeeding.
- Post-Partum Visit for the Mother: Percentage of mothers of children aged 0-23 months who received a post-partum visit from an appropriate trained health worker within two days after the birth of the youngest child.
- Knowledge of Post-partum Danger Signs: Percentage of mothers of children age 0-23 months who knew at least two post-partum danger signs.

- Post-Natal Visit to Check on the Newborn: Percentage of children age 0-23 months who received a post-natal visit from an appropriate trained health worker within two days after birth.
- Knowledge of Neonatal Danger Signs: Percentage of mothers of children age 0-23 months who knew at least two neonatal danger signs.

3.3.2 Methodology for Qualitative Data Collection

Objectives:

The objective of the qualitative component is to examine perceptions and views of Bunong women related to delivery.

Specific objectives are to:

1. Examine Bunong women's **perceptions** related to delivery
2. Describe Bunong women's **traditional practices** related to delivery care
3. Identify **gaps to access** to safe delivery
4. Examine Bunong women's views on **safe delivery care**, respectful of traditional beliefs

Method:

The study was conducted in four sites, one in each district.

Focus Group Discussions (FGD) were held with 35 women. Five women participated in each FGD in each commune studied (seven FGD in total).

Research frame for investigation (see Annex 4)

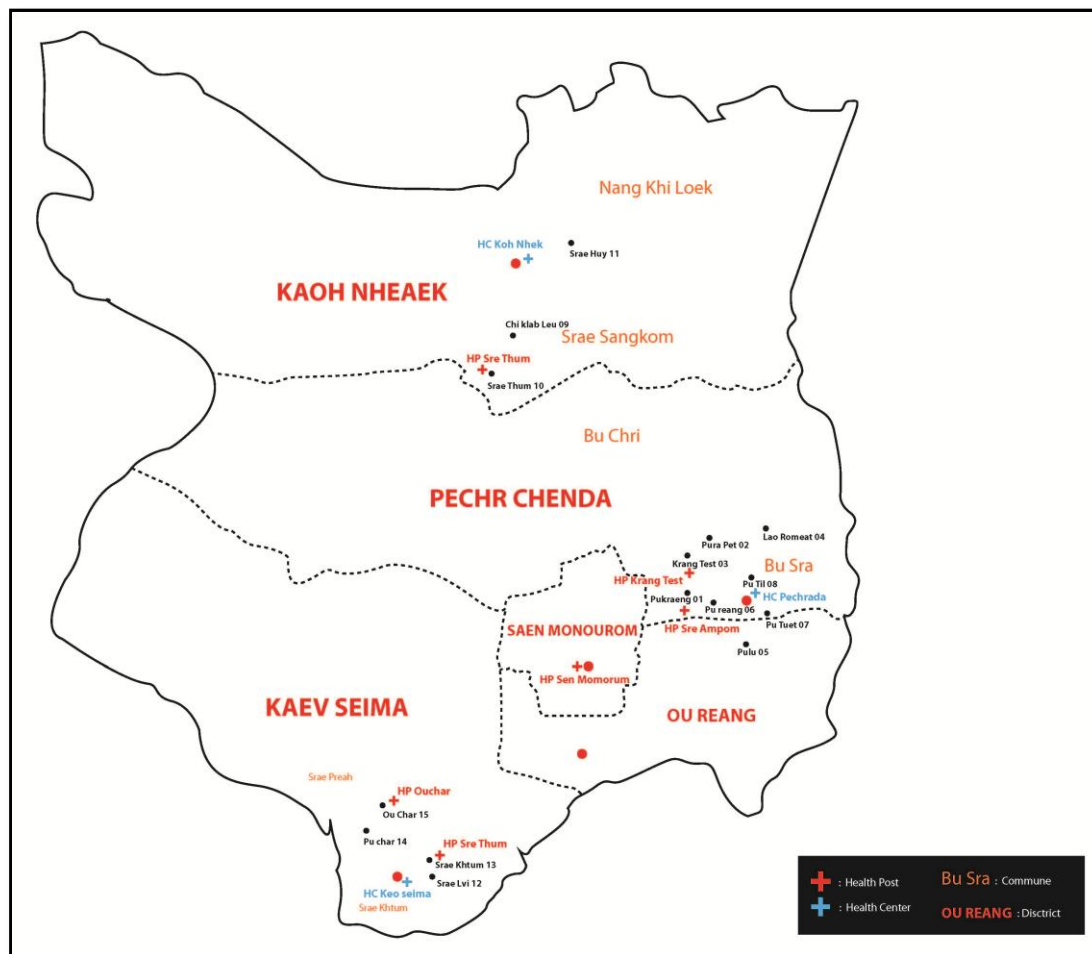
4 Health Services Available in Studied Villages

Mondulkiri is a province in the east of the Kingdom of Cambodia. It borders Stueng Treng province to the north, Kratie province to the west, and the Socialist Republic of Viet Nam to the south and east. Its capital is the town of Sen Monorom.

Mondulkiri is known for its forested hills and powerful waterfalls. The province is subdivided into five districts (Kaev Seima, Kaoh Nheaek, Ou Reang, Pechr Chenda, and Sen Monorom), which are further subdivided into 21 communes and 98 villages. The distance from Phnom Penh to Sen Monorom is 521 Km using National Road 7.

As mentioned above, three districts were surveyed: Pechr Chenda, Kaoh Nheaek, Kaev Seima, covering a population of 4,000 women, and representing 1,800 families.

Figure 5 Map of Mondulkiri and Villages Studied



4.1 Public Health Service in Place for Delivery

4.1.1 Sen Monorom Referral Hospital

The Sen Monorom RH has one maternity ward with emergency obstetric care. In the Maternity ward, the Chief Midwife is a primary SBA with experience and good technical skills. She puts a lot of effort into providing good hygiene standards. She teaches by demonstration and washes the ward herself to develop good practices among hospital cleaning team. However, even those wards are unclean; the labour room is in poor hygienic condition as well as pre- and post-delivery wards. This is one of the reasons why women do not want to be delivered at hospital. They often complained about the bad smell and poor in-patient conditions.

In Emergency Obstetric care, staff are trained to carry out surgery and C-section at hospital. When an emergency occurs, medical staff know the procedures, but they implement them too slowly. It is then often too late to assist. There is also poor communication between health staff which leads to delays in care. The referral points are Kampong Cham RH or Phnom Penh hospitals.

In Sen Monorom Hospital, the British NGO **Voluntary Service Overseas (VSO)** focus on building the capacity of hospital and HC staff in clinical and management skills, and promoting patient-centred care. They aim to increase access to high quality health services, improve service delivery (especially for ethnic minorities), and build community engagement by demonstrating home-based solutions to disease prevention and good health. VSO is presently represented by an experienced midwife, trained in Belgium, who has worked in the hospital maternity ward since January 2012.

ACTION FOR HEALTH (Health Equity Fund)

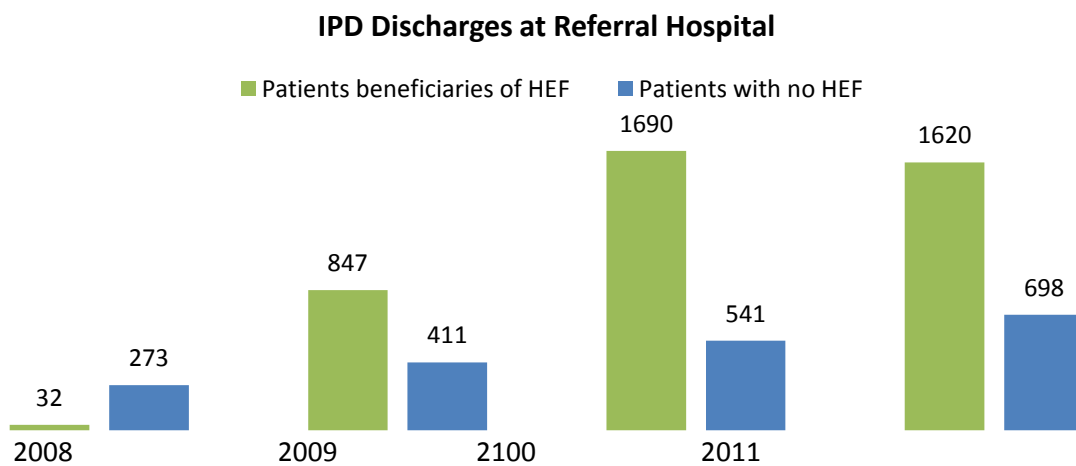
Action for Health (AFH) has been engaged at Sen Monorom Hospital since September 2008, providing the HEF scheme at the In-Patient Department (IPD) and Out-Patient Department (OPD). The Ministry of Planning (MoP) has developed national guidelines for pre-identification of the poor, with active participation from the village communities, commune councils, and post-identification at RH. The scheme can be used at RH only, but it covers transportation costs if the patient is referred from HC. User fees and the incentive payment to the care giver are also included. Every month about 15 to 20 women are delivered at Hospital using HEF.

We received a number of complaints from health staff and the general population on unfair distribution of HEF card in village's. Some of the poorest people do not have the card. When deciding whether to go to

hospital, they fear not being admitted for free and thus having to pay an unknown cost for health services. In addition, poor health understanding, language barriers, and stigma, lead to false beliefs about public health services. Poor patients are unconfident about the attitudes and practices of hospital staff; they believe that they will receive less care as they do not pay. Patients worry about having to pay extra money to get attention from hospital staff or lengthy waits when they come for delivery.

However, In-Patient Discharges (IPD) at Sen Monorom hospital has increased significantly since HEF was implemented in 2008. IPD increased from 305 in that year, to 2,318 patients in 2011 (see graph below). Presently, two-thirds of the IPD discharges at Sen Monorom hospital are beneficiaries of HEF. Furthermore, the number of IPD with no HEF card has doubled since the implementation of the scheme. Obviously, the HEF would appear to have a significant impact on utilization of public health services. Conversely, it also means an increase in the workload of health staff, and they often complain about it.

Figure 6 IPD Discharges at Sen Monorom Referral Hospital



Source: Health Information System; Sen Monorom Hospital; June 2012

4.1.2 Health Centre and Health Post in the Studied Area

During field work we visited all public health services in the selected area: three HC (in Pechr Chenda, Kaev Seima and Keo Nheaek), and four HP (in Krang Test, Sre Ampum, Ochra and Sre Ktum). Only HCs have a delivery room. None of the HPs in the studied area had a functioning delivery room.

All the HPs visited in the study were closed. The posts are simple timber-construction buildings, and do not seem to have been upgraded since implementation after health reform in 1995. They were in a poor state of repair. Khmer health workers are not from local communities, and communication can be an issue as majority of Bunong women don't speak Khmer. Also, health workers may have a weak understanding of the communities' cultural norms and practices, and vice versa, creating a climate of distrust. An exception was found in a village in Kaoh Neak district, where a health assistant was living with his family near the HP in which he practiced. He reported that he was slowly gaining the trust and confidence of community members by providing information to women and organizing referral to HC.

Table 3Public Health Staff working in the studied area

District	Pechr Chenda		Kaev Seima		Kaoh Neck	
	HC	HP	HC	HP	HC	HP
Number of Health Facilities	1	2	1	2	1	1
Number of Health Staff	25	2	9	4	12	13
Number of trained SBAs	3	0	4	2	4	2
Number of Nurses	5	1	1	2	2	2
Number of trained TBA in the district	20		Not established		33	
Name of Health Post	Krang Test, SraAmpum		Sre Tchu Ochra		SreThom	

4.1.3 Delivery at Health Centre

All the HCs we visited employed trained SBAs, who had received updated training in 2010 on delivery and post natal care, and in 2011 on danger signs (by JICA).

The equipment we witnessed in delivery rooms was very basic i.e. autoclave, delivery table, scissors, gloves and disinfectant. A very poor hygiene status was observed at Keo Neak HC. Although the buildings had been recently refurbished, the waiting rooms remained very uncomfortable and dirty. One is located near a generator and the resulting smell and noise in the room was difficult for women waiting to begin labour. They often commented on this during FGD.

As is common among public health staff, HC staffs often have private practices in the village near the health centre. Their availability at the HC is usually limited to morning hours and 'on-call' in case of emergency (the contact phone number is written on the HC Information Board). Consequently, absent health workers, limited opening hours, and generally poor quality services, make health facilities a less desirable option, offering low-value for money and a potential waste scarce household resources. For this reason, in event of emergency, women seeking care often choose to go directly to the private clinic to avoid long waiting times at HC, and to obtain a better standard of care.

Table 4 Number of deliveries in May, June, and July 2012 (3 months)

District	Pechr Chenda	Kaev Seima	Kaoh Neck
Delivery at HC	33	21	27
Delivery at HP	21	6	0
Delivery at Home assisted by Health Centre staff	9	18	10

Table 5 Advantages/Disadvantages of delivery at Health Centre

<u>Advantages of delivery at Health Centre</u>	<u>Disadvantages of delivery at Health Centre</u>
- <u>Free Delivery and pre and post natal care (at Pechr Chenda Health Centre and Health Post)</u>	- <u>Fear staff discrimination due to traditional believes and practices.</u>
- <u>Immediate initiation of breastfeeding</u>	- <u>language barrier: can't understand and talk with health staff</u>
- <u>Clean cord care</u>	- <u>Fear not finding staff on duty</u>
- <u>Immediate drying and wrapping baby</u>	- <u>Fear of unexpected expenses</u>
- <u>Facilitate placenta expulsion</u>	- <u>Difficult to access at night</u>
- <u>Injection of Oxytocin</u>	- <u>Difficult to access before delivery starts because there is no waiting room in HC</u>
- <u>Provide Iron Tablets</u>	- <u>Fear of being alone at HC</u>
	- <u>Some HC are not 'maternity friendly'</u>
	- <u>Can't practice traditional ceremonies</u>

In the studied area, the HC is definitively not the first choice of delivery among Bunong women; they rarely used them. Thus, activity in HC is low and all those we visited were empty. Meanwhile, when service is available, and particularly when it is free (in Busra), women are positively changing practice and demonstrably turning to SBA for delivery

4.1.4 RHAC Project in Pechr Chenda District

The total population in Pechr Chenda district of 10,683, with 51.8% (5,534) female, are covered by one health centre and three health posts. Reproductive Health Association of Cambodia (RHAC) has been working in Mondulkiri province since 2007 with specific interventions Integrated into HSSP2 (national program level policy) on mother and child health in the Bunong Community.

With financial support of founder Paz Y Desarrollo (PYD), in August 2009, RHAC began to implementing a project to improve sexual and reproductive health in Pechr Chenda district. The RHAC project covers four communes, namely Busra, Puchri, Sre Amble, and Krang Test.

The project works toward improving the contraceptive prevalence rate, safe delivery in public health facilities, and timely referral of pregnant women in emergency situation from villages to public health

facilities. The project’s three expected outputs are as follows:

- Improved access to sexual and reproductive health services in public health facilities and communities RHAC meets
- Training of leaders and community members on Sexual and Reproductive Health to improve their awareness of their rights and obligations on these health matters
- Established community saving funds to support transportation costs for people in Pechr Chenda district to obtain maternity care services (ANC, delivery, PNC) at either HC or HP

Since 2009, RHAC have provided free delivery using the HEF scheme, and it has significantly increased utilization of the public health service. The Pechr Chenda HC midwife stated that presently all women in the district deliver at HC or HP. The number of successful deliveries at HC almost doubled since the first quarter of 2010. At that time, an average of 10 deliveries was done every month at HC and HPs, compared to an average of 17 deliveries by month in 2012. During the same period delivery by TBA fell from 28 in 2010 to 7 in 2012. **This shows clearly that women will promptly change practice, and prefer delivery at HC rather than by TBA, if safe and free delivery is accessible at HC.**

Table 6 RHAC Achievement Indicators: 2010 to 2012

Indicator	2010 First Quarter	2012 First Quarter
	3 month	3 month
ANC (total)	248	304
ANC 2	68	87
Delivery (total)	53	58
Delivery at HC	30	51
Delivery at home by trained health staff	6	0
Delivery by TBA	28	7
Birth spacing served by HC staff (current users)	628	411
Birth spacing served by CBDs (new cases)	40	50

Source: RHAC Annual Project Report 2010 and 2012

4.2 Private Midwife

HC SBAs with private practices are well-known and appreciated by the community as they can travel to women’s homes, even at night time. Often a private midwife is called when pregnant women are in difficult situations, and the TBA hasn’t succeeded in delivering the baby. As might be expected, SBAs disliked this

situation. They complained about being called too late, making it difficult to provide safe delivery and gain trust among community members. The fees for normal delivery with private midwife are US\$25, but in difficult situations or at night the price can escalate to US\$100.

4.3 Traditional Birth Attendant (TBA)

The term 'Traditional Birth Attendant' should not imply that these women form a homogeneous category. Some have more practical experience, others a greater knowledge of traditional medicine or understanding of the spirits. Whilst they shared general characteristics in how to assist delivery, their precise roles, functions, and levels of expertise differed. The WHO definition of a TBA is 'a person who assists the mother during childbirth and who initially acquired her skills by delivering babies herself or by working with other TBAs'³⁶. Most TBAs consider themselves as private practitioners who respond to requests for service and receive some compensation, mostly in kind. Their work is to assist women during delivery and immediately post-partum³⁷. In many cultures TBAs are respected members of their community, perform important cultural rituals, and provide essential social support to women during childbirth³⁸.

Most of the villages have an average of three or four TBAs. Their skills and expertise differ according to experience and training received. All the TBAs that we met were older women and generally illiterate. They were first 'trained' by watching and repeating the practices witnessed without knowledge on safe delivery. They are often chosen by the family because of their knowledge of spirits, and ability to control bad ones through practice of ritual ceremonies. During the study, fifteen TBAs were interviewed. Of this number, 10 had a limited knowledge of reproductive health, and did not know danger signs during pregnancy and delivery that should necessitate an emergency visit to HC. They were unaware of the importance of colostrum milk and benefits of early breastfeeding. They recommended mothers to wait several days (usually up to three) before feeding the baby with breast milk. TBAs mainly used razor-blades to cut the umbilical cord without antiseptic. They put traditional herbal medicine onto the cord, staying for up to three days with the mother as she recovered from birth.

TBAs who have received short courses of training to upgrade their skills through the modern health sector are defined by WHO as Trained TBAs³⁹. The five Trained TBAs interviewed had received training in 1995 from the NGO **Medecin du Monde**, and, in 2000, from PHD. In Kaoh Nheaek the most recent training

36. www.who.int/entity/rhl/reviews/CD005460.pdf

37. 'Traditional Birth Attendants' UNFPA: 1996

38. 'The Role of Traditional Birth Attendants in the Reduction of Maternal Mortality' Bergström S, and Goodburn E

39. 'Traditional Birth Attendant Training for Improving Health Behaviors and Pregnancy Outcomes' Sibley LM, Sipe TA, Brown CM, Diallo MM, McNatt K, Habarta N

update was done in 2002, in Kaev Seima in 2008, and in Pechr Chenda district in 2012. The curriculum for these training sessions was as follows: (1) Danger Signs; (2) Transfers and hygiene of pregnant women; and (3) Nutrition and pregnancy. The five Trained TBAs interviewed showed a clear understanding on early breastfeeding process, the benefits of clean cord cutting, and care in delivery and newborn care. This contrasted with the Nikles study in which it appeared that, post-training, the TBAs interviewed had not essentially changed their practices and attitudes(although there was greater acknowledgement of the need for hygiene and recognition of the danger signs)⁴⁰. The training program previously included provision of delivery kits (including mat, scissors, gloves, and soap), but these are no longer generally distributed as result of national policy to discourage home delivery. TBAs often lack basic equipment such as gloves, razor-blades, bandages, and soap (lack of hygiene is a chronic problem). Only TBAs who live where there is no HP in the village, or where access to HC is difficult (see map) received free delivery kits.

In the survey area, **Trained TBAs** are clearly the first choice for delivery for Bunong women. Their reputation among villagers depends on training received from public health staff, in addition to knowledge in the spirits and traditional medicine. They are famous in their commune and well-known by the Bunong population at large, with people coming from far away to meet with them. Community members are confident of their skills. The workload of TBAs varies considerably from place to place and amongst individual practitioners. Some TBAs may attend only family members, and thus conduct two or three deliveries a year while others have a wider clientele and a higher number of deliveries. We interviewed two TBAs who had delivered up to 100 women (Guchar Village, Kaev Seima district, and Puchar Village, Pechr Chenda district).

The Trained TBAs we met were old women (average 60 years old).They started to practice at around 20 years, when facing a situation where they had to help women to deliver. The first time they delivered a baby was perceived as the sign to become a TBA. It is regarded as a vocation, and they do it because there is nobody else in the community who can. However, **anecdotal evidence suggests that the present younger generation of adolescent girls (daughters or relatives of TBAs) do not want to learn the skills of the TBA**. This finding is also suggested by other studies of the Bunong⁴¹.The experienced TBAs interviewed believed that when they retired from delivery practice pregnant women would first call the private midwife (if they had the financial resources) or try to reach HC in time. When asked how women would cope if delivery occurred at night or during an episode of heavy rain, TBAs suggested that poor women would have no other choice than to ask a (untrained) relative to aid the delivery. **More research needs to be carried**

40. Nikles B: 2009: 21

41. Nikles 2009; 39; Health Unlimited; 2009: 14 *ibid*

out on the likely consequences of a reduction in the numbers of TBAs in remote areas, and the manner in which this function may be replaced.

Trained TBAs know danger signs and referral process to Health Centre. These TBAs play an important role in the referral process. In case of emergency they encouraged women to rapidly seek care and postponed the ceremony for the spirits to when the women had returned to the village. For example, in Srea Huy village, the TBAs, supported by the Village Chief, are encouraging women to minimize the size of the ceremony, thereby reducing the burden of delivery in Bunong women’s life. However, this attitude was not found in all villages and referral to HC is not common. The open-mindedness of the TBA in the matter is critical. She can mitigate the impact of traditional practices by informing the pregnant women on health services, facilitating a timely referral, and initiating new practices. If Bunong women referred to HC are satisfied with the service provided, it is more likely that their peers in the village will also agree to be referred, probably sooner, with better outcomes for mother and child.

Table 7 Advantages/Disadvantages of Delivery with TBA

<u>Advantage of delivery with TBA</u>	<u>Disadvantage of delivery with TBA</u>
<ul style="list-style-type: none"> - Delivery in a friendly surrounding: at home with relatives. - Price depends on women resources availability. - Easy to access, at night, during raining season. - Delivery respectful of traditional practices. 	<p>No information on danger signs</p> <ul style="list-style-type: none"> - No antennal care <p>Not enough tools to practice safe delivery:</p> <ul style="list-style-type: none"> - Lack of delivery kit - Risk of unclean cord cut and care - Less likely to initiate early breastfeeding <p>Not enough skills in case of emergency</p>

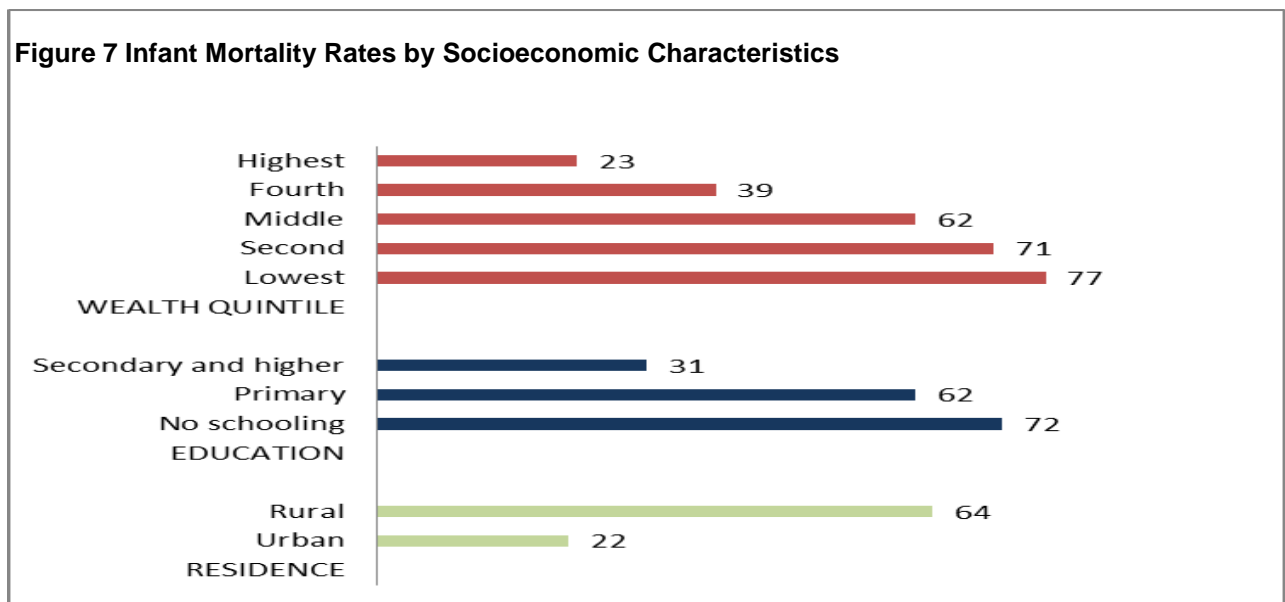
It will be gathered from this brief summary that the role of the TBA in Bunong practices and beliefs surrounding maternity and newborn childcare is powerful and critical.

5 Maternal and Child Mortality in Mondulkiri

5.1 Mondulkiri & Ratanakiri

It is well-documented that poverty, remoteness, and mother's level of education have a major impact on child health⁴². In Cambodia, the results presented by CDHS 2010 show clearly that childhood mortality varies significantly due to the socio-economic characteristics of mothers and households. The infant mortality rate is markedly higher among poor and illiterate women living in rural areas.

Consequently, even as Cambodia shows remarkable improvements in maternity and newborn health, remote provinces have not fully benefitted. For example, in Mondulkiri/Ratanakiri, where 44% of the female population have not received schooling (CDHS 2010), the under-five mortality rate of 106 per 1,000



live births is twice the national average (54 per 1,000 live births).

Unfortunately, CDHS aggregated data from Mondulkiri and Ratanakiri does not allow for deeper interpretation of the situation in Mondulkiri province alone. Data collected by Commune Council⁴³ provided more useful evidence to establish trends in maternal and child mortality in the studied districts.

42. World Health Organization. *Closing the Gap in a Generation - Health equity through action and the social determinants of health*. Geneva: World Health Organization. 2008.

43. <http://db.ncdd.gov.kh/cdbonline/home/index.castle>

Figure 8 Under-five Mortality Rate CDHS 2005-2010

Rates (per 1000 live births)	Under-five Mortality Rate CDHS 2005	Under-five Mortality Rate CDHS 2010	
	Cambodia	Cambodia	Mondulkiri/Ratanakiri
Under-five Mortality	83	54	106
Neonatal mortality	28	27	30
Post-neonatal mortality	37	18	53
Infant mortality	66	45	82
Child mortality	19	9	26

5.2 Kaev Seima, Kaoh Nheaek and Pechr Chenda Districts

Looking in detail at the health status of women and children in the three districts studied (see table below), it is apparent that the rate of maternal mortality is far higher than national data for 2010 (206 per 100,000 live births). In Kaev Seima district, nine women died within a month of delivery (2,639 per 100,000 live births), compared to one woman who died in Pechr Chenda (337 per 100,000 live births) and one in Kaoh Nheaek (247 per 100,000 live births). In addition to the best maternal mortality rate of the three districts, Kaoh Nheaek presents better results in neonatal mortality (15/1000 live births), in fact less than the national average (27/1000 live births). In possible explanation of this, the NMCH unit at PHD believe that mother and child deaths are under-reported in remote areas such as Kaoh Nheaek. However, this notwithstanding, the trend in Maternal and Neonatal death in the three districts has been decreasing since 2008.

Concurrently, the data clearly shows an important decrease in delivery with TBA. The number of women who delivered with a TBA in Pechr Chenda fell from 63% in 2008 to 41% in 2010 and in Kaev Seima from 67% to 45% in the same years. Only in Kaoh Nheaek district were the majority of women delivered by TBA: in 2010, 70% of women still delivered with TBA. Even here, delivery by TBA has decreased since 2008 when 85% women delivered using this choice of birth attendant (as shown in table below).

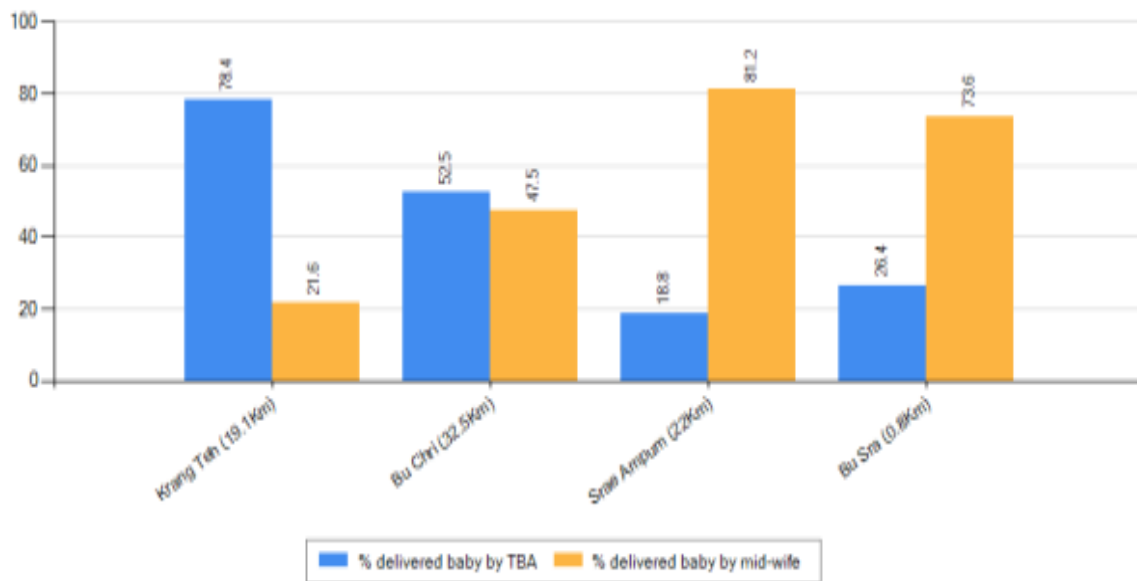
Figure 9 Maternal and Neonatal Mortality Rates

DISTRICTS	Pechr Chenda			Kaoh Nheaek			Kaev Seima		
	2008	2009	2010	2008	2009	2010	2008	2009	2010
Number of mothers who died after delivery (0 day - 1 month)	4	1	1	88	1	1	4	4	9
Maternal deaths per100,000 deliveries	1351	329	337	23097	255	247	983	1020	2639
Number of Infants who died (0 day - 1 month)	12	18	9	18	10	6	18	7	13
Neonatal mortality: per 1000 born	41	54	30	47	26	15%	44	18	37%
Number women deliver baby during the year	296	304	297	381	392	405	407	392	341
Women delivered by TBA	187	212	121	324	318	285	274	272	155
%of women delivered by TBA	63%	70%	41%	85%	81%	70%	67%	69%	45%

In summary, Maternal and Child Health data in the three districts clearly indicate a significant decrease in maternal and child mortality rate together with a decrease of women who delivered with a TBA although, in Kaoh Nheaek, TBAs are still the most popular form of birth attendant.

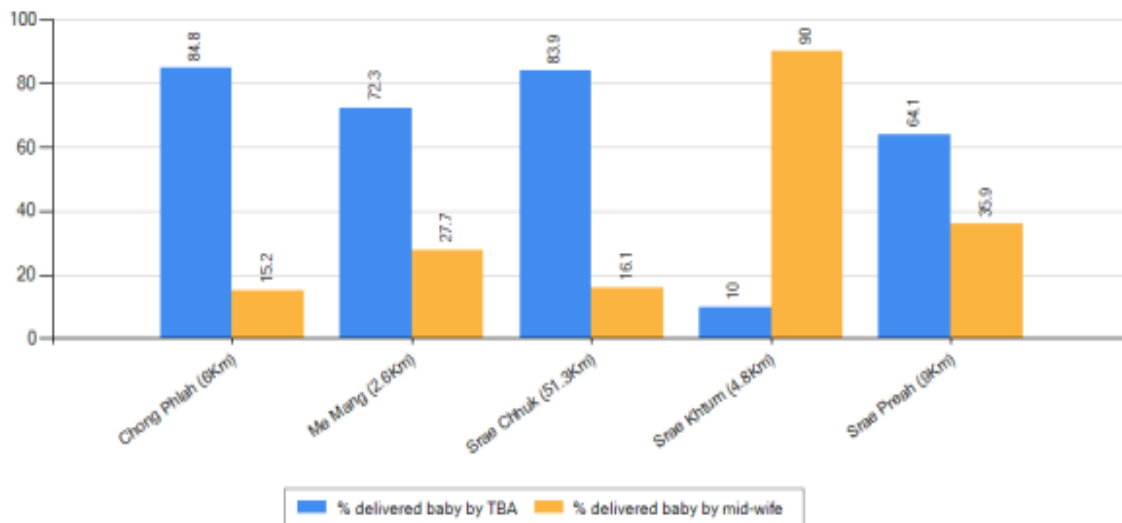
Examining the type of delivery by village in the three districts, the following is notable. In **Pechr Chenda** district most women delivered their baby with a SBA, except in Krang Teh village, the most remote from HC (19 Km), where 80% of the women were delivered by TBA (see figure below). In Sre Ampum and Busra villages, SBAs are the current delivery providers. This demonstrates an increase in accessibility and use of health services for child delivery; those positive changes are most probably attributable to the RHAC project which makes available free delivery services at HCs and HPs.

Figure 10 Delivery Providers in Pechr Chenda District



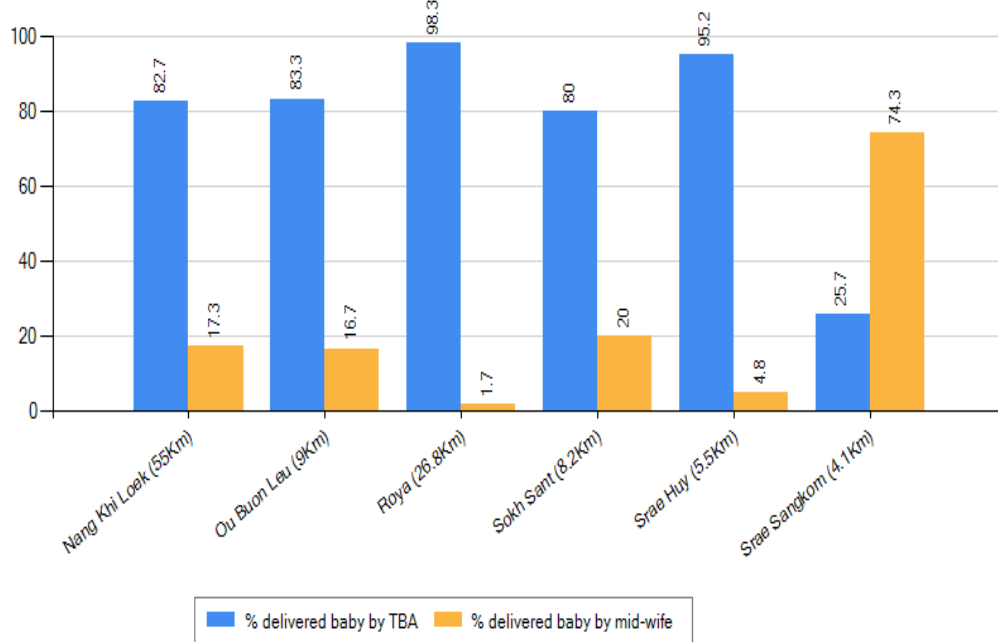
In **Kaev Seima** district, the majority of the women delivered their baby with a TBA :in Srae Preah more than 60% of the women were delivered by TBA, and, in the remotest villages (Chong Phlah and Srae Chhuk), more than 80% of the women delivered baby with TBA. However, in Srea Khtum, the closest village to HC (4 km) women are mostly delivered by SBA (90%).

Figure 11 Delivery Providers in Kaev Seima District



In the same manner, in **Kaoh Nheak** district, women are mostly delivered by SBA when they live the closest to HC(74% in Srea Sangtom village).In remaining villages, more than 82% of the women delivered their baby with TBA, and 98% in the remotest village, Roya, which is located 26 km from HC.

Figure 12 Delivery Providers in Kaoh Nheak District



In conclusion, in the districts studied, whilst the decrease in maternal and child mortality rate is accompanied by a decrease in delivery by TBA, analysis of the delivery choice by village demonstrates that resort to TBA for delivery is correlated to distance from health centre. The further the village is from public health facilities, the more expensive and difficult it is for pregnant women to reach them. In these areas, women turn to traditional birth attendants and methods for delivery. Furthermore, financial support for transport, services, and trained staff lift access barriers and increase utilization of skilled birth attendants, as shown in the example of Pechr Chenda district. **When service is available, and particularly when it is free, women are positively changing practice and demonstrably turning to SBA for delivery.**

6 Survey Finding in Bunong Community

The primary data collected through questioning of 113 Bunong women is very similar to data collected at Commune Council⁴⁴. Half of women interviewed were delivered assisted by a TBA and the remainder were delivered assisted by a SBA or a doctor. Equally, CDHS 2010 data reveals that just over half of births (54%) in Cambodia occur in health facilities.

Figure 13 Delivery

Delivery		
Delivery provider	N	%
Doctor/Midwife	55	49%
Traditional Birth Attendant	58	51%
Total	113	100%

6.1 Characteristics of the Bunong Women Studied

Figure 14 Characteristics of the Bunong Villages studied

Districts	Pechr Chenda		Kaoh Nheak		Kaev Seima	
	N	%	N	%	N	%
Total population	11,816		16,976		19,226	
Total number of families	2,531		3,502		4,050	
Female 18-60 years old	2,506	21%	3,788	22%	4,104	21%
Female illiterate 18-60 years old	1,361	54%	2,520	67%	2,039	50%
Families, who have no own latrine	2,133	84%	3,436	98%	3,156	78%

Source: Commune Database online 2010

The population in Pechr Chenda, Kaoh Nheak, and Kaev Seima districts encompass 48,000 persons, 10,000 families and 10,500 women aged from 18 to 60 years old. As it is shown in the table above, more than half of women aged from 18 to 60 years old are illiterate; the highest percentage of illiteracy is in Kaoh Nheak where 67% of the women in the age range are illiterate.

44. <http://db.ncdd.gov.kh/cdbonline/home/index.castle>

Furthermore, the findings in the three districts revealed that all the women interviewed spoke Bunong language, including 88% who spoke only Bunong, and a minority of 13% who could speak and understand Khmer. Almost all the women interviewed felt more comfortable to communicating in Bunong.

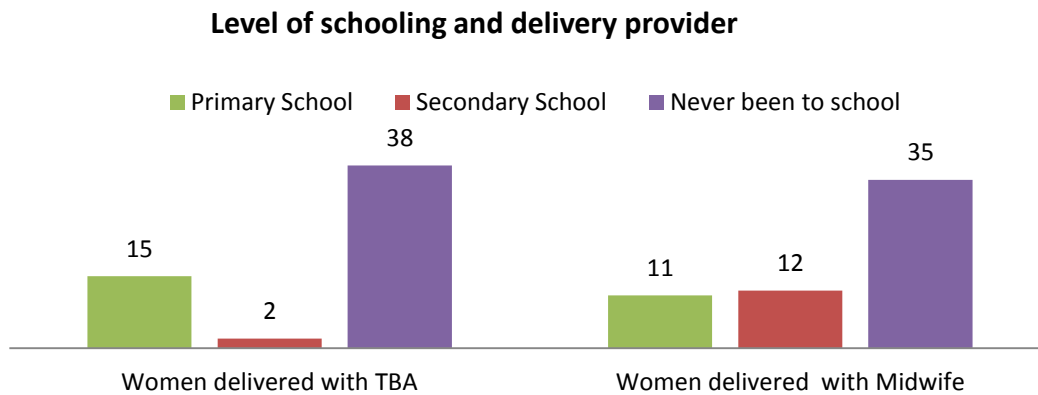
Figure 15 Characteristics of the Bunong Women studied

Characteristics of the Bunong Women		
Languages spoken	N	%
Bunong	98	88%
Khmer	14	13%
Total	112	100%
Language comfortable communicating in	N	%
Bunong	109	97%
Khmer	3	3%
Total	112	100%
Work outside of home to earn money	N	%
No outside work	76	67%
Farmer	22	19%
Tree plantation or daily worker	12	11%
Shopkeeper/Seller	3	3%
Total	113	100%
School Level	N	%
No School	73	65%
Primary School	26	23%
Secondary School	14	12%
Total	113	100%

Data collected revealed that 65% of the interviewees had never been to school, 23% went to primary school, and 12% went to secondary school. This rate is slightly higher than recorded in CDS 2010, which shows that 46% of women and 22% of men in Mondulkiri/Ratanakiri have no formal education. **CDHS 2010 revealed that women with more education, and those from wealthier families, are most likely to have their births attended by a skilled provider.**⁴⁵ When comparing women who delivered with TBA and women who delivered with SBA, there is a significant difference between the two groups ($p < 0.02$): women with higher level of schooling are more likely to be delivered by SBA or doctor.

45. CDHS 2010 Preliminary Results: 15

Figure 16 Level of schooling and delivery provider



6.2 Antenatal Care

Among the women interviewed, 83% had antenatal care visits with an SBA, doctor, or medical assistant, and 5% with TBA. 12% of women interviewed did not see anyone concerning ANC. 53% of antenatal care procedures were done at HC, 34% at HP, 3% at RH, and 10% of the women had ANC at home.

52% of the women interviewed had four or more antenatal visits and 45% had four visits with SBA. Among women who had antenatal visits, 68% were told of danger signs during pregnancy. 31% of the women had four or more antenatal visits with a skilled provider and were adequately counselled when they were pregnant with the youngest child. These results are slightly below CDHS 2010 averages, where six in ten women (59%) received the recommended four or more visits, and most women (80%) were informed of signs of pregnancy complications during an ANC visit.

65% of the women interviewed had at least two tetanus toxoid vaccinations before the birth of their youngest child, and this result corroborates CDHS 2010, where 60% of the women interviewed in Mondulkiri/Ratanakiri had their last live birth protected against neonatal tetanus⁴⁶.

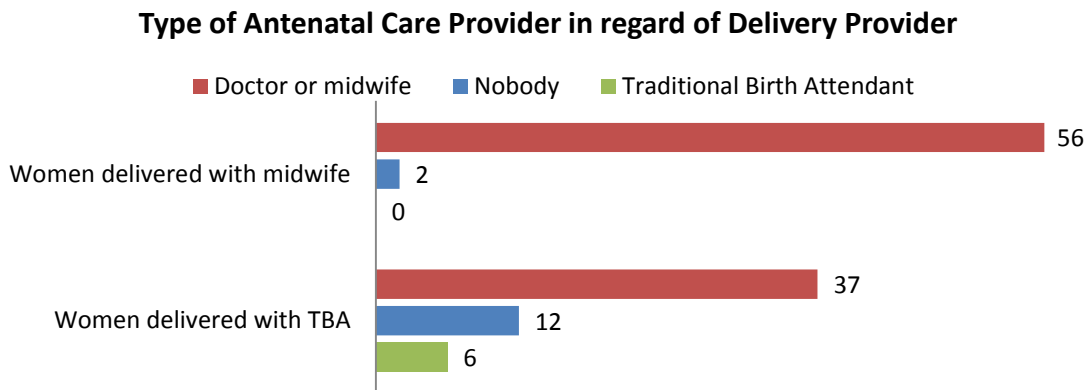
46. CDHS 2010 Preliminary Results: 16

Figure 17 Antenatal Care

Antenatal Care Mothers of children aged 0-23 months		
Provider for antenatal care	N	%
Doctor-Midwife-Medical Assistant	96	83%
Traditional Birth Attendant	6	5%
No-one	14	12%
Total	113	100
Place for antenatal care	N	%
Home	6	6%
Midwife/TBA home	4	4%
Hospital	3	3%
Health Centre	52	53%
Health Post	34	34%
Total	98	100%
Number of Antenatal Visit	N	%
1 to 3 times	41	42%
4 times or more	51	52%
Don't know	6	6%
Total	98	100%
Information on signs of pregnancy complications	N	%
Yes -received info during antenatal care visits	67	68%
No - didn't receive info during antenatal care visits	31	32%
Total	113	100 %
Percentage of who had four or more antenatal visits		52%
Percentage of mothers who had four or more antenatal visits with a skilled provider and were adequately counselled		31%
Percentage of mothers who received at least 2 tetanus toxoid vaccinations before the birth of their youngest child.		65%

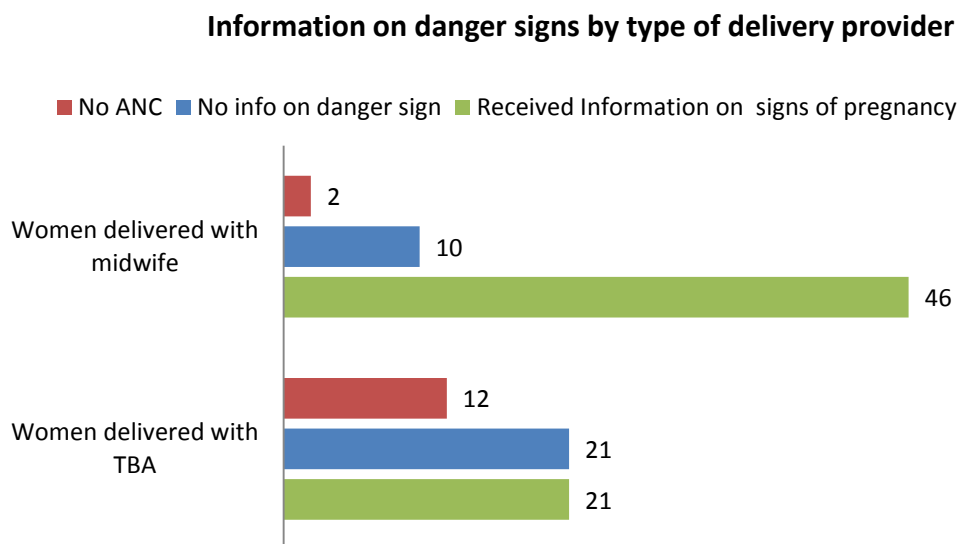
When comparing women by type of delivery provider, there is a significant difference among the two groups ($p,0.001$): **women who delivered with TBA are less likely go for ANC visits** (see figure below)

Figure 18 Type of Antenatal Care Provider in regard of Delivery Provider



The finding on information of danger signs is similar: women **who are delivered by TBA are less likely to be informed of danger signs than women who delivered with doctor, nurse or midwife** ($p,0.001$)

Figure 19 Information on Danger Signs by Type of Delivery Provider



In summary, the study findings clearly show that women who delivered with TBA were less likely to have antenatal care than women who delivered with SBA, and, in consequence, they were also less likely to receive information on danger signs.

6.3 Newborn Care at Delivery

Most of the women interviewed did not know about clean delivery kits, and only 18% could remember if a clean one was used. Mainly, new razor blades (43%) or new scissors (39%) were used to cut the cord. In only 5% of cases was cutting of the cord carried out *after* these tools had been boiled. 14% of cord cutting was done using a knife or other implement. 64% of the women had unguent placed on the umbilical cord stump after delivery. Half of them had antiseptic placed on umbilical cord stump. Immediately after the baby had been delivered, the birth attendant held the stomach 81% of the women interviewed, and pulled on the cord to help the placenta come out. 73% of mothers received uterus massage to stimulate contraction and prevent post-natal bleeding. 74% of children aged from 0-23 months were dried and wrapped with a warm cloth or blanket immediately after birth.

Table 8 Delivery

Delivery		
If Clean Delivery Kit used during delivery	N	%
Yes - Clean Delivery Kit was used during delivery	20	18%
No - Clean Delivery Kit was not used during delivery	12	11%
Don't Know	81	72%
Total	113	100%
Instrument used to cut the cord	N	%
New razor blade	49	43%
New and boiled razor blade	3	3%
New scissors	44	39%
New and boiled scissors	2	2%
Knife	12	11%
Other	3	3%
Total	113	100%
%children age 0-23 months who had clean cord cutting at birth		86 %
Unguent placed on umbilical cord before or after cutting?	N	%
Yes	72	64%
No	32	28%
Don't Know	9	8%
Total	113	100%

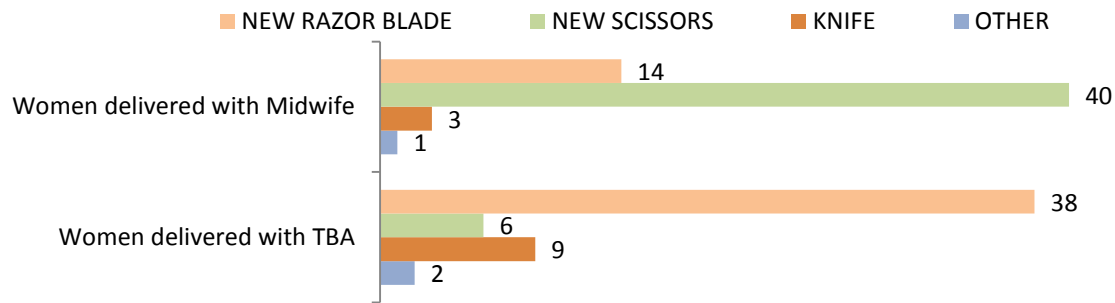
Delivery		
What was placed on the cut cord?	N	%
Antiseptic	42	58%
Traditional medicine+ ash+ compress sterile	18	24%
Don't Know	12	17%
Total	72	100%
% of children age 0-23 months who had clean cord care at the time of birth		37%
Newborn dried immediately after birth	N	%
Yes	84	74%
No	29	26%
Total	113	100%
Newborn wrapped in a warm cloth or blanket immediately after birth before the placenta was delivered	N	%
Yes	102	90%
No	11	10%
Total	113	100%
% of children age 0-23 months dried immediately after birth		74%
% of children age 0-23 months wrapped with warm cloth or blanket immediately after birth		90%
% of children age 0-23 months dried and wrapped with warm cloth or blanket immediately after birth		74%
Birth attendant held stomach and pulled on cord to help placenta come out	N	%
Yes	89	81%
No	21	19%
Total	110	100%
Had uterus massaged	N	%
Yes	82	73%
No	31	27%
Total	113	100%
% of mothers of children age 0-23 months who received massage after the birth of youngest child		73%

Comparing women delivered by TBA and those delivered by SBA, three significant differences between the two groups are apparent in relation to cord cutting and care, and newborn drying.

TBAs were more likely to use a new razor blade, while SBAs more frequently used scissors ($p < 0.001$). More

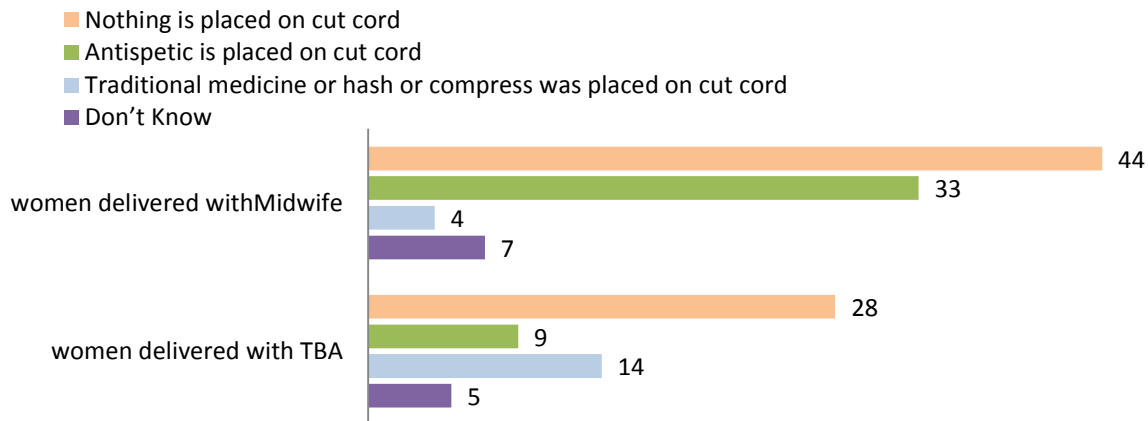
TBAs used a knife to cut the cord than SBAs did.

Figure 20 Instrument used to cut the cord in regard of delivery provider



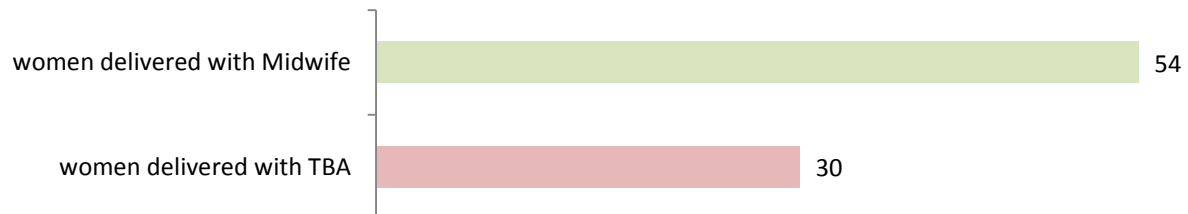
Women delivered by TBA are less likely to have unguent placed on the umbilical cord than women delivered by SBA. If delivered by TBA, these women are more likely to have a traditional medicine compress than antiseptic unguent placed on umbilical cord stump than women delivered by SBA ($p < 0.001$).

Figure 21 Unguent placed on cut cord in regard of delivery provider



Newborn delivered by TBA are less likely to be dried than women who were delivered by an SBA ($p < 0.001$).

Figure 22 Newborn is dried in regard of delivery provider



6.4 Breastfeeding

Breastfeeding is universal in Cambodia, where 97% of children less than six months are breastfed⁴⁷. The survey finding is very similar, and only a minority 3% of the women interviewed were not breastfeeding their child. For 36% of children, breastfeeding was initiated within one hour of delivery, and for 5% breastfeeding was initiated more than one hour after delivery and less than one day after delivery. However, **48% of women do not remember** when they initiated breastfeeding. The results in the studied area are far below those found in the CDHS 2010, where 50% of women started breastfeeding within one hour, and 66% began to breastfeed at least one day after delivery. 16% of the women gave prelacteal feed to the newborn, and this result is closer to national data in which 20% of new born are recorded as having prelacteal feed.

The Bunong mothers often reported to having not started breastfeeding until one to three days after birth. They claimed various reasons for this practice, such as not having milk or that baby could not suckle. If they didn't have milk, and baby was crying excessively, they would prepare liquid feed made of cow's milk or rice water. Alternatively, they asked another woman presently breastfeeding to feed the newborn until the mother thought she had milk. Women who delivered with TBAs clearly didn't know the benefits of colostrum milk, or those associated with early breastfeeding for mother and newborn.

Table 9 Breastfeeding

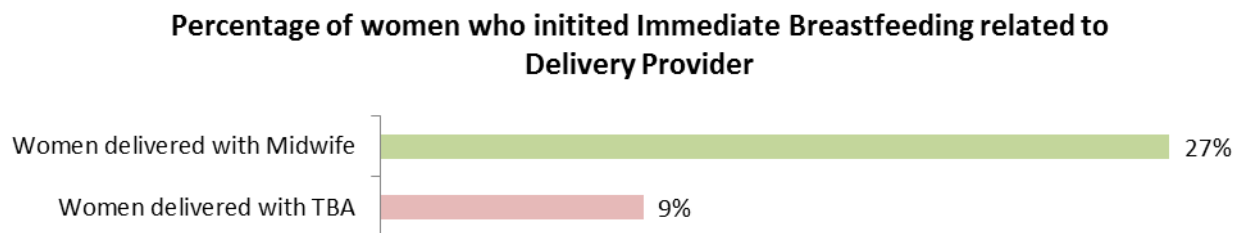
Breastfeeding		
Have you ever breastfed?	N	%
Yes	107	97%
No	3	3%
Total	110	100%
When was breastfeeding initiated?	N	%
Immediately	37	36%
Less than one day	5	5%
More than one day and less than three days	3	3%
Three days or more	8	8%
Don't remember	49	48%
Total	102	100%
% of children breastfed within one hour of delivery		36%
Baby received the first liquid (colostrum)	N	%
Yes	102	92%
No	9	8%
Total	111	100%

47. CDHS 2010 Preliminary Results: 22

Newborn received anything to drink other than breast milk?	N	%
Yes	16	14%
No	95	86%
Total	111	100%

There is a difference among the two groups; babies delivered by TBA are less likely to be put to the breast immediately than the women who delivered by SBA. More than half of the women who delivered with a SBA started breastfeeding immediately after giving birth.

Figure 23 Immediate Breastfeeding related to Delivery Provider



6.5 Knowledge of Danger Signs during Pregnancy

Most of the women interviewed (67%) knew at least two danger signs that would cause them to seek immediate care during pregnancy, delivery, or immediately following delivery, at a health facility. Mostly women were informed of danger signs during ANC visits. The study findings are somewhat lower than the number reported in CDHS 2010, where most Cambodian women (80%) were informed of signs of pregnancy complications during an ANC visit.

The most common danger signs women knew were headache, blurred vision, severe abdominal pain, fast or difficult breathing, and fever. Results illustrate that 67% of women interviewed had knowledge of general danger signs that needed immediate care. Nevertheless, women are less informed regarding essential maternity danger signs. The results show that only a minority of women recognize vaginal bleeding (12%), and baby stopping moving (9%), as a danger sign during pregnancy. In addition, only 28% of the women identified heavy bleeding, and 16% retained placenta, as a danger sign during delivery. This reveals in the Bunong community surveyed a profound gap in knowledge on safe motherhood that is a considerable

restraint to referral in case of danger.

Table 10 Knowledge of Danger Signs during Pregnancy

Danger Signs	During Pregnancy	During Delivery	Postpartum
	%	%	%
Headache/blurred vision	67%	52%	75%
Severe abdominal pain	51%	45%	55%
Fast/difficult breathing	43%	47%	43%
Fever	43%	42%	45%
Vaginal bleeding	12%	28%	20%
Convulsions	6%	10%	12%
Baby stops moving	9%	NA	NA
Retained placenta	NA	16%	NA
Foul-smelling/discharge from vagina	3%	NA	4%
Symptom of Malaria	10%	NA	12%
Pain in calf	NA	NA	2%
Don't know	13%	19%	11%
Mothers who knew at least two danger signs	67%	75%	75%

7 Discussion

7.1 Accessibility and Choice of Delivery Provider

The national CDHS data presented here displays a **decrease in maternal and child mortality** together with a **decrease in the number of deliveries with TBAs**. In the meantime, data collected in studied villages illustrates that there are significant differences in delivery practices and care of newborn between SBA and TBA. Undoubtedly women who delivered with an SBA received more quality care than women who were delivered with a TBA. The former group are more likely to have; (1) Antenatal care with a skill provider (2) Information on danger signs; (3) Clean cord cutting and after care; and (4) Immediate breastfeeding. Also, analysis reveals that choice of delivery attendant is linked with accessibility to health services. The distance from health services has an immense impact on health costs unless free services are provided at point of use. In remote villages (i.e. in Kaoh Nheaek district) **health costs are effectively unaffordable for Bunong women**. The distance and road conditions, associated with extremely poor livelihoods, restrain women from travelling to deliver at public health facilities. As health costs can be large and include unforeseen expenses, many families find they do not have enough money to pay for the care they need.

Like elsewhere in Cambodia, women have to be accompanied by a caregiver (usually husband or relative) for delivery at hospital or health centre. Bunong women recounted that where health services were far from the village (more than 5 km), the caregiver could not return daily to their home to take care of other children and cattle. In these areas the family has to hire a neighbour to take care of the household. The time women spend at hospital increases expenses related to delivery, and they are unwilling to pay for a natural process in their lives.

Also, experiences and testimonies reveal that, in absence of operational roads, some villages continue to be isolated and often over-looked by public health staff during outreach services and Education and Information Campaign (EIC). In the meantime, Bunong women in remote villages are very fearful to talk about maternity and newborn care issues. Often when Health staff reach remote villages to provide information and education, community members are reserved, and sometimes don't want to talk with them. A difference was noticed among studied districts. In Kaev Seima and Pechr Chenda, the Bunong participate in these sessions more than in Kaoh Nheaek. Consequently, more women are referred for deliver in HCs in Kaev Seima and Pechr Chenda districts than in Kaoh Nheaek district. This shows the impact of health education on the choice of delivery attendant; when Bunong community is participating in health education, women are more likely to be referred to the HC. Conversely, **women in remote villages who did**

not get access to basic health education are more likely **depend on traditional practices and medicine** to cope with disease and the delivery process.

7.2 Strong Traditional Beliefs and Safe Delivery

In isolated villages, traditional beliefs, fostered by older villagers, persist strongly and traditional medicine is prominent in the health care process. Some **strong traditional beliefs have an injurious impact on the health of mother and baby** and also on the livelihood of the family unit.

A woman who had a miscarriage went to take water at the public well, but later two people died in the village, so they accuse her of having spray malicious spirit; as punishment she had to make big ceremony and now she is very poor.

TBA in Loroumet Village

The Bunong community have a marked belief in black magic and powerful spirits. Women fear a malicious spirit which, it is believed, stays near her during the delivery process. Women dread to 'spray it' and fear punishment from the community. These beliefs are an important barrier to care being sought in the event of emergency. When danger signs occur women do not want to travel after labour starts. They are faced with the risk of losing blood on the way to HC and the consequent financial penalties of the ceremonies.

Last year a woman died giving birth. She lost a lot of blood. They went to Health Post, but nobody was there. They couldn't reach the provincial hospital in time and the woman died. After one month the baby died also. Community members are scared another woman will die and lead to huge difficulties in the community. Community leaders asked the family of the deceased women to do an immense ceremony to the spirit. The family had to kill one animal from each category (a dog, chicken, pig, and cow) and had to do it three times. Now husband stays alone with one child. He is very poor; nothing is remaining in the house, only one chicken. Nowadays, the husband has hard work in the rice field and takes care of his remaining child alone. People in the village are scared that the same happens to them, so family of the dead woman has to make sacrifice and ceremonies to please the spirit so it will not happen again.

TBA in Sre Huy village

In case of emergency the referral process is slow and sometimes not possible; (1) Women need to wait until sunrise to travel (as elsewhere in rural Cambodia, women are scared to travel at night for fear of ghosts); (2)The woman's family must do a ceremony before leaving the village to avoid spraying bad spirits; (3) Where there is no road for car transport, the woman's family must find people to carry the women in a hammock; and(4)After the emergency, the woman's family have to make ceremony and invite all persons who helped attend the delivery and provide food and wine

7.3 Role of Community Leaders in Safe Delivery Process

In deciding where to go for delivery, women said that they discussed the matter with their family and came to a joint agreement. However, there were stories reported of when pregnant women had to follow the choice of parents and other community members. Amongst the Bunong, the local village chief, as community leader, can be involved in these discussions, and, as a respected person, he can also have an impact on the final decision reached on maternity issues.

In fact, Bunong women's lack of knowledge on matters of reproductive health, allied with lack of participation in the community on health promotion, limit their ability to make decisions about health care. As a result the final decision reached may not fully reflect a woman's wishes or needs.

A young girl wanted to go to Health Centre for delivery of her first child but the mother and father didn't want her to because her parents have strong confidence in TBA and think she is providing a decent service. During delivery, the girl bled a lot and family don't know danger signs and she died in Krang Test Village. 4 km from HC. After girl died Health Centre staff made information campaign on danger signs during delivery.

Teacher in Krang Test Village

Some of the community leaders interviewed were well aware of the risks posed to women facing delivery due to remoteness and are facilitating access to SBAs. For example, in Srae Huy, the village chief encourages pregnant women to deliver at Sen Monorom hospital (three hours away by road) where service is free. He believes that the health of women and their babies is the first priority, and that traditional practice should be done after delivery. He works with health staff to organize referral documents for the health services. Also, to ameliorate the barrier of language and education among Bunong women, a Commune Council representative attends the HC with pregnant women. Unfortunately, this was not the case in all villages visited. In Krang Test, the village chief agreed that changes came only after women died during delivery and villagers began to see demonstrable success at the HC. A number of young women gave birth to healthy babies at hospital and received medicine to ensure their good health before, during, and after birth. On numerous occasions, the village chief facilitated transport for expectant mothers facing medical emergencies to provincial hospitals, and received better care. Word filtered back to the village that the HC was the safest place to give birth.

Village authorities have a major influence on villagers' decision-making process concerning where and when to seek health care. The need for education and its urgency is stressed by Health Unlimited (HU). Village authorities – especially village elders and chiefs – should receive education in maternal health issues

to promote safe motherhood practices. Community leaders are powerful advisors who can use their influence to initiate change and facilitate access for Bunong women to skilled health providers at public health facilities. Allied with TBAs, community leaders are definitely the key stakeholders to promote safe delivery, advocate accessible delivery services, and develop community ownership of the health services being offered.

7.4 The TBA: A link between the Community and Public Health Systems

In 2009, Health Unlimited (HU) carried out pilot training workshops in which TBAs and community support groups **explored experiences, challenges, and the future role of the TBA**. The final report states that the **TBAs clearly viewed their role within the Bunong villages as valuable** even those with identified weaknesses, such as a **lack of skills and difficult communication with village authorities and health facility staff**. Despite this, the report is positive: ‘Overall, they feel the need and are highly motivated to improve their skills and strengthen their relationship with public health staff in order to manage difficult cases and problems more effectively’⁴⁸

Unfortunately, **TBAs in remote areas** have not received enough **education or updated training from health staff** to advise women on safe delivery processes and danger signs during pregnancy. For example, in Kaoh Nheak district, no update training has been done since 2002. The Trained TBAs there are old, and with no younger TBAs having been trained there is no-one to replace them. In fact, this older generation of TBA considered that young women **would** want to become TBAs. Nikles concludes otherwise: “None of the traditional midwives visited seemed dedicated to teach her skills to young women...not many young women seem to be interested in learning the skills of a traditional midwife.”⁴⁹The ‘difficulties’ identified in both studies were similar: the responsibilities of the role and a reluctance to see blood or deal with unpleasant situations. Also, a further difficulty faced by younger TBAs was identified as not being a part of the official TBA list: the Provincial Health Department holds a list of names of all the TBAs in Mondulkiri province (or claims to⁵⁰). This meant they would not get invited to training sessions. In their report HU recommend further investigation into the process of working with younger TBAs⁵¹.

Among the issues specifically mentioned by TBAs was the relationship between themselves and the **Village Health Support Group (VHSG)**. The Village Health Support Group (VHSG) are volunteers working to support implementation of community-based health activities, such as referring patients in the community to

48. HU: 2009: 17

49. Nikles: 2009: 23

50. Nikles: 2009: 34

51. HU: 2009: 15

health centres and referral hospital. The VHSG members in each village are determined jointly by the community, the OD, and HC Management Committees (HCMC) and formally recognized by the local health authorities. The intention is that health volunteers increase outreach to remote communities by helping pregnant women identify danger signs, and make new mothers aware of the symptoms of childhood illnesses such as pneumonia and diarrhoea. They can refer women to health centres and hospitals. However, it appeared that there was no contact whatsoever between the VHSG and TBAs. In fact, in remote and poor villages, the primary concern of VHSG members is to provide for their families. Consequently, their voluntary work is often put to one side. Obviously, the possibility of compensation or incentive for the role may considerably increase the motivation of the volunteers.

Because of their close relationship with pregnant Bunong it is essential to gain the trust of the TBA.

Otherwise, the TBA will not advise the villagers to take advantage of the medical team involved in pregnancy and delivery. The report advocates links between the agents of traditional and biomedical health systems to gain the trust and confidence of Bunong villagers. It is now generally accepted⁵² that one of the main reasons why many previous TBA-based maternity care programmes did not work, or were unsustainable, is that they failed to link TBAs to a functioning health care system in which health care providers at primary, secondary, and tertiary levels of the health system function as a team, drugs and equipment are available, and effective supervision and systems of referral are in place. In a joint statement, WHO, International Confederation of Midwives (ICM), and International Federation of Gynaecology & Obstetrics (FIGO) recommend:

*52. Making pregnancy safer: the critical role of the skilled attendant A joint statement by WHO, ICM and FIGO
Department of Reproductive Health and Research World Health Organization*

In practical terms TBAs can help in the provision of skilled care to women and newborn by:

- Serving as advocates for skilled attendants and maternal and newborn health needs
- Encouraging women to enrol for essential pre- and post- natal care and obtain care from a skilled attendant during childbirth
- Helping women and families' follow-up on self-care advice and other recommendations (nutrition, treatment, dietary supplementation, immunization, scheduled appointments, planning for birth and emergencies, etc.)
- Encouraging the involvement of the male partner in the care of the woman and their newborn
- Disseminating health information through the community and families (danger signs, where and how to seek care, healthy life styles, where to seek assistance for other reproductive health needs such as family planning, neonatal immunization, etc.) where this role is not the mandate of the skilled attendant
- Giving social support during and after delivery, either as a birth companion — for example, acting as a *doula* (a South African term for a specially trained woman providing social support to women in labour) — or by supporting the household while the woman is away for childbirth
- Informing the skilled attendant about women who have become pregnant in the community so that the skilled attendant can make direct contact with them
- Serving as a link between families, communities and local authorities and the reproductive health services
- Encouraging community involvement in the development/maintenance of the continuum of care

8 Analysis of Possible Actions

During the last ten years, there have been health care improvements in Cambodia. However, previous studies⁵³, have shown that ethnic minorities are facing particular challenges in accessing health services, and tend to be particularly vulnerable to poor health⁵⁴. Regarding the Bunong community, some of the poorest groupings live in remote areas that are hard to reach. The geography of these settings poses special challenges to public health, such as access costs and service delivery. Geographic isolation coupled with cultural barriers, and generally poorer human development indicators, limit access to health services. Additionally, Bunong women are less likely to be literate and speak Khmer, creating extra barriers for those who have a high need for reproductive health, birth-spacing and child health services.

To make progress on MDG4, RGC and the U.S. Government (USG) will implement a multi-donor/partnership effort aimed at improving maternal and newborn health. The Cambodian Global Health Initiative (GHI) strategy 2011-2015⁵⁵ was presented in September 2011, and focuses on (1) Increasing access to services; (2) Improving quality health systems; and (3) Increasing demand for quality services. A concrete example of this plan will be done in Kaoh Nheaek district, where a Waiting House will be built close to the HC compound, to allowing women to spend a few days there before delivery without having to pay for local accommodation. Also, two new HC will be built in the province, in Pu Chri and Dakdan in Pechr Chenda communes.

In addition, under the 2008-2015 Health Strategic Plan, the Ministry of Health is seeking to develop more sustainable and systematic **health-financing schemes** in collaboration with health development partners, including USAID, World Bank, Australian Agency for International Development (AusAID), Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ), Belgian Development Agency (BTC), Groupe Agence Française de Développement (AFD), and multiple UN agencies.

From implementation in two Operational Districts (ODs) in 2000, HEF schemes have spread rapidly. This year the insurance scheme will expand from the existing 43 ODs to 58 ODs (out of the total of 77 ODs). In the meantime, RGC recently announced that the scheme will be offered in every health center and hospital in the country. Achieving national coverage of HEF by 2013 is one of the key goals in Cambodia's Second Health Sector Strategic Plan (HSSP2). The cost, estimated at approximately \$8-9 million, will be borne by the government and other donors. The USG will help by monitoring the effectiveness of the model as it is expanded to all 77 districts.

53. *Reproductive Health of Ethnic Groups in the Greater Mekong Sub-region*. UNFPA. 2008.

54. *Health Sector Support Project. Ethnic Minorities Development Strategy*. World Bank. 2002

55. www.ghi.gov/documents/organization/175129.pdf

Additionally, with UNICEF support, MoH strategy to further reduce preventable child deaths (especially for remote and marginalized populations) focuses on three districts in Monduliri, namely Orian, Kaev Seima and Kaoh Nheaek districts. The aim is to train more community volunteers, make timely emergency transportation, and provide appropriate healthcare outreach by community health volunteers.

8.1 A Continuum of Care from Household to Hospital

The health and well-being of women and their children is completely linked. There is a strong consensus that Reproductive Maternal Newborn and Child Health (RMNCH) programmes will only be effective if there is a horizontal Continuum of Care, from pre-pregnancy, through pregnancy, birth and childhood, and vertically, from household to hospital⁵⁶. **The authors of the study believe that a reduction of maternal and infant mortality among the Bunong people will only be achieved by an integrated program for the promotion and development of safe delivery in their community.**

8.2 At Community Level

According to data analysis and the PHD in Monduliri, the number of Bunong women coming for ANC visits and delivery at public health services is increasing in the province, reflecting a change in women's attitudes, regarding choice of delivery provider. This must be reinforced in order to continue the process of improvement. Meanwhile in Kaoh Niek district, the maternal and newborn health indicators are lower than in two other districts studied (Keo Seima and Pechrada districts). Support in this district through community outreach programmes can be the initiator of change.

Develop community awareness of using Bunong Language

- **Mobilize and support community leaders on maternal and child health** (including village leaders, VHSB, and TBAs) by engaging them to take an active role in health care delivery in their communities. Community leaders can promote healthy behaviour through tracking pregnancies, live births, and maternal and neonatal deaths, to understand causes of deaths and develop safe practices.
- **Increase knowledge and adoption of good health practices** by educating communities about positive health behaviours for themselves and their newborn, including education on (1) Safe delivery; (2) Danger signs during pregnancy, delivery and postpartum; (3) Referral process; (4) Public maternal health services (must include information on HEF); (5) Educate adolescent girls about reproductive health; (6) Immunization; and (7) Nutrition.

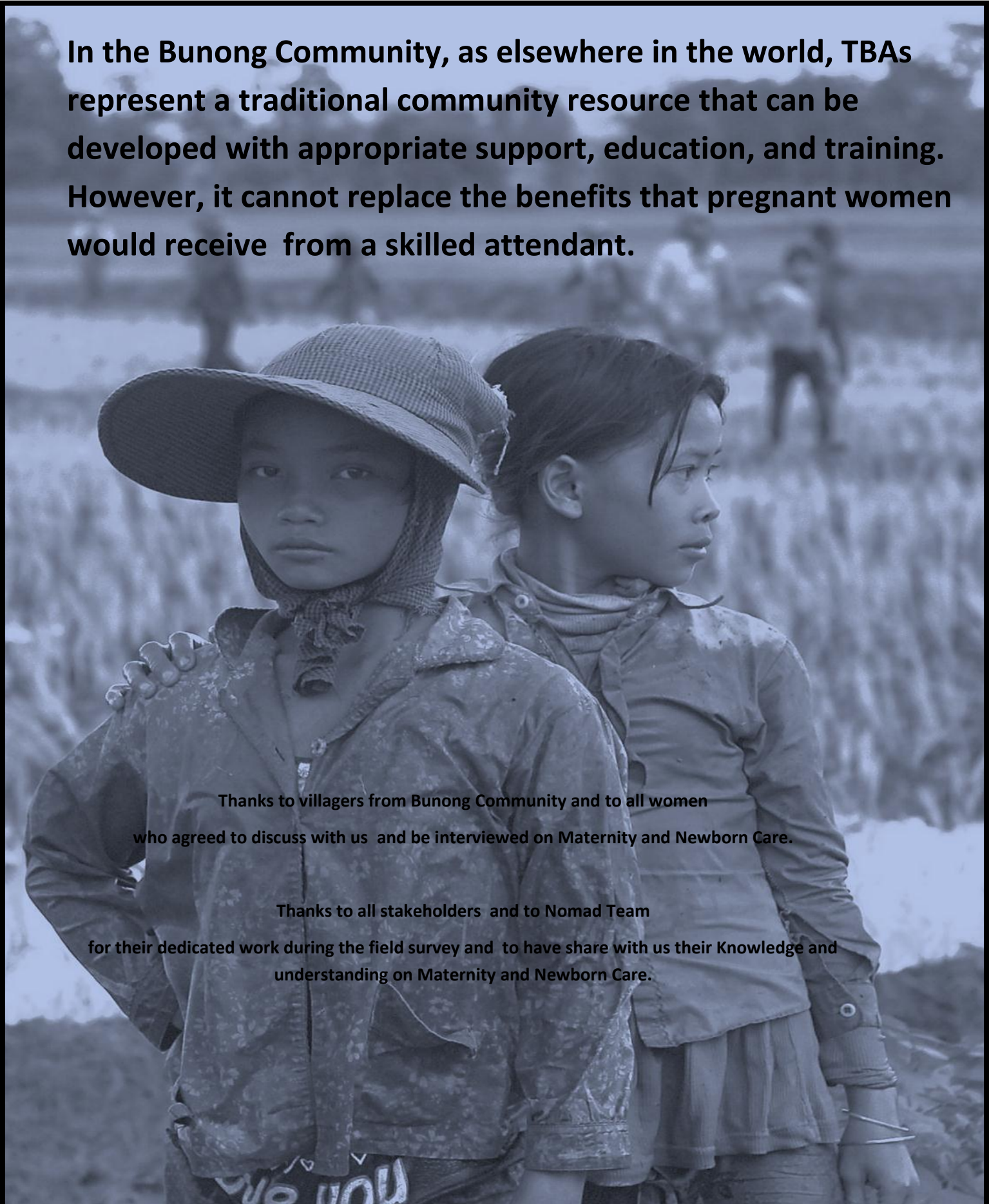
56. As the African Science Academy for Development Institute (ASADI) has estimated (2009), simply scaling-up coverage of well-known integrated packages of RMNCH care, with a health systems approach, could prevent 85% of deaths.

- **Empower the role of Traditional Birth Attendant** as a key actor for referral from community to Health Centre. Organize regular training sessions on safer delivery practices, and ensure that all TBAs are invited. A new approach may be needed to include the younger functioning and prospective TBAs.
- **Train VHSG members to provide accurate health information** on pregnancy, delivery, post-natal care, and family planning, as well as promotion on early breastfeeding and iron supplements for pregnant women and consumption of vitamin-rich foods.
- **Develop partnerships between TBA, Health Services and VHSGs** by setting up regular meetings and organize home visits for each other.
- **Develop fast referral system** with collaboration of village leader, TBA and health services

8.3 At Health Centre Level

Despite outreach awareness-raising and improved coordination between communes and the health centres, change came only after villagers began seeing demonstrable success at the HC. As is acknowledged in the latest WHO publication (2010), a broad approach to health system strengthening is essential for lasting improvements. Countries have achieved progress on maternal mortality by increasing the number and skill-development of health workers, as well as ensuring the availability of an integrated package of services across the whole Continuum of Care, free at the point of use. Also, national capacities must be developed to recruit and increase the pay of health workers, and provide on-going training, support and supervision through the system.

- **Providing free birth delivery at HC for poor women**
- **Provide skills and equipment to HC staff for safe delivery** in (1) Pre- and in-service training, supervision, and mentoring; (2) Ensure supply of Oxytocin and Magnesium Sulphate
- **Integrate family planning (FP) and other maternal child health (MCH) services**, namely post-natal care, immunization and nutrition.
- **Provide training sessions for public health staff** on cultural sensitivity and ethical treatment of patients – a ‘friendly’ approach is needed from health staff to Bunong traditional practices
- **Develop the ‘Waiting House’ concept at HC.** Women from remote areas don’t want delivery at HC, because they cannot stay at the HC town or Sen Monorom for 15 days or more waiting for delivery.
- **Strengthened referral linkages.** A critical gap for women living in rural areas is the limited access to hospitals and emergency health care services. HCMC assisted by VHSGs need to establish an emergency transportation system that ensures pre-paid, pre-arranged transport.



In the Bunong Community, as elsewhere in the world, TBAs represent a traditional community resource that can be developed with appropriate support, education, and training. However, it cannot replace the benefits that pregnant women would receive from a skilled attendant.

Thanks to villagers from Bunong Community and to all women who agreed to discuss with us and be interviewed on Maternity and Newborn Care.

Thanks to all stakeholders and to Nomad Team for their dedicated work during the field survey and to have share with us their Knowledge and understanding on Maternity and Newborn Care.

9. Annexes

9.1 Questionnaire

IDENTIFICATION	
Name of interviewer	[] [] []
CLUSTER NUMBER	[] []
HOUSEHOLD NUMBER	
RECORD NUMBER	
DATE OF INTERVIEW	____ / ____ / ____ dd/mm/yyyy
AGE OF CHILD (IN MONTHS)	[] []
CHILD'S DATE OF BIRTH	____ / ____ / ____ dd/mm/yyyy
SEX OF CHILD (1=MALE, 2=FEMALE)	[] []

RESPONDENT BACKGROUND CHARACTERISTICS

1	For how many years have you attended school? ¹ IF NEVER, RECORD '00'.	Years In School	[] []	
2	What languages do you speak?			
		if women no speak phnong stop interview		

ANC1	<p>During your pregnancy with (Name), did you see anyone for antenatal care?</p> <p>IF YES: Whom did you see? Anyone else?</p> <p>PROBE FOR THE TYPE OF PERSON AND RECORD ALL PERSONS SEEN.</p>	<p>DOCTOR/MEDICAL ASSISTANT.....A</p> <p>NURSE.....B</p> <p>MIDWIFE.....C</p> <p>TRADITIONAL BIRTH ATTENDANT.....D</p> <p>OTHER _____X (SPECIFY)</p> <p>NO ONE.....Y</p>	<p>➡DSP1</p>
ANC2	<p>During your pregnancy with (Name), where did you receive antenatal care?</p> <p>CIRCLE ALL MENTIONED.</p> <p>IF SOURCE IS HOSPITAL, HEALTH CENTER, OR CLINIC, WRITE THE NAME OF THE PLACE. PROBE TO IDENTIFY THE TYPE OF SOURCE AND CIRCLE THE APPROPRIATE CODE.</p> <p>_____</p> <p>(NAME OF PLACE)</p>	<p><u>HOME</u></p> <p>YOUR HOME.....A</p> <p>MIDWIFE/TBA HOME.....B</p> <p>OTHER HOME.....C</p> <p><u>PUBLIC SECTOR</u></p> <p>HOSPITAL.....D</p> <p>HEALTH CENTER.....E</p> <p>HEALTH POST.....F</p> <p>OUTREACH.....G</p> <p>OTHER PUBLIC _____H (SPECIFY)</p> <p><u>PRIVATE SECTOR</u></p> <p>PRIVATE HOSPITAL.....I</p> <p>PRIVATE CLINIC.....J</p> <p>OTHER PRIVATE _____K (SPECIFY)</p> <p>OTHER _____X (SPECIFY)</p>	
ANC4	<p>During your pregnancy with (Name), how many times did you receive antenatal care?</p>	<p>TIMES..... <input type="text"/> <input type="text"/></p> <p>DON'T KNOW.....99</p>	
ANC6	<p>During (any of) your antenatal care visits, were you told about the signs of pregnancy complications?</p> <p>explain signs of pregnancy complication</p>	<p>YES.....1</p> <p>NO.....2</p> <p>DON'T KNOW.....9</p>	<p>➡DSP1</p> <p>➡DSP1</p>
ANC7	<p>Were you told where to go if you had any of these complications?</p>	<p>YES.....1</p> <p>NO.....2</p> <p>DON'T KNOW.....9</p>	

DSP1	<p>During pregnancy, woman may encounter severe problems or illnesses and should go or be taken immediately to a health facility.</p> <p>What types of symptoms would cause you to seek immediate care at a health facility (right away)?</p> <p>ASK: Anything else?</p> <p>DO NOT READ RESPONSES. RECORD ALL THAT ARE MENTIONED.</p> <p>Explain danger signs</p>	<p>VAGINAL BLEEDING.....A</p> <p>FAST/DIFFICULT BREATHING.....B</p> <p>FEVERC</p> <p>SEVERE ABDOMINAL PAIN.....D</p> <p>HEADACHE/BLURRED VISION.....E</p> <p>CONVULSIONS.....F</p> <p>FOUL SMELLING DISCHARGE/FLUID FROM VAGINA.....G</p> <p>BABY STOPS MOVING.....H</p> <p>LEAKING BROWNISH/GREENISH FLUID FROM THE VAGINA.....I</p> <p>OTHERX</p> <p>_____</p> <p>(SPECIFY)</p>	
TT1	<p>During your pregnancy with (Name) did you receive an injection in the arm to prevent the baby from getting tetanus, that is convulsions after birth?</p>	<p>YES.....1</p> <p>NO.....2</p> <p>DON'T KNOW.....9</p>	<p>➔ TT3</p> <p>➔ TT3</p>
TT2	<p>While pregnant with (name), how many times did you receive such an injection?</p>	<p>ONE.....1</p> <p>TWO.....2</p> <p>THREE OR MORE.....3</p> <p>DON'T KNOW.....9</p>	
TT3	<p>Did you receive any tetanus toxoid injection at any time before that pregnancy, including during a previous pregnancy or between pregnancies?</p>	<p>YES.....1</p> <p>NO.....2</p> <p>DON'T KNOW.....9</p>	<p>➔ BA1</p> <p>➔ BA1</p>
TT4	<p>Before the pregnancy with (Name), how many times did you receive a tetanus injection?</p>	<p>ONE.....1</p> <p>TWO.....2</p> <p>THREE OR MORE.....3</p> <p>DON'T KNOW.....9</p>	

BA1	<p>Who assisted with the delivery of (Name)?</p> <p>Anyone else?</p> <p>PROBE FOR THE TYPE(S) OF PERSON(S) AND RECORD ALL MENTIONED.</p> <p>IF RESPONDENT SAYS NO ONE ASSISTED, PROBE TO DETERMINE WHETHER ANY ADULTS WERE PRESENT AT THE DELIVERY.</p>	<p>DOCTOR.....A</p> <p>NURSE.....B</p> <p>MIDWIFE.....C</p> <p>AUXILIARY MIDWIFE.....D</p> <p>OTHER HEALTH STAFF WITH MIDWIFERY SKILLS.....E</p> <p>TRAINED TRADITIONAL BIRTH ATTENDANT.....F</p> <p>TRAINED COMMUNITY HEALTH WORKER.....G</p> <p>TRADITIONAL BIRTH ATTENDANT.....H</p> <p>COMMUNITY HEALTH WORKER.....I</p> <p>RELATIVE/FRIEND.....J</p> <p>NO ONE.....Y</p>	
CC1	<p>What instrument was used to cut the cord?</p>	<p>NEW RAZOR BLADE1</p> <p>NEW AND BOILED RAZOR BLADE2</p> <p>USED RAZOR BLADE.....3</p> <p>USED AND BOILED RAZOR BLADE4</p> <p>NEW SCISSORS.....5</p> <p>NEW AND BOILED SCISSORS.....6</p> <p>USED SCISSORS7</p> <p>USED AND BOILED SCISSORS8</p> <p>KNIFE9</p> <p>REED10</p> <p>OTHER _____97 (SPECIFY)</p> <p>DON'T KNOW98</p>	
CC2	<p>Was anything placed on the umbilical cord either before or after it was cut?</p>	<p>YES.....1</p> <p>NO.....2</p> <p>DON'T KNOW.....9</p>	<p>➡TC1</p> <p>➡TC1</p>

CC3	What was placed on the cut cord?	ANY TYPE OF OIL.....2 ANTISPETIC.....3 ASH.....4 OTHER _____97 (SPECIFY)	
TC1	Was (NAME) dried (wiped) immediately after birth before the placenta was delivered?	YES.....1 NO.....2 DON'T KNOW.....9	
TC2	Was (NAME) wrapped in a warm cloth or blanket immediately after birth before the placenta was delivered?	YES.....1 NO.....2 DON'T KNOW.....9	
MTS2	Did the birth attendant hold your stomach and pull on the cord to help the placenta come out?	YES.....1 NO.....2 DON'T KNOW.....9	
MTS3	Immediately after the Placenta was delivered, did someone massage your uterus to make it contract strongly and to prevent you from bleeding too much?	YES.....1 NO.....2 DON'T KNOW.....9	
DSD1	<p>During delivery, once contractions started, woman may encounter severe problems or illnesses and should go or be taken immediately to a health facility.</p> <p>While having contractions or delivering a baby, what types of symptoms would cause you to seek immediate care at a health facility (right away)?</p> <p>ASK: Anything else?</p> <p>DO NOT READ RESPONSES. RECORD ALL THAT ARE MENTIONED.</p> <p>try to short the question</p>	CONVULSIONS.....A HIGH FEVER.....B HEAVY BLEEDING.....C FAST/DIFFICULT BREATHING.....D RETAINED PLACENTA.....E HEADACHE/BLURRED VISION.....F PROLONGED LABOUR.....G OTHERX _____ (SPECIFY)	
BF1	Did you ever breastfeed (NAME)?	YES.....1 NO.....2	➡EC1

BF2	<p>How long after birth did you first put (NAME) to the breast?</p> <p>IF LESS THAN 1 HOUR, RECORD 00 HOURS, IF LESS THAN 24 HOURS RECORD THE HOURS, OTHERWISE RECORD DAYS</p>	<p>IMMEDIATE.....00</p> <p>HOURS..... <input type="text"/> <input type="text"/></p> <p>DAYS..... <input type="text"/> <input type="text"/></p> <p>DON'T REMEMBER.....9</p>	
BF3	<p>Did you give the baby the first liquid (Colostrum) that came from your breasts?</p>	<p>YES.....1</p> <p>NO.....2</p> <p>DON'T KNOW.....9</p>	
BF4	<p>In the first three days after delivery, was (NAME) given anything to drink other than breast milk?</p>	<p>YES.....1</p> <p>NO.....2</p> <p>DON'T KNOW.....9</p>	
BF5	<p>What was (NAME) given to drink? Anything else?</p> <p>DO NOT READ THE LIST RECORD ALL MENTIONED BY CIRCLING LETTER FOR EACH ONE MENTIONED</p>	<p>1. MILK (OTHER THAN BREASTMILK) A</p> <p>2. PLAIN WATER B</p> <p>3. SUGAR OR GLUCOSE WATER..... C</p> <p>4. SUGAR-SALT-WATER SOLUTION D</p> <p>5. FRUIT JUICE F</p> <p>6. INFANT FORUMULA G</p> <p>7. RICE WATER..... H</p> <p>8. OTHER (SPECIFY) X</p>	
BF6	<p>Are you still breastfeeding (NAME)?</p>	<p>YES 1</p> <p>NO 0</p>	
BF7	<p>For how many months did you breastfeed (NAME)?</p>	<p>IF LESS THAN ONE MONTH, RECORD "00" MONTHS. MONTHS <input type="text"/> <input type="text"/></p>	
The following questions refer to the mother after the delivery of her youngest child			
PP1	<p>Did a health care provider or a traditional birth attendant check on your health after the delivery of your youngest child, either at a health facility, home or other location?</p>	<p>YES.....1</p> <p>NO.....2</p>	➔ DSM1

PP2	<p>How long after the delivery did the first check take place?</p> <p>IF LESS THAN ONE DAY, CIRCLE 0 AND RECORD HOURS; IF LESS THAN ONE WEEK CIRCLE 1 AND RECORD DAYS; IF MORE THAN 6 DAYS CIRCLE 2 AND RECORD WEEKS.</p>	<p>HOURS 0 <input type="text"/> <input type="text"/></p> <p>DAYS 1 <input type="text"/> <input type="text"/></p> <p>WEEKS 2 <input type="text"/> <input type="text"/></p> <p>DON'T KNOW.....998</p>	
PP3	<p>Who checked your health at that time?</p> <p>Anyone else?</p> <p>PROBE FOR THE MOST QUALIFIED PERSON AND RECORD ALL MENTIONED.</p>	<p>DOCTOR.....A</p> <p>NURSE.....B</p> <p>MIDWIFE.....C</p> <p>AUXILIARY MIDWIFE.....D</p> <p>OTHER HEALTH STAFF WITH MIDWIFERY SKILLS.....E</p> <p>TRAINED TRADITIONAL BIRTH ATTENDANT.....F</p> <p>TRAINED COMMUNITY HEALTH WORKER.....G</p> <p>TRADITIONAL BIRTH ATTENDANT.....H</p> <p>COMMUNITY HEALTH WORKER.....I</p> <p>RELATIVE/FRIEND.....J</p> <p>NO ONE.....Y</p>	
DSM1	<p>Sometimes mothers after delivery have severe illnesses and should be taken immediately to a health facility.</p> <p>What types of symptoms would cause you to go to a health facility right away?</p> <p>ASK: Anything else?</p> <p>DO NOT READ RESPONSES. RECORD ALL THAT ARE MENTIONED.</p>	<p>EXCESSIVE VAGINAL BLEEDING.....A</p> <p>FAST/DIFFICULT BREATHING.....B</p> <p>HIGH FEVER.....C</p> <p>SEVERE ABDOMINAL PAIN.....D</p> <p>SEVERE HEADACHE/BLURRED VISION....E</p> <p>CONVULSIONS/LOSS OF CONSCIOUSNESS.....F</p> <p>FOUL-SMELLING DISCHARGE FROM THE VAGINA.....G</p> <p>PAIN IN CALF.....H</p> <p>VERBALIZATION/BEHAVIOR THAT INDICATES SHE MAY HURT HERSELF OR THE BABY.....I</p> <p>OTHER _____.....X (SPECIFY)</p>	
The following questions refer to the youngest child shortly after birth			

PC1	After (Name) was born, did any health care provider or traditional birth attendant check on (Name's) health?	YES.....1 NO.....2	➡DSN1
PC2	How many hours, days or weeks after the birth of (Name) did the first check take place? IF LESS THAN ONE DAY, CIRCLE 0 AND RECORD HOURS; IF ONE TO SIX DAYS CIRCLE 1 AND RECORD DAYS; IF MORE THAN 6 DAYS CIRCLE 2 AND RECORD WEEKS.	HOURS 0 <input type="text"/> <input type="text"/> DAYS 1 <input type="text"/> <input type="text"/> WEEKS 2 <input type="text"/> <input type="text"/> DON'T KNOW.....998	
PC3	Who checked on (Name's) health at that time? Anyone else? PROBE FOR THE MOST QUALIFIED PERSON AND RECORD ALL MENTIONED.	DOCTOR.....A NURSE.....B MIDWIFE.....C AUXILIARY MIDWIFE.....D OTHER HEALTH STAFF WITH MIDWIFERYSKILLS.....E TRAINED TRADITIONAL BIRTH ATTENDANT.....F TRAINED COMMUNITY HEALTH WORKER.....G TRADITIONAL BIRTH ATTENDANT.....H COMMUNITY HEALTH WORKER.....I RELATIVE/FRIEND.....J NO ONE.....Y	

DSN1	<p>Sometimes newborns, within the first month of life, have severe illnesses and should be taken immediately to a health facility.</p> <p>What types of symptoms would cause you to take your newborn to a health facility right away?</p> <p>ASK: Anything else?</p> <p>DO NOT READ RESPONSES. RECORD ALL THAT ARE MENTIONED.</p>	<p>CONVULSIONS.....A</p> <p>FEVER.....B</p> <p>POOR SUCKLING OR FEEDING.....C</p> <p>FAST/DIFFICULT BREATHING.....D</p> <p>BABY FEELS COLD.....E</p> <p>BABY TOO SMALL/TOO EARLY.....F</p> <p>YELLOW PALMS/SOLES/EYES.....G</p> <p>SWOLLEN ABDOMEN.....H</p> <p>UNCONSCIOUS.....I</p> <p>PUS OR REDNESS OF THE UMBILICAL STUMP, EYES OR SKIN.....J</p> <p>OTHERX</p> <p style="text-align: center;">_____</p> <p style="text-align: center;">(SPECIFY)</p>	
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9.2 Focus Group Discussion

The objective of the qualitative component is to examine perceptions and views related to delivery among 35 Cambodian women.

Specific objectives are to:

1. Examine BUNONG women's perceptions related to delivery.
2. Describe BUNONG women's traditional practices related to delivery care
3. Identify gaps to access to safe delivery
4. Examine BUNONG women's views on safe delivery care respectful of traditional beliefs

Method:

The study will be conducted in 4 sites, one in each district.

We will launch the study based on focus group with 35 women. 5 Women will participate to the focus group discussion in each commune studied (7).

Research frame for investigation

1. Describe BUNONG women's traditional practices related to delivery care

- In your village:
 - Where do pregnant women seek advice on pregnancy?
 - Where do women in this community give birth?
 - If a woman experience complications during delivery, what is usually done?
 - In this community, who usually cuts and ties the umbilical cord?
 - In this community, what special practices exist for mothers and their babies during the first few weeks after birth?
- Can you tell us about your last experience of delivery?
 - With whom, which practices (details), which cost, pre and post natal check.
 - What are the traditional beliefs and taboos related to delivery? What kind of ceremonies are involved and for what kind of reasons?
 - Relation with the caregiver,
 - Relation with the spirits

- How and when do they decide where a woman will give birth
- What are the risks connected to home delivery?

2. Examine BUNONG women's perceptions related to delivery

- Perceptions related to delivery care:
 - Practices
 - Cost
 - Relation with the caregiver
 - Decision to seek care for delivery
- Perceptions related to discrimination during Prenatal and delivery care due to:
 - Maternal ages, education, Marital status, Ethnicity
- Reasons for using home delivery and Reasons for using Public Health services
- Advantages/ disadvantage of delivery at Home and in Public Health services
- Did you hear about women death after delivery at Home or in Public Health services and what are the consequences for their families?

3. Examine BUNONG women's views on safe delivery care respectful of traditional beliefs

- Can you describe ideal safe delivery care (with whom, which practices, which cost)
- What is the best way to continue traditional practices and still have a safe delivery?
- What kinds of changes are needed in your community to improve the conditions for safe deliveries?
- How this changes could be addressed and by who?
 - within the community
 - in health center
 - by local authority
- What are the main constraints women faces in your community in order to access safe delivery?

4. Identify gaps to access to safe delivery

- What difficulties do women experience in seeking care for safe delivery in:
 - Deciding where and when to seek care for safe delivery?
 - Seeking care for safe delivery with trained birth attendant?
 - Having a safe delivery with trained birth attendant?

- Do you think it is related to?
 - Women knowledge and perception on safe delivery
 - Community believes and practices on
 - Care services quality and proximity
 - Relation with caregivers (public health staff, private practitioner, Traditional
 - Relation with spirits
 - Stigma, discrimination