London School of Economics and Political Science

Contraception in Cambodia

Explaining Unmet Need

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Declaration of Authorship

I certify that the thesis I have presented for examination for the MPhil/PhD degree of the London School of Economics and Political Science is solely my own work other than where I have clearly indicated that it is the work of others (in which case the extent of any work carried out jointly by me and any other person is clearly identified in it).

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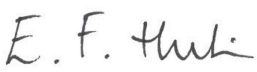

Eleanor Frances Hukin

Abstract

This thesis aims to explain why there is a high level of unmet need for contraception in Cambodia - a country where effective methods of birth control are cheaply available and morally acceptable. The research design takes a mixed methods approach, initially using data from the Cambodian Demographic and Health Surveys of 2000 and 2005 to assess trends in contraceptive use. Multivariate logistic regression is used to analyse factors associated with, firstly, unmet need, and secondly, use of traditional contraceptive methods. The likelihood of having an unmet need for contraception increased as education and wealth levels decreased; urban or rural residence had no significant effect. However, the likelihood of using traditional methods, rather than modern methods, increased as education and wealth increased. Taking these findings and the questions they raise as a departure point, 21 months of ethnographic fieldwork was conducted in one urban and one rural site in Northwest Cambodia between 2008 and 2010.

The study looks at women's and men's reproductive decision making with a focus on their experiences of and meanings given to contraception, situating these understandings within the broader social context. Fear of side effects, stemming from both contraceptive experiences and notions of health and the body, was found to be the greatest obstacle to use of modern contraceptives. This related more broadly to the pluralistic medical systems operating simultaneously and the varying levels of medicalization and trust in both biomedicine and the Cambodian health system. Behaviour that seemed counter-intuitive at the outset - not wanting to become pregnant but not using contraception, and wealthy educated women choosing traditional over modern methods – becomes understandable in light of the context and meanings highlighted by the ethnographic data. This thesis provides a unique empirical study which contributes to the emerging field of anthropological demography. By bringing approaches and methods from medical anthropology to the typically demographic phenomenon of unmet need, the study provides a new insight for social policies regarding reproductive health as well as contributing to the body of ethnographic literature on Cambodia.

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List of Acronyms and Abbreviations

AIDS	Acquired Immune Deficiency Syndrome
CBHI	Community-Based Health Insurance
CDC	Council for the Development of Cambodia
CDHS	Cambodian Demographic and Health Survey
CDRI	Cambodia Development Resource Institute
CPFC	Committee for Population, Family and Children, Vietnam
CPS	Contraceptive Prevalence Survey
CRDB	Cambodian Rehabilitation and Development Board
HEF	Health Equity Fund
HIV	Human Immunodeficiency Virus
DFID	Department for International Development, UK
DK	Democratic Kampuchea
GDP	Gross Domestic Product
ICPD	International Conference on Population and Development
ILO	International Labour Organization
IUD	Intra-Uterine Device
KAP	Knowledge Attitudes Practices
LAM	Lactational Amenorrhoea
MDG	Millennium Development Goal
MOH	Ministry of Health, Cambodia
MOP	Ministry of Planning, Cambodia
NIPH	National Institute of Public Health, Cambodia
NIS	National Institute of Statistics, Ministry of Planning, Cambodia
NRHP	National Reproductive Health Programme
NSD	National Statistics Directorate, Timor-Leste
NSO	National Statistics Office, Philippines
OD	Operational District
PPP	Purchasing Power Parity

RACHA	Reproductive and Child Health Alliance
RGC	Royal Government of Cambodia
RH	Reproductive Health
RTI	Reproductive Tract Infection
SRH	Sexual and Reproductive Health
STI	Sexually Transmitted Infection
TBA	Traditional Birth Attendant
TFR	Total Fertility Rate
UNAIDS	Joint United Nations Programme on HIV/AIDS
UNDP	United Nations Development Programme
UNFPA	United Nations Population Fund
UNICEF	United Nations Children's Fund
USAID	United States Agency for International Development
USG	United States Government
WFS	World Fertility Surveys
WHO	World Health Organization

List of Khmer Terms

Achar	Buddhist lay clergy
Ang plerng	the post-partum practice of lying and sleeping over burning embers
Bon	festival, ceremony; good deeds; meritorious act; merit
Dtoah	relapse; post-partum morbidity
Kbouen	body of principles, theory
Kru Khmer	traditional healer
Ksair	line, string, rope; social or kin network
Pairt	doctor or medical practitioner
Pralung	souls or vital spirits
Pray	forest or wilderness
Som	suit, fit
Sorsay	vessels, fibres; nerves, veins, and tendons
Teat	elements
Tnam Khmer	traditional medicine
Chmop	traditional midwife

Chapter 1

Introduction

The global diffusion of contraception has been a remarkable feature of the late 20th Century. In developing countries contraceptive prevalence has risen from just a few percentage points in the 1950s to 61% in 2010 (Ezeh *et al.* 2012). As one of the four key proximate determinants of fertility, contraception - along with marriage, breast feeding and induced abortion - directly affects fertility levels and trends (Bongaarts 1978). While debate continues regarding the extent to which observed fertility declines can be attributed to family planning programmes, evidence shows that family planning interventions can undoubtedly accelerate fertility transitions (Cleland & Wilson 1987; Tsui 2001; Bongaarts *et al.* 2012). As well as affecting demographic trends at the macro level, contraception also has a profound impact at the micro level, with implications for social relationships between men and women (Russell & Thompson 2000). The option to separate sex from conception and to control one's fertility effectively is now available to millions of women and men. However, surveys consistently reveal large numbers of sexually active women who, despite their expressed wishes to avoid pregnancy, do not use contraception.

The apparent discrepancy between women's stated desires to avoid or postpone childbearing and their non-use of contraception is encapsulated in the concept of unmet need for contraception. The measure of unmet need for contraception has been fundamental to international family planning programmes since the 1960s, and it continues to be used as the key measure for capturing national and regional levels of programmatic success (Sedgh *et al.* 2007). Whilst unmet need can often be due to lack of knowledge or access to contraceptives, this appears not to be the explanation in Cambodia. Despite apparently high levels of knowledge and the availability of a wide

choice of contraceptive methods, Cambodia has the highest level of unmet need for contraception in Southeast Asia (Sedgh *et al.* 2007). The primary objective of this research is to determine the factors that explain contraceptive behaviour in Cambodia, and in particular, the reasons for the high unmet need for contraception. This research assesses the level and distribution of unmet need in Cambodia, and explores the complex socio-cultural processes underlying this single figure index. I use an ethnographic approach in order to understand the causes, motivations, explanations and consequences of unmet need from an emic perspective. Contraception is a global phenomenon which takes on local interpretations, resulting in different patterns of use. Countries vary hugely in terms of the proportion that specific methods offer to the country's overall contraceptive coverage (Sullivan *et al.* 2006): this thesis will explore the pattern of contraceptive use in Cambodia, examining the structural and cultural factors that explain Cambodia's family planning story since the 1970s.

Defining and measuring unmet need

Since the initiation of the international family planning movement there have been historical shifts in its orientation. The movement can be traced to the early 1900s in Europe and the United States, but it was not until the 1960s that it became a global social movement with multiple governments adopting population policies supporting family planning (Donaldson & Tsui 1990). India was the first country to adopt a national population policy in 1951, and other Asian countries followed in the early 1960s (Tsui 2001). An earlier focus on demographic targets and incentives was criticised by women's organisations for contributing to coercive programmes at the landmark United Nations (UN) International Conference on Population and Development in Cairo (ICPD) in 1994; programmes such as China's 'one child policy' and India's 'emergency period' in the 1970s (Sen 1995; Sen 1997). The 1994 conference shifted the agenda to a much broader, holistic approach, incorporating notions of sexual and reproductive health with a focus on individuals' rights to services and information (Cohen & Richards 1994).

Within this changing agenda, unmet need has remained central as a crucial point linking demographic goals with individuals' rights and choices (Sinding *et al.* 1994). In the context of the Millennium Development Goals (MDGs), reproductive health and family planning are recognised by the UN as being essential to the realisation of these goals (Sedgh *et al.* 2007:7; Bernstein & Hansen 2006: 23-24), particularly MDG Goal 5 Improve Maternal Health. This was reiterated at the World Summit in 2005 (Bernstein & Hansen 2006: 23-24) and the then UN Secretary-General recommended adding universal access to reproductive health services to the MDG monitoring framework (UN 2006, cited in Sedgh *et al.* 2007:7). Following this, unmet need for contraception was recommended as the indicator for universal access to reproductive health by the Interagency and Expert Group on MDG Indicators (Sedgh *et al.* 2007:7). While family planning dropped down the list of priorities in global health from the mid-1990s, funding declined (Cleland *et al.* 2006; Bongaarts *et al.* 2012). However, there appears to have been a turnaround in this neglect of family planning with recent attention aimed at bringing it back to the forefront of the international development agenda (Shiffman & Quissell 2012). This growing wave of international support was recently galvanised at the London Family Planning Summit in July 2012, where donor and developing countries, international agencies, civil society, and the private sector pledged commitments to provide contraceptives to an additional 120 million women in developing countries by 2020 (Yamey *et al.* 2012).

Since the 1960s some measure of unmet need had been calculated from large-scale, sample surveys throughout the developing world (Bongaarts and Bruce 1995). It has been under continuous revision ever since. The early surveys of contraceptive knowledge attitudes, and practices (KAP) pointed to a gap between women's fertility intentions and their contraceptive use: the "KAP gap" (Bradley *et al.* 2012). The term "unmet need" first appeared in the family planning literature in 1970s and was calculated as the percentage of married women wanting no more children but not using contraception, out of all married women (Bradley *et al.* 2012). This simple definition ignored women in need of contraception for spacing births, as it only considered women wanting to limit births (Westoff 1978). It was shown that different definitions of unmet

need resulted in estimates that were vastly different (Westoff & Pebbly 1981). There is a large body of literature covering these definitional debates which span over four decades and offer upwards of a dozen definitions (Bongaarts 1991). Bongaarts (1991) summarizes the key shortcomings of earlier definitions which the later ones avoided: firstly, women in need of contraceptives for spacing births (as well as limiting births) were included; and secondly, women not using contraception because they were pregnant or infecund at the time of the survey were excluded. Determining which women were infecund (and therefore deemed not to have "a need" for contraception) proved to be complicated, and accounts for many of the subsequent changes to the calculation (Bradley *et al.* 2012).

The data used to calculate unmet need came originally from the World Fertility Surveys (WFS) and the Contraceptive Prevalence Surveys (CPS), and now come from the Demographic and Health Surveys (DHS). As the calculations have altered to capture more accurately the changing definitions of the concept, and to take into account new information collected in the increasingly long questionnaires of the DHS, the calculations have become increasingly complicated. The most recent refinement attempts to reduce this complexity and make it possible to calculate a standardised measure for all DHS surveys. I do not attempt to review the details of these technical changes here as they are covered extensively by Bradley *et al.* (2012). After numerous refinements the following definition has come to be accepted as the standard measure of unmet need for contraception to be used in calculating the algorithm. A woman is considered to have an unmet need for contraception if:

- she is of reproductive age (15-49)
- she is married, in a union or sexually active
- she is fecund
- she does not want a child in the next two years

- she is not using any form of contraception, either traditional or modern[1] (NIS & ORC Macro 2001: 226)[2].

There are several important limitations of this definition, however. These include: a lack of acknowledgement of men's unmet need and role in decision-making (Ngom 1997; Becker 1999; Bankole & Ezeh 1999); the 'need' is attributed to women by analysts, rather than women themselves stating they have a need (Dixon-Mueller & Germain 1992); an emphasis on contraceptive acceptors above other aspects of family planning programmes, and satisfaction such as quality of care or method choice (Jain 1989, 1999: Bruce 1990; Pariani *et al.* 1991; Dixon-Mueller & Germain 1992).

In developing countries more than 120 million women who are married or in a union are estimated to have an unmet need for contraception (UN 2011)[3]. A recent assessment of unmet need analysed surveys from 53 countries, mostly conducted between 2000 and 2005 and found that 1 in 7 married women and 1 in 13 never-married women have an unmet need for family planning (Sedgh *et al.* 2007). Regional averages ranged from 24% of married women in Sub-Saharan Africa to 10-12% in South and Southeast Asia, North and West Africa, and Latin America and the Caribbean (Sedgh *et al.* 2007). Country levels for this period ranged from 5% in Vietnam to 38% in Rwanda (Sedgh *et al.* 2007).

The potential health benefits of reducing unmet need for contraception are immense, as it would mean a decrease in unintended pregnancies. According to the WHO 1 in 5 pregnancies ends in abortion (42 million in 2003), almost half of those abortions are

[1] Modern methods include male and female sterilisation, injectable and oral contraceptives, implants, condoms, diaphragms, inter-uterine devices (IUDs) and other methods which need to be supplied to the user. Traditional methods include periodic abstinence, withdrawal and lactational amenorrhoea.

[2]Pregnant or amenorrhoeic women who reported the current or most recent pregnancy was mistimed or unwanted are also counted as having an unmet need for contraception.

[3]This figure includes unmarried women. Unless otherwise stated all other figures are for married or cohabiting women only.

conducted outside the national legal frameworks (WHO 2007:1; Guttmacher Institute 2007). It is estimated that 20 million unsafe abortions[4] were performed in 2003, and 66,500 maternal deaths occurred due to unsafe abortions (or 13% of all maternal deaths globally) (WHO 2007:17). Many, although not all, of these deaths could have been prevented had women had access to modern contraceptive methods (Grimes *et al.* 2006). In countries with high levels of maternal mortality, pregnancies carried to term also carry a considerable risk. Recent estimates of the maternal mortality ratio in developing regions was placed at 450 maternal deaths per 100,000 live births in 2005, and can be substantially higher in certain populations, in stark contrast to developed regions (9 maternal deaths per 100,000 live births) (WHO *et al.* 2007). Millions of women exposed to such risks did not intend to become pregnant. Infant and child health and survival would also see improvements if unmet need was reduced, mostly as a result of longer birth intervals (Cleland *et al.* 2006). Beyond the health benefits that could be achieved if those unintended pregnancies were reduced, there are other gains. Through contraception women can become empowered to choose whether and when to become pregnant. At the national level benefits stem from lowering the burden of population growth, which can hinder governments' attempts to provide infrastructure and social services, such as education and health care, in low resource settings. Family planning has been shown to be a cost-effective way to reduce poverty, improve women's empowerment, increase education, and enhance environmental sustainability (Cleland *et al.* 2006). Despite these benefits, contraception remains a highly politicised and controversial matter (Horton 2006; Shiffman & Quissell 2012). Having looked at the definitional debates and levels of unmet need, and the benefits of reducing the unmet need for contraception, the following section turns attention to what is already known about contraceptive use in Cambodia.

[4]The WHO defines unsafe abortion as a procedure for terminating an unintended pregnancy carried out either by persons lacking the necessary skills or in an environment that does not conform to minimal medical standards, or both (WHO 2007:1).

Prior research on contraceptive use in Cambodia

The few studies that have focused their attention on contraceptive use in Cambodia have been insufficient to fully explain and understand contraceptive use patterns in Cambodia. After discussing these studies, I will focus on how my study builds on but also differs from these analyses. These and other studies will be considered in later chapters of this thesis where they become relevant in reference to my findings.

Health concerns and fear of side-effects are repeatedly cited as reasons for not using or discontinuing with contraceptives, both in studies conducted in Cambodia (Chap & Escoffier 1996; Sadana & Snow 1999; Sisokhom *et al.* 2001; Samandari & O'Connell 2011) and with Cambodians in the US (Kulig 1988) and in Khao Phlu refugee camp in Thailand in the 1990s (Morrison 2000). Sadana and Snow (1999) used focus groups with poor urban and rural women to investigate perceptions of modern contraceptives and the specific attributes that women liked and disliked. They found high importance was placed on the effectiveness of methods, weight gain was viewed positively, secrecy from partners was not a priority and nor was a swift return to fecundity. Reports of side-effects were common and there was much individual variation between side-effects and each method (Sadana & Snow 1999). These findings backed up those of Chap and Escoffier (1996), who used semi-structured interviews with married reproductive aged women in an urban and a peri-urban setting in Cambodia, in order to gain understanding of Cambodian women's perceptions of contraception and the factors that influence their choice of methods. Respondents placed importance on health concerns and side-effects of methods, assessing the 'fit' of a particular method for a particular individual (Chap & Escoffier 1996).

Cultural perceptions of the body and fertility were found to differ significantly from biomedical models[5], with implications for women's understanding of and fears

[5] In this thesis I use the term 'biomedicine' as in Helman's definition: "It is the world-view of a professional sub-culture, the medical profession" (Helman 1978: 134). That is, the "knowledge, practices, organisations, and social roles" (Helman 1978: 134) found in Western medical systems, that constitute a view of what disease is and how it should be treated.

surrounding contraception (Chap & Escoffier 1996). These authors report that within a theory of the body based on equilibrium of hot and cold, hormonal contraceptives were thought to cause over-heating, potentially drying the womb and leading to sterility. A study based on interviews amongst Khmer refugee women in the United States also found that women understood hormonal methods to work by inducing a state of hotness in the body, and that a cold state was necessary for conception to occur (Kulig 1988). The uterus was described an un-delineated space, making the IUD an undesirable option given that it was seen to pose the risk of travelling around the body, piercing organs. Methods which interfere with regular menstruation have repeatedly been found to be unpopular for Cambodia women, as having regular menstrual bleeding is seen as inherently healthy (Chap & Escoffier 1996; Sadana & Snow 1999; Sisokhom *et al.* 2001). Samandari and O'Connell (2011) investigated experiences and perceptions of hormonal methods amongst rural and urban poor women using interviews and focus group discussions. The study found that "rumors [sic] of myths and misconceptions about side effects of hormonal contraceptives were the main barriers to the use and were wide-spread among all women" (Samandari & O'Connell 2011:256). Rumours about contraceptives were spread through women's social networks, mostly by their peers, but also by elders and, in some cases husbands. The authors report that these rumours created a fear of hormonal contraceptives which inhibited some non-users from starting this method and triggered others to discontinue use (Samandari & O'Connell 2011:256).

The importance of social networks in diffusing ideas about contraception has been evidenced in studies on numerous high and low income countries (Bongaarts & Watkins 1996; Rutenberg & Watkins 1997; Kohler 1997; Montgomery & Casterline 1996). Cambodia has proved no exception in this regard; Chap and Escoffier (1996) reported that "the initial choice for using a method is often influenced by relatives or friends who have experienced positive effects of the method chosen" (Chap & Escoffier 1996; 14). Samandari *et al.* (2010) also highlighted social networks as being critical in the diffusion of negative perceptions of contraception. Samandari's (2010) doctoral thesis examined contraceptive use in Cambodia and comprised two papers which were subsequently published: a qualitative study discussed above (Samandari & O'Connell 2011); and a

quantitative study (Samandari *et al*. 2010). The latter used survey data collected from poor, rural Cambodian women. It examined the influence of an individual's social network on contraceptive use, specifically the effect of husbands, peers and elders, and how this varied for high and low parity women (defined as those with at least three children and those with less than three or none respectively). Some indicators of social network influence were associated with increased odds of modern contraceptive use. Results of multivariate regression found that the odds of contraceptive use increased for those who stated their husbands supported contraceptive use, and conversely, the odds decreased for women who stated feeling nervous discussing it with their husbands, and for those who stated their husbands made the final decision. The only indicator of peer influence found to be significant was for women who agreed with the statement 'most couples you know have used a birth spacing method': this increased the odds of contraceptive use only for low parity women (those with less than 3 children or none). Regarding elders, women who agreed that 'if an elder says not to use a birth spacing method, you should not use it' had decreased odds of use (Samandari *et al.* 2010). These results indicate that women's contraceptive use is influenced, to a degree, by those in their social networks; however, there were only a limited number of items used as indicators of network members' influence and not all of these were significant in determining the odds of contraceptive use.

Following the HIV epidemic which became apparent in Cambodia in the 1990s a body of literature emerged focusing on contraceptive use (mainly condom use) amongst sex workers and their clients (Hor *et al.* 2005; Morineau *et al.* 2011; Prybliski & Alto 1999; Delvaux *et al.* 2003). These studies, and others on fishermen (Kissling *et al.* 2005; Samnang *et al.* 2004), have drawn attention to the need for health promotion campaigns and the lack of reproductive health services provided for groups with higher risk of HIV infection. Unmarried young people have only recently been recognized in the literature as a sexually active group in Cambodia, and a group not catered for through standard reproductive health services (Tarr & Aggleton 1999). Cultural taboos on premarital sex are strong, particularly for women, making it difficult for single youths to access services. Sopheab *et al.* (2006) found that whilst consistent condom use with female sex

workers was high (over 85% for most groups) it was significantly less in casual sex encounters, making these types of relationships an increasingly important bridge for HIV transmission. Their findings pointed to mobility being a strong determinant of casual sex and therefore a risk factor for HIV transmission (Sopheab *et al.* 2006). These studies deal with specific sectors of the Cambodian population: female sex workers, fishermen, and unmarried adolescents. My own study focuses on women and men who are married, or in a union like marriage, where the obstacles they face in accessing services are somewhat different to those of vulnerable or hidden populations.

My research goes beyond looking at how information and influence travelled around, to examining more closely the meaning of that information and influence; putting it into context in order to understand why it is so salient for contraceptive users and non-users. In Samandari's (2010) study, where network members were reported to hold negative opinions on contraception, it was always to do with concerns for the woman's health, not contraception *per se*, or the notion of taking action to limit births. In this way Samandari's study and my own complement each other: her study looking at the diffusion of ideas spreading between members of a community and my study looking more in depth at what those ideas are and why they carry such weight with potential contraceptive users.

These few studies that have been conducted on contraception in Cambodia have been narrow in scope, and are based only on subsets of women, such as women with experience of modern contraception or poor women. My research examines contraception amongst married women and men with a range of diverse socio-economic statuses – taking into account the perspectives of people with different characteristics, in terms of wealth, education, residence, age, parity, and experience of contraception. None of the previous studies collected data from men (except on condom use) or contraceptive providers; my thesis brings these perspectives. Very little is known about non-users or users of traditional methods or about richer women; these groups are also included in my study. The extant studies on contraceptive use in Cambodia lack depth because they fail to place respondents' comments into the cultural and social context that gives them

meaning; instead they often take women's statements at face value. This makes it difficult to understand why respondents' perceptions are so relevant to them, that they cause them to either avoid or discontinue using modern contraception. Before ideas are dismissed as 'myths and rumours', as other authors have done, further investigation is needed to fully understand those perceptions and the behaviour that they influence. To know the barriers to contraceptive use the lived experience and world view of Cambodian women and men needs to be taken into account. This is what my research seeks to accomplish.

Research questions

The overarching research question that this thesis seeks to answer is: what factors explain contraceptive use in Cambodia? Within this broad question, secondary questions address aspects of this and form the basis of the thesis chapters. What is the social context of reproductive decision-making and contraceptive use? Why is unmet need for contraception so high in Cambodia? How can we explain the unexpected pattern of traditional method use revealed in survey data? How do perceptions of health, illness, and the body influence contraceptive choice and use? What are the implications of the findings of this study for policy and health promotion communication?

Structure of thesis

In Chapter 2 I discuss the methodology for this study. The chapter begins by outlining the research design, the reasoning for using a mixed methods approach, and the theoretical framework that guided the fieldwork. In the first year of research I conducted quantitative analysis of secondary data. Initially this was to gain an overview of practices related to contraceptive use and reproductive health more generally, however, the analysis began to raise further questions of the sort that would require qualitative research to answer. The early quantitative findings also pointed me to the direction of the kinds of explanatory tools that would be useful in the ethnographic research: they led

me to draw on concepts from medical anthropology as a way to approach the subject. This was how I came to view the 'problem' of contraception through the lens of the health system. I also address the fieldwork process, the selection of research sites, and the specific methods used in data collection and analysis.

Chapter 3 presents the context of the study, providing ethnographic and demographic background relevant to the themes addressed in later chapters. Given how my initial analysis of secondary data led me to consider the importance of studying the health system to aid understanding of contraceptive use, much of this chapter is devoted to the Cambodian health system. I look at the public and private sector provision of health care services and the indigenous health cosmology that, for many if not most people in Cambodia, forms the basis of their thinking about health and illness. Chapter 3 finishes with an examination of the history of family planning policies and programmes in Cambodia.

Chapter 4 explores fertility decision making, examining the particular patterns of childbearing common in Cambodia. It looks at the way structural and cultural factors inhibit or encourage childbearing in certain circumstances, how expectations of kinship, gender norms, and changing work opportunities relate to fertility. The chapter is built around three aspects of childbearing; the number, gender, and timing of children. Firstly, I discuss the number of children deemed to be desirable and the justifications offered by different demographic groups. Secondly, I examine the way people discuss their desire for a child of a particular gender, and the values placed on having sons and daughters in a family. Finally, the timing of childbearing is addressed; I consider when and in what social circumstances it is considered appropriate to have a child.

Chapter 5 is concerned with contraceptive use and specifically the unmet need for contraception. It begins with an exploration of the patterns of contraceptive use and how this varies between demographic groups. The second and larger part of the chapter analyses unmet need for contraception both in terms of the patterns and explanations. Statistical analysis of survey data investigates which factors increase the likelihood of

having unmet need. In seeking to explain those quantitative results through ethnographic findings, the chapter covers issues related to access, method and health related concerns, and broader social obstacles to reducing unmet need for contraception.

Chapter 6 focuses on traditional methods of contraception. Statistical analysis is presented here to convey the patterns of use and the effects of factors such as education, wealth and residence on the odds of traditional method use. The results appear counter-intuitive until placed into context. It becomes apparent that the relationship between social class and differing notions of health is important in explaining the pattern. Through an analysis of the specific types of traditional methods of birth control, I place each one into a local system of meaning that can illuminate which methods are deemed suitable or unsuitable. I discuss how different conceptualisations of what constitutes a healthy body interplay with structural factors to influence contraceptive decision making. Trust in the health system, and in biomedicine, are found to be key in people's choices about whether and how to control their fertility.

Finally, Chapter 7 proves a conclusion to the thesis. In this chapter I bring together the findings from the substantive chapters in response to the research questions set out in chapter one. I highlight the implications of the findings for policy. The final sections address the limitations of the study in terms of interpreting the results and the scope of the research, and suggest some avenues for future research.

Chapter 2

Methodology

Following an introduction to the thesis and research question, this chapter explains the methodology used to address those questions. This is a mixed methods study and I begin the chapter by discussing the research design, including both the quantitative and qualitative elements of the research and the theoretical framework which guided data collection and analysis. The second part of the chapter focuses on the qualitative fieldwork: I discuss the preparation and language learning. Here I introduce my positionality in the research process (and that of my research assistant); throughout the thesis I reflect on my position in the research where relevant. In the third section of the chapter I outline the choice of research site and sampling of research participants. The final section discusses in detail the qualitative methods used during fieldwork, that is, participant observation and interviews, before ending with a consideration of ethical issues involved in the research.

Research design

The research design uses a mixed methods approach. The two types of research methods were used chronologically. The first stage of the research involved quantitative analysis of secondary data from the Cambodian Demographic and Health Survey (CDHS). I used the quantitative data to establish trends and patterns in contraceptive use, and analyse factors associated with those trends. This helped to set up the research problem by showing the patterns of contraceptive use in Cambodia, and it raised new research questions as unexpected findings were revealed. The quantitative analysis took place in

the first year of the Ph.D. and fed into research questions (Chapter1) which were then explored through the qualitative aspect of the research. The quantitative analysis also helped to answer the research questions. The second stage of research involved using qualitative methods: I conducted ethnographic fieldwork in Cambodia for a period of 21 months, including 9 months of language learning.

Throughout the thesis I have integrated the quantitative and qualitative findings and presented them in a way that is structured around the thematic focus, rather than separating the findings into chapters based on the methods of analysis. I have triangulated results to show where the two data sources confirm or contradict each other, and analysed the reasons for this. Whilst there are various possible strategies to combine quantitative and qualitative research in one study, I employed a sequential approach, with the second (qualitative) stage of the research elaborating on and expanding the findings of the first (quantitative) stage (Creswell 2002; Bryman 2008). What was learnt in the earlier stage was integrated into the second stage; this is one of the ways mixed methods studies have been used by social scientists (Axinn & Pearce 2006).

Quantitative research

The first component of this research project involved secondary data analysis conducted on data from the Cambodian Demographic and Health Surveys (CDHS) of 2005. The Demographic and Health Surveys are large scale household surveys conducted to gather information on health and population topics. Over 200 DHS surveys have been conducted in 74 countries since 1984 (Measure DHS 2012). The Cambodian DHS was implemented or overseen by national ministries, UN bodies and USAID. The aim was to collect a nationally representative sample of men and women between the ages of 15-49. The sampling frame used for the CDHS 2005 was the complete list of villages in the 1998 Cambodian General Population Census (the most recent census) plus additional villages not enumerated in the census. It used a stratified sample selected in two stages. During analysis, sample weights were applied to the data to account for the

oversampling of small areas and urban areas. Interviews were conducted with 16,823 women and 7,229 men. The response rate was 98% for women and 93% for men (NIPH *et al.* 2006). Further details of the quantitative methods are presented alongside the results and analysis in the relevant sections of the thesis – that is, Chapter 5 and Chapter 6.

The intention of this thesis was to capture a snapshot in time. The research design was to use the two types of methods chronologically: first exploring contraceptive use through the quantitative data, and secondly, using ethnography. The quantitative data set up the research problem and raised new research questions which the ethnographic stage set out to explore and respond to. Since returning from fieldwork a new round of DHS survey data has been made available: the Cambodian DHS 2010 (NIS *et al.* 2011). The data for this were collected between July 2010 and January 2011 and the data set was released in October 2011. This data has not been analysed in-depth for this thesis because the statistical analysis included here was part of a chronological research approach – using survey data to raise questions that I then went into the field to answer using ethnography. The statistical analysis included in this thesis was based on the most recent DHS survey prior to the fieldwork. In the final chapter of the thesis (chapter 7) I present a brief analysis of the DHS 2010 in order to compare whether, and in what ways, the situation has changed from the DHS 2005 to the DHS 2010.

Qualitative research

For the second stage of this research project I employed an ethnographic approach. By this I mean long-term immersion in people's everyday lives, using a combination of methods (participant observation and interviews), and taking an iterative approach – continually re-assessing my research strategy as new information challenged or supported tentative analyses and the appropriateness of my techniques. A key advantage to using this approach is its openness to new information unknown at the outset of the study. This makes it ideal for cross-cultural research such as this project where the world

view held by participants differs substantially from that of the researcher. One of the major objectives of my research is to learn about the phenomena of contraceptive behaviours from the actors' viewpoints, and to situate it within the context of everyday life. That entails paying attention to a wide variety of matters that bear on the phenomena, in order to better understand meanings, actions, norms, and attitudes (Becker 1996). Conducting a long-term study with different methods allows for triangulation of results (Denzin 1978), the ability to follow up discrepancies (Becker and Geer 1957), and an assessment of the relationship between attitudes, norms and behaviour (Atkinson & Coffey 2003). It is perhaps the best approach for investigating discrepancies between what people say and what they do; a major advantage of ethnography over other research strategies. Furthermore, this approach can lead the researcher to be aware of important silences –certain subjects which are off-limits in certain contexts can be fruitful areas of investigation and a clue to awkward areas of society (Randall & Koppenhaver 2004). The extended time period allows observation of changes over time (important for studying process) (Whyte 1981).

One of the great strengths of ethnography and participant observation is that the social world is being studied in its 'natural' setting – the research can be carried out in ways sensitive to the cultural context, rather than in 'artificial' settings such as an experiment or formal interview (Hammersley & Atkinson 2006:1; Becker 1996). However, I also acknowledge that ethnography is a dialogical process – a social reality that takes shape and is created in response to the presence of the researcher (Pool 1994). A two-way interaction between the researcher and research participants mediates and constructs the knowledge that is 'collected'. There are large areas of culture which cannot be simply expressed or called up in discursive statements. This sort of knowledge is made present, or represented, in action and performance (Fabien 1990; Pool 1994). Consequently, the role of the ethnographer should be thought of not only as an observer and questioner; he or she is "a provider of occasions, a catalyst" (Fabien 1990:6-7). The kinds of questions ethnographers ask force or provoke the participants to think of their world in new ways; tacit knowledge is asked to be made explicit (Bourdieu 1977). The researcher cannot be thought of as a detached observer (of the classical ethnographies); all researchers are

situated by their own life experiences and attributes, and hence attention should be paid to the process of knowledge 'production', the positionality of the researcher, and the participants' interpretation of the researcher's project (Abu-Lughod 1986; Rosaldo 1989).

The qualitative stage of this research involved an intensive period of ethnographic fieldwork from September 2008 to July 2010 in Siem Reap, Northwest Cambodia. This included long-term participant observation in both an urban area of Siem Reap town and in a rural village around 30km from the town, and informal and semi-structured interviews with residents of the two sites and the surrounding areas. For the first 9 months of fieldwork I concentrated on learning the Khmer language, while simultaneously immersing myself in life in urban Siem Reap. At the end of 9 months I divided my time between the urban and rural sites, usually leaving the town on Monday mornings and returning on Thursdays, unless a particular event called me to the other site off schedule. This schedule was insisted on by the provincial administration to ensure my security. At the time I would have preferred to spend longer periods in one place, but in hindsight I think the structure was useful. For those months I spent my days and evenings in the houses of a small number of families and visited many more.

In both sites I carried out participant observation, especially with women, shopping and hanging out in markets; attending rituals in the pagoda and in people's homes; going to fortune tellers; accompanying people on trips to the doctor, pharmacist and local healer; helping out with farming, occasionally in the paddy fields, or helping prepare food; dancing in exercise classes; lots of cooking, gossiping, eating or just hanging out in the shop or food stall in front of our house. I would regularly try to bring the discussion onto my research interests which preoccupied me throughout - contraception, birth, pregnancy, and reproductive health in general, as well as gender, marriage, relationships, and about health and illness and the actions people took in the event of ill health. Toward the second half of my fieldwork I focused my research on conducting semi-structured digitally-recorded interviews with reproductive aged women and men. Here I was able to concentrate on questions that had emerged during the earlier stages of

fieldwork. I also conducted semi-structured interviews throughout the 12 months with health care workers, pharmacists, traditional healers and midwives, and local religious leaders.

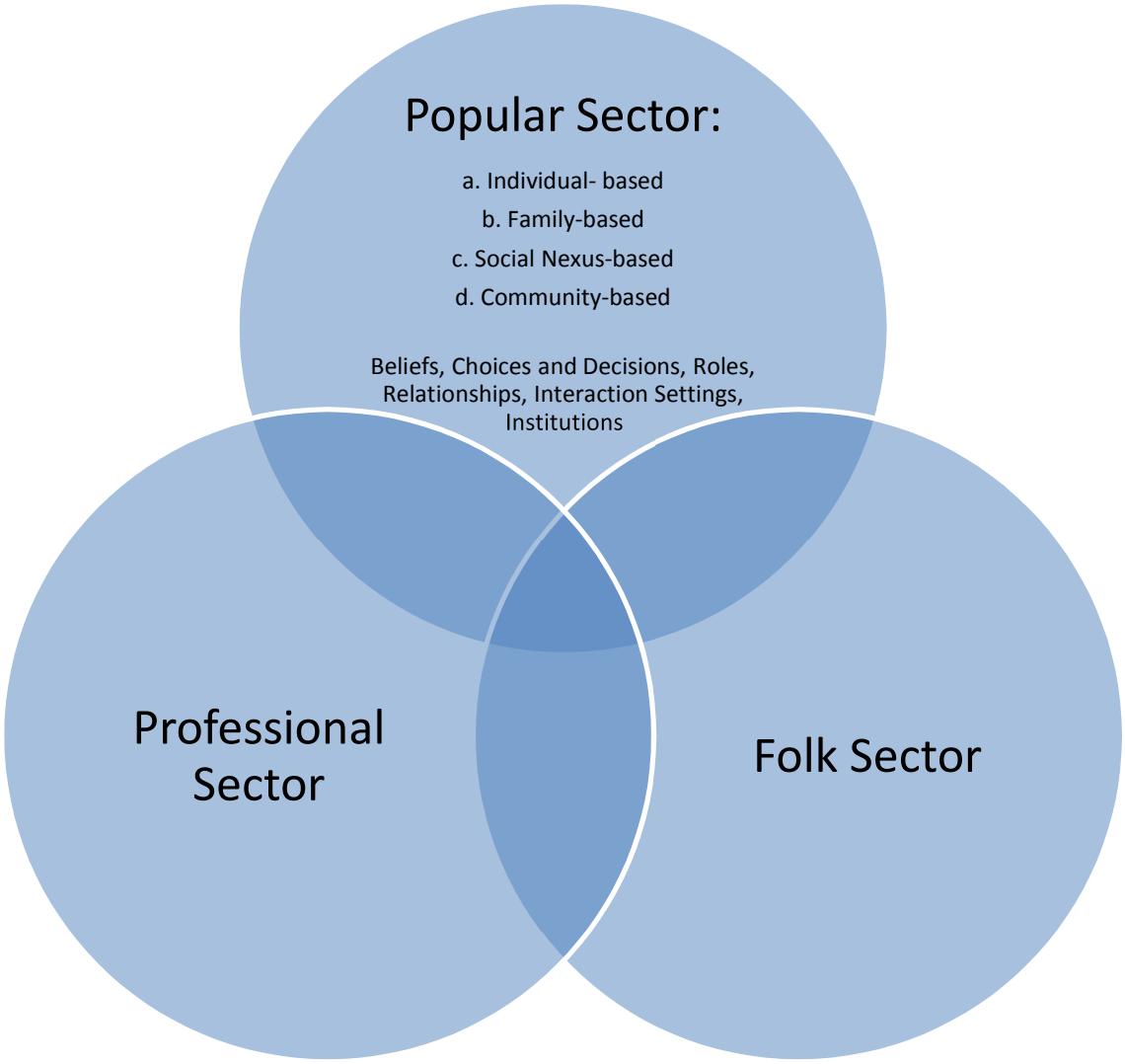
Theoretical framework

Preliminary findings from analysis of the DHS data, at an early stage of this research, and the review of the literature on contraception in Cambodia indicated that health concerns were a dominant reason for women not using contraception in this context. Furthermore, as family planning in Cambodia (and elsewhere) is offered by the health service it provides an example of medicalisation, that is "the movement of medical interest and expertise into areas of life that were previously outside the medical domain" (Russell & Thompson 2000:14). This means that people's attitudes to the health care services available to them can impact on their view of contraception; if health services are viewed negatively, this can discourage use of contraceptive services (Thompson 2000). In light of these factors, the direction of research focused, amongst other things, on local understandings of health, illness and the body, and how such notions affect contraceptive decision-making and use. I employ an anthropological style of analysing the health care system as a cultural system.

In contrast to a classic, formalistic view of a health care system (which I discuss below), I find Kleinman's (1980) theoretical framework for analysing health care systems as cultural constructions a valuable conceptual tool relevant for studying contraception in this context. He begins with the premise that all health care activities are interconnected and should therefore be studied holistically as "socially organized responses to disease that constitute a special cultural system: the *health care system*" (Kleinman 1980: 24). This entails treating medicine as a cultural system in the same way as religion or kinship have been: as "a system of symbolic meanings anchored in particular arrangements of social institutions and patterns of interpersonal interactions" (Kleinman 1980: 24). The health care system is made up of the following interrelated aspects: categories and

experiences of illness, as well as responses to it; and the social institutions where diagnosis and treatment are sought. It allows analysis of how actors think about their health care, and how they act in and use the components of the health care system. His model views health care as a local cultural system of three overlapping sectors: the popular, the folk, and the professional sectors (Kleinman 1980).

Figure 1: Model of Local Health Care Systems (after Kleinman 1980: 50)



The popular sector is the largest in any system, despite being the least studied or understood. It consists of non-professional, non-specialist knowledge and action. It is within this nexus of individual, family, social network and community beliefs and actions that ill-health is first defined and responded to. From this starting point people decide whether an illness (or in this case, the contraceptive side-effect) requires treatment, when and who to consult, whether or not to comply with or to switch treatments (or contraceptive methods), and how to judge the quality of care and its effectiveness. Treatment may stay within the realm of the popular sector as people undertake self-treatment or consult family or neighbours for advice. Alternatively, people move to one of the other two sectors where different sets of beliefs and values about illness will be encountered and translated. Each sector defines the sick person's role differently: the sick family member, the patient, and the client. And each sector has its own rules (and roles) for entry and exit; its own conception of illness – how illness is labelled, interpreted, and treated differs. Different medical languages must be translated. The process of translation is crucial for interactions between patients and healer, and for the healing process itself. It is important to point out that much activity in the realm of the popular sector is concerned with health maintenance and illness prevention rather than sickness treatment (Kleinman 1980).

The folk sector comprises the non-professional, non-bureaucratic, specialist arena of health care (Kleinman 1980). The sector frequently blurs into the popular and professional sectors, although the extent to which it overlaps with the professional sector varies cross-culturally. Much anthropological study of health care, until recently, focused on this sector in isolation, and particularly on sacred healing. Such studies often ignored secular folk healing practices - such as herbalism, bone setting, and massage, for example - and the overlap between the secular and sacred practices (Kleinman 1980). In the field of reproductive health, the traditional birth attendant (TBA) is a role well studied in many developing country contexts. Since the 1950s, TBAs have been incorporated into development plans in many resource poor settings; at different times viewed as beneficial bridges between the population and the national health system, and at other times as proponents of harmful ideas and practices (Pigg 1995; Hoban 2002).

The professional sector consists of organised health professions, which often means modern biomedicine alone but may also include classical, indigenous traditions which have been professionalised. China has Chinese traditional medicine, India has Ayurvedic medicine, and Galenic-Arabic medicine is found in some Muslim countries. Kleinman calls for this sector to be studied in the same way as the other two and advises it should not be taken for granted that the scientific medical model has one way of operating. He calls for investigation into the *clinical reality*: the "differences in the cognitive and communicative processes, texture of relationships, and treatment styles" (Kleinman 1980: 55). This can show up the process of 'indigenisition', by which he means changes that professional medicine undergoes as it is reoriented to a non-Western population. Related to this is the idea of 'popularisation' where the concepts from the professional realm alter as they spread though the popular sector (Kleinman 1980).

Kleinman's model has the advantage of looking at the health care system holistically, which is an improvement on studies which take a top-down approach and view the health care system as purely the professional biomedical sector. Alternatives to Kleinman's theoretical framework often begin with different definitions of what constitutes a health system. Bhatia & Mossialos (2004) offer a classical definition of a health system, which views it as "an organized arrangement to provide promotive, preventive, curative and rehabilitative services to its population using resources allocated for that purpose" (Bhatia & Mossialos 2004:177 after Basch 1999). Outside anthropology, literature on health systems tends to use this kind of concept of the health system as a basis, i.e. as a formal network of services, organised and regulated in a top-down manner, encompassing the public and private sector (Frenk 1994). In non-Western countries such as Cambodia this conceptualisation fails to capture the reality as experienced by the majority of the population. Taking account only of the biomedical sector, this view leaves out the traditional health sector, which can be (and in Cambodia, is) the main viewpoint from which people orientate their thoughts and actions regarding their health (Ovesen & Trankell 2010). Because this approach to defining a health system fails to capture the most common forms and theories of healing it provides an

incomplete picture when looking at ways to improve health care. It ignores the ethnographic reality of how patients/people actually conceive of and deal with illness.

The World Health Organization (WHO) offers a broader and more inclusive definition of a health care system than Bhatia and Mossialos (2004), as including "all the activities whose primary purpose is to promote, restore or maintain health" (WHO 2000: 5). However, in its analysis of 191 health systems in the WHO 2000 World Health Report (WHO 2000) which ranked countries according to their health systems' performances, the inclusive definition was reduced to capturing three indicators: "(1) effectiveness of health care (basically, medical care and public health services), (2) responsiveness of the health care system to users of its health services, and (3) fairness in the system of financing of health care" (Navarro 2002:31). (Coyne & Hilsenrath (2002) have also critiqued the WHO 2000 report on methodological grounds). This utilisation of what constitutes a health system is typical of much health policy literature which tends to focus on performance and takes 'the professional sector' as the health system. What such definitions fail to do is "compare and understand health systems with respect to their cultural context, values and institutions" (Rodwin 2008:162).

Taking into account a holistic view of the health system, as Kleinman's model does, is also an advancement of the tendency in many medical ethnographic studies of non-Western health care to focus on or overemphasise the spiritual and moral aspects of illness and healing at the expense of naturalistic and practical behavioural aspects (Poole 1994; Morris 2011).

Preparation, language, fieldwork

The first time I visited Cambodia was with my mother in 2003. Like so many tourists we had allotted just a few days to spend in Cambodia, primarily to see the temples of Angkor. I had been living in Vietnam for the previous six months when my mother came out for a holiday and insisted on seeing Angkor Wat. I did not know then, that five days in Cambodia would not 'be enough'. One of the first Cambodians I met was later to

become my husband. Shortly after this visit I returned to the UK to begin my undergraduate degree in Anthropology. So since its inception, my academic interest in Cambodia has developed entwined with a very personal interest.

Arriving in Siem Reap

Six years later I arrived at Siem Reap airport to begin 21 months of ethnographic fieldwork. Greeted by my husband and in-laws, this was not only a period of fieldwork but settling into a new family, finding my feet in new roles as daughter–in-law, sister, aunt, and of course, researcher. I knew that this was not going to be a strictly traditional ethnographic fieldwork experience of access, immersion and exit strategies, and worried how this would play out. Undoubtedly there were many advantages to being an 'outsider' dropped immediately 'inside', surrounded by a network of kin, with their own lines of connections, friends and neighbours. Sometimes I struggled to choose between family obligations and research obligations, for example, whether to spend Khmer New Year with my in-laws or in my field site. Thankfully 21 months brought two New Years, but there were many other occasions to choose between. Although forging my own identity as a researcher, for many people this was not the role ascribed to me, I was Sophearn's wife, or Yay Norb's daughter-in-law. Over time of course I made my own network of connections and put myself forward as a researcher. At times I had to choose between activities that I felt would be good for my researcher role but not for my family role. Should I join the women in my house who gossiped and gambled over card games every afternoon - undoubtedly an ideal opportunity for participant observation and building rapport, but bringing the risk of setting a bad example to my impressionable young sister-in-law, not to mention the shame to my parents-in-law? Each decision had to be weighed. I could not prioritise one role as both were important aspects of my life.

Language learning

During the first nine months of my fieldwork I concentrated on learning the Cambodian language, Khmer, in both oral and written forms. Prior to this I had been studying Khmer informally since my initial trip, and had spent a total of around six months in Cambodia on separate annual visits. In 2007 I attended a term of Khmer classes at SOAS, to my knowledge the only UK Khmer course run in the three years preceding my fieldwork. Following this I arranged biweekly lessons with a native Khmer speaker in the lead up to the commencement of fieldwork.

After researching other language learning opportunities I decided the best option for intensive study was to find suitable materials and employ a language tutor. The five volume course I settled on had been designed by the US Department of Defence, and the material had a rather military weighting, but it gave me a good grounding in the basics. To supplement this, I put together other material directly related to my research interests, including folk stories, books and magazine articles on reproductive health, religion and other topics. I also practised by talking to as many people as possible. One-to-one tuition had several advantages: I could study Khmer full-time, at my own pace and focus on topics and material relevant to my research. Being able to be based in Siem Reap meant that I was learning the dialect and accent of the same province where I would be doing fieldwork, and that I was able to begin the fieldwork at the same time as language learning. The language learning continued throughout the fieldwork and beyond, as I designed interview guides, questions, and transcribed interviews. Nine months was not enough to be completely fluent in Khmer, but on top of a general knowledge of everyday topics I developed a specialist vocabulary on my research topic. My level of attainment meant that I was capable of having conversations and conducting interviews alone, asking for clarification where needed, but found it much harder to participate in group discussions, where I not infrequently lost the thread of the conversation.

For a language teacher I needed someone with a high level of knowledge in both Khmer and English, preferably university educated, and affordable on a Ph.D. student's budget.

I had contacted other researchers who had learnt Khmer for advice and am confident I could not have found a better teacher than my sister-in-law, Phan Sotheavy, who was mid-way through her undergraduate degree in English Literature at the time. The arrangement suited us both, and when the time came to find a research assistant she was my first choice. Working or socialising together most days we became close friends. Her perceptiveness, intelligence and willingness to engage in my research interests made her an excellent informant. Her likeable nature made research participants warm to her and this helped introduce and build bridges between myself and them. I think it also helped that she was a Siem Reap native, born and raised in the countryside, but having lived in the town for the last 10 years she was a city girl, too. During the fieldwork Sotheavy worked as my research assistant on average three days per week, generally when there was a particular ceremony to attend or interview to conduct.

At times my level of Khmer held me back from gaining data, particularly in the early stages of the fieldwork (when I was reluctant to conduct key interviews until I was better at Khmer). Building up a network of informants was a slow process, held back by the speed at which I could reach a level of linguistic ability to hold my own. Lack of total fluency meant that at times I almost certainly missed nuanced meanings in people's speech and non-verbal behaviour. To some extent I had to rely on my research assistant to point these out. Recording and transcribing/translating interviews with my research assistant meant that we could spend time focusing on these subtleties. Being able to speak Khmer also opened many doors, and allowed me to pick up on issues that I would have missed had I relied solely on a translator.

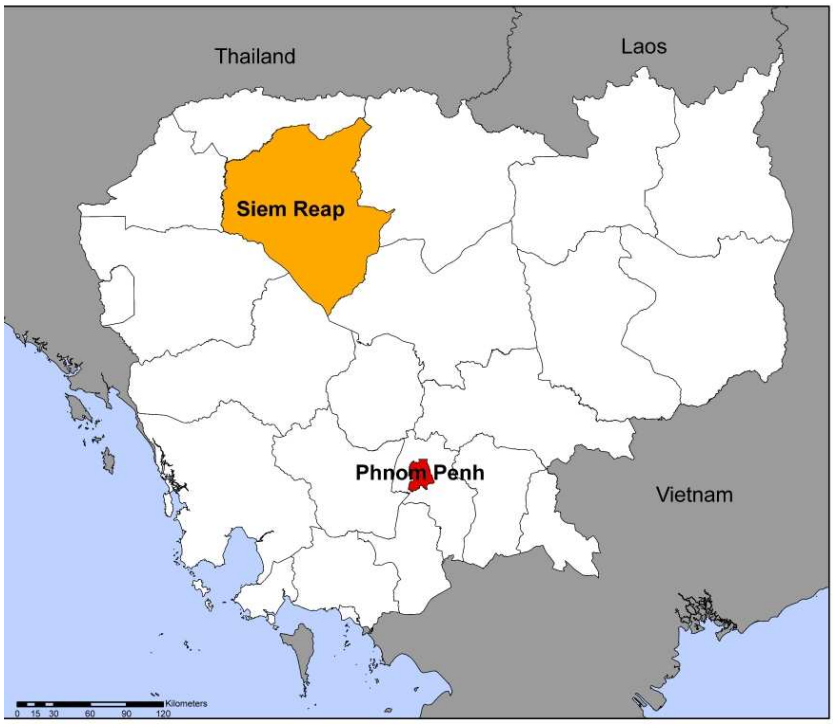
Research site selection

Why Siem Reap?

The research took place in two communities in Siem Reap Province, north west Cambodia; one an urban area of Siem Reap and the other a village in the countryside

surrounding Siem Reap. An important reason for comparing urban and rural communities is the access to divergent livelihoods and lifestyles, with the different communities predominantly engaged in wage labour and agriculture, respectively. Siem Reap is in close proximity to the Angkor archaeological site and attracts growing numbers of international tourists each year. It is a nexus for regional economy and transportation links, and is undergoing rapid socio-economic change. Unlike Cambodia's capital, Phnom Penh, Siem Reap is not a large conurbation, which made the logistics of fieldwork in two sites manageable. Cambodia is predominantly rural, only 20% live in urban locations (NIS & MOP 2009), with a slow annual rate of urbanisation of 3.25% between 2000 and 2005 (UN 2005). Therefore the rural site was important for having relevance to the larger population, while the urban site offered insight into the effects of socio-economic circumstances which are becoming increasingly common. Having my husband and in-laws resident in Siem Reap was another reason I chose Siem Reap, and I think my research benefited in many ways from having them there, in introducing me to Khmer culture and people, and as a support system.

Figure 2: Map of Cambodia (GADM 2013)



Choosing sites

Cambodia is broken down into 4 administrative levels: province, district, commune (or *Sangkat* in urban areas), and village. Seeking data on specific communes in order to aid my choice of field sites, I was given a database by consultants working on a poverty alleviation project. The data had been collected as part of the Seila programme. The Seila programme was instituted in 1996 by the Royal Government of Cambodia "to institute decentralized systems and strategies for poverty alleviation and good governance at the provincial and commune levels" (CDC & CRDB 2012). The data contained information by commune for the majority of communes in Siem Reap Province (for 2006); this allowed me to compare potential field sites by wealth, distance to health centre, and education, amongst other things. I used these boundaries to eliminate areas one by one. I had the following characteristics in mind for choosing a research site:

- Could I find the answers to my research questions in such a place?
- Is it a roughly typical urban/rural place or is there something unusual about the place, in terms of demography, life style, ecology, socio-economics?
- How far is it from public/private health clinics?
- Is it logistically feasible, in terms of distance, safety, permission? Could I travel there and back in a day and collect field data? Was I likely to get permission to sleep there?

The urban site was not a difficult choice – although several communes are officially considered 'urban' there can be as much as 50% of population who are rice farmers. Of the two considered 'central' one of these contains the majority of hotels and most of the businesses cater to tourists and the expatriate community. The other central commune, which I will call Sambour Meas Commune[6], is less touristy and most businesses cater to the Cambodian population. This is where I rented a room with my husband in Daunchem village for the duration of language learning and fieldwork. As the urban fieldwork

[6] I have anonymised the data using pseudonyms. This is discussed below in the section entitled Ethical considerations.

progressed, the administrative boundaries seemed to matter less as I came into contact with people whose networks spread all over town. As in the rest of Siem Reap town, many people work in the service industry that has grown up around tourism, as drivers, tour guides or in one of the numerous hotels or restaurants. Retail workers, public sector workers, business owners and NGO workers are also common. You can hear construction from almost anywhere in the city. There is great diversity within each neighbourhood in the commune; large detached houses with expensive four-wheel drive cars parked outside can be next-door to zinc huts that flood every October at the end of the rainy season.

For the rural site I eliminated areas, narrowing down the list of possibilities one by one. Many districts were easily discounted due to distance: it would be unfeasible for my research assistant to travel there and back in one day. Also they are so remote and poor, the problems to do with health there seemed to be distance and poverty, which I think would have left me unable to answer my research questions. The Tonle Sap Lake, the largest freshwater lake in Southeast Asia, ruled out the area south of Siem Reap. As in other parts of the world, the fisher communities that live on and around the lake have their own culture, and I wanted to study a rice farming community. Rice is the dominant crop in Cambodia, where over 70% of people own or operate agricultural land (World Bank 2009). I discounted the countryside to the west of Siem Reap as there is a reproductive health clinic. Another RH clinic in Siem Reap centre run by the same NGO meant that my urban site has a population with access to good quality, affordable RH services. Therefore I wanted to find a rural community which was further away from such services, although not so far as to make them totally inaccessible either. This gave me one (urban) site with good access to a RH clinic and one (rural) site without such a clinic on its doorstep. Having an example of both allowed me to study how geographical distance affected contraceptive use, furthermore, having a rural site where people had to travel some distance for health care made it more typical of other rural areas of Cambodia. This left the area to the east of Siem Reap.

The east of Siem Reap is very rural - most communes have a population consisting of around 98% rice farmers. To research which commune to choose I drove out to check them out with my research assistant. We arranged to meet the commune chiefs, heads of pagodas (Buddhist temples), talked to people in the villages and to NGO staff that work there - trying to get a feel for the different areas. I narrowed it down to two communes, then went back to them and talked to some more people. We asked about people's jobs, how wealthy they thought their village was, which NGOs work there, where people went to get health care and to give birth, did people go to *kru khmer* (traditional healers), did they use *yay mop* (traditional midwives). I decided against some of the communes for the following reasons: too close to my in-laws' home; inaccessible in the rainy season; higher prevalence of extreme poverty (the reason for non-use of contraception, I assumed, would be expense); potential interviewee fatigue – other researchers had recently been.

The rural site I settled on was Rumduol Village in Srolau Commune. There had been a new road built in the last few years connecting it to Siem Reap, before then it had been relatively remote. Srolau uses the health clinic in the neighbouring commune so for some Srolau villages it is quite far, but for others it is only 3km. Some of the villages are really remote and poor, others less so. Here, there was a higher proportion of births assisted by traditional birth attendants (TBAs) compared to other communes in 2006, (101 out of 1,962 women aged 18-60). And interestingly the number of TBA births was lower in the villages far from the health clinic and higher in the villages closer to the health clinic. There were also 7 maternal deaths and 3 infant deaths in 2006, higher than the other Eastern communes of 1 and 3 respectively (this was not simply due to Srolau having a larger population as it was similar in size to several other Eastern communes). When I discussed my potential site many Khmers I knew advised me to study Srolau because it is *boran* (traditionalist) as opposed to other areas which are *samai* (modernist). People said I should research there because they are the 'real Khmer', the 'original Khmer'. I was told they keep their customs from ancient times, customs that are still the same in other places but may be a bit watered down elsewhere, or in other places there are not as many *bon* (festivals/ceremonies), and the rituals within a *bon* are

much shorter and fewer. This appealed to people's sense of what makes a good place to study Khmer culture, and I suppose it appealed to my sense of what a traditional anthropological field site should be. Also I knew that I would find *samai* culture in my urban site.

Srolau is bordered by mountains and forest, the kind of environment Khmers call *pray*. This is one of the main oppositions in how the landscape is thought of - between *pray* and man-made realms, like the paddy fields or towns - another being between the town and the countryside. The *pray* as a wild, potentially dangerous place, where locality spirits and spirits of trees and rocks can cause harm to people, affecting their health or bringing about misfortunate events. Because one of the aims of my research was to investigate ideas about ill-health, I decided Srolau would be a good base.

When I first arrived in Siem Reap, my husband had already flown out ahead of me. He had found us a place to live, renting a room in a house owned by one of his distant cousins. The house had 15 rooms which were self-contained living quarters, each with a separate bathroom inside. The other people renting were families, groups of young students, single people, people who could not afford to buy a house in Siem Reap and/or had no relatives to live with, most of whom had migrated to Siem Reap for work or study. The house was built on a 20m by 30m plot of land which contained the older family home. This older building had been constructed as a traditional Cambodian wooden house, built on stilts two metres off the ground. This had been added to over the years - the stilts raised, replaced with concrete pillars, and brick walls added to create rooms downstairs, and a brick extension upstairs. The rooms downstairs were rented out, and even upstairs, two nieces shared the main accommodation with the owner, her daughter and son-in-law and their two young sons and a nanny. Both buildings together housed around 55 people, although this fluctuated as people moved in and out. As is common in Siem Reap, individual plots of land originally containing one house (and household) have been built up. If the owner can afford it, they often build some sort of apartments for renting as a way to increase their income. Depending on how much the owner can afford, these range from wooden or corrugated zinc shacks to three-storey

brick apartment blocks with dozens of rooms. These are rented by migrants or young couples who have moved out of their parents, home.

I decided this would be an excellent place to live for my urban field site. It had the advantage of being surrounded by lots of people (all Khmer) whilst still having the privacy and independence that comes with a private living – a good balance between communal and private. There was an open room at the front of the house, and a dirt yard where people socialised. A young family ran a small shop on the plot next door, and this proved to be a good place to meet people, various food stalls opened and closed over the 21 months, and it was a good place to hang out.

Sampling

When it came to finding interviewees for the semi-structured interviews, I had wanted to use snowball sampling, however many people were not willing to introduce or recommend me to others. Although they seemed happy enough to discuss the topic of contraception with me, they did not want to pass me on to another person in their network (with some exceptions). I think this was to do with the subject matter of my interviews about contraception and abortion. Although people were willing to discuss it one-to-one with me, they were not willing to recommend me as this would mean the other person knowing that they'd been talking about this, and giving the impression they were open about such issues. I found many people, those whom I knew well, even some I considered trusted friends, with whom I'd developed mutual trust and had given very frank and open interviews, would brush off my attempts to get them to introduce me to another interviewee. As is the Khmer way of saving face, no one said no to my request directly, rather they made an excuse or said they did not know anyone suitable. I think their unwillingness was a way to protect their reputation, particularly for the younger women, as the topics were to some extent taboo. Similarly in conducting semi-structured interviews almost no one declined to be interviewed, but their willingness to participate came across, at times, in the fullness of their answers to my questions. In asking to

record interviews, no one said no directly, but made excuses – 'my voice doesn't sound nice' -I think here they feared having their ideas captured, ideas which could be wrong – despite me wanting their opinion not the 'right' answer.

The implications of not being able to use snowball sampling were that I had to frequently approach people I did not know and who were not expecting to be interviewed, either in their home or place of work. In these cases I was only able to build rapport over the course of our interview. Interviewees who knew me tended to be more articulate and talkative in answering my questions, and when people did 'recommend me', those interviewees, I think, had a greater sense of trust towards me. Having built up confidence in me over time, I think they were passing on this trust in recommending me to people they trusted. Although I had built up a network of informants, they were not a broad enough spread of the population I wanted to capture for the semi-structured interviews. I wanted to interview people who had used various methods of contraception, people who had never used any, people who had had abortions with medics and traditional birth attendants, as well as people with different socio-economic backgrounds. Much of the data in this thesis comes from informal conversations and participant observation. Here I *could* use snowball sampling and I found it a valuable way to meet new informants and increase my social network. A limitation of this was that I found people's networks tended to mainly include people from similar socio-economic backgrounds to themselves, due to the hierarchical nature of Cambodian society. And I was hanging around more with wealthier and more educated Khmers, probably because this was easier as we had more in common. However I did get to know people from more disadvantaged backgrounds often, because - due to the mixed up nature of land ownership and socio-economic diversity within the communes - they were my neighbours (both in rural Rumduol and urban Daunchem).

Research methods during fieldwork

Following the theoretical framework outlined above with regard to researching a health care system, I concentrated my research on three groups of people: those who were engaged in the professional sector, the folk sector and the popular sector. I chose this approach before entering the field, and continually reflected on whether it was relevant. My predominant pre-fieldwork idea, influenced by the literature, was that people's fear of contraception would be in some way related to indigenous ideas about how the body works. However the fieldwork drew me away from this as the main explanation, and toward the issue of public mistrust in the professional health sector, and the implications of this for contraceptive use. Another thing that changed as I gained more insight into the situation was the need for me to research abortion. Prior to field work I had, perhaps foolishly, thought of this as a somewhat separate issue to contraceptive use and I had been concerned that it might jeopardise my research due to the controversial nature of the topic. However, the more people I spoke to over the course of the research I came to realise they were completely interconnected. Therefore the focus of my research broadened to include abortion as well. Assessing the impact of both these discoveries on my research approach, I decided it was still valid as an effective way to frame the research problem.

Participant observation and field notes

Participant observation involves trying to live in the way local people live, listening to what they say, watching what happens, asking questions, learning by experiencing, and taking time to build rapport– the participant observer is the research tool (Bernard 2006). I spent my time doing both 'non-directive' and 'directive' research. Non-directive research involved participating in activities that are part of everyday life in the communities I studied, helping prepare food and harvest rice, and simply hanging out. This strategy is important for getting to know people and what they do, building rapport and gaining an awareness of issues that local people find compelling (Bernard 2006). By

directive research I mean informally and formally interviewing people - initiating and directing talk on topics of interest to my research.

In Geertz's sense I will aim to give a thick description of contraceptive behaviour, which entails explaining actions and discourses (surrounding contraception) in context in order to bring to light their meaning (Geertz 1973). Participant observation goes hand-in-hand with the process of making field notes, as the fieldworker oscillates between the dual roles of participation and stepping outside to analyse and observe. Laderman (1990) discusses this shift in consciousness that takes place through the act of writing in the field. On the other hand, field notes have also been described as a 'localizing strategy', a guide to the memory on how to behave and speak appropriately (Rapport 1991). I found both remarks to be true in my fieldwork experience. Observations made and recorded are selected and guided by theoretical interest and relevance to the phenomena under investigation, whilst they also purposely remain broad in scope and open-ended (Holy 1984). Although much data collected will be surplus, the relevance of people's statements or events that happen early in the research may only become apparent with hindsight later in the fieldwork or analysis stages.

On a pragmatic level, participant observation allows the data to be collected through the researcher being there; it allows for other methods to be used (observation of various situations, interviews), over a longer time the researcher becomes less obtrusive. Crucially, though, it is through the act of participating that knowledge is formed and produced (the dialogical process referred to above). Through living with the people being studied, actively participating in life as lived, interacting, and learning to communicate (in terms of proper behaviour as well as linguistically) it becomes possible to learn the meaning of action (Holy 1984). The 'performative inadequacy' of a researcher coming into a culture can be used as a methodological tool: as through the process of learning, of inevitably tripping up, the cultural novice finds out what they did wrong, and what was expected (Holy 1984:32). Hutchinson (1996) found 'open note-taking' a useful strategy; by writing down phrases when somebody said it and then asking for clarification immediately, this allowed informants to participate and proved

useful for finding out and recording information. Hutchinson also describes using 'culture shock' as a research method, expressing surprise and asking for explanation when she experienced disbelief or value conflicts (Hutchinson 1996). I agree with Hutchinson on these points and found open note-taking a good way to let people know why I was there in these situations that young, western women aren't usually seem in – it was recognisable behaviour of someone 'doing research' although still a little odd.

Interviews

I employed a range of interview types that differ in degrees of control over responses. Firstly, I used informal interviewing throughout the fieldwork, particularly early on, to build rapport and uncover topics of interest that I may have overlooked (Bernard 2006). Secondly, I used unstructured (or ethnographic) interviewing, where participants know they are being interviewed and I have a particular topic of interest, but the flow and direction of the interview is very much up to the participant – in order to let the participant express themselves in their own terms with the aim of finding out what is relevant to the participant (Bernard 2006). Thirdly, I used semi-structured interviews with clear topic guides. These are detailed in the table below. Qualitative interviews can yield in-depth and detailed accounts of people's attitudes and experiences (Gaskell 2000). Due to the sensitive nature of the research topic, initially I had planned to ask about other people's sexual and contraceptive behaviour, and pay close attention to question wording. Katz & Naré (2002) conducted research in Senegal where social norms strongly prohibited premarital sex. Of the 1,973 Muslim women aged 15-19 questioned fewer than 1% admitted to having been pregnant, but when asked about their three closest friends 25% of the same women said that at least one of them had been pregnant. I thought this approach would be useful in the Cambodian context, but in fact I found that by simply asking the interviewee what they *thought about* abortion, for example, they would usually tell me themselves whether or not they had done it, with no further prompting. I only asked one woman (who I was not close to) if she had ever had an abortion. Her reaction and look of horror put me off asking anyone else: she replied

indignantly that she was not that type of woman! She was not a sinner and would never consider doing that! I apologised knowing that I had offended her simply by asking the question.

Focus group interviews have been shown to be a useful way to get at social norms and values in a community (Gaskell 2000), and have become a well-established method in sexual and reproductive health research, a key advantage being that they provide safety in numbers for participants (Kitzinger 1994). However, I decided not to use them, firstly, because, in light of my overall research design I thought this method would impede rapport building and run counter to participant observation aims. Furthermore, I considered that the nature of a focus group, would be too artificial in this cultural context, where the subjects of contraception and sex are taboo, at least amongst some groups. I believed a lot of women would feel unwilling to talk publicly to others, particularly those in their community who knew them, about the topic in general.

One-to-one interviews have the advantage of confidentiality between interviewer and interviewee; being more private, I think makes them more appropriate. Because of my status as a foreigner from a Western country I think people felt they could discuss the topics more freely without being restricted by traditional customs or the opinions or presence of others judging them on those terms (something Brickell (2007:56) noted on her research in Cambodia). In focus groups people tend to avoid discussing personal experiences or opinions that deviate from social norms, thus they provide "little information about how, when and why people use norms to legitimise behaviour or use strategies which contradict dominant norms" (Price & Hawkins 2002: 1327). Bradburn (1983:298) reports that for sensitive questions more anonymous methods work better at getting people to divulge sensitive information. My research approach was iterative and flexible, and when I found interviews to be effective, I stuck to them.

Table 1: Semi-structured interviews

Health-care Sector	Description	Number of semi-structured interviews
Popular	With 'ordinary people'; Focused on contraception and abortion	33
Folk	*Kru khmer* (traditional healers) x 4 *Chmop* (TBA) x 5 *Achar* (Buddhist lay clergy) x 6 Other x 2	17
Professional	Public sector medics x7 Private sector medics x 14 NGOs x 2	23
Other	Monks x 8 Department of Health x 2 Commune staff x 2	12

1. Professional Sector

These semi-structured interviews were with people engaged broadly in the biomedical health sector, working on reproductive health and particularly those involved in contraception or abortion services. I interviewed staff at health clinics, hospitals, family planning clinics, pharmacies, and shops which sold contraceptives.

2. Folk Sector

I conducted semi-structured interviews with folk healers in order to gain understanding of: their modes of diagnosis and treatment, their understandings of aetiology; their modes of interaction with patients; and the remits of their field - in terms of which conditions and symptoms they can treat and which they perceive as beyond their scope. These included *Kru Khmer* (traditional healers of various types), *chmop* (traditional birth attendants), *achar* (Buddhist clergy) and other ritual officiators.

3. Popular Sector

In order to gain the perspective of the non-specialist population, I conducted semi-structured interviews in the urban site, Daunchem, and the rural site, Rumduol. I set out to interview people from a variety of socio-economic backgrounds, males and females, different age and employment groups. I interviewed contraceptive users and non-users; women and men who use traditional and those who use modern methods; and people who have discontinued and switched contraception due to side-effects. I stopped conducting these interviews when I felt I had reached theoretical saturation, and was hearing broadly the same sorts of answers repeatedly. Theoretical saturation means that successive continued observations and interviews are yielding no new information regarding the category of interest (Bryman 2008: 416).

I tried as much as possible to interview a range of people from both sites, but obviously there were limited opportunities to meet professional sector interviewees in the rural site compared with the town, where so many of these health care outlets are based. For the majority of popular sector interviews I used a digital recorder and transcribed them with the help of my research assistant. There were various reasons why seven of them were not recorded, including heavy rain which would have drowned out the sound of the interview, and at times I decided not to get the recorder out as I sensed it would constrain the person, especially if they already seemed a bit dubious about the interview. At times I felt the recorder didn't matter but for other people it seemed like an additional barrier between the interviewee and me – along with my foreignness, linguistic level, my notebook and pen, and the fact that for some interviewees I was a stranger. I was also aware that some of the topics covered in the interview such as home abortions were illegal, so I assumed people would be unwilling to talk about something which could incriminate themselves whilst being recorded. I anticipated this and did not record some interviews, for example, where I was asking traditional birth attendants about abortion practices, or pharmacists about counterfeit drugs. When I did not record an interview I made sure to write as much as possible in my notebook, and get thorough translations

when needed as the interview went along. It made the interviews much slower and stilted, but I think was worth it for the sake of having a detailed record.

Data analysis began in the field as I reflected on the data collection process and direction, and made analytic notes. The recorded interviews on contraception ('popular sector') were transcribed and translated simultaneously from Khmer to English. Only the first interview was transcribed into Khmer then translated into English. This proved to be far too time consuming, and all further interviews I only included Khmer where a particular quote, phrase or word was not easily or clearly translated into English, thus I do not think I have lost any of the nuances at this stage. Preliminary coding of key themes was done in the field and this fed into the later interview guides. The majority of formal analysis took place after the fieldwork, beginning with reading through the data and generating concepts, until all data were systematically coded into a stable set of categories (Hammersley & Atkinson 2006). As my field notes were handwritten in notebooks, I decided against using analysis software. Instead I photocopied my field notes, printed out the interview transcripts and coded them by hand. I filed them chronologically and then created an index for the codes (that is, for each code, such as 'condom', I recorded the page numbers where that code appeared in my field notes and transcripts). Further sifting and comparison of data coded under particular categories led to clarification of meanings and interrelations between categories (Glaser and Strauss 1967).

Ethical considerations

Prior to conducting the fieldwork I applied for and was granted ethical approval for the research from my university, the London School of Economics, in accordance with its research ethics policy. In Cambodia I applied to the Ministry of Culture and was granted permission to conduct the research in the way I had planned. Having this highest level of permission smoothed the path for permission at the provincial, district, and commune levels. And I think it made participants less suspicious of me, as they expressed that this

was the appropriate way to do things and at times asked if I had received this permission.

Before entering the field I had planned to use informed consent forms in Khmer which I would use at the start of an interview, asking the participant if they would prefer to read or listen to the information on the form, then asking them to sign the form to acknowledge their consent. However, because of the low literacy levels in Cambodia it felt unethical to ask people to sign a document they could not understand. It was also impossible to know who was or was not illiterate, and asking could cause embarrassment. Therefore I decided it was more appropriate, given the context, to gain informed consent verbally. I prepared information about myself and the study in Khmer and used this before each semi-structured interview. With participant observation there is no clear line between when the research starts and stops, unlike an interview which is structured as separate from regular activities. To mitigate this I made sure to be as transparent and open as possible about my reasons for being there and the objectives of my research. On meeting new people I would introduce myself as a researcher and the aims of my research, this gave people the option to distance themselves from me should they wish.

Throughout the fieldwork I invited people to ask me about the research or me personally. I tried to be as public and open as possible about the fact that I was there doing research, and often wrote notes down in front of people. At other times I had to rely on my memory, and took notes after the event or conversation. Engaging people in talk about the past in a post-conflict setting and enquiring about pregnancies that had been terminated was asking them to recollect traumatic experiences. I tried to compensate for this by being sensitive to when my questioning was causing distress, letting people know we could stop talking about it or move on if they wished, and finding suitable times and contexts in which to conduct the interviews. People were very interested in what their friends and neighbours had said in answer to my questions, but I explained that all their comments were confidential and I respected others' privacy as I respected theirs.

Due to the nature of my research topic, and people's perception of me as a westerner, on a few occasions people came to me for medical advice, for example asking if I could provide medicine or advice on their problems conceiving. Having no authority to give medical advice, I explained that I did not study medicine but social science, so I did not know and recommended they discuss it with a medic. My position as a westerner also meant that I was usually perceived as wealthy and at times powerful, I was aware of this and frequently explained that I was not connected to any organisation or development project. I made it clear that my role was an academic researcher not attached to any service providers (or potential ones). To protect anonymity I have used pseudonyms for the people and villages and communes throughout the thesis, except where participants were public figures or gave their permission. Lastly, this thesis attempts to present the people who have participated in my research with the same respect and thoughtfulness I would wish for myself.

Conclusion

In this chapter I discussed the methodology used in this research. I began by describing my research design which uses mixed methods in a sequential manner. I introduced the quantitative and qualitative aspects of the research before reviewing the theoretical framework which shaped the processes of data collection and analysis. I paid attention to the process of fieldwork and my position in this process, my entry into the field sites and language learning, before moving on to outline the choice of field sites and sampling of participants. The last section examined in detail the specific methods used to collect data during fieldwork, that is, participant observation and interviews and my rationale for using these methods. Finally I considered the ethical implications of conducting ethnographic research in Cambodia, again reflecting on my position relative to research participants. The following chapter examines the setting of this study.

Chapter 3

Setting – The people and the health system

This chapter offers a background to the rest of the study. I present what I consider to be the key information about life in Cambodia that I see as relevant to understanding the later chapters. To achieve this I have included some of my own findings from fieldwork to add to the literature and secondary data presented here. I begin with an outline of the demography of Cambodia, with particular reference to the Democratic Kampuchea period, the regime led by Pol Pot, given its significance in Cambodia's recent history and the consequences that continue to be felt in the present, and are likely to impact on future generations. Following this, I move on to describe the health care system in Cambodia. My purpose is to provide an understanding of the context in which Cambodians make decisions about contraceptives. This chapter examines the public and private health sectors, and both the international biomedical, and the indigenous Khmer medical systems. Modern contraceptives are perceived in Cambodia as emanating from the international biomedical realm, but are interpreted through a lens of indigenous medical beliefs (Chapter 5). After outlining the key characteristics of the health system and the pluralistic medical setting, the chapter ends with an examination of family planning policies and programmes from the 1970s to the present.

Cambodia's recent history can be conceptualised as a series of ruptures. For centuries various Indianised polities or kingdoms had ebbed and flowed between multiple centres, reaching a peak with the Angkorian era (802-1431), when the Khmer civilisation expanded to dominate much of mainland Southeast Asia (Chandler 1983). From this time on, the land succumbed to numerous civil wars and invasions from the Thai and Vietnamese sides until becoming a French protectorate in 1863. Cambodia remained under French control until gaining independence in 1945. The post-colonial period has seen rapid transitions from a kingdom, to a republic, then a communist state, a period of

Vietnamese occupation, and now to a constitutional monarchy. The last decades of the 20th century were characterised by civil war, international isolation and the catastrophic period of Khmer Rouge rule (1975-1979). Cambodia's first democratic elections were held in 1993 overseen by the United Nations (Kiernan 1993), yet democracy remains unconsolidated (Peou 2007:5). A period of rapid economic and social change was ushered in with the 1993 elections. The rejoining of the international economic community opened the gates to foreign investment and aid (Heuveline & Poch 2006). Cambodia is one of the most aid-dependent countries in the world, with international assistance making up 50% of its annual national budget (Peou 2007:4-5).

Economic growth over the last decade has been remarkable, averaging 10 per cent per year up until 2008. Growth dipped in 2008-9 due to the global economic recession but has resurged to GDP growth of 6.5% per annum in 2010 and 2011 (World Bank 2012). Analysis of the Cambodian Socio Economic Survey data showed that poverty fell from 35% in 2004 to 30% in 2007 (estimating poverty using the poverty headcount index relative to the overall poverty line for Cambodia) (World Bank 2009), in part due to the employment opportunities created by this rapid economic growth (World Bank 2012). However, in terms of development, post-conflict Cambodia was starting from a low baseline and there is still a long way to go. The UN ranks Cambodia 131 on the Human Development Index, placing it amongst the least developed nations in the world (UNDP 2007). Gross national income per capita (PPP International $) was $2,080, well below the regional average of $10,218 in 2010 (WHO 2012). Poverty remains a huge problem amongst rural populations, where 80 per cent of the population resides (NIS & MOP 2009). Whilst real per capita household consumption increased between 2004 and 2007, including a range of welfare indicators for the poorest two quintiles of the population, inequality has increased, with the richest quintiles and urban areas benefiting most from economic gains (World Bank 2009). Corruption and inadequate delivery of public services are impeding inclusive development (World Bank 2012).

Compared to other Southeast Asian countries, Cambodia is one of the most homogenous, ethnically and religiously. The majority of the population belong to the

Khmer[7] ethnic group (90%) and 95% of the people are Buddhist (UNFPA 2011). Religious beliefs and rituals are deeply seated in Cambodian culture and daily life for the majority of people. Lay practice includes elements of animism and Hinduism, beliefs in ancestral and locality spirits, such as *neak ta* who are village guardians, and *jonmeang bdeh* spirits residing in the house. Life in the countryside, for most, revolves around the agricultural cycle of rice production, punctuated by numerous religious festivals. As the market led economy has opened up in the urban areas, people migrate from rural areas for education and employment, particularly in garment factories (in and around Phnom Penh), tourism related service jobs (particularly in Siem Reap) and the construction industry (CDRI 2007).

The demography of Cambodia

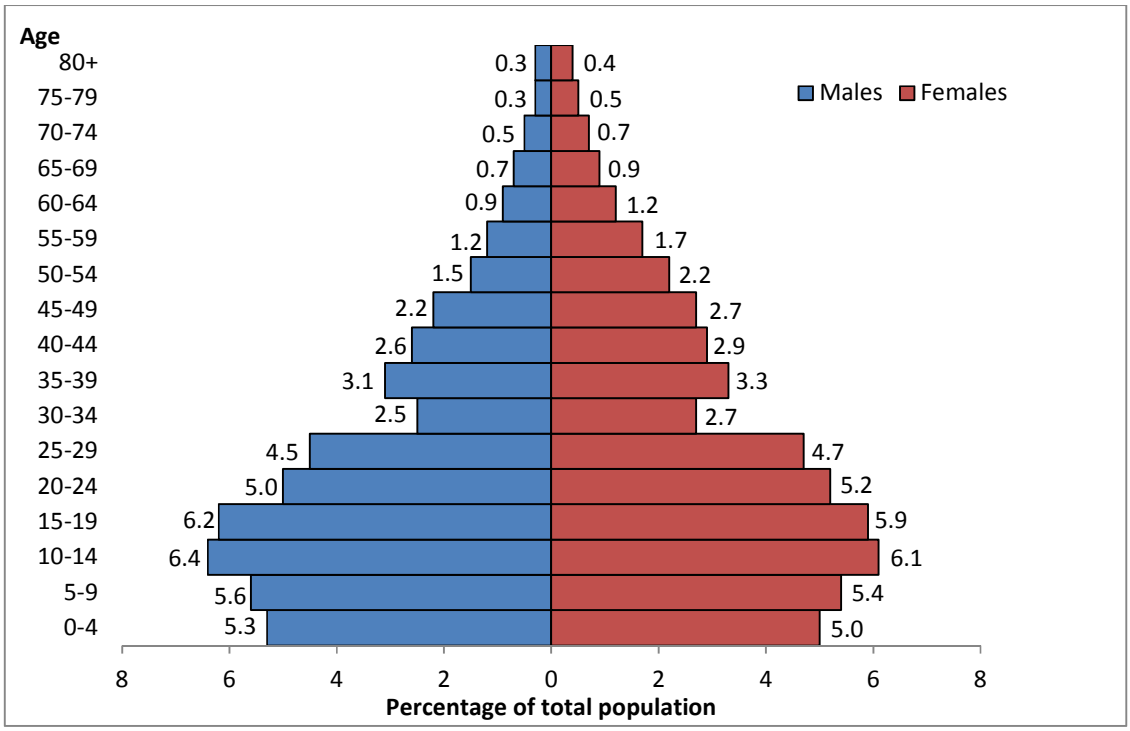
Cambodia's first population census was the 1962 Census. At the time the population was assessed at 5,729,000 (Siampos 1970). Using the reverse projections method, Siampos estimated the 1945 population to be 3,606,000 (Siampos 1970). The next census was not until 1998 when the population was assessed at 11,438,000 (NIS 2002). The most recent population estimate is 13,396,000 from the 2008 Census (NIS & MOP 2009). The figures imply rapid population growth, but this growth has not been smooth due to Cambodia's turbulent history.

Looking at the population pyramid of Cambodia (below) it is clear that the tragic history of Cambodia has left indelible marks in the population structure. The Khmer Rouge regime has been described as the most radical social transformation ever attempted (Kiernan 1996). Within days of taking control of the country in 1975, the Khmer Rouge emptied the cities and expelled foreigners. The population was ordered into manual labour teams organised by age and gender. Socio-cultural institutions were physically and symbolically destroyed: the Buddhist *Sangha* (monkhood) was targeted for

[7] Whilst the term Khmer denotes ethnicity and Cambodian stands for nationality, I have used the two terms interchangeably in this thesis as the vast majority of my informants described themselves as both.

execution, as were the educated, and those with royalist associations; the family became subordinate to *Angkar* (the ruling party – literally 'the organisation'); marriages took place en masse, often forced. In the space of four years between 1975 and 1979 an estimated 1.5 to 2 million people were killed by execution, starvation, exhaustion or epidemics – nearly a quarter of Cambodia's pre-Khmer Rouge population (Heuveline 1998).

Figure 3: Population Pyramid of Cambodia 2008



Data source: Cambodian Census 2008 (NIS & MOP 2009)

Excessive male mortality combined with male emigration during this period resulted in a sex ratio of 75 men to 100 women in 1980 in the population aged over 15 (Huguet 1992). The population pyramid above shows the age sex distribution of the population from the 2008 census. The age groups 50-54 onward show very low sex ratios, due to the exodus and high mortality of males during the late 1970s. Over time the sex ratio has become more normalised, at 94.7 in 2008, but a quarter of households are female headed

households (although this is not necessarily attributable to the events of the Khmer Rouge period) (NIS & MOP 2009).

Fertility trends saw a sharp decline after 1975, when the TFR was 6.7 children per woman (adjusted 1962 census rate), thereafter fertility surged (nearly doubling) in 1979-1980, and remained above pre-Khmer Rouge regime levels in the early 1980s (Heuveline & Poch 2007; de Walque 2006). Following this dramatic fertility rebound there has been a sustained decline: the CDHS 2000 estimated a national TFR of 4.0 children per woman, and the CDHS 2005 placed it at 3.4 (NIS & ORC Macro 2001; NIPH *et. al.* 2006). A lack of data before the mid-1990s and, where data are available, a lack of consistency of estimates from different sources means it is not possible to access accurately the speed of Cambodia's fertility decline (Dasvarma & Neupert 2002; Than *et al.* 2012; these two papers give an extensive discussion of fertility trends in Cambodia from 1962 to 2010).

Returning again to the population pyramid above, the unusually small size of the cohort aged 30-34 years can be attributed to low fertility and high mortality in those born during the Khmer Rouge period (Neupert & Prum 2005). With the subsequent baby boom that occurred in the 1980s following the fall of the Khmer Rouge regime, we see the effects of high fertility throughout the 1990s, with the cohort aged 10-14 making up the largest cohort in the population. As the largest cohorts (10-14 and 15-19) move into their main childbearing years, Cambodian reproductive health services are likely to be placed under increasing pressure. The cohorts aged 0-4 and 5-9 years are smaller than the preceding ones, this is either the result of lower fertility rates over the previous decade, or an under-enumeration or age exaggeration of 0-4 year olds as is common in Cambodian censuses and surveys (Siampos 1970; Dasvarma & Neupert 2002), or both. Cambodia has a youthful population; 34% of the population was aged under 15 in 2008 (NIS & MOP 2009). The population growth rate has fallen from 1.81% per annum for 1998-2004, to 1.54% for 2008 (NIS 2004; NIS & MOP 2009). Life expectancy at birth is 60.5 for males and 64.3 for females (NIS & MOP 2009).

The health situation in Cambodia is amongst the worst in Asia; however, there have been significant improvements in the last 5 to 10 years. Communicable diseases still pose a substantial threat to health, but programmes are in place to address malaria, tuberculosis, parasitic diseases, dengue, respiratory and diarrhoeal diseases. The coverage of DTP3 immunisation among 1 year olds, for example, was 94% in 2009 (WHO 2011). Cambodia's HIV epidemic is subsiding, from a peak of 3% of adults aged 15-49 in 1997 to 1.6% in 2005; a testament to Cambodia's unusual success in combating the spread of the disease (UNAIDS 2006; Buhler *et al.* 2006)[8]. The epidemiological transition is in progress. Cambodia's rates of diabetes and hypertension are high; mental health and traffic injuries are inadequately addressed (WHO 2011b). Whilst 61% of the population use improved drinking water sources, only 29% use improved sanitation facilities (WHO 2011). Malnutrition is a widespread problem given the poverty in Cambodia; 40% of children under five are stunted, and 29% are underweight (WHO 2011).

Reproductive health indicators have started to show significant improvements in the last few years. Until very recently, most women gave birth at home (78% in 2005) with only 44% of deliveries attended by a trained health professional (NIPH *et al.* 2006). The same year the adjusted maternal mortality ratio was estimated, from different sources, in the range 472-540 deaths per 100,000 live births (NIPH *et. al* 2006; UNICEF 2008). After being stubbornly high for decades, the programmatic efforts are finally showing improvement (discussed below). However, these reproductive health indicators remain worse than the regional averages, and when broken down by residence, wealth and education level of the mother, point to the vast inequalities in health amongst the population (WHO 2012).

[8] According to a report of the UNAIDS country office for Cambodia, there were 9 key elements facilitating this success. These were: "early initiation of surveillance, research and analysis; evidence-based programming targeting key populations; dynamic condom social marketing and distribution; good collaboration between government and civil society; enabling institutional and political environments; an emerging civil society response coupled with strong civil society advocacy; early piloting of care, support and treatment projects by NGOs; government responsiveness in assuming ownership and facilitating scale-up; financial resources mobilised at the right time" (Buhler *et al.* 2006: 6).

The health system in Cambodia

When seeking treatment for an illness or injury Cambodians have a vast array of health care providers to choose from. From the perspective of my informants the primary distinction with which they categorise these types of providers is between those who offer services which are *Khmer boran* (traditional or ancient Khmer); and those who offer services based on the principles of *vicheasa* (science) and therefore provided by a *pairt* (a doctor or biomedical practitioner). In other words, Cambodians view the health care options available to them as either belonging to the biomedical paradigm or the traditional Khmer paradigm. Some of my informants stated that they placed their trust solely in one or the other paradigm, however most informants were very pragmatic and would try to find a solution from both paradigms, either sequentially or simultaneously.

The CDHS 2005 breaks up the types of health care providers slightly differently: distinguishing between public sector, private sector and non-medical sector. However, the 'non-medical sector' includes shops and markets which (in Cambodia) sell pharmaceuticals. From the perspective of my informants, pharmaceutical sellers would be perceived as part of the biomedical paradigm. The CDHS asks those respondents who had a household member ill or injured in the previous 30 days where they sought treatment. The private sector was the most frequently reported treatment source for both rural and urban dwellers, accounting for 48% of first treatments. The public sector and non-medical sector were used in roughly equal proportion (22% and 21% respectively)[9]. This pattern held for second and third treatments as well, and for rural respondents. For urban respondents, the private sector was even more popular, used for 60% of first treatments, compared to the public sector (19%), and the non-medical sector (15%) (CDHS 2005). It should be noted that CDHS questions only capture those visits to traditional healers that were for treatment of illness or injury; people seek out traditional healers for a much broader range of problems, such as life crises, misfortune, advice, fortune telling, and family problems, which this question does not capture. In this way the CDHS underestimates the importance of the traditional health sector.

[9] The remaining 9% did not seek treatment.

This section, building on the theoretical framework discussed in Chapter 2 (Kleinman 1980), looks at the public, private and traditional health sectors in more detail in order to give a context to the way contraception fits into people's health philosophies and their practical, structural options for health maintenance. As outlined in Chapter 2, attention to the health system is important: firstly, because my early stages of analysis had pointed to the importance of contraceptive side effects in accounting for unmet need, and secondly, because contraceptive supplies and services are offered in the arena of health services. Before examining Cambodia's health care system I will briefly expand on my justification for doing so.

Medical anthropologists recognise that medical terms are culturally specific, that is, they do not necessarily have a direct biological referent that we can use to translate a local illness category into a biomedical concept (Good 1994). Rather, illness and suffering have meaning in relation to a complex network of signs: "analysis of a given concept within a particular system of medical knowledge requires an understanding of that concept in a field of symbolic relations" (Good 1994: 112). I am not comparing pregnancy or contraceptive use to a state of illness, rather I am making a comparison between contraceptive side-effects and symptoms of an illness. Therefore, I am applying an approach to contraceptive side-effects that others have applied to illness:

> "Illness is inseparable from the networks of meanings within which it is experienced and treated. These meanings – often changing, usually ambiguous, frequently tacit – sometimes are determined principally by the nature of the illness itself and its consequences for the sick person and family. But more often illness absorbs and is saturated by the web of beliefs, norms, and interests that constitute the day-to-day world of the sick person in his particular social situation." (Kleinman 1981: 373)

The experience of an illness cannot be separated from its meaning in a particular culture (Kleinman 1988). In the same way that research into the placebo effect has shown that the response to treatment is in great part due to the meaning given to that treatment and not only the content of that treatment - what Moerman calls the "meaning response" (Moerman 2002:14). When Khmer women complain of side-effects from contraceptives,

they experience that side-effect within a larger system of meaning. So to understand why being too 'hot' from hormonal contraceptives is a problem, we need to have knowledge of the wider humoral theory of medicine[10] that gives salience to the concept of 'hot' and shapes how people experience and act on it. For Khmers modern contraceptives are viewed as being part of the biomedical paradigm, but at the same time the idea of practising contraception is not new; the use of herbal medicines and manual techniques to limit births are found within the traditional Khmer paradigm. As will be shown in the following chapters, particularly Chapter 5 which shows that side-effects are the main reason for unmet need for contraception, this background knowledge on the Cambodian health system (in its broadest sense) becomes necessary to understand how people perceive and practise contraception.

The public health system: organisation and characteristics

There has been an ongoing reform of the health sector in Cambodia since 1994, which is part of a broader public administration reform (MOH 2008). An early initial step in this process was laying out the criteria for distribution of infrastructure and services, based on population size and geographical access. The country was divided into Operations Districts (ODs) each covering 200,000 people and consisting of a referral hospital at its centre, several health centres, each serving 10,000 people, and, in particularly remote areas, health posts. The aim is to have each person within a 10km radius or 2 hour walk of a health centre, and within a 20-30km radius or 3 hour journey by car to a hospital. The next level on the chain of referral for a patient is the provincial level hospital - where surgical cases are sent, including Caesarean sections - and finally the national hospitals in Phnom Penh (MOH 2008). Basic packages of services were outlined for each level of the health system. A Minimum Package of Activities (MPA) consisting of essential primary health care was to be available at the health centres and a

[10] A humoral theory of medicine is one that sees pathologies as caused by an imbalance of bodily states: hot and cold, wet and dry. These states can also correspond to an imbalance of the elements earth, wind, fire and water. In the Greek and Islamic systems these corresponded to the four "humors": blood, phlegm, yellow bile, and black bile (Good 1994:101). Such theories have been found world-wide in some form (Randall 1993).

Complementary Package of Activities (CPA) at referral hospitals. According to the Health Coverage Plan outlined in the current *Health Strategic Plan 2008-2015*, as of 2007 there should have been 77 ODs, 74 referral hospitals, 957 health centres and 95 health posts (MOH 2008: 8). However, the same document points out "the current levels of health service provision are considerably lower than those described by the HCP [health coverage plan]" (MOH 2008: 11). How far below the target has been achieved is not stated.

As a further part of the health sector reforms, the management of the health system is undergoing political decentralisation and administrative de-concentration, with provincial health departments becoming responsible for implementing health programmes (Men *et al.* 2005). Development of policy and strategy, resource allocation, monitoring and evaluation, and coordinating aid remain under the jurisdiction of the Ministry of Health (MOH 2008). Vertical programme management still operates for specific national priorities, such as maternal and child health and control of communicable diseases (Men *et al.* 2005).

There is a severe shortage of health staff, and particularly so in remote areas. The number of physicians is only 2.3 per 10,000, considerably below the regional average of 14.8 per 10,000, and similarly the number of nurses and midwives is only 7.9 per 10,000 (18.4 regionally) (WHO 2012). It should be noted that these current low numbers of physicians and nurses are a dramatic increase from an extremely low baseline: at the end of the Khmer Rouge regime, a period when educated professionals (who had not migrated) were targeted for execution, only 49 trained doctors remained in the country (Gollogly 2002). Increased efforts in the last decade directed towards reducing maternal mortality have seen vast improvements in the provision and utilisation of health services for antenatal care and delivery. A total of at least four antenatal care visits was achieved by 59% of pregnant women. Also, though still below the regional average of 91% (WHO 2012), the proportion of births attended by skilled health personnel has increased to 71%. Unfortunately there is a great difference in the figures when we compare the wealthiest quintile with the poorest: 97% and 49% respectively (WHO 2012).

Poor performance in public health facilities remains a problem, due to lack of funding, inefficient allocation of resources, and poor management, but some see the low motivation of staff as the main root of the problems (Soeters & Griffiths 2003). Public sector staff are low paid in Cambodia and health sector staff are no exception (Soeters & Griffiths 2003). Doctors' salaries are far below a living wage. Practitioners working in the public health facilities often supplement their salaries by operating a private clinic on the side, often from their homes (Fort *et al.* 1998). Despite their private work being much more lucrative, the majority of public sector staff interviewed in Fort *et al*.'s (1998) research wanted to remain in their public sector role for several reasons: it legitimised them as professionals in a context of no certification; allowed them to avoid certain taxes and bureaucratic procedures; provided a means of securing clients who they could refer to their private practices; presented them with more interesting cases for treatment; and provided a source of training and the means to keep up to date professionally. The study also found that a public sector doctor's salary was US$12 per month (at the time), whereas their private practice income could be as much as $170 per week, and 45% of this was due to profit made on pharmaceutical sales. Low consultation fees (averaging $1 to $1.50) attracted clients and costs were made up by prescribing and dispensing medicines, often at exaggerated prices and in high quantities (Fort *et al.* 1998). More recent published work, and findings from my own fieldwork, found a similar situation to that described by Fort *et al.* (1998), with low public sector pay and public sector staff operating private clinics to subsidise their incomes (Soeters & Griffiths 2003; Ovesen & Trankell 2010).

Despite Cambodia having amongst the poorest health outcomes in the region, spending on health care is the highest in Southeast Asia when measured as a percentage of GDP, at 6.4% (figure for 2005 based on WHO data in Levine and Gardner 2008). Private expenditure on health (including both NGOs' spending on households, and out-of-pocket expenditure) accounted for 76.2% of total expenditure on health in 2008 (WHO 2008). Out-of-pocket expenditure accounted for 69.3% of this private expenditure on health (WHO 2008). The socio economic consequences of ill health can be devastating.

One study in rural Cambodia found that "illness has caused more serious economic damage to rural households than crop failure" (Yagura 2005: 759). Whereas people were able to find other sources of income if crops failed, an illness shock entailed lump-sum costs for treatment, leading to either selling of assets (often land) or borrowing at very high rates of interest (Yagura 2005). Individuals and families are shouldering the burden of their healthcare costs, a burden which can be too much to bear for those already living in poverty or close to it. For poorer families a health shock can lead to indebtedness and ultimately require them to sell land to pay for those debts (Van Damme *et al.* 2004). This vicious cycle of poverty leading to ill health[11] and ill health leading to poverty is something policy makers aim to address with innovative ways of delivering and financing health care.

Health financing and delivery

Health financing and delivery is currently evolving in Cambodia. The government has been piloting various models over the last decade as it works towards a national health financing strategy. Key amongst these have been contracting, health equity funds, community-based health insurance and voucher schemes (Levine & Gardner 2008; Ir *et al.* 2010b). All have been tested as solutions towards greater efficiency and universal coverage, particularly as a way to reduce inequity in access and utilisation of health services. Until 1997 the government policy was that health care should be free for all. The lack of official user fees, low funding and meagre salaries meant that in practice under the table payments were the norm and few received free health care (Soeters & Griffiths 2003). User fees were introduced following the Financing Charter 1997, the aims of which were to "reduce unofficial fees and household health expenditure, to improve the quality of care, to enhance staff motivation and to improve access to priority public health services for the majority of the population" (Soeters & Griffiths 2003:75). As it stands, the public health system is funded through a combination of the national budget, donors and user fees (Bigdeli & Annear 2009).

[11] The previous section outlined how the poorer sections of society suffer from worse health indicators.

Contracting

Performance-based contracting has been trialled in different forms in several operational districts with successful outcomes. Under this model, NGOs or private companies are contracted to manage a public health facility and they receive financial incentives based on specific output or process indicators (Ir *et al.* 2010b; Meesen *et al.* 2002). Soeters and Griffiths (2003) present the results from an experimental trial of contracting-in (the contracted management works with the existing staff and set-up, and decision making is made with provincial and national health authorities) and contracting-out (the contractor has control over all aspects of service delivery, including staff and salaries, and is bound by contract to meet targets) as compared to a reference district. Results showed the performance-based contracting approaches increased utilisation despite the user fees; patients also reported perceiving the services as better quality than the private sector. Furthermore, total family health expenditure was reduced by 40%. However, practices of poly-pharmacy and the excessive use of unnecessary injectables continued (Soeters & Griffiths 2003).

This tendency towards poly-pharmacy and injectables remains a serious and widespread concern in Cambodia. A culture has developed where patients demand (and receive) multiple types of pharmaceuticals, more than is clinically warranted, and injectables such as B vitamin supplements and saline drips, perceiving them to be stronger and more efficacious than medicine in pill form (Ovesen & Trankell 2010; also found in my own fieldwork). Injections carry a risk of infection, unnecessary in cases where a pill form of the medicine would suffice. Poly-pharmacy risks interactions between drugs, potentially causing adverse reactions, and wastes already limited financial resources on unwarranted health care.

Another contracting trial also saw success in terms of improvements in maternal and child health targets, increased availability of 24 hour service and reduced provider absence (Bloom *et al.* undated). Interestingly in this study, patients' perception of quality of care was reduced in contracting facilities, and the authors speculate that this

was probably attributable to the contracted management's new rules limiting the provision of saline drips unless clinically warranted (Bloom *et al.* undated). Here we see the clash between the biomedically inclined management and Cambodian patients who perceive that a drip will make them feel better; the two groups share contradictory views on what constitutes one aspect of good quality of care.

Health Equity Funds

The Health Equity Fund (HEF) scheme runs in several districts in Cambodia, its objective being to improve access to health care for the poor. Evidence from Cambodia has shown it to be successful in meeting this aim (Hardeman *et al.* 2004; Jacobs *et al.* 2007; Noirhomme *et al.* 2007; Ir *et al.* 2010a) and furthermore, it has contributed to other improvements in quality of care, community engagement and stakeholder dialogue (Bigdeli & Annear 2009). One such scheme identified who should be considered eligible for inclusion by having a third party, usually an NGO, interview potential recipients of the HEF. Depending on the eligibility criteria a person met, they were allocated a full or partial benefit package which included payment for hospital fees, transportation, food whilst at hospital, and funeral costs where needed (Ir *et al.* 2010b). HEF schemes are growing in number; in 2007 45 health facilities were covered (MOH 2008:13) and by 2008 half of all operational districts were covered by HEFs (Bigdeli & Annear 2009).

The HEFs replace the user fee exemption system which required hospitals to meet the costs of those individuals identified as exempt from fees. In a review of this earlier system, in one Cambodian operational district the authors reported that new user fees had created a "medical poverty trap" (Jacobs & Price 2004:310), with the poorest worse off. During the study only one person had been exempted from fees. Part of the problem with user fee exemptions was the lack of reimbursement to the hospital for the costs incurred in treating an exempt person (Jacobs & Price 2004). User fees in Cambodia are retained at the facility level, so this lack of reimbursement created a major disincentive for staff to exempt people as it would lower the operational budget for the facility and

their own salary. For the HEF scheme, this problem is overcome as the third party body running the fund reimburses the hospital for the services obtained by individuals included in the scheme (Levine & Gardner 2008). Funding for HEFs is largely provided by international donors, but the government has recently allocated part of the national budget to HEFs, and expresses a desire to institutionalise and scale up existing HEFs nationwide (MOH 2008:13).

Voucher Schemes

Alongside HEFs, vouchers are another demand-side financing mechanism with the purpose of subsidising health care for targeted groups (Bellows *et al.* 2011a and Bellows *et al.* 2011b). Whereas in Cambodia HEFs have been used to increase hospital and clinic use amongst the poor, vouchers have been used to target groups with specific health needs, particularly in reproductive health. One voucher scheme trialled in three rural health districts in Cambodia used vouchers in conjunction with HEFs to increase safe deliveries. Pregnant women identified as eligible for HEFs were given a booklet of 5 vouchers entitling them to 3 antenatal care visits, delivery, one post-natal care visit and transportation costs between her home and the facility for each journey. Deliveries in facilities increased from 16% of expected births in 2006 to 40% in 2008 in the areas covered (substantially more than similar districts lacking the voucher and HEF schemes) (Ir *et al.* 2010b).

Incentives for deliveries

The delivery incentive scheme was adopted nationally in 2007 with the objective of increasing deliveries in public sector facilities. Midwives and other health staff receive US$12.50 for each live birth in a hospital or $15 in a health centre, in addition to user fees (Ir *et al.* 2010b). (The description I present here is limited as I have come across no evaluations of this scheme).

Community-based health insurance

Community-based health insurance (CBHI) or micro-health insurance schemes are present in relatively few operational districts in Cambodia. They target the medium poor rather than the very poor, that is, those with the financial ability to pay into the scheme, with the aim of providing a cushion to prevent a health shock becoming catastrophic (Annear *et al.* 2006). In 2007 there were nine CBHI schemes effective in nine operational districts (MOH 2008). Annear *et al.* (2006) reported that expansion of CBHI schemes was planned (at the time of their writing), however little more has been published on CBHI in Cambodia. Jacobs and Price (2004) call for consideration of a social health insurance system as a long term aim for financing health care, with the wealthier subsidising low-income groups and a move away from direct payment at the point of service.

Private sector health care

A first port of call for many of my informants suffering from an illness or injury was to go directly to a pharmacy, relay one's symptoms and purchase medication. In reaction to my surprise that they had missed out the stage of seeking a diagnosis and prescription from a doctor, they usually responded that it was the drugs that would cure them, so it was better to not waste time and money and to simply purchase the necessary drugs. Furthermore doctors were expensive and in some cases untrustworthy; writing prescriptions for far too many expensive drugs and even the wrong drugs in order to keep the patient returning and paying for consultations. Informants said they did not want to waste money on more medication than they felt was necessary, so they often purchased one or two doses, or enough for one or two days, rather than a course of drugs. People did not want to use one type of drug to see if it worked and if not try a second drug. They considered it much better to take them both from the outset and to assume that one of them would work, ensuring a fast recovery, and thus fulfilling the need that everyone has to be cured as quickly and cheaply as possible. Pharmacies fulfil this function for patients seeking such a remedy. Most keep large containers on their

front desk for ready mixed packets of medicine suitable for the most common ailments – colds, fever, aches and pains etc.; each packet comprising a polythene bag with 4 or 5 single doses of different drugs, with a variety of different shapes and colours in the mix. One rural drug seller explained that clients requested common drugs by nicknames based on their appearance, such as 'flying crocodile' or 'white belt'.

Private sector biomedical practitioners in Cambodia include medical doctors or nurses with a private practice and drug sellers (both certified pharmacists and unqualified drug sellers). Practitioners operating in the biomedical paradigm are referred to as *pairt* irrespective of their level of training, qualification and experience. This means patients frequently do not distinguish between highly qualified specialist doctors, medical assistants, and untrained drug sellers providing injections; all are considered *pairt*. Once a remedy has been sought from a *pairt* the patient considers themselves to have tried what biomedicine has to offer. Having this single catch all category of *pairt* has serious implications for treatment effectiveness as patients turn to under-qualified practitioners for diagnosis and treatment. This in turn has implications for trust and belief in the biomedical paradigm. This problem is particularly exacerbated since the most common place to seek treatment is in the private sector (CDHS 2005 data) which is in practice unregulated (regulation is discussed below). As discussed above, many private sector *pairt* are also employed in the public sector. Others work solely in the private sector.

There are a variety of reasons why the private sector is the most common first choice for patients. Firstly, the private *pairt* are more likely to be willing to make house calls or the offer treatment from the *pairt*'s home thus providing a familiar environment. Secondly, they are more likely to extend credit thus making them more affordable even if the costs are ultimately higher. Thirdly, there is often less social distance between doctor and patient, as the private *pairt* can be a neighbour and have built up a relationship of trust (Collins 2000). This can be in marked contrast to public sector *pairt* who are perceived as looking down on, and providing lower quality of care to poorer patients – although the same can be true of private sector *pairt*. Amongst my poorer informants there was a common complaint that they would need to buy a new sarong (skirt) to wear if they

wanted to deliver their baby in a hospital, otherwise they would be mistreated or ignored by the staff. Fourthly, as mentioned above, private sector providers, with their eye on the bottom line, are often more willing to meet their clients' demands for tangible treatments such as multiple drugs, injections and drips. One qualified pharmacist I interviewed (who worked as a pharmaceutical sales representative, not as a practising pharmacist) pointed out that a major obstacle to her running a pharmacy would be the contradiction between her medical standpoint and making a profit: that is she would wish to dispense the treatment which was clinically warranted (for example, a course of a single weaker antibiotic) rather than giving the client what they wanted (such as multiple drugs in low doses). She would not stay in profit as clients would go elsewhere to receive what they demanded.

The situation in Cambodia concerning the availability of medicines has been described by a senior editor at The Lancet as one of "pharmaceutical anarchy" (Gollogly 2002:794). A WHO study conducted using undercover mystery shoppers at private practitioners in Phnom Penh found alarming results. The mystery shoppers presented themselves as seeking treatments for certain scenarios or as seeking treatment for proxies with particular symptoms (as is common in Cambodia). Results showed that not only were most of the practitioners giving clinically wrong advice, in 49% of consultations the treatments prescribed were potentially hazardous (Rose *et al.* 2002 cited in Gollogly 2002:793). Prior to the Khmer Rouge era pharmaceuticals were more strictly regulated with only over-the-counter drugs available without prescription. During the Khmer Rouge period private practices were non-existent, with limited pharmaceuticals available only for the Khmer Rouge cadres (the new elites) (Ovesen & Trankell 2010:87). Medicines became one of many commodities, along with food, that was distributed or denied to people based on their status in the new hierarchy. Thus below the Khmer Rouge cadres came 'base people' (those who had been the rural population prior to the Khmer Rouge period), and lastly 'new people', the former urbanites forced out of the cities at the start of the new regime). When markets began to open up in the 1990s entrepreneurs began selling drugs, many of the pharmacies open now began this way. The drug sellers I interviewed often gained their knowledge

through reading the labels on packets of pharmaceuticals or through word of mouth from a relative who was a *pairt.*

A contradictory situation operates regarding pharmacies: most pharmacies do not have pharmacists working in them, and most pharmacists do not work in pharmacies (Ovesen & Trankell 2010; Khan *et al.* 2011). Instead, regulations oblige the drug seller to have a pharmacist holding the licence for the pharmacy and that pharmacist has responsibility for safety. The drug seller 'rents the name', in other words pays a fee each month to the pharmacist for this service. Qualified pharmacists are more likely to work elsewhere (I found this in my own research, as did Ovesen and Trankell (2010)), for example as a sales representative for a pharmaceutical company or in a public sector hospital. Although there are regulations, these are weak and lack of enforcement is a serious problem (Lon *et al.* 2006). One study found 78% of drug outlets were unlicensed and 79% of drugs were unregistered with the Department of Drugs and Food (Lon *et al.* 2006). In practice a patient goes to a pharmacy, and is able to buy any amount of drugs – drugs which elsewhere would need a prescription - from a person with no qualifications or training. If this is not enough of a safety concern, and a hindrance to greater trust in biomedicine, counterfeit drugs are a further problem. The prevalence of counterfeit or substandard drugs in Cambodia has been reported to range from 4% to 90% (Khan *et al.* 2011). They have been found in commonly used drugs such as antibiotics, analgesics and anti-parasitics (Khan *et al.* 2011). Antimalarial drug resistance is growing in Cambodia and counterfeit drugs are considered to be one contributing factor. This is of international concern as the spread of resistance to artemisinin derivative drugs grows since this is the most powerful antimalarial agent available (Lon *et al.* 2006).

Indigenous health care

The epistemology of Khmer medicine cannot be as easily separated from other domains of knowledge (religion, political power, and social relationships), as it can in the West (Au 2011: 24). Ovesen and Trankell (2010) present a useful way to think about the

traditional sector of the health care system in Cambodia. They argue that it should not be thought of as a parallel medical system to biomedicine; consisting of an alternative set of "tools and techniques for curing disease and counteracting poor health" (Ovesen & Trankell 2010:6). Instead it should be seen as a 'health cosmology' which is broader and concerns the "maintenance or restoration of the physical, social, and spiritual balance, which is the necessary precondition for diseaselessness" (Ovesen & Trankell 2010:6). That is, being healthy and free of illness means having balance and order not only in the human body and mind, but in wider society and in relationships with beings in the supernatural realm. In Cambodia, as in other Southeast Asian cultures, poor health can be caused by a disturbance in personal relationships or stem from the realm of spirits (Wikan 1990; Fadiman 1997). A person whom you have angered may enlist a sorcerer who causes you to be ill. Failure to properly honour locality spirits or one's own ancestors can cause them to become malevolent, resulting in an illness or a member of one's family becoming ill. Illness in this indigenous conception fits into a broader category of other types of misfortune (*gruah*) that can happen to a person. As well as physical and mental illnesses, this category includes accidents, failed business deals, having lost something, house fires, divorce, and having a run of bad luck. All these problems are grouped together as *gruah* because they cause difficulty and suffering.

Natural, supernatural and social domains are all perceived to have the capacity to affect health. Philosophies that have parallels with and have most likely influenced the Khmer healing system include Theravada Buddhism, animism and Hinduism, as well as the Indian Ayurvedic and Chinese humoral medical systems (Au 2011; Men 1999; Hoban 2002). This incorporation of a wide variety of influences with diverse theories and practices reflects the syncretism that characterises religious beliefs across Southeast Asia (Ang 1986: Au 2011; Men 1999). Buddhist beliefs concerning reincarnation, karma, and merit relate to health in that a person's current situation (their wealth, social status, and health) is the result of past deeds and accumulated merit. A fundamental belief that I came across in fieldwork is that 'doing wrong/bad action' *twer baab* will result in suffering, either in the actor or a member of their family. Improper social behaviour, such as a couple having sex before marriage or an aunt marrying a nephew without a

proper ceremony to sanction the union, can anger supernaturals, who can in turn cause a person to become ill.

Scholars of the Khmer healing system have drawn a distinction between two types of illness: those of natural and those of supernatural origin (Ang 1986; Men 1999; Chhem 2001). However there can be some overlap in this distinction between natural and supernatural illnesses. A combination of natural and supernatural cures may be necessary for treatment; the supernatural part of the treatment working to negotiate with or placate the spirit, i.e. the root cause of the illness; and this then making way for a natural remedy to alleviate the symptoms. Illnesses stemming from nature include mild ailments which can be treated with plant and animal based medicine – *tnam Khmer* (Khmer medicine) (Ang 1986) – either in the form of a decoction or a poultice. Occasionally natural illnesses can be solved by supernatural means, such as the example given by Ang of an incantation to cure the pain of a poisonous fish (Ang 1986: 23).

Those illnesses with supernatural causes require a supernatural intervention. If this is suspected, the first stage requires diagnosis, by a medium (*memot*) or *kru*, to reveal the source of the illness. There are three potential categories of sources: a spirit, sorcery, or an ancestor. In these types of illnesses we see the way illness links with morality and proper behaviour. Illness inflicted by a sorcerer for example, is likely to be conducted at the request of a jealous person who wishes to harm the victim. Spirits are generally seen as either malevolent or benevolent, however even the latter can cause ill health if angered by wrong action (*twer baab*). This might happen if a person enters the territory of a *neak ta* spirit (locality guardian spirit) and commits a disrespectful act, such as stepping on the place where the spirit resides; thus angering the spirit who then inflicts harm. There are also some spirits who are inherently malevolent, and if given the chance will cause harm such as *aap*, and *priey* (Ang 1986 gives a detailed account of the many types of supernatural beings). *Priey* are the spirits of women who died as virgins or in childbirth, they return to cause harm to new mothers and babies whose fortunes they are jealous of (Ang 1986: 125-156; Jacobsen 2007: 139-141). Illness attributable to ancestors can result from some action on the part of descendants which has caused them

offence. This could be having premarital sex, or their descendants arguing, or failing to conduct rites (*bon*) dedicating merit to them.

Just as illness types defy neat categorisation, so too do the types of healers (Au 2011). Whilst there are those who deal solely with supernatural or natural healing, many combine elements of both in their practice. During my fieldwork the most common groupings I came across were: *kru khmer*, *memot* (medium), *yay mob* (traditional midwife), and monks. The category of *kru khmer* was then further divided up according to the type of specialism they hold (the conditions they treat and the methods of curing). *Kru merl jomngu* (*kru* who looks at diseases) and *kru tnam* (medicine *kru*) were frequently used interchangeably to refer to *kru* who were skilled at diagnosis and mixing of indigenous plant or animal based medicines. They might grow some of those plants around their house or make trips into the *pray* to find the specific tree roots, barks and other things necessary to prepare medicines. They may have acquired their knowledge through a process of apprenticeship with another more experienced *kru*, either an older member of their family or a *kru* with a good reputation. Usually they are learned, having studied from either palm leaf manuscripts, recopied handwritten notebooks, or printed books sold in bookshops.

Important principles about the nature of the human body are the concepts of *teat* (elements) and *pralung* (souls or vital spirits). One category of illness is that related to the loss of *pralung* (Ang 1986; Thompson 2005). There are said to be 19 *pralung* located in the body, including four *pralung thom* (big *pralung*). There is a tendency for some of the *pralung* to escape or be called away, which can cause a person to become ill or act immorally if their *pralung* are not quickly recovered.

In the course of my fieldwork, when a person was behaving inappropriately, drinking and gambling frequently, and ignoring family members' requests to stop, it was said that the person had *bat pralung* 'lost their *pralung*'. During rites of passage, such as weddings and ordinations - times when the initiate is particularly vulnerable as he or she is in a transitory stage - loved ones *jong die* (tie the wrists) tie threads of cotton around

the wrists of the initiate whilst calling the *pralung* to return to the body and remain there. One informant explained, at an ordination ceremony, that the purpose of much of the decorative accoutrements and ornamentation was to be attractive to the *pralung*, enticing them so that all *pralung* were present in the newly ordained monk. This would enable him to learn and concentrate better as a monk, and earn more merit. Furthermore, if the rite of calling the *pralung* (*hau pralung*) was not performed as part of the wider ceremony, monks were liable to commit immoral acts such as dressing in normal clothes to go drinking and dancing.

The concept of *pralung* is related to *vinyana*; the Pali word for consciousness (Ang 1986). Unconsciousness is attributed to the loss of the majority of one's *pralung*; and death occurs when all the *pralung* leave the body. Some of the *pralung* may wander voluntarily, as happens in sleep (dreams are said to be the experience of the *pralung* travelling at night while the body rests), or *pralung* may be chased out in fear, for example if the person is startled by a loud noise. Once out of the body they may be lured by malevolent spirits and become lost in the *pray* (the forest). Symbolically, *pray* is characterised as wild and dangerous, a place where a person is susceptible to illness, attack and misfortune. A place inhabited by numerous spirits and wild animals. It is placed in opposition to the *srok* (the fields, villages and towns) the cultivated and safe landscape of the village and fields. The distinction between *pray* ('wild') and *srok* ('civil') expresses the nature/culture dichotomy, as well as being recognised as a primary division of the landscape it stands for what is human, moral, ordered, and civilized as opposed to what is wild, untamed, chaotic and unpredictable (Zucker 2007: 158; Chandler 1996: 77-78). However, the *pray* is not always a source of negative connotations; it is a site of spiritual potency – which can be a source of danger or be harnessed for good. Religious hermits and *kru* whom I interviewed lived or went to stay in the forest to meditate, and it was there that they acquired their knowledge of how to heal through meditation and dreams, and their relationship with their spiritual *kru*. It also becomes a site of redemption for monks who have broken their commitment to the Buddhist precepts; they can reduce their sins by meditating in the forest.

The physical human body is said to consist of four fundamental elements or *teat* necessary for life: fire (*plerng*), water (*dtuk*), earth (*dey*) and wind or breath (*khjol*). These elements must be in equilibrium in order to feel in good health. The wind element is of major importance and responsible for many illnesses (Chhem 2001; Chhem 2004). In my fieldwork it was common to hear people complain of *gert khjol* meaning they were generally weak and run down. Bodily states of hot and cold also need to be in balance for good health. The balance of hot and cold can be affected by climate and seasonal changes, foods (which themselves are either hot or cold – not related to the temperature they are when eaten but the effect they are said to have of warming or cooling the body – chilli, bread and mangos for example are said to heat the body). A network of *sorsay* (conduits, fibres, veins, nerves) are said to transport *kjol* and blood around the body. Many of the home treatments that are a first resort when feeling unwell are based on the principles of hot and cold balance, and balance in the 4 elements, particularly the flow of wind. 'Cupping' *jup kyol* involves the use of small glass cylindrical jars, a flame is placed near the opening, just before the opening of the jar touches the skin, this creates a vacuum and the skin is sucked up partially into the jar. This is to reduce blocked flows of *kjol* as they travel round the body. 'Scraping' *gor kyol* is done for the same purpose. This involves taking a silver coin, or something similar made of metal such as a bottle top, and then repeatedly drawing it over the skin in the same direction until red marks appear.

Perhaps the most important difference between the indigenous health cosmology and a biomedical view is the involvement of social and spiritual relationships, and moral behaviour and karmic predestiny in illness that characterises the indigenous view. The "indigenous Khmer health cosmology is characterised by the conviction that illness as well as actual or potential misfortune is not primarily a question of the individual's physical or biological condition but of his/her integral position in the wider natural, social, and spiritual life-world." (Ovesen & Trankell 2010: 129). Because these social and spiritual aspects are held to cause illness they are also utilised in the process of healing, both by *kru* (Eisenbruch 1992) and mediums (Bertrand 2005). This integration

within the indigenous healing rituals is something perceived as lacking in biomedical healing. Having depicted key aspects of the Cambodian health care system, I now move on to discuss family planning policies in Cambodia since the 1970s.

The history of family planning policies in Cambodia

This final section discusses how population policies have evolved and the wider political and economic context that is behind the pattern of evolution. I begin with an outline of the policies of the Democratic Kampuchea government (the Khmer Rouge regime 1975-1979) and the 1980s period in order to provide an historical context to the policies of the state as we know it now – i.e. post the 1991 transition. Policies of the state (*Angkar*) during the Democratic Kampuchea (DK) period appear to have been oriented towards both promoting and restricting reproduction; the overall outcome being to drastically reduce fertility rates. On the one hand they arranged forced mass weddings (there is controversy over whether they were forced or 'conscripted' - LeVine 2010) and on the other hand spouses were often separated. In addition, the high mortality rates, overwork, starvation and psychological trauma undoubtedly would have affected fecundity and coital frequency. In LeVine's recent study of marriage and birth during the DK period, she interviewed 192 people who had undergone Khmer Rouge arranged/forced marriages. She found that 40% reported being told by Khmer Rouge cadres at the time of their wedding to have sex with their new spouse. And 30% reported being under surveillance at night to ensure this instruction was carried out. These policies of forced/arranged marriages and prescriptive sex for newly-weds varied by region, and increased toward the later years of the DK period (LeVine 2010: 87-89).

In the initial period following the overthrow of the Khmer Rouge regime in 1979, the new state furthered a pro-natalist policy agenda (Fordham 2003; van der Velden & Ping 2002). Little more has been published on population and reproductive health policy during this period of Vietnamese occupation other than to say the pro-natalism was in response to the huge loss of life suffered in the Khmer Rouge era (MOH undated). In

1991 the signing of the Paris Peace Accords brought stability and peace to the country, and the UN and other international and bilateral agencies entered Cambodia bringing their influence to bear on policy. In 1993 Cambodia held its first elections. The following year UNFPA began its support in Cambodia, aiding in the initiation of the *Birth Spacing Policy (1995)* and the first census in three decades in 1998 (UNFPA 2005). Desbarats (1995) describes the government's attitude to population matters in the early 1990s as "largely passive" with the overall effect of this "bolstering high fertility" (Desbarats 1995: 54).

Since the beginning of this post-conflict phase (post-1991) Cambodia's policy orientation regarding population and sexual and reproductive health (SRH) matters has gradually shifted towards being increasingly in line with the ICPD rights-based Program of Action, and later also encompassing the Millennium Declaration. There has been a gradual building of successively more progressive policies and an emphasis on resource allocation. In 1994 the National Reproductive Health Programme (NRHP) was established as a separate entity, under the auspices of the Ministry of Health, specifically to deal with the country's RH needs (MOH 2006). Although it has been reported that modern contraceptives were available for the first time in Cambodia in 1991 (Hemmings & Rolfe 2008), the first policy came later with the *Birth Spacing Policy for Cambodia (1995)* (MOH 1995). In this document the Cambodian government advocated the use of birth *spacing* methods as a way to improve maternal health – the primary objective being to lengthen birth intervals as a way to reduce maternal and child morbidities and mortalities. Reversible methods of contraception - male condoms, oral contraceptives, Depo Provera injections, and IUDs - began to be widely available through the public sector (MOH undated). The document also acknowledged "that achievement of this aim [improved maternal health through longer birth intervals] may help to balance population growth with the social and economic growth of the country." (MOH 1995: 3)

Following the results of the *1995 KAP Survey on Fertility and Contraception* the government acknowledged that Cambodian women wanted contraceptives for *limiting* their number of births not merely spacing them. Pilot projects by NGOs were launched

in 1997 for permanent methods, providing sterilisation services at public hospitals, but with stringent criteria, including: women under 30 must have 3 children, the youngest over 2 years old; women over 30 must have minimum of 2 children, the youngest over 2 years old; spousal consent; and other criteria) (MOH undated). (Administrative barriers to contraceptive use are discussed further in chapter 5).

In 1997 Cambodia enacted the *Abortion Law*, one of the most liberal in Asia, allowing a woman to have an abortion at her request up to 12 weeks into the pregnancy (and later for certain cases such as rape or abnormal pregnancy), provided the procedure was performed at a MOH authorised hospital or clinic and by an authorised qualified practitioner (MOH 2006). However, the law was slow to be implemented. As of 2001 the Ministry of Health had developed but not yet accepted training guidelines for safe abortions, therefore no formal training for health providers was available. Furthermore, knowledge of their right to an abortion as enshrined in the law remained very limited amongst the population, and women frequently sought abortion too late in their pregnancy or after having attempted or sought an unsafe abortion (Long & Ren 2001).

The regulations which bring the Abortion Law into reality in Cambodia, known as 'PRAKAS', were delayed in being issued by the Ministry of Health, the body responsible (Lester 2002). In part this was due a lack of a monitoring mechanism for private providers, and also a concern that those already providing abortions (through biomedical procedures, not traditional abortions) would be unwilling to provide the services in the public sector. (Without a monitoring system there is no way of knowing if those biomedical abortions already being provided are safe or unsafe). Key providers of abortion services have been found to be public sector practitioners who also have private clinics at their homes. Abortion services provided in the private practices were found to be lucrative for those service providers, and given the low public sector salaries, it was thought practitioners would not be motivated to conduct the procedures in their public sector role, when they could supplement their very low salaries with private abortion work (Lester 2002). The issues of public sector low salaries and the lack of private sector monitoring mechanisms are health sector wide not merely RH specific

(Lester 2002). Lack of knowledge on legality and sources of safe abortion provide further barriers to women seeking an abortion, and in turn drive up the price (an additional obstacle), as the patient and often the provider believe the practice to be illegal this pushes women to seek clandestine and unsafe abortions. This also leads to women seeking abortions and post abortion care late, another factor which increases the chance of complications. All these factors contribute to the high maternal morbidity and mortality (Lester 2002; Potdar *et al.* 2008; Fetters *et al.* 2008). Since 2005, however, training of providers in the public and private sector has increased (Liljestrand & Sambath 2012).

In 1999, NRHP with UNFPA established and trained a network of volunteers to be Community Based Distributors of contraceptives (MOH 2006), also known as Village Health Volunteers. (A further review of NGO implemented RH programmes can be found in MOH undated). They continue to provide condoms and oral contraceptives, and relay health information between communities and the public sector health system.

The *National Strategy for Reproductive and Sexual Health in Cambodia (2006-2010),* developed by the NRHP, based its framework on four principles "a) human rights and empowerment b) gender equity c) multisectoral partnerships, linkages, and community involvement, and d) evidence based programming" (MOH 2006: iii). This policy united previously separate aspects of SRH policy (safe motherhood, family planning, abortion, HIV etc.) into one overarching directive. With these policies we see a shift from the pro-natalism of the 1980s, through the tolerance of birth spacing methods primarily as a way to improve maternal health, and finally to an acknowledgement of the rights of individuals to choose freely the number and timing of their births. The later polices emphasise the importance of incorporating gender mainstreaming, services for adolescents, and multisectoral partnerships in order to meet the reproductive health needs of Cambodians. However, other authors have questioned the Cambodian government's commitments to family planning stating "pro-natalist sentiment is often encountered among decision-makers" (Liljestrand & Sambath 2012: 68). Likewise, a United States government report states that "perhaps in response to the devastating

population loss during the Khmer Rouge period, the government is resistant to long-term family planning methods" (USG 2011: 1).

Although there have been dramatic improvements, and despite these progressive policies, there continues to be serious cause for concern over the reproductive health indicators for the population. Levels of maternal mortality, infant and child mortality, unmet need for contraception, sexually transmitted infections (STIs) and HIV all continue to be high (UNFPA 2005). Although the policies appear relatively up to date with current international thinking, the government spends only a small percentage of its budget on health (MOH 2004), and a fraction of this on reproductive health care (see section above on health system). Furthermore, action on widening access to long-term family planning methods and abortion appears to be slow.

Conclusion

This chapter has presented the context which forms the backdrop to the rest of the study. I included data from several sources, including secondary data, literature and my findings from fieldwork. After a general introduction to Cambodia, I outlined demographic trends through reference to the population pyramid from Cambodia's most recent census, the General Population Census of Cambodia 2008. This highlighted the sizable demographic impact of the Khmer Rouge era. I described the health situation in Cambodia, which although poor is improving, but increasingly characterised by inequalities in health. A large part of this chapter was devoted to the health care system. Following from the theoretical framework discussed in Chapter 2 (Kleinman 1980), I analysed not only the formal biomedical service provision of the public and private sectors (which Kleinman terms the 'professional sector'), but also the indigenous health cosmology which incorporates the traditional healers, such as *kru Khmer* and *chmop* (the 'folk sector') and the beliefs and practices of individuals and families (the 'popular sector') (such as 'tying the wrists' to keep one's *pralun*g, or 'cupping' to stimulate the flow of the wind element in the body). The important point to take away from this

chapter is that these three overlapping realms of the health care system – the professional, folk and popular sectors – together form the context in which people make decisions about maintaining and restoring health. Given this, it is also the context within which people make decisions regarding contraceptive methods: as Chapter 5 will show, modern contraceptives are viewed as originating from the biomedical realm but are often interpreted through the lens of indigenous medical beliefs. After outlining the key features of the pluralistic health care system, the chapter ended with an examination of family planning policies and programmes from the 1960s to the present. The following chapter will look at fertility decision-making, situating patterns of childbearing within the socio-cultural context.

Chapter 4

Khmer reproductive models

At the crux of this thesis is an explanation for the pattern of contraceptive use amongst Khmer women. In order to examine motivations for and against contraceptive use, which chapter 5 discusses, it is essential to put this into the broader context of childbearing. The decision of whether or not to use a contraceptive method is part of a larger decision-making process about childbearing. This chapter looks at fertility decisions of Khmer women and men, paying particular attention to the sociocultural context of decision-making. It aims to explain how particular models or patterns of reproduction occur within a local culture, suited to the specific local context and social organisation, - the political economy, gender relations and kinship. It examines how changes, such as employment conditions, create new motivations which in turn affect fertility decisions. By bringing into the thesis a discussion of the political economy, gender relations, and the kinship system, this chapter also presents an understanding of aspects of the social context which will be built on in subsequent chapters.

The results presented in this chapter are based on primary data collected through participant observation and informal and semi-structured interviews, as well as secondary data from the Cambodian Demographic and Health Survey (CDHS) and other sources. Fertility in Cambodia is declining. The total fertility rate (TFR)[12] for women aged 15-49, fell from 4 to 3.4 in the 5 years between the 2000 and the 2005 CDHS survey (NIPH *et al.* 2006). Median age at first marriage among Cambodian women "has remained stable over the last two decades, at about 20 years of age" (NIPH *et al.* 2006: 98). This indicates that the decline in fertility in Cambodia is due to a decline in marital

[12] The total fertility rate is a common measure of fertility. It is defined as the total number of births a woman would have if she survives to age 50 and experiences the current age-specific fertility rates (ASFRs) throughout her reproductive life. A TFR of 3.4 indicates that if ASFRs were to remain constant, a Cambodian woman would bear 3.4 children in her lifetime.

fertility, rather than a rise in the age at marriage (and a subsequent reduction in the period of exposure to pregnancy).

The demographer Ansley Coale stated that "Preconditions for a sustained decline in marital fertility are: 1) that fertility must be within the calculus of conscious choice; 2) reduced fertility must be perceived as advantageous; and 3) effective techniques must be available." (Coale 1973: 53). In other words, before marital fertility declines, people need to be aware that controlling fertility is an option, they must be motivated to do this, and they need to be able to access methods for controlling fertility. In this chapter I discuss the extent to which Coale's first two preconditions are met in Cambodia. Subsequent chapters of the thesis focus attention on the last precondition – techniques for controlling fertility.

The chapter is structured around three sections: the number of children, the gender of children, and the timing of children. Throughout, these aspects of decision-making are discussed in reference to specific demographic groups. Together these three aspects of childbearing – the number, gender and timing of children - give a picture of reproductive models in Cambodia. The first part of this chapter looks at decision-making with regard to the number of children people have. It puts forward informants' explanations of how many children they would like (or would have liked), and the advantages and disadvantages of having few or many children. Part 2 focuses on informants' discussions about gender, and their motivations for wanting daughters and sons. Son preference in South and East Asia has been shown to slow down fertility declines and increase discrimination against girls at higher parities (Larsen *et al*. 1998). This literature is discussed with reference to my own data for Cambodia. Part 3 highlights the issue of the timing of births within the life-cycle. Findings illustrated in this section demonstrate a particular pattern of early childbearing, with first births occurring soon after marriage (usually within the first 2 years).

Part 1: The number of children

This section of the chapter looks at how people rationalise the number of children they have, would like, or think is appropriate for other people to have. It is structured around themes which emerged inductively in the course of researching informants' fertility desires. Firstly, the issue of ideal family size is discussed. Secondly, the way wealth and resources affect fertility decisions is covered: how changing employment and educational opportunities are affecting the costs of children, and the trade-off between what demographers have called 'quantity' and 'quality'. Thirdly, Part 1 looks at the idea of larger families as being important sources of power and social protection. Fourthly, I examine the idea of lineage continuation and kinship as motivators affecting fertility. Fifthly, old age dependency is discussed. The sixth theme highlights the present day effects of the extremely high infant and child mortality experienced in the Khmer Rouge era. Finally, the last theme of Part 1 covers further echoes of the Khmer Rouge trauma and genocide on people's attitudes to childbearing.

Ideal family size

The DHS collects data on the ideal family size. It is a hypothetical measure created by asking women without living children how many children they would like to have if they could choose the number of children to have. Women with living children are asked how many children they would like if they could go back in time and choose the number of children to have (NIPH *et al.* 2006:113). In Cambodia the mean ideal family size of currently married women was 3.3 children in 2005, this is a gradual reduction from 2000 when the figure was 3.6 (NIPH *et al.* 2006). Younger cohorts want roughly 3 children (15-19 want 2.8, 20-24 want 2.9, 25-29 want 3.1) (NIPH *et al.* 2006). As is to be expected higher parity and older women expressed a higher ideal family size than younger, lower parity women. This could be due purely to post rationalisation but informants frequently told me that they believed the younger generation in Cambodia today wants only 2 or 3 children, and fewer than previous generations of women. Of course it is difficult to ask hypothetical questions to women of older generations who

had not had the option of contraception at the time, and who now have children. However, some women did say to me that they did not want the children they now had, and if it had been possible they would have stopped at a smaller number. But whether all are ready to admit something like that to someone else or even to themselves is a complex issue. Rationalisations of one's situation are made after the event, which makes this hypothetical number troublesome to interpret.

Another problem with the ideal family size concept is that it is fluid and relative. People's desires for children change depending on their circumstances. Anthropological demographic work on fertility intentions in Sub-Saharan Africa has shown that "reproductive action responds to conjunctures that emerge - often unpredictably - over time" (Johnson-Hanks 2007: 1038; Bledsoe 2002). These authors have shown that for their respondents, the number of children is not a central issue, rather women are constantly reasoning about whether to have a child *now* given their current circumstances. This explained why many women (in the field sites of those authors) did not give numerical responses to questions like those on ideal family size. In my interviews with Cambodian women however, respondents usually had no problem giving a numeric response to me when I asked how many children they would like or how many children they think is best for a family to have. At the same time though, this contingent nature of fertility decisions was apparent, as this interview quote reveals:

> Interviewer: "Do you want any more children?"
>
> Respondent: "No, I don't want any. I don't know… because no money. If I was rich I would want. Right now I'm not. In summary, I don't want to."
>
> I: "If you became rich, how many children would you want?"
>
> R: "Yes I would want. I'd want 4 or 5 children, if I had the money. But I don't have. Just a dream (*dayk srormai*)." (female, 40s, 2 sons, urban site)

Between the two rounds of the CDHS surveys there has been an increase in the proportion of women able to give a numeric response to the ideal family size question (from 93% in 2000 to 97% in 2005) (NIS & ORC Macro 2001; NIPH *et al*. 2006). This

shows that the idea of deciding to have X number of children is a familiar concept. This is possibly a result of widespread promotion of family planning messages in the media and through personal diffusion of the idea, as informants widely reported that such family planning promotion messages had proliferated in the last 10 years. However, it is likely the idea of consciously controlling one's fertility has long been present in Cambodia.

Whilst reproductive aged women and men I spoke to generally found it easy to quantify how many children they wanted and the sex of those children, this was not always the case for older women. In informal conversations, some women (aged over 50) talked about having babies 'according to nature' and 'according to your lineage', and not as a choice or decision to be made or even thought about. These were women who had had most of their children in times when modern contraception was not widely available in Cambodia. The number of children one had (when modern contraception was unavailable) was regarded as being 'according to your lineage'. This was seen to be an observed fact, that 'by nature' certain lineages were particularly fertile and others less so. However, other women of this generation discussed using traditional methods of birth control, such as withdrawal, traditional medicine to 'dry up the womb', and traditional means of abortion (chapter 6). Given that the practice of abortion is depicted in bas-reliefs carved on the walls of the 12th century temple Angkor Wat (in Siem Reap province) (Potts *et al.* 2007), this suggests that Khmer women have historically had ways of spacing and limiting their childbearing. Thus it is likely that in Cambodia the idea of limiting births has long been within people's 'calculus of conscious choice' (to use Coale's term), even if doing so is accompanied by severe risks and moral and religious taboos.

After having discussed the concept of the ideal family size in Cambodia, I now move on to discussing those themes that emerged through fieldwork and analysis that influence people's reasoning on the number of children they would like. These are the factors that make having few children or many children advantageous or disadvantageous. In the order that I discuss them, the factors are: wealth, employment and the costs of children;

large families and power; lineage continuation; old age dependency; child mortality and the need to replenish Khmers.

The costs of children

In this subsection I consider how people's perceptions of the costs of children are affected by their socio-economic circumstances. I discuss in turn the issues of wealth, employment, and education.

I found the perception that having many children in a nuclear family being associated with poverty was widespread in both my rural and urban field sites. High fertility was seen as something that kept you in, or would send you into poverty, partly for the costs of raising a child, and partly because the parents, mainly the mother, would be limited in their capacity to generate household income. Map, my rural neighbour lamented:

> "Before it was easy. Children didn't need so much, now we have to buy everything for school – uniform, books, give them money for spending. When our daughter is 15 she expects to put on moisturiser, wear beautiful clothes, ride a motorbike, so many things. And we don't have the money". (female, 40s, farmer, rural site)

Chantha, a middle-class, educated women, said something similar:

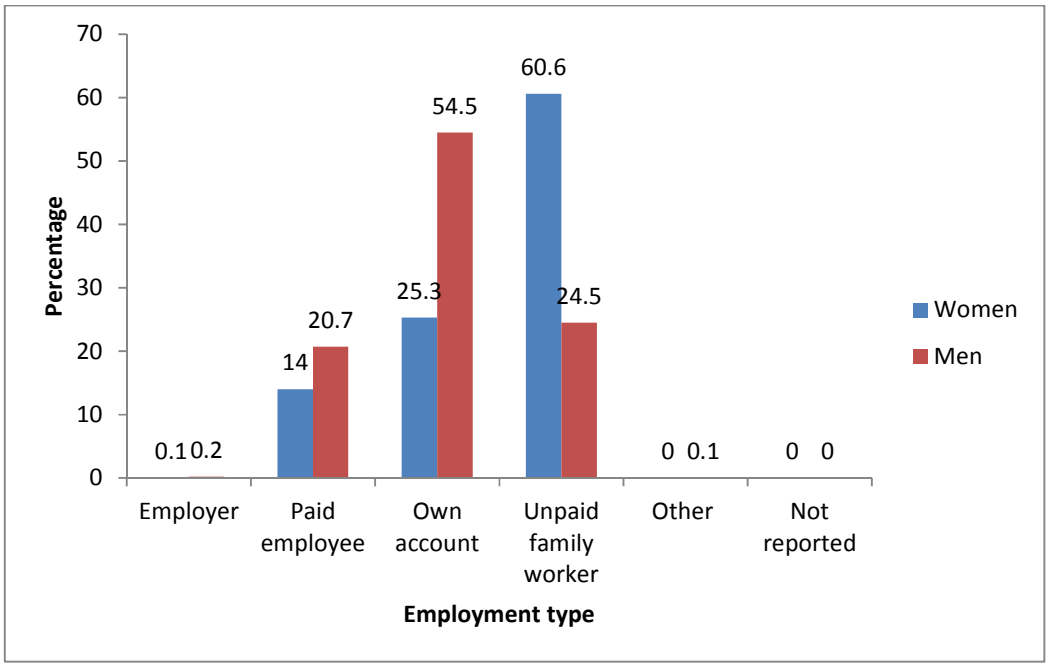
> "Like the era of my parents it was easier. Why? Because then people were equal and they didn't really see 'high up' [riches/wealthy lifestyle]. We had enough, more than others, enough. Seven or 8 siblings and all studied. If it was now, they see others and just get jealous of them. But before, no, easy easy just go as normal '*taam g'low toah'* follow the parents' advice." (female, 50s, tour guide, urban site)

Whilst there is some use of rose-tinted glasses when reflecting on the pre-Khmer Rouge Cambodia, the rise in consumerism over the last 20 years has created pressures and inequalities that previous generations had not known to the same degree. Women have also entered the work force in new ways and greater numbers.

In Cambodia in particular, and South East Asia in general, women's economic role has long been noted (Atkinson & Errington 1990) both in terms of productive household

work and earned income. This is true in both rural and urban households. Women's labour force participation in 2008 was 76% (men's 80.8%) (NIS *et al.* 2010 using 2008 census data). In 2008, 72.1% of employed people aged over 15 worked in the primary sector (agriculture, fisheries and forestry) and of working women 75% were in the primary sector compared to only 68.7% of working men. In total, there were more women working in the primary sector than men (NIS *et al.* 2010; UNDP 2010). These figures seem to suggest equality. However, much of women's labour is unpaid on family farms and traditional gender segregation of roles persists (NIS *et al.* 2010; LICARDO 2004; also I observed this in the rural field sites). Sixty one per cent of women (over age 15) in the labour force were unpaid family workers (NIS *et al.* 2010), that is "a person who helps in the running of an economic enterprise operated by a member of his or her family without payment of wages or salary" (NIS 2007: 41). A further 25.3% were 'own account workers' not employed by or employing anyone – a majority of these work in vulnerable jobs in the informal sector; that is, lacking job security, benefits, and representation, and with poor pay and conditions (NIS *et al.* 2010). Only 14.0% were employed in waged work. Men were more likely to be in paid employment or own account works than women, and less likely to be in unpaid family work (NIS *et al.* 2010).

Figure 4: Employment by status and gender amongst aged 15+ in 2008



Source: NIS, Cambodian Census 2008 data (after NIS *et al.* Table 18: 72)

In my rural field site, husbands and wives generally work on the rice farm, this is the back bone of subsistence families - every household needs rice. Men, I was told, take care of the physically harder work, 'the heavy work', such as ploughing, operating machinery, digging irrigation barriers and channels, and managing livestock while women do 'lighter' farming tasks such as taking care of seeds and harvested rice, and weeding. Although from my experience from participant observation, women were the majority of participants in the physically demanding work of transplanting and harvesting of rice, people considered this 'light' because it did not involve heavy lifting. The tradition of *joel die* (entering hands) involves the exchange of labour within a social network. In the transplanting and harvesting seasons, people work in large groups and do the task of transplanting or harvesting one family's fields at one time – perhaps taking a few days if they have many fields. So friends, family and neighbours in one's social network will be called upon to 'enter hands': for every day that a person works for a family, that family will owe the worker's family a day of work in return.

As some families' incomes have increased since the 1990s, often due to a family member taking paid employment in nearby urban Siem Reap, some families have become richer. In many cases they choose not to toil in the fields, and using their extra income to pay someone to work for them, thus negating the need to owe anyone a day's work. Under the traditional system, having a large family is beneficial. A family of twelve members working for 1 day can do the same as a family of 4 would do in 3 days. Some of my poorest informants explained this logic to me as the reason they wanted a large family. However, in the second system, where some land owners are buying labour, the system seen in villages around Siem Reap, the vast majority of people believed (as they could witness) the economic advantage to lie with the smaller families – the ones who had sent their children to school and now had salaried jobs. Furthermore, they saw this education route to social mobility as something that was unaffordable if a family had many children.

In urban households, many working women saw themselves as too busy to afford the time for having and raising many children. A gendered division of household labour means that women tend to be solely responsible for cleaning, shopping, cooking, washing clothes, and caring for children and elderly relatives, as well as any paid work they have outside the home. Men commented that it was too feminine if they even pick up a broom and sweep – it would be un-masculine. Because of the lack of refrigeration in most households (and a desire for fresh ingredients among those with fridges), urban women travel to a market almost every day to buy ingredients for cooking. Such activities take up a considerable amount of time. For middle-class women some of this burden is reduced by employing young female live-in maids from rural areas around Siem Reap. According to informants, these (Cambodian) migrant workers are generally paid very little, often it is the girls' parents that are paid, and they are on duty at all times, except perhaps a yearly visit home for a few days or to help in the rice transplanting season. The working conditions will depend solely on the benevolence of their employer. Because of their poverty and lack of opportunities, their parents are willing to send them into these jobs in return for little more than food and board.

In extended family households grandparents or other siblings may take on child care and domestic work, or if they are wealthy they will likely have servants too, but in a nuclear family household if the mother goes out to work in a formal paid job (and income allows it) a maid would be seen as essential. This finding mirrors Yeoh *et al.*'s (1999) findings from Singapore where domestic work and care work, traditionally undertaken by the extended family, had been delegated to foreign domestic workers, who were seen as a necessity not a luxury, allowing women to go out to work and have their motherly and wifely duties taken care of. Yeoh and Huang (2010:37) point to an emergence of a "crisis of care" as rigid gender norms persist alongside changes of women entering the labour force. A crisis solved by the live-in maid.

The strict gendered division of household labour applies in Cambodia and creates a similar context to Singapore. The vast inequalities in wealth between some rural and urban Khmers, and Singaporeans and other Southeast Asians allows this to happen and is creating an underclass of invisible female workers who, because of their poverty and lack of education are trapped, usually escaping only through marriage. The wealthier parents, rather than thinking they can afford more children, as the maid is caring for them, are more inclined to think there is no limit to how expensive a child can be: what is deemed 'necessary' for a child in a wealthy urban Siem Reap family will differ vastly from a rural family. Wealthy parents in urban Siem Reap consider the expenses of, for example, private schooling, extra-curricular activities, higher education abroad and foreign holidays when they decide how many children they would like. So, in summary, even wealthy families are likely to see economic reasons as a prohibiting factor on the number of children they have.

As Cambodia changes from a traditional social system built around subsistence farming to a more urban, capitalist system embedded in the global economy, parallels can be drawn with Caldwell's 1982 theory of intergenerational wealth flows. He theorised that as development occurs, children change from being an economic benefit to an economic burden, and so motivation for high fertility changes to a desire for low fertility (Caldwell, 1982). In a 'traditional' system wealth flows from younger to elder family

members motivating high fertility, but when education and related employment becomes important for income, wealth must flow towards children to support them through schooling. Cambodia is in a transition, and the stages of this flux are uneven throughout the population: I observed both patterns of wealth flow in Siem Reap families, and even within the same families. It is usual for adult children who are earning to give gifts of money or items such as clothing and food to their parents, particularly at the regular religious festivals, or simply when visiting them. Friends of mine commented that they rarely visited their grandparents as it was so expensive, 'every time you go you have to buy them something!' Many young nuclear families in Siem Reap face a double burden of supporting their children to school leaving age of around 20 and beyond, whilst at the same time, supporting or subsidising their own parents and grandparents.

Another dimension to the 'costs' of children is the time and effort involved in raising them.

> "People in the older generation they take 12 children so that is why they cannot look after them all; they did not raise them well – some lived and some died. But we take a few children we have enough time to look after them."
>
> (female, 42 years, 3 children, urban site)

This quote from a female market trader highlights a recognition that there is a balance between having fewer children and being better able to care for them adequately, and the effect of this on child survival. Some informants acknowledged that people, or at least educated people considered to be *neak jeh dung* 'knowledgeable/educated people', now had knowledge of how to care for children successfully, that previous generations did not - such as better food, hygiene and medical care.

Beyond wanting fewer children in order to ensure their survival (infant mortality is discussed below), was the matter of how those children would be raised. The issue of different modes of raising children and the corresponding investment required was mentioned, particularly by urban and educated informants. They distinguished between '*jenyjum*' – raising children in the sense of supporting financially, nourishing and taking care of them– and '*orbrum*'- bringing up children by educating and enculturating them.

> "The educated '*neak dail jeh dung'* (the people that know) want few children because they are busy with their jobs. And they want to have the time to '*orb rum*' (bring up) their children as well. If [they have] a lot of children they won't have time. But the people who are free [have free time], like in the countryside, they have a lot of children because according to their understanding that when the child is young, they are the one to look after the child. They can '*jenyjum*' (raise) them. Just have them, raise them to live. But raise them like what? It's in difficult circumstances." (Female, 59 years, 1 child, urban site)

This quote from a tour guide and grandmother captures the perception and something I witnessed in practice: that the more educated parents invest more time and energy in a certain way of bringing up their children - teaching them after school, having conversations with them, showing them how to do things – a kind of effort to instruct and impart knowledge that some informants talked about as lacking in the parenting of the uneducated. I observed that in many different spheres as I tried to learn to cook Khmer food, to do gardening, to do rice farming, the norm is for people to let you watch them, rather than for them to instruct you. It will be down to your innate abilities how well you will pick it up – how '*poo gair'* you are (good at or skilled at something).

This theme of different types of mother to child interaction placing different demands on the mother has been gained in studies elsewhere. LeVine *et al.* (1991) conducted an observational study of child-rearing in Mexico and quantified the frequency of types of interaction between mother and child in two groups differing in education level. They found mothers with some education interacted with their children in a more 'instructing' style – facing the child and talking directly to them, and mothers with no education interacted with a more 'nurturing' style – holding and soothing. They found the former style of interaction to be more demanding and time-consuming for the mother, and thus suggested this would create a desire for lower fertility. The educated women had experienced the adult/teacher-child/student relationship in the classroom and thus it was possible for them to have this instructing style of parenting at home (LeVine *et al.* 1991).

This subsection has discussed what my informants considered to be the costs of children, and how these affected their desires for smaller or larger families. It has examined this in the context of work for urban and rural families in Siem Reap, including processes of changing patterns of work. Farming systems in rural areas are changing from one based more on 'entering hands' *joel die* to one more reliant on paid employment. I have discussed how the gendered division of labour at home means that maids from rural areas are perceived as crucial to wealthy urban women who work. I have also discussed how different perceptions of parental investment affect perceptions of the non-financial costs of children. I have considered how these different circumstances of employment and wealth and the attitudes of those with education create different motivations with regard to family size. I now move on to discuss the issue of power and large families, and the social benefits that some perceived as stemming from large kin networks.

Big families and power

Amongst older generations there were mixed views about whether a small or large family was preferable. Some recognized that a big sibling group could provide advantages beyond labour supply; there could be business links, but also a large family could provide protection. People would think twice about attempting to take advantage of someone if they knew that person had the weight of a large kin network to call upon. I was given the examples of land disputes, someone trying to shift the border of their rice field to encroach on their neighbour's land, or someone wanting to close a public footpath running through their land. Anyone wanting to attempt this kind of activity (or oppose it) would be less inclined if they risked upsetting a big vocal family. Older generations in Cambodia have lived through genocide and civil war, where social and familial bonds have kept them alive, not protection from the state. Family are also the people you fall back on in hard times, they may help you out in various ways: loans, childcare, food, medicine etc. If a health shock hits a family, unfortunately, the mutual aid bonds of the *joel die* system are of no use, they only work on an exchange basis – when someone is out of the work force (through illness) they are out of the mutual

exchange network. With no government welfare, the only options are sales of property (the typical form of 'savings'), money lenders and family. People also talked of the desire to be a member of a large sibling group for the camaraderie and love. Others talked about the splits and rivalries within adult sibling groups.

In terms of securing paid employment a person's social network, mainly kin, are crucial. Having a *ksair* (line, string, or rope) is considered important if not essential in obtaining a job. It was repeatedly said to me that without a *ksair* there was no hope of gaining a good job. Numerous examples were cited: how the experienced deputy head of a school had been surpassed as head-teacher by the young son of an education department administrator; how it wasn't worth applying for the jobs advertised outside hotels as everyone knew the job would go to relatives or friends of those already employed. And many informants had secured their own jobs through these kinds of connections, including people who had migrated to Siem Reap from other provinces. These patronage networks have been cited in the Khmer literature as a key feature of Cambodian social organisation (Chandler 1983; Derks 2008). Whilst informants recognised that the benefits that could be gained from one's *ksair* depend on the power of those within it, they also saw the number of people in one's *ksair* as important. A larger network would spread wider and deeper into more areas of life (and sectors of employment) thus creating more potential for opportunities. Brickell (2007) and Derks (2008) both stated the importance of *ksair* for finding employment. In both field sites it was very common for adolescents to live with relatives (other than parents) in order to attend a better school, or gain training or employment not available in their natal home. This subsection has covered the issue of kin as an important source of social protection and as a source of securing opportunities, and how these issues related to desires for larger families. I now move on to the theme of lineage continuation.

Lineage continuation

Informants reported a desire to have children in order to carry on their lineage, whether this was through daughters or sons. No informants expressed a desire to have no children, and people found it strange that anyone might want to have no children. Older women often asked me: 'Aren't you afraid you'll cut your line?' curious about why I had been married over 2 years and had no children. Rural informants in particular (both older and younger) raised the issue of 'ending their lineage' as a concern to them. They used the phrases *daik booich* (cut the lineage) and *snong dtrorgoal* (to represent the family line). I will now briefly introduce the system of kinship in Cambodia in order to contextualise the meaning of this concern with 'cutting the lineage'.

The descent system in Cambodia is one of bilateral cognatic kinship, in other words kinship is ego-focused and branching from both the maternal and paternal side. All cousins (first, second and beyond, if they are known) are addressed in the first person by the kinship terms '*bong*' if elder and '*oun*' if younger. These kinship terms are also used between siblings (and between husband and wife after marrying) thus giving strong emphasis to the close nature of this bond between cousins by putting them on equal ranking with siblings and spouses. In contexts where a distinction is made between cousins and siblings the phrases used are *'bong p'oun bongert'* (birth siblings) and '*bong p'oun jee doun mooay*' (siblings of one grandmother).

The kin group descending from '7 generations of ancestors' are recognized as a theoretical concept encompassing all who can be considered kin. From ego to parents is 1 level, ego to grandparents is 2 levels and this is continued until the 7th level, then all descendants of that ancestor 7 levels back are included as kindred. In practice such a large kin group is never kept track of in its entirety. More likely the descendants of great grandparents will be acknowledged and known in person. The nature of the relationship with kin is down to the individual, affected by personalities and proximity. Beyond first cousins there is a tendency for it to be rather haphazard as to who is kept track of and recognised as kin, with some families keeping close ties with more distant kin and others

not. Cambodia has an uxorilocal residence pattern, that is, newly married couples tend to move in with the family of the bride, and grooms leave their natal village. This means that in rural Cambodia many members of a village are likely to be related through their maternal side. In my rural field site the uxorilocal residence pattern was said to be the norm but there were also many instances where the opposite happened and the bride moved to the groom's natal village or home. Where this was the case there tended to be a reason pulling the couple to the groom's natal village, for example, the groom had land or employment in that location.

The concept of '7 generations of ancestors' is appropriated in many rituals I witnessed. The spirits of those 7 levels of ancestors are called upon in life cycle rituals to seek blessing and protection. For example in the ceremony for a new born baby, the 7 generations of ancestors are called upon to be present and are offered food and drink. They are called upon to be present in order to introduce the baby to them and to give blessing and protection to the child. From an emic perspective, dead is not dead; a person's body dies but their '*pralung*' (soul or vital essence) continue to exist. There is a culturally specific importance to the need to have descendants that stems from the Buddhist belief in rebirth. This, together with the belief that when a person dies their descendants can earn merit for them to improve their chances of a better rebirth, places a particular salience on the fear of cutting the lineage. People believe they need their lineage to continue on after they have died otherwise there will be no one to sacrifice offerings to them when they have left 'this life'. By extension, if a person has no descendants, all their ancestors are potentially affected by the reduced number of descendants able to earn merit for them too. This subsection has looked at the way Khmer kinship and Buddhist beliefs regarding earning merit and rebirth create a pressure to have children in order to continue a lineage. The following subsection moves on to the issue of children as care providers in old age.

Old age dependency

Another theme that occurred in discussions on family size was the issue of children caring for and supporting their parents in old age. An idea that I found to be prevalent in fieldwork, among young and old informants, was the idea that it is good to have children whilst still young, in order that the children will be old enough to care for the parents when the parents become old. Also common was the idea that having many children can spread the burden of care and financial support, and insure against the possibility of some children being unable or unwilling to provide help.

> "[When they are old] the child supports them. They say if one child, for example, like me, one child, if that child is not '*srool*' (easy, good), you don't know where to find more help, they think like that. That is one way. They think 2 or 3 or 4 children, if you cannot depend on one, you can go to another or another. If you have 5 or 6 you will have a good one [one who will be willing and able to help them]. Why? Because in Cambodia it's not like in your UK, where the state will pay attention to you and look after you, doctors etc. Here, no. The family looks after the family. The mother looks after the children, the children look after the mother".
>
> (Female, 60s, tour guide, urban site)

Towards the end of my fieldwork, I was interviewing a traditional birth attendant when someone came over to report that an old man from the village had just committed suicide. The story was relayed that he had no children and had been sick for a long time. He never recovered so had hanged himself. His wife had children from a previous marriage, and her grandchildren had looked after him, cooked for him and given him medicine. But he did not want to burden them, especially since they were not his own. Whether or not this was the reason, this was how the narrative was given by his neighbours.

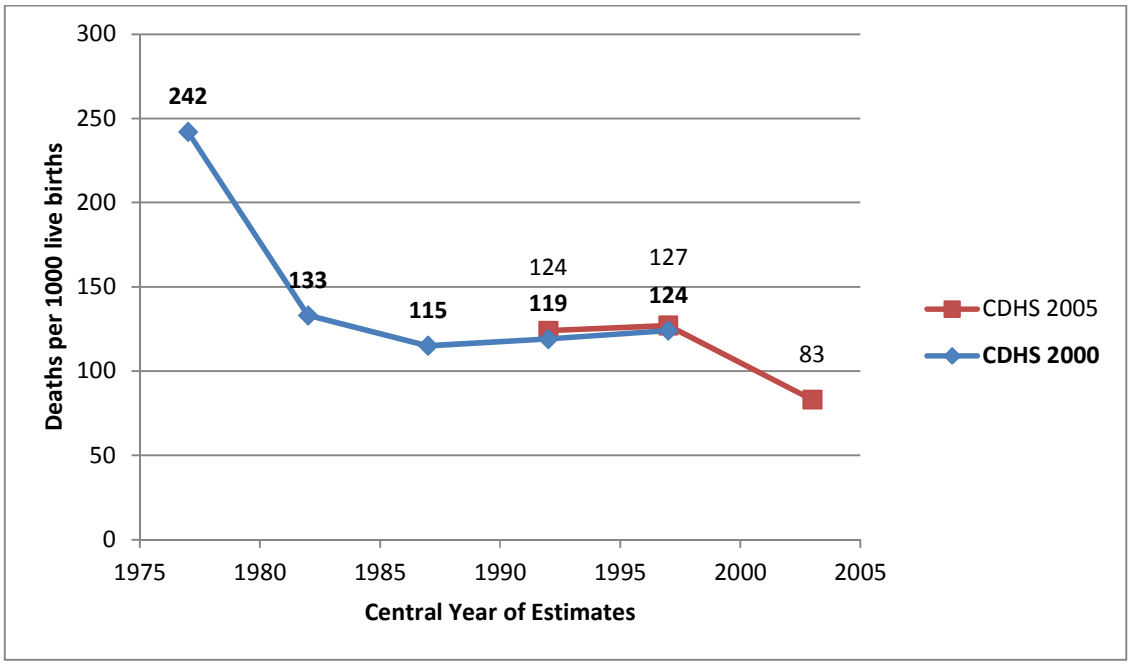
> "For people without children it is really difficult when you are old, even if you have property, enough property to live off. When they become old, 80 or something, they can't walk, and if they take their neighbours to come and live with them, it's like…I don't know. It's not like your own children you gave birth to. Old people are bad tempered. For example, if someone came to live with me, she is not my child, then when I die I will leave her my belongings, my house whatever. Someone else is not close like mother and child. Our own children, however we swear at them, scold them, hit them….they don't easily leave their mother, and the mother is not easy to leave them." (Female, 59, teacher, urban site)

In the Cambodian context, where only a small minority of people have pensions, it is clear that relying on children for support in old age is a factor influencing childbearing decisions.

Child mortality

Related to this idea of having children for your lineage, is the need to have enough children in case of child deaths. Rural families particularly said that having only 2 children would be too great a risk as they may die while young. (Of course, it is also possible that children may die once the parents are past reproductive age.) The legacies of the Khmer Rouge era (1975-79) still have massive echoes in the present day. In my field sites most mothers over 45 that I met had lost at least one child. The infant mortality rate was something that everyone had experienced in some way and continues to be an ever present shadow: every respondent knew someone whose child had died. In the 2005 CDHS under-5 mortality was 83 deaths per 1,000 live births for the preceding 5 year period.

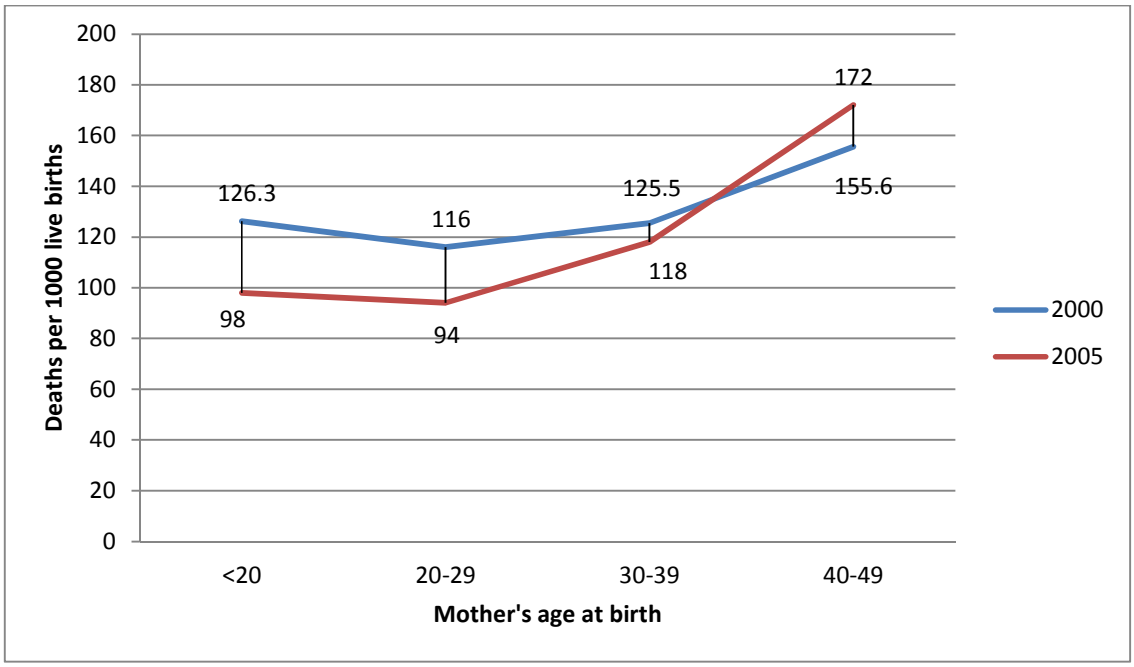
Figure 5: Under-5 mortality trends in Cambodia 1975-2005



Source: CDHS 2000 and 2005 (after NIPH *et al.* 2006: 125, Figure 11.4)

Using the reproductive histories data in the CDHS 2000, the under-5 mortality was estimated at 242 deaths per 1000 live births in the period 1975-1979. That is to say, almost a quarter of babies born in the Khmer Rouge years died, and even this extremely high rate is an under-estimation due to the truncation effect: the oldest cohort questioned aged 45-49 would have been only 25-29 years during this period – and thus the figure is missing the information of the cohorts who were older than 30 years in 1975-79 (CDHS 2000). As figure 6 shows, women over 30 have higher levels of under-5 mortality amongst their children. This huge proportion of under-5s dying in the Khmer Rouge years, happened to women who are the grandmother generation now. So their children (who have missing siblings, some they remember) are now reproductive aged and having children. Although under-5 mortality has greatly reduced between the period 1975-79 and now, it remains at a high level.

Figure 6: Under-5 mortality by mother's age at birth in 2000 and 2005



Source: CDHS 2000 (after NIS & ORC Macro 2001: 122, Figure 11.2); CDHS 2005 (after NIPH *et al.* 2006: 127, Table 11.3)

Whilst on the whole under-5 mortality has decreased, at the upper age group it has increased. This is probably related to who those women are in the 40-49 year old group and how this has changed in the 5 years between the surveys. The trend has been for people to limit the number of births but still have children young, so there are fewer births at older ages. Most likely, as it has becomes less of the norm to have babies in older age groups, this cohort of 40-49 year old women in 2005 are a select group of women, probably poorer and more rural than average. Hence the higher rate of under-5 mortality. This subsection concentrated on infant and child mortality which was extremely high during the Khmer Rouge era. Whilst it has declined since this period, it continues to be substantial. Parents do not take for granted that their children will live to adulthood, particularly rural and poorer parents. Also not all child deaths happen at young ages, they may occur when parents are beyond reproductive age. It is very hard to assess the extent to which the legacies of the Khmer Rouge impact on fertility decisions, but those deaths are present in people's consciousness and that sense of loss is passed on

to the next generation. The following subsection will discuss the final theme regarding factors that influence the number of children people have.

The need to replenish Khmers

Related to the high child mortality in Cambodia is a recognition amongst informants that a large proportion of the Cambodian population died during the Khmer Rouge period. Amongst a few older Khmers that I spoke to (over age 60) there seemed to be a feeling that Cambodians *should* be having many children, almost as a patriotic duty. This duty was reported to be particularly necessary for (or perhaps only for) wealthier Khmers 'who had the means to support many children'. This pronatalism has historical reasons. In particular, it relates to the regime of the Khmer Rouge from 1975 to 1979 when nearly quarter of the population lost their lives (between 1.5 and 2 million people).

> "The Khmer were nearly all 'consumed', now we should try hard to have a lot of children, to increase our numbers" (Female, 60s, tour guide, urban site)

This quote is from my landlady, after knowing I was researching contraception. Informants talked about their fear that the Khmer may yet die out altogether or the country may be taken over by either Thailand or Vietnam, who were seen to be historically and continually a threat to the borders and sovereignty of Cambodia. The exact population numbers may not be known by many, but it was known amongst respondents that the population of Cambodia is small compared to their much more populous neighbours. The most recent population censuses put Cambodia's population at 13,395,682 in 2008, Thailand's at 60,916,441 in 2000 and Vietnam's at 85,846,997 in 2009 (UN 2011). There are on-going border disputes on both the Thai and Vietnamese borders (the Thai dispute leading to recent fighting and a Hague tribunal). Khmers that I spoke to place this current state of affairs into a context of Khmer history which has seen the golden era of the Khmer Empire reduced in size from covering most of mainland Southeast Asia in the 12th Century to its present size today. I found this kind of talk to be a common subject matter but in terms of talking about one's *own* fertility, people raised more practical concerns; the economic costs of children, the daily struggle to earn a

living and whether they had 'the means to raise them' took precedence (discussed above). Chapters 3 and 5 discuss pronatalist sentiment amongst policy makers.

Part 1 of this chapter has addressed several themes that come to bear upon people's decisions regarding how many children they would like to have. The themes were identified during fieldwork and subsequent analysis of fieldwork data. Part 1 began by discussing the concept of the ideal family size. I then moved on to examining the factors that emerged as important to people when reflecting on the number of children they would like and consider desirable. These factors were: the costs of children, and how this varies depending on socio economic circumstances and differing attitudes to parental investment; power and social networks that come with large families; lineage continuation; old age dependency; child mortality; and the idea of needing to 'replenish' Khmers given the huge loss of life during the Khmer Rouge period.

Part 2: The gender of children

Part 1 has discussed different factors which affect people's attitudes toward the number of children they want. Part 2 expands on this by looking how gender norms in Cambodia affect fertility decision-making, especially the desire for children of a particular gender. This section of the chapter is structured around 3 key areas: the practicality of daughters versus the prestige of sons in Khmer society; the bride-price – money given by the groom's family to the bride's family on marriage; and broader issues of gender related to reputation and hierarchy.

The practicality of daughters and the prestige of sons

In the context of falling fertility rates in Asia, son preference has become an increasing problem in South, East and Central Asia (Das Gupta & Bhat 1997; Filmer *et al.* 2008; Yi *et al.* 1993), and is visible to a lesser extent in Southeast Asia. Son preference can manifest itself in various ways: sex selective abortions creating skewed sex ratios at

birth; excess mortality of girls; less investment in girls, resulting in poorer nutrition or lower schooling (Filmer *et al.* 2008). Filmer *et al.* (2008) studied son preference in terms of the propensity for continuing childbearing given the gender of existing children in a family and found slight son preference in the East Asia Pacific Region (which includes Southeast Asia). Wongboonsin & Ruffolo's (1995) literature review on sex preference in Southeast Asia found that 2 patterns predominate in the region. Vietnam, Singapore and Malaysia, cultural settings influenced by Confucianism, show a bias towards sons, whereas Thailand, Philippines and Indonesia show an 'egalitarian' preference for a boy and a girl (Wongboonsin & Ruffolo 1995). Qualitative findings from Vietnam have also discussed the son preference present in this Confucian culture (Bélanger 2002).

In a comparative study of attitudes on gender preference from DHS data, Fuse (2010) found that Cambodian women expressed a preference for daughters. The majority (53.4%) stated egalitarian preference, 26.8% preferred daughters and 14.5% preferred sons (Fuse 2010). My qualitative findings also place Cambodia in the group of countries that show an 'egalitarian' preference: informants repeatedly remarked that they wanted both sons and daughters (or at least one son and at least one daughter). Malee is a typical case: she has four children, 3 boys and the youngest a girl. She lives in Rumduol Village and runs a small general store as well as a farm.

> "I tried to have just 2, a girl and a boy. Then I would've stopped. When I had one girl I would've stopped. But I got 3 boys, if the fourth had been a boy I would've stopped there. Yes, I've stopped now. I already have a lot of kids. I thought/decided I would attempt to have 2 but…all boys…" (Female, 39 years, 4 children, rural site)

So she kept having more until she had a girl, because having a daughter was so valuable to her. I asked her why daughters were so important in Khmer families:

> "I wanted a girl because she can look after the house, cook food, do whatever around the house, that's why [I] want a girl. When parents are sick, and old, the son can't do anything. When they've got a wife, they separate to live with their wife. They go far away. My children will be gone. But girls can stay here, can stay with their parents."
>
> (Female, 39 years, 4 children, rural site)

Theavy, my sister-in-law (and research assistant) added:

> "They want them to help them, cooking…The boy, after they get married, he just leaves them to live with his wife's family. But they have the youngest daughter stay ('be stationed /standby') at home." (Female, 20s, no children)

It is widely accepted that it is the youngest daughter's job to stay living in her natal home, even with her own husband and children, and take care of her elderly parents. Like the uxorilocal marriage 'rule' (whereby husbands move to their wives natal village) this is not hard and fast, but rather a default scenario. The youngest daughter's older siblings will likely move out when or after they marry, and in reward for her dutiful care the youngest daughter will inherit the family home and plot of land. Other property, such as rice fields, tend to be divided in theory as children reach adulthood, and then in practice given over once a child marries – so that the new couple can begin the process of running a separate household and small-holding. This role for the youngest daughter is seen as both a duty and a privilege. Taking on the care of dependants can be a burden and some people pointed out that this can be a factor that makes it difficult for youngest daughters to find a husband. On the other hand, it is also perceived as a privilege as she is likely to inherit a house. Before old age care becomes an issue, daughters tend to be valuable in their help with daily chores, particularly in helping their mother, in line with the gendered division of labour in a Khmer home.

Whilst daughters are perceived to be essential to provide practical help in *this life*, sons are also desired for their prestige and the religious benefits they can confer to their parents for their *next life*, in particular, to their mothers. In Theravada Buddhism men are said to be of higher spiritual potency than women. Only men can become monks, though a woman can be reborn as a man or have her son become a monk. When a woman's son becomes a monk he earns merit for her. Of all the good deeds a woman can do in her life to earn merit, none will confer as much merit to her as if her son becomes a monk. Sons are also valued for their practical benefits in this life, due to the gendered division of labour on the farm, fathers need the help of their sons for certain tasks. Boys are often

responsible for taking care of live-stock, and collecting grass for them to eat. A further issue related to the advantages and disadvantages of sons and daughters is the bride-price, the exchange of money between two families when their son and daughter marry.

Bride-price

Before a marriage takes place a price will be negotiated for the groom's parents to pay to the bride's parents. Often this is given to the newly married couple for them to set up home. Financially, sons can be a burden to their parents, as one informant pointed out:

> "I am the youngest brother of seven, so I don't think I can ever afford to get married. My parents cannot help me and I am not rich. They have paid for my older brothers to marry but they cannot afford it for me. And now the bride-price - *tlai tuk doh* (literally 'breast milk price') – keeps increasing." (Male, 20s, urban site)

Depending on the wealth of the family and the popularity of their daughter the amount varies considerably. For a wealthy family in Siem Reap this would be from upwards of US$10,000. In a neighbouring village to rural Rumduol, the recent wedding of the daughter of a wealthy family had achieved a record US$5000. These prices exclude engagement rings, wedding gifts, and the cost of the wedding. People often joked about the bride-price like real-estate, how you could marry a woman from the poorest provinces for a few hundred dollars, but not 'us Siem Reap girls'. Whereas the dowry system in India exacerbates the problem of son preference, as daughters can be seen as a financial burden the bride-price has its own inherent problems. Paying a price for a woman can be seen as a form of gender inequality. Symbolically it sends a message that women are valuable, but at the same time, it can be seen as valuing women as commodities. It can also be seen to establish the marriage on unequal terms, as one party has paid money which the other party has received.

Gender and hierarchy in Khmer society

At the heart of Khmer society, is the fundamental belief that we are not all equal. That there is a hierarchy, represented in people's wealth and health, in the level of comfort and privilege they enjoy or suffer, and stemming from the merit built up in previous incarnations. This hierarchy is therefore a moral hierarchy – a person's status in this life is what they deserve. It is the position they earned by accumulating merit in their previous lives. This hierarchy is very much made present and cannot be ignored because it is embedded in speech. When a person is addressed in the first person, a pronoun must be selected that places the other and the self in relative positions in the hierarchy. Numerous kinship terms are often used as pronouns, particularly the terms for siblings. There is no simple translation for the English 'you' which expresses the egalitarian sentiment implicitly. Is this person above or below you? How far above or below? How intimate or distant is the relationship? A judgment is made and expressed, based on such things as age, sex, education, occupation, political position, aristocracy, and piety. More importance is placed on age than gender in determining someone's social standing. For example, Khmer distinguishes siblings by age using the terms *bong* for older sibling and *p'oun* for younger siblings, whereas English separates male and female siblings. It is not simply a case of saying men are higher status than women, as a wealthy female gold seller would be seen as higher than a poor male farmer, but all other things being equal, the man would be seen as higher ranking.

Khmer Buddhism (Theravada) is a predominant feature of social life. Only men in Khmer Buddhism can become monks, meaning this highest position in Khmer society - that of being a Buddhist monk - is only available to men. Debates in the literature on Buddhism in Southeast Asia have highlighted the contingent and contradictory nature of gender conceptions in the region, with women and men said to be at once "relatively equal" and yet men "more highly valued than women" (Ledgerwood 1994: 123 in considering the arguments of Kirsh (1982, 1984) and Keyes (1984) who discuss concepts of female gender in Thai Buddhism).

This hierarchy was something I struggled with throughout the fieldwork, as it went against my own egalitarian beliefs. On meeting a person I found it hard to judge instantly their relationship to me (or at least hard to admit this and express it! – as it is the nature of Englishness that we are highly class-aware but pretend not to notice it), but it was necessary to do so in order to speak to them. At times family, friends and informants found this trait in me hard to deal with, as I tried to be a good anthropologist and speak to people from all walks of life. On one occasion I accompanied one respectable young woman to the pagoda, and went off chatting to various people much to her embarrassment. 'Oh my goodness, she will talk to *anyone*!' she said to her husband when we got back to her home. It is not really socially acceptable for people of different ranks to have much to do with each other socially (except kin). My husband explained 'It is all about reputation here.' It is also about patronage and patron-client networks, and creating ties that bind people to obligations. Numerous times my husband criticised me for deepening friendships with people considerably less well off than myself 'they will ask you to help them! They will expect you to give them money. And then they will be angry if you don't.' At times he was right, I had created my own *ksair*, through which people called in favours when needed. I lost count of the number of times I was requested to ask my parents to sponsor a festival at a pagoda. I was judged to be wealthy, or at least from a wealthy family. And that is what wealthy families do, spread their wealth in sponsoring religious festivals and lending money in hard times.

Part 2 of this chapter examined childbearing decision-making with regard to the gender of children. Three themes structured this section: the roles of daughters and sons within Khmer families; marriage payments made to a bride's family; and the place of gender within the broader hierarchy of Khmer social structure.

Part 3: The timing of childbearing

Parts 1 and 2 have covered decision-making regarding the number of children and the gender of children. Part 3 deals with decision-making regarding when to have children.

It begins by looking at the pattern of childbearing common in Cambodia, and then at informants' explanations as to why this pattern is seen. These explanations relate to the following topics: energy, household economics, childcare, the concept of youth, and the idea of 'having children to use'. How these aspects change at different life-stages will also be discussed. Following this, I look at the issue of some pregnancies not being a pro-active choice. The final section of Part 3 covers informants' ideas about when would be an undesirable time to have a child, such as when not married or when 'too old'.

Patterns of childbearing timing in Cambodia

There is a common perception among Cambodians that people should, and do, have their first child soon after marriage, within the first or second year. This pattern is reflected in data from the CDHS 2005 which shows that median age at marriage is 20 (NIPH *et al.* 2006: 99) and median age at first birth is 22 (NIPH *et al.* 2006: 70). The average birth interval is 36.8 months (for non-first births) (NIPH *et al.* 2006: 68). Median age at first marriage (amongst women aged 25-45 in 2005), 20 in rural areas and 20.7 for urban areas, has fluctuated only slightly between the older and younger cohorts, and even secondary schooling only adds 1 year (NIPH *et al.* 2006: 69-70). Men are slightly older when they marry, 22 years of age, and show more difference between urban/rural and educational level. Urban men marry on average at 23.9 years and rural men at 21.7 years. A quarter of women are married before they are 18 years old, whereas only 1 in 10 men are. Median age at first birth is 22 years for women (NIPH *et al.* 2006: 70). Women start having children early in their reproductive lives and have their children reasonably close together.

Explaining the pattern

Why are Cambodian women having their children at this early stage of their reproductive lives? The following subsections discuss in turn various explanations for

the pattern in the timing of childbirths. The explanations are: energy; household economics and childcare; the concept of youth; and the idea of having children to use.

Energy

Mom and Veasna are a young couple who run two small haberdasheries in a busy market in Siem Reap. Veasna is 26 and his wife is 21, they have two sons aged two and three. His wife became pregnant within their first year of marriage, as is common in Cambodia.

> "Around 70 or 80% take a child as soon as they are married. After I was married, I lived with my mother and father so I didn't need to go out and earn money. I thought I should have a child soon after marrying so that they will grow up and it will be easier for us to earn money. When the children are bigger you have more free time to earn a living. And now the grandparents can help look after the children. This is my idea for my family." (Male, 26 years, 2 children, urban site)

Veasna describes a common reproductive pattern, whereby newly married couples want to become pregnant as soon as possible after marriage. This was often explained as being a suitable time in one's life to have children. Firstly, giving birth to children and raising them is seen as exhausting and requiring a lot of energy '*gomlang*'. This is perceived to be much easier if you are younger as you have more energy when you are young. People, especially women, frequently advised me to have children as soon as possible and not wait until I was 'too old' (i.e. infertile) but also because it would be harder to take care of young children the older I got, due to the 'fact' that everyone's energy depletes as they age. In almost all my interviews this idea of making the most of your youthful energy was emphasised as the primary reason to have children young.

Household economics

Secondly, the time immediately following a marriage is a stage in life where Cambodian newlyweds often live with one set of parents. The marital residence pattern is uxorilocal (as discussed above). However this is not strictly adhered to and if there is a good reason

for a couple to live with the groom's family they will; if the groom has rice fields he works on which are near his parent's home, a large area of land to build a house on, or the couple are entering into the groom's family business. After marrying Veasna, Mom had moved into his parents' house above their haberdashery at the back of the market. Five years later they were still living there and had set up two of their own branches of the haberdashery inside the market, but were still saving up to buy a place of their own. They did not want any more children and Mom was worried she might be pregnant again as she felt as if she was suffering from morning sickness – '*jang goan'*- literally, 'to be defeated by your child'. Because a newly married couple lives with one set of parents, there is less financial pressure to support a household. The couple has a place to live and may contribute to bills and expenses, they may even cook and eat separately from their parents' family, but financial pressures are less immediate than if maintaining a separate household.

While Cambodians are young their parents themselves are probably still working and earning (in the CDHS 2005 the 45-49 year old cohort had their first birth at 22, so their eldest child would be 23 to 28 years), whereas by the time a person is in their late 20s or early 30s their parents may be their dependants. In Cambodia, old age care is seen as the responsibility of one's children, particularly daughters. Janrea is a typical example of a city girl who had children straight after marriage. She had just finished schooling and was yet to embark on any career, so there was no career to take a break from. She had seen how other women managed children and then got on with life, starting a business etc. She is Chinese-Khmer and describes herself as coming from a business family. After marriage, she and her husband set up a business selling mobile phones in a small shop, using the money they had made from the wedding party. She had wanted children young while she still had lots of energy. Coming from a respectable upper-middle class family, she was a model dutiful daughter. At this time in her life she was focused on her responsibilities. She had pleased her parents by marrying a man that they approved of, and that she loved. Now she was about to embark on starting a family and a business.

Child care

The third line in this explanation for the childbearing pattern regarding *timing*, relates to the issue of child care. This follows on from the common residence pattern of newly married couples (i.e. living with one set of parents): because of this residence pattern, parents or parents-in-law are often relied on as a convenient and free source of child care, as are other siblings still living at home.

Youth

The fourth theme that offers an explanation for the timing of childbearing in Cambodia, revolves around what youth means in this context. The idea of being young in Cambodia is very different from in the West. 'You're only young once' does not translate well. Youth is not carefree and without responsibility; particularly so for young women. They will be expected to take over time-consuming household chores from their mother, and probably the family business (farming or informal trade etc.). Informants described marriage as a primary way for children to 'pay back their bad deeds (*baab*) to their parents', and there is pressure to marry early and on partner selection. From a Cambodian perspective, parents have sacrificed much to bring up their children as best they could, and the ceremony of marriage, a great honour for parents, is perceived to be a chance for their children to pay them back. Although things are changing for urban women (particularly those who have migrated from rural areas and are not living with their family), socialising is fairly limited to certain contexts such as pagoda festivals where they may be accompanied by brothers. Great importance is placed on the reputation of unmarried women, anything that damaged their reputation would damage their marriage prospects and the entire family would lose social standing.

Many women rarely drink alcohol socially in their youth as it is not socially acceptable and is tied to images of immorality. (Brickell's (2008) paper discusses Cambodian men's alcohol use and its association with gender-based violence). Women's first taste of alcohol often comes in the post-partum period after their first child is born when they

drink traditional medicine *tnam khme*r (‘khmer medicine’) - medicinal tree roots steeped in rice wine. From this time on it becomes more acceptable to drink socially. Middle-class women often excused their (limited) drinking to me by emphasising that they had never tried it until drinking *tnam khmer* (something that almost all elders would approve of as the right thing to do post-partum). For many well-to-do women it remains rather unrefined to drink in public. Alcohol consumption is just one example of the increasing freedoms to socialise and choose what you do with your time that comes with age. The time after having had children and setting up a separate marital household is in many ways the time when people are most independent. Old age is a particularly social time for women. On the one hand, life tends to be dominated by pious observance of Buddhism, and there is strong pressure to conform in this respect. But freed from responsibilities for grown up children, older women have increasing amounts of time to spend with their fellow peers, sitting around chewing betel and smoking.

In their late teens and early 20s many Cambodians are fairly limited in their freedom (more so for women but for men too). There is great pressure from family and wider society to conform. Parents are concerned their teenage children may rebel and become ‘*steav*’. English speaking Khmers translated this word as gangster; however it seemed to me to be more of what an English person would call a teenager. Who are *steav*? “They are the ones like me who dye their hair”. “They like to dress really fashionably, and they don’t listen to their parents, they just like to go around with their friends.” They are adolescents rebelling to some degree against parental authority, whether it is about the length of their hair, the smartness of their clothes, or other aspects of their appearance and behaviour. Parents are afraid of their sons becoming involved in gangs, joining the fights that break out at festival discos, or becoming involved in drinking, gambling or drugs. They are afraid their daughters may become corrupted or led astray, and closely monitor who their friends are. People repeatedly told me that reputation is everything, and that a family’s reputation is only as good as the reputation of their daughters.

'Have children to use'

The fifth explanation for the early childbearing pattern was that parents 'have children to use'. This reason was commonly stated by informants for having children whilst young. The idea is that people should have children young so that the children grow up sooner and are able to help the parents with their work. This was stated in my interviews with rural women, but not urban women. *'Chap baan goan brer'* was a common phrase, translated as 'hurry to have children to use'. Even small children can be useful in reducing the burden of daily chores in a rural household. Tasks such as cooking dinner can be incredibly time-consuming in rural households. Ingredients are often growing in the garden and swimming in the pond or the rice field, so before preparation can begin they must be picked, dug-up or caught. Rice will have been harvested, threshed and stored, but the sacks of rice need to be picked through by hand to remove small stones. Water needs to be pumped from a well before it can be boiled for drinking. Firewood or charcoal needs to be collected and prepared for the stove. As soon as a child can walk, they will be asked to pass this and that, and when the child is a little older he or she can help pick ingredients from the garden and pump water. They will help look after younger siblings whilst the mother is busy with chores or even out to work in the rice fields. Older children help on the farm, particularly the very labour intensive, strenuous job of transplanting rice seedlings. The idea that people might have children to use reveals a specific concept of what childhood means in Cambodia and the nature of the parent child relationship.

Less acceptable pregnancies

This subsection turns attention to the social contexts that are seen as undesirable or inappropriate times in which to have children. The first situation is early in the reproductive life and the second is at the end of it.

Premarital childbearing

As in many other Asian countries premarital sex and childbearing in Cambodia is relatively rare: 99.8% of never married women reported never having had sex (CDHS 2005). Whilst this is figure is likely to underestimate the prevalence of premarital sex, as women would be less likely to admit to this stigmatised behaviour, my own findings support the DHS finding to the extent that premarital sex is practised by only a minority of women. Premarital sex is not socially sanctioned and virginity at marriage is still expected, and in many cases, it seems, achieved. A school teacher in Rumduol explained that if a pupil became pregnant she would be made to leave school (by the school). Even if she was found to have engaged in premarital sex she would also be made to leave. This was said to be to send a message that such behaviour was wrong and to prevent others from copying this behaviour. Such circumstances reportedly had never happened in Srolau, but in urban Siem Reap abortions amongst school girls were said to be increasing. Premarital sex, as a moral transgression, was said to anger ancestors who may then cause illness to a relative. A double standard exists, meaning that the importance placed on virginity for unmarried women is not equally expected of men.

Premarital sex and virginity in Cambodia is discussed in depth by Derks (2008), I do not go into detail here as the main focus of my research was on married men and women. It seems likely that sex before marriage may be increasing, particularly in urban areas, as mobility and migration away from parental supervision offer new opportunities for young women (Derks 2008; Tarr & Aggleton 1999; and Hoefinger's 2010 work on transactional sex). A further issue is what marriage means in Cambodia. The lengthy wedding ceremony consisting of a series of religious rituals, and a separate legal registering of a marriage are both costly. An alternative to this is to perform a smaller ceremony, a *saine* (offering ceremony to ancestors). Informants in my research who were living together after a *saine* referred to themselves as married (*gar haiee*). Interestingly, when a newly married wife becomes pregnant very quickly, people say that the baby probably chose the woman even before the wedding, then waited for the

wedding ceremony to be done before revealing itself. This could be seen as a socially convenient way of excusing premarital pregnancies that lead to a fast marriage.

When you are 'too old'

Amongst informants in urban Siem Reap there was some stigma surrounding childbearing at later reproductive ages. For women over 40 years old, who had already completed their childbearing and whose children were all out of infancy, it was said be a source of shame and embarrassment if they became pregnant. It was seen as not something they should have let happen and the kind of thing their husband would blame them for, and their neighbours would gossip about. This was something that, in this generation (women in their 40s), only the poor and uneducated or rural poor did, the kind of high parity women who 'had children according to nature'. This view only became clear to me when interviewing women about abortion. Although no one said this would be a big enough reason to terminate a pregnancy for them, the fact that it was raised by them in this context says something about how socially unacceptable late childbearing is (at least, after a big gap) for urban women and the stigma associated with it.

Postmarital expectations

There can be pressure to have children from the newlywed couple's parents, particularly if there are no other grandchildren yet. Couples explained how they had wanted to wait a few years and earn some money first. But the grandparents had wanted grandchildren so much, and because there were no other children in the family, they had decided to have one. There is a very obvious love of children in Khmer culture, with people wanting to enjoy being around children and no one is said to love a child more than its grandparents. It was never reflected upon as a strong pressure to prove fertility as has been reported in India (Jejeebhoy 1998), but more as a love of children and joy in being around children.

In Cambodia arranged marriages and romantically arranged marriages are not distinct scenarios, rather all marriages are somewhere on a continuum from parental decision-making where the bride and groom meet for the first time at the wedding ceremony to the bride and groom having total say in who they marry. Most marriages are somewhere in-between. The couple may have met independently or been introduced by a family member. The groom (or someone acting on his behalf) will generally have gone to the bride's parents to ask to marry their daughter, and discuss the bride-price. Traditionally, a groom worked for his future parents-in-law for a year or so, but now money is exchanged instead. To what extent young women actually exert their agency in this situation is difficult to know. Many women I knew said they had married their husband because their parents had told them to, and being good daughters they had obeyed them-whether or not it was something they wanted for reasons beyond pleasing their parents they did not say. It was in their interests to emphasise that their reason for doing so was to follow their parents' instructions. From an emic perspective, it makes them look better to put their parents' wishes before their own – that makes them a better person and of higher status within the Khmer moral hierarchy.

In Cambodia, high importance is placed on women's premarital virginity, and by extension, their ignorance of sexual matters. In comparison, chastity is not seen as such an important trait for unmarried men, who may visit prostitutes. This places the women in positions of less power when they do enter relationships, and makes the possibility of open discussion about sex and contraception with their new husband unlikely, as it would be damaging to her reputation to know too much about it. In this context, child bearing soon after marriage is not necessarily a pro-active choice, but rather the outcome of not taking any action to prevent pregnancy, either through a lack of awareness or lack of courage and empowerment (and shyness) to speak to their husband about contraception.

The process of choosing a marriage partner usually involves both extended families, as marriage is seen as the joining of two extended families, rather than two individuals. The reputation of the potential spouse is paramount and this is tied to his or her family.

How wealthy they are, jobs, education, back ground, anything negative about their character, will be looked into. When discussing this topic with informants they brought up a proverb about choosing children-in-law:

> Tver srai oay merl smou
> Tduk dak goan jau oay merl pau sondaan
>
> To do rice farming you must look at the weeds
> To arrange to a marriage of a child (or grandchild) you must look at the relatives
> (female, 25 years, urban site)

Marriages may be arranged because it is in the business interests of those families. People can be fairly open about trying to marry someone of a higher social standing to secure a better standard of living. One of my informants was a Chinese Khmer woman in her 30s. She had first met her husband on their wedding day. She had agreed to marry him following her parents' wishes. She explained why she had had a baby so soon after marrying:

> "I don't know. Because we were too young to marry, then we didn't know how to postpone a baby. Anyway, I have never thought about that, just thought that, we are already married, we should have a baby. We didn't have any experience so even if we knew some information we were too shy to talk to each other".
> (Female, 37 years, 2 children, urban site)

She had not thought about contraception, in part, because getting married was also about becoming a mother and starting a family. This is a common theme: that the act of getting married is about starting a family and having children. The two are seen to go hand-in-hand for most people. Therefore, if someone does not yet want to have children, they are unlikely to get married. Female informants at university in Siem Reap explained this to me – they would not marry until after they had finished studying as it would almost inevitably mean starting a family, which would probably prevent them from finishing university.

Part 3 of this chapter has examined the patterns and sociocultural factors related to the timing of childbearing in Cambodia. Survey data revealed women typically start having

children early in their reproductive lives (in their early 20s). Qualitative data suggested several explanations for this: needing youthful energy; household economics; childcare; the notion of youth; and having children to use. Each of these explanations related to the idea that certain life stages are perceived as more suitable than others for childbearing.

Conclusion

In the introduction to this chapter I pointed out that fertility is declining in Cambodia, and that this was attributable to a decline in marital fertility. I drew attention to Coale's three preconditions for declines in marital fertility: "1) that fertility must be within the calculus of conscious choice; 2) reduced fertility must be perceived as advantageous; and 3) effective techniques must be available." (Coale 1973: 53). In part 1 of this chapter I concluded that methods for limiting births have long been present in Cambodia, therefore fertility must have been within the 'calculus of conscious choice'. Part 1 also looked at social factors which influenced the motivations for smaller or larger families. There is a trade-off between these factors, and the decline in fertility attests to the fact that the aspects favouring smaller families are winning. In other words, reduced fertility is perceived as advantageous. Coale's final precondition regarding effective techniques for managing fertility is the subject of the next two chapters.

This chapter examined the sociocultural context of childbearing in Cambodia. It explored the logic of childbearing. The chapter was divided into three parts which looked at three aspects of childbearing: the number and gender of children, and the timing of childbearing. The three parts analysed the key sociocultural factors that form the backdrop to the fertility decisions of Cambodian couples. Part 1 examined the aspects that come to bear upon people's decisions regarding how many children they would like to have. Several key points arose. Firstly, that societal changes taking place alter perceptions regarding the costs of children, and lead to a desire for small families. Secondly, several factors contribute to sustaining a desire for larger families. These are: importance placed on lineage continuation; having wide social networks (*ksair*); the

system of old age support; the effects of high child mortality; and the idea of replacing the population losses of the Khmer Rouge era.

Part 2 examined the factors that contribute to parental desires for sons or daughters, and found that egalitarian wishes for at least one child of each gender were expressed. Part 3 focused on the sociocultural factors that explained the pattern of youthful childbearing seen in Cambodia. These factors included: needing youthful energy; household economics; childcare; the notion of youth; and having children "to use". Together these explanations pointed to the way in which life stages are socially constructed and serve to justify, or make logical, the pattern of early childbearing straight after marriage. I then discussed two contexts that are considered less socially acceptable times to have children. Finally, I examined the notion that pregnancies are not necessarily the result of a positive choice to have a child, but rather can be the result of a lack of action to prevent them in the context of a sexually active marriage. This leads into the next chapter on contraceptive use which analyses explanations for the unmet need for contraception in Cambodia.

Chapter 5

Modern methods of contraception: notions of health and fears of the unknown

This chapter discusses contraceptive use in Cambodia by looking at recent trends from survey data combined with description and analysis based on findings from the ethnographic fieldwork. I aim to explain why there are women who state they do not wish to become pregnant yet do not use modern methods of contraception. The chapter begins with descriptive statistics which highlight key patterns in contraceptive practice in Cambodia (part 1). It then goes on to analyse the unmet need for contraception: that is, when women state they do not wish to become pregnant but are not using contraception (part 2). I examine unmet need firstly by using logistic regression to test which factors increase the likelihood of a woman having unmet need, and secondly by using ethnographic data to deepen the explanations for unmet need. The quantitative data used are taken from the Cambodian Demographic and Health Surveys of 2000 and 2005, thus changes over time are also shown. The previous two chapters (Chapter 3 and Chapter 4) set out the socio-cultural context within which people make contraceptive decisions. This chapter builds on that, but looks more specifically at the factors affecting the use of modern contraceptives, whilst the next chapter (6) examines alternative ways of controlling births: traditional contraceptive methods and abortion.

Part 1: Patterns of contraceptive use in Cambodia

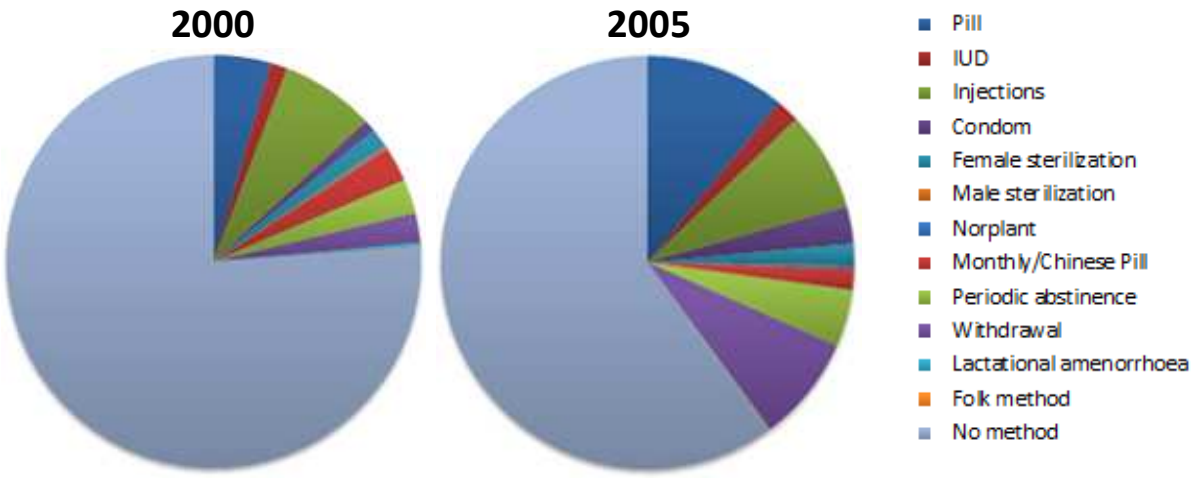
The level of current use of contraceptive methods for married[13] reproductive aged women has increased rapidly from 23.9% in 2000 to 40.0% in 2005. Modern methods

[13] The statistics I present are for women aged 15-49 who are currently married or living together in a union like marriage, unless I state otherwise. According to the CDHS 2005 the proportion of women in

have remained more common than traditional methods, and folk methods are rare. To clarify, traditional methods include periodic abstinence, withdrawal or lactational amenorrhoea method (LAM) and folk methods (such as herbal remedies, amulets, magical incantations etc.). Modern contraceptive use has risen from 18.8% to 27.2% and traditional methods have increased from 5.0% to 12.8% between 2000 and 2005. Folk method use was negligible in both periods.

Figure 7: Current contraceptive use of currently married (or in union) women aged 15-49 in 2000 and 2005

Note: 2000 *n* = 9071; 2005 *n* = 10087



Between 2000 and 2005 the proportion of married reproductive aged women not using a contraceptive method has decreased from over three quarters to 60%. In 2000 the most widely used modern methods included injection, the daily pill and the monthly (Chinese) pill[14]. These are all relatively short-lasting, hormonal methods; use of long-term methods

non-marital unions is negligible: 0.4% of women were living together whilst 59.6% were currently married.

[14] The once-a-month Chinese oral contraceptive pill has been available for use in China since the 1960s, but is not sanctioned for use in Cambodia. The most commonly used pills contain 12 mg of norgestrel (a progesterone) and 3mg of quinestrol (an oestrogen) (Sisokhom *et al.* 2001). In my field sites the Chinese monthly pills contained 6mg of levonorgestrel and 3mg of quinestrol. A high prevalence of side-effects has been reported with use of the pill (Kejuan *et al.* 2007 in China; Sadana & Snow 1999 in Cambodia). Although the pill is not available from public health facilities in Cambodia, it remains available from some

(IUD, sterilization and implants) was rare. By 2005 the proportion of women using the pill had grown substantially, overtaking the injection as the most common method. Shorter acting modern methods were still used by a greater proportion of women than longer acting methods in 2005; however, use of all methods had increased (with the exception of the monthly pill). Condom use amongst married couples increased during the 5 year period but remained low. Frequencies and percentages of women using each method can be found in table 15 in Appendix 1.

An unexpected finding was that the popularity of traditional methods increased between 2000 and 2005. I had expected the proportion of women using traditional methods to decrease over time, as modern methods become more widely available and acceptable. However, the proportion of contraceptive *users* using modern methods decreased from 78.8% in 2000 to 67.6% in 2005. A rise in the proportion of women using traditional methods of contraception has important implications because these methods are generally less effective than modern methods at preventing pregnancy, and certainly less effective than condoms at protection from sexually transmitted infections (STIs). One explanation for this trend could be that demand is outstripping supply. In other words, the rapidly increasing numbers of people wishing to use some form of contraception is too much for the health system to cope with and women are unable to access modern contraceptive methods. If this were true, it should follow that traditional method use is highest amongst women least able to access modern methods. For example, women who live in rural areas may be held back by geographical distance to service providers and poorer women may be prevented due to cost. This unexpected pattern of traditional method use is the focus of the next chapter (6), where the pattern is explored further in depth and explanations are assessed.

The following section presents analyses of the DHS data on how contraceptive method type varies according to the background characteristics of the user.

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pharmacies and drug sellers, despite being illicit. A review of available evidence on the once-a-month pill, published in 2007, found that a lack of formal epidemiological studies and other good quality data prevented an assessment of the safety and efficacy of the monthly pill (Kejuan *et al.* 2007). The authors concluded that the available studies "raised questions" regarding the safety of the pill (Kejuan *et al*. 2007).

Demographic variation in method use

How do age, education, residence and wealth affect the choice to use one specific method of birth control over another? In order to compare this, the charts below just look at specific methods used amongst users of contraception, they do not illustrate the proportion of women in each demographic group not using a method. Chi-square significance tests were not performed due to the small number of cases in some categories, the results are illustrative. In chapter 6 the contraceptive methods have been aggregated into the broad categories of method type (modern, traditional and folk) making it possible to do statistical significance testing. However, in this chapter I wanted to gain an understanding of who uses specific methods, rather than just the broad categories. In the data below, if a woman reported using more than one method, only the most effective method used is shown.

Figure 8: Variation in type of contraceptive currently used by currently married (or in union) women aged 15-49 currently using a method in 2005

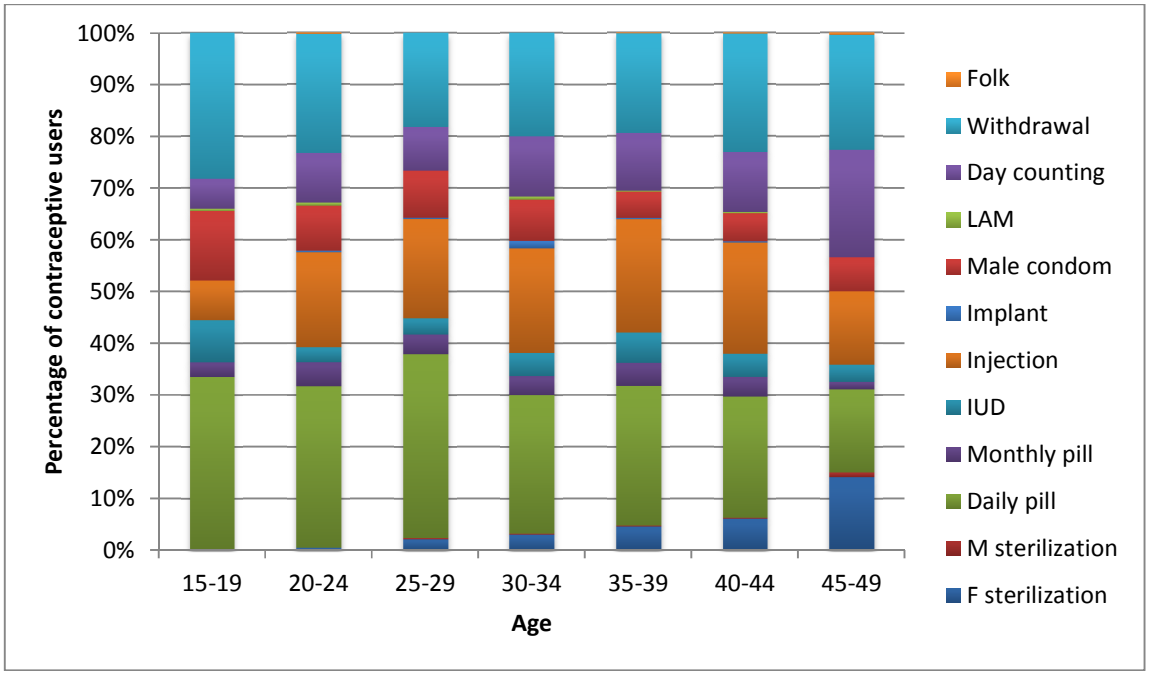
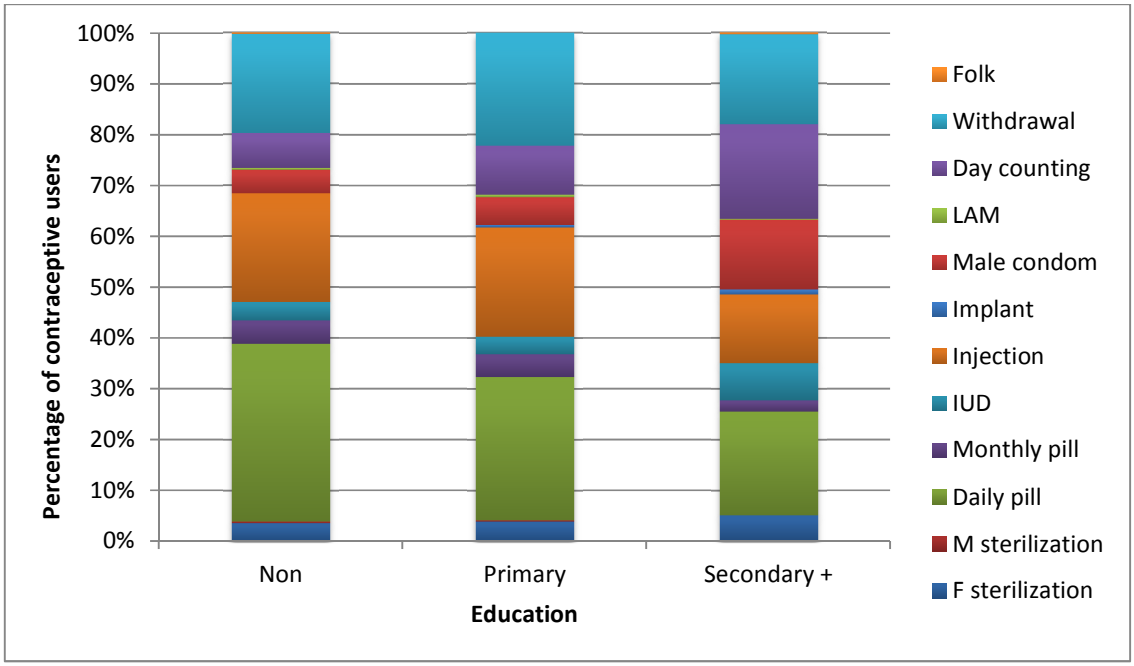


Figure 8 shows how the type of method currently used varies according to age cohort. In most age groups the daily pill, injectables and withdrawal are the most common methods. Withdrawal is particularly popular with the youngest and oldest cohorts, whereas day counting becomes increasingly popular between ages 15 and 49. Condoms are used more by younger age groups than older age groups. Injectables make up a fairly large proportion of methods used in all but the youngest and eldest groups. Only in the youngest cohort are condoms more popular than injectables. The IUD is not a common method overall, except for 15-19 year olds where it is used more than injectables, and for 35-39 year olds where it is more frequent than the male condom. The daily oral contraceptive pill is commonly used in all groups but decreases in popularity moving up through the age groups. Female sterilisation only makes up a significant (more than 10%) share of method mix amongst the 45-49 year old group. The methods used least by all age groups are folk methods, LAM, implants, the monthly pill and male sterilisation.

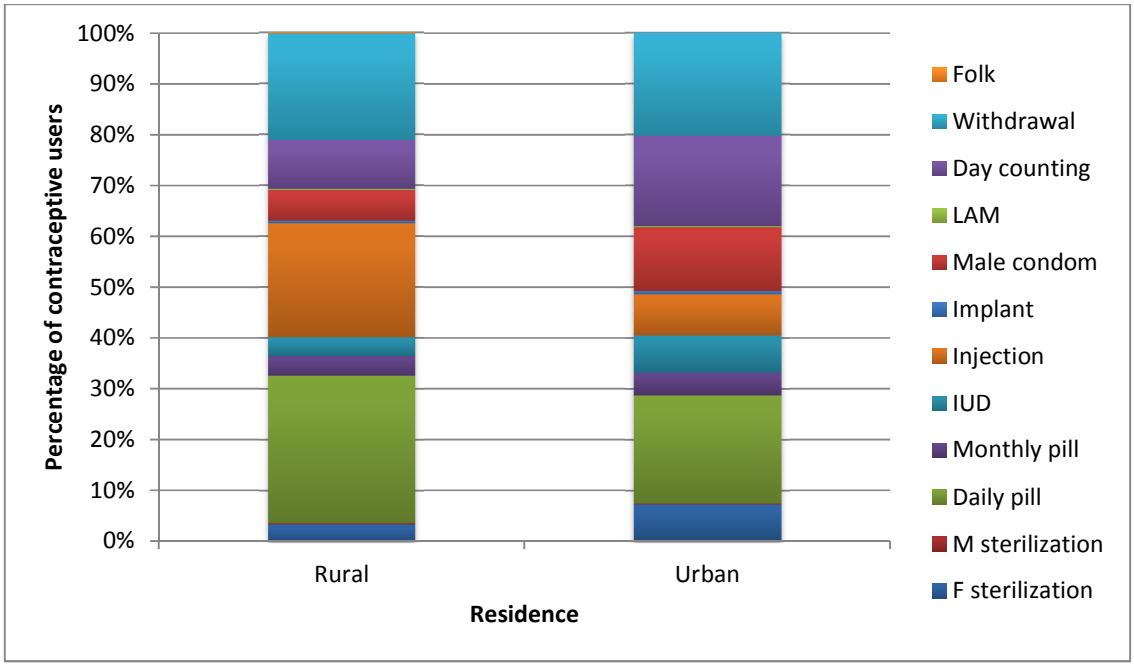
Figure 9: Contraceptive type used according to education, amongst currently married (or in union) women aged 15-49 currently using a method in 2005



Contraceptive users are grouped according to their level of education. The education categories refer to the highest level of education attended, regardless of whether or not the level was completed[15]. As education increases the use of traditional methods increases (withdrawal and day counting) overall, but specifically, the women with secondary and higher education are using more day counting and less withdrawal than women with lower education. Condom use also increases greatly for the most educated, as does IUD, to a lesser degree. Interestingly the use of hormonal methods, both types of pill and injectables, decreases as educational levels increase.

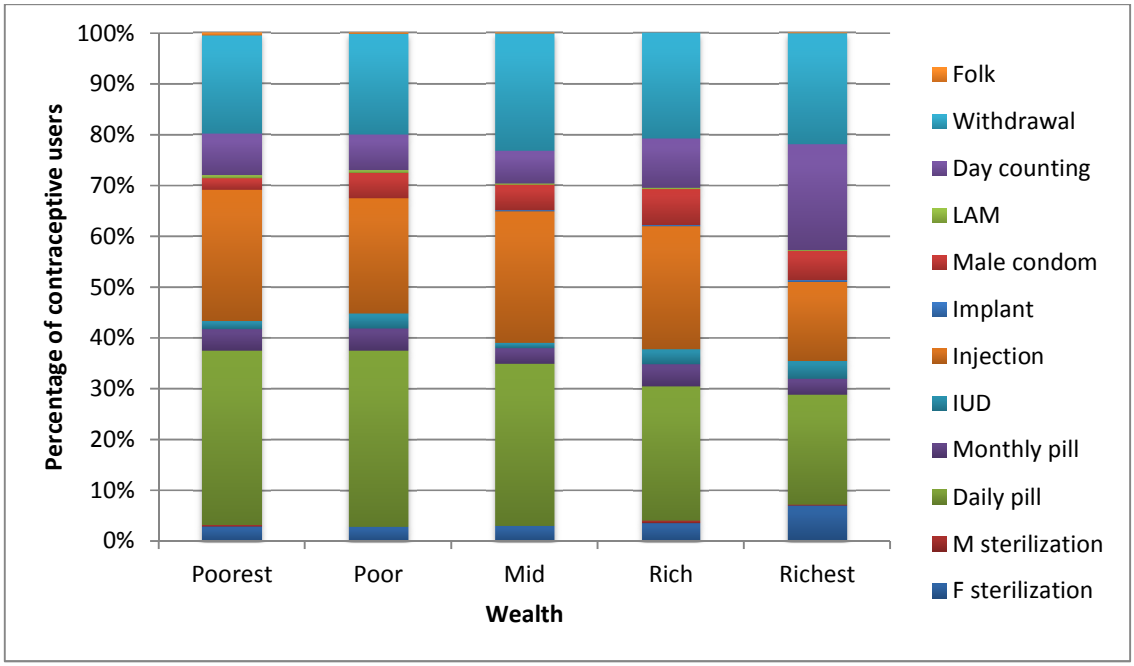
[15] The category labelled 'none' means women never attended any school; the category 'primary' includes women who attended primary school (including both those who completed and did not complete primary school); the category 'secondary plus' includes women who attended at least some secondary school (whether or not they completed it), as well as those who attended higher education beyond secondary school.

Figure 10: Contraceptive type used according to residence, amongst married (or in union) women aged 15-49 currently using a method in 2005



A similar pattern of method use by residence is apparent if we substitute rural for less educated and urban for more educated: again traditional methods increase as a group amongst urbanites, with day counting taking over from withdrawal; condoms, IUDs and female sterilization are more common in urban than rural areas; and the daily pill and injectables decrease in popularity in urban areas compared to rural areas. Least used methods in both areas are folk, lactational amenorrhoea (LAM), implant, and male sterilisation.

Figure 11: Contraceptive type used according to wealth, amongst currently married (or in union) women aged 15-49 currently using a method in 2005



Looking at method use variation by wealth quintile[16], a familiar pattern remains present with the modern methods. In general, condoms become more popular moving up the wealth categories from poorest to richest, and conversely, the daily pill and injection become less popular with increasing wealth quintile. Female sterilisation is more widely used by the richer and richest groups. As above, folk, LAM, implant and male sterilisation are all negligible in use. As we move through groups of increasing affluence, traditional method use increases. Withdrawal is one method which does not differ according to wealth quintile – it remains fairly constant at around 20% of total method use for each wealth group. Day counting sees a large increase amongst the richest group in comparison with all other groups.

[16] This wealth index is an indicator of the economic status of households. "The CDHS did not collect data on consumption or income, but the information collected on dwelling and household characteristics, consumer goods, and assets are used as a measure of socio-economic status. The resulting wealth index is an indicator of the level of wealth that is consistent with expenditure and income measures" (NIPH *et al.* 2006: 22). Further information on how the index is constructed can be found in: (NIPH *et al*. 2006: 22-23).

Summary of Part 1

To summarise the patterns described in the charts above, there is more use of traditional methods (specifically day counting), condoms, IUDs and female sterilisation amongst women with higher levels of education, wealth and urban residence. Conversely, the proportion of contraceptive users who use hormonal methods (injectables, monthly pills and daily pills) decreases as education, wealth or urban residence increases, with the exception of monthly pills which is more common in rural areas. Women of higher socio-economic status and urban residence use more of the most effective methods and longer-lasting (or permanent) methods (IUDs, female sterilisation). However, the same groups also use a greater proportion of the least effective methods – traditional methods - and condoms (a barrier method). The hormonal methods are used in greater proportions by women of lower educational and wealth levels, and rural residence. (Chapter 6 discusses the effectiveness of methods in greater depth). This pattern seems puzzling and warrants explanation. Part 2 of this chapter, which examines unmet need for contraception, and the following chapter (6), which focuses on traditional method use, will attempt to shed light on the reasons for this pattern, through findings from both quantitative analysis and qualitative analysis.

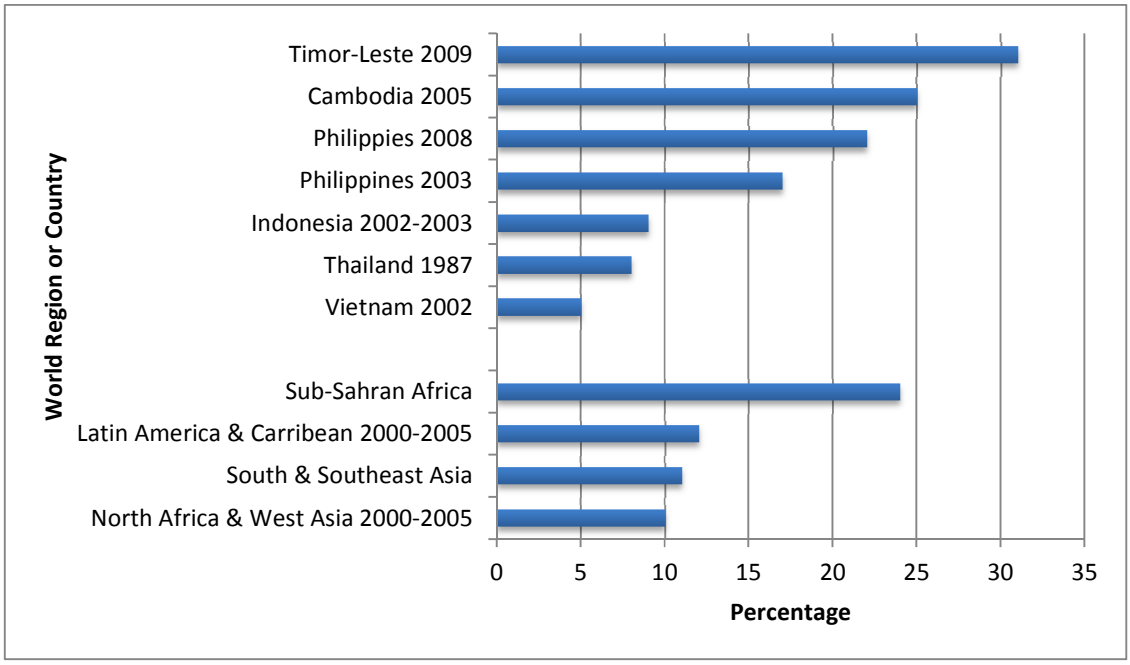
Part 2: Unmet need for contraception

Part 2 focuses on explaining unmet need for contraception in Cambodia. It presents the results of secondary data analysis of the Cambodian DHS 2005, exploring factors affecting unmet need for contraception. After assessing these patterns it looks at the reasons for unmet need, taking evidence from both the ethnographic fieldwork and from secondary data analysis. This data analysis aims to answer the questions:

- Which demographic groups have the most unmet need?
- Which factors increase likelihood of having unmet need?
- What other reasons contribute to unmet need?

A quarter of Cambodian women had an unmet need for contraception in 2005: 8.9% of women had an unmet need for spacing and 16.2% had an unmet need for limiting births. Although the total unmet need (both for spacing and limiting) has decreased from 29.6% in 2000, it remains very high. It is far above the regional average for South and Southeast Asia, 10-12%, and Cambodia's neighbours Vietnam (5% in 2002) and Thailand (11% in 1987) (Sedgh *et al*. 2007; Bongaarts 1991; CPFC & ORC Macro 2003). It also exceeds the regional average for Sub-Saharan Africa.

Figure 12: Unmet need for contraception (amongst married women aged 15-49) in Southeast Asian countries and averages for world regions for which data were available



Source: Timor-Leste DHS 2009 (NSD *et al.* 2010); Cambodia DHS 2005 (NIPH *et al.* 2006); Philippines DHS 2003 and 2008 (NS0 & ICF Macro 2009); Indonesia DHS 2002-2003 (BPS & ORC Macro 2003); Thailand DHS 1987 (Bongaarts 1991); Vietnam DHS 2002 (CPFC & ORC Macro 2003); World region figures are data averages for countries' DHSs between 2000-2005 (Sedgh *et al.*2007).

Unmet need may increase as well as decrease, as the data from the Philippines appear to show (figure 12). The 2003 DHS placed unmet need at 17% whereas the 2008 DHS placed the figure at 22%. An increase in unmet need may be caused because demand for contraception is initially low, and therefore unmet need is low, then as demand increases

unmet need rises before supply catches up with contraceptive demand. Bongaarts (1997) has pointed out that as a country moves through a fertility transition the trend in unwanted fertility is an inverted U shape. Initially, duration of exposure to the risk of unwanted births increases as peoples fertility preferences decrease (Bongaarts 1997). However, regarding the case of the Philippines, the rise in the level of unmet need was due to different definitions of unmet need being used in the calculations: only the earlier calculation used data from the contraceptive calendar questions in the DHS (Bradley *et al.* 2012:13). If recalculated using a consistent method, unmet need remains stable at the two points in time (Bradley *et al.* 2012). As well as unmet need, another way to look at how well women are served by family planning programmes in a country is the proportion of births reported as unwanted or mistimed. In Cambodia in 2005, 20.7% of births were reported as unwanted at the time of conception and 8.3% as mistimed. Both indicators, unmet need and unwanted fertility rates, point to the need for improved contraceptive services in Cambodia.

Chi-square tables of unmet need by demographic category

Chi-square significance tests were conducted for cross-tabulations of unmet need and various background characteristics using the CDHS 2000 and 2005 data. These tables are presented in Appendix 1 (tables 16 and 17). The key findings were as follows. The pattern of total unmet need varies little by age; however the percentage of the total need for family planning which remains unmet is highest for the youngest age group (15-19 years), 55.3% of demand remains unsatisfied in this group (in 2005). On average 38.6% of the total need for family planning remains unmet (a decrease from 56% in 2000). Unmet need varies by residence and education as expected: 21.8% of urban women have an unmet need compared to 25.6% of rural women (25.1% and 30.6% in 2000). As education level increases the level of unmet need decreases: 27.6% (previously 31.6%) amongst those with no education versus 19.3% (previously 22.9%) for those with secondary or higher education.

In demographic and family planning literature on unmet need a distinction is typically made between unmet need for spacing and limiting (Bongaarts 1991; Bongaarts *et al.* 2012; Westoff 2001). Instead, I distinguish between three types of women with unmet need; I include 'postponers', as well as 'spacers' and 'limiters'. Women who have not yet had a birth (but want one in the future) cannot be said to be using contraception to add space between one birth and the next. Timaeus and Moultrie (2008) suggested adding the term postponement to the typical categories of contraceptive motivations. They reasoned that spacing, as typically defined in demography, revolves around an intention to widen birth intervals (for example, to promote the health of the mother and/or elder sibling), and that a category of postponing should be introduced to cover parous women who wish to delay becoming pregnant at the current time but are not motivated by factors related to the age of their last child. I would suggest the current category of spacing captures this just fine (both the women delaying because of birth interval reasons and those delaying for other reasons such as relationship stability or economic issues), however, it would be more useful to conceptualize nulliparous women delaying their first birth as a separate group: 'postponers' (or even 'nulliparous postponers' to distinguish from Timaeus and Moultrie's categorization). Thus the category of 'spacers' would include *only* women delaying births who already have at least one child, and 'postponers' would include only women who want to delay their first birth.

Perhaps the crux of this definitional debate revolves around whether we take into account the intangible cause of postponing / spacing or the tangible condition in which it occurs. Timaeus and Moultrie's definition of postponers and spacers relies on knowing or inferring the motivation for delaying the next birth. This can be difficult to operationalize, as the DHS, for example, records the length of the birth interval rather than asking the reason why the gap of X months occurred. Timaeus and Moultrie use the length of the duration of the birth interval to distinguish spacers (short birth interval) from postponers (long birth interval). This is problematic because it is arbitrary to say what is long or short, and to assume that a long duration must be for reasons not related to the age of the last child.

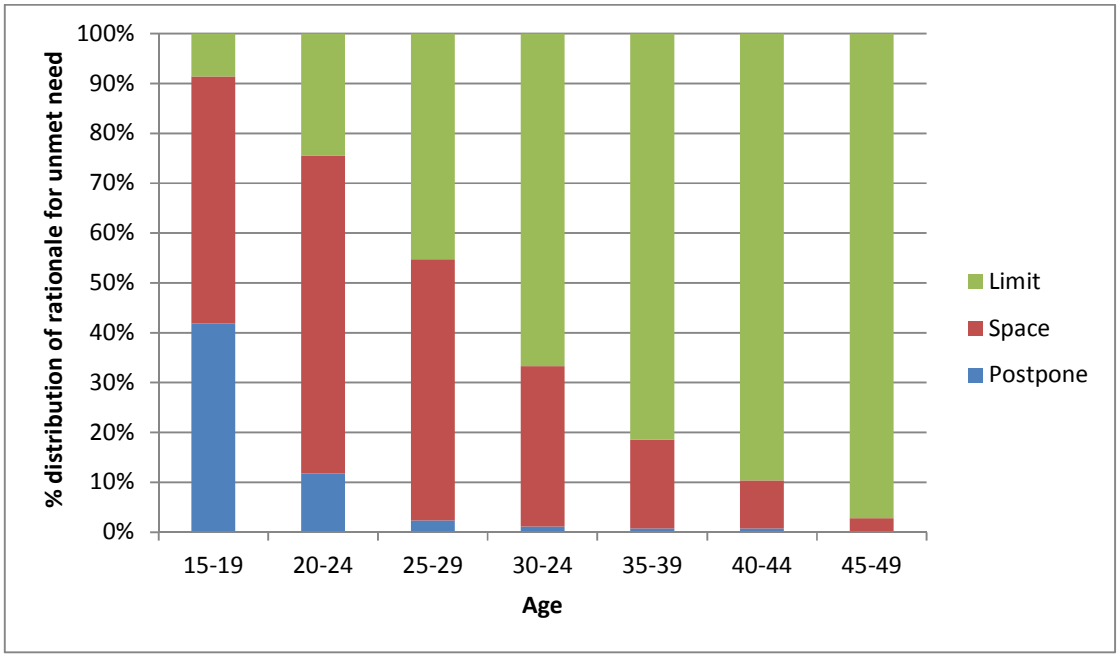
Timaeus and Moultrie's definition of postponing differs from mine. They argue that women conventionally classified as 'spacers' fall into two groups: "women who practice birth control to achieve a birth interval contingent on the ages of their youngest children, and women whose intentions are simply to avoid any further pregnancy in the present" (Timaeus and Moultrie 2008: 503). They subsequently argue that the former are more correctly termed spacers and the latter postponers. Their paper shows how their refined definitions have relevance to fertility patterns and thus matters. They present evidence on South Africa's fertility transition, showing that fertility is only weakly related to parity or age of the last child. This supports the argument (together with their recent paper Moultrie *et al*. 2012) that a major factor driving the fertility transition in sub-Saharan Africa is not the result of the conscious limiting of births, as was the case in the West, Asia and Latin America, but rather the result of the postponement of childbearing that over time becomes perpetual postponement. Whilst their conceptualization of postponement proved useful in analysing African fertility change, it is less useful if applied in Cambodia. I use a different definition of postponing, centred on parity, because this is useful for highlighting contraceptive needs and motivations of a particular group in society – nulliparous women.

Increase in postponement of parenthood – rising age at first birth – is demographically important, if as it rises the potential reproductive span is shortened, thus impacting total fertility rates. It is also of consequence in terms of service provision, as postponers' contraceptive needs (and their ability and agency to act on them) are likely to be in some ways different from women who have already had at least one child. In many cultures, not only Cambodia, being a parent moves someone into a new social category entailing new responsibilities and privileges with this status. Having children is a considerable marker of social status. In chapter 4 I discussed the tendency for Cambodian couples to have births soon after marriage, and the way the culture shapes this pattern making it a suitable and convenient time for many couples. I also discussed how the Cambodian gender system defines a role for young unmarried women that is characterised by shyness and ignorance regarding sex, and that this contributes toward making them less

informed and less able to exert their agency when they do enter into sexual relationships at marriage. Newly-married women make up a group with different service needs to other married women who already have children and have achieved the status of motherhood and (usually) have experience of the health system. The latter group are likely to be more informed and more empowered to assert their preferences.

Following this reasoning, I present unmet need types as unmet need for postponing, for spacing and for limiting. In the cross tabulations of unmet need and background characteristics (tables 16 and 17 in Appendix 1) I have separated the category of women with unmet need for spacing into those who are nulliparous 'postponers' and those who are parous and therefore 'spacers'. When unmet need is broken down by residence or education, only a small percentage of women have unmet need for postponing, however a distinct pattern emerges when looking at age.

Figure 13: Rationale for unmet need for contraception according to age, amongst currently married (or in union) women with unmet need in 2005



At the youngest age group close to half of all women with unmet need have unmet need for postponing, and, as expected, this declines as age rises. Although these married

women aged 15-19 and 20-24 have some of the lowest levels of need for family planning (many of them stated they wanted to become pregnant), when they do want to avoid pregnancy they have some of the highest levels of unmet need (table 17 Appendix 1). Amongst young Cambodian women it is clear that there is a substantial proportion wishing to postpone the birth of their first child and not using contraception– a group which has so far been unacknowledged. The category of postponers is also discussed below in reference to the results from unmet need regression.

Binary logistic regression of unmet need

Binary logistic regression was used to determine which factors increase the likelihood of having unmet need. Only currently married women with a need for family planning were included in the base group. The response variable is whether a woman has unmet need (as opposed to met need); it is testing which characteristics increase the likelihood of having unmet need for contraception. The variables entered into the base model were selected as they were all the possible variables from the data set, which in theory could affect unmet need. Due to multicollinearity between wealth and residence a set of composite dummy variables was created (this is discussed further in Appendix 1). The set of variables which I have called 'medical care variables' do not directly relate to family planning services. Instead, they measure whether women reported that certain issues were 'a big problem' in obtaining medical help for themselves[17]. These are used as a proxy for measuring women's perceptions of obstacles to contraceptive services. A limitation of this model is that the interaction between education and wealth, and between education and residence was not taken into account.

[17] The exact question asked was "Now I would like to ask you some questions about medical care for you yourself. Many different factors can prevent women from getting medical advice or treatment for themselves. When you are sick and want to get medical advice or treatment, is each of the following a big problem or not? Getting permission to go. Getting money needed for treatment. The distance to the health facility. Having to take transport. Not wanting to go alone. Concern that there may not be a female health provider. Concern that there may not be a health provider. Concern that there may be no drugs available." (NIPH *et al.* 2006: 425)

Backwards elimination was used for model specification because this allowed me to place into the model all the variables I had a theoretical interest in, and to test which ones had (and did not have) a statistically significant effect on the response variable. The selection of explanatory variables, included in building the model, was based on my theoretical interests and knowledge (from the academic literature on factors which affect unmet need). I was interested in how socio-demographic factors such as education and wealth affected unmet need: thus I included variables for education, age, number of living children, wealth and residence. I was also interested in whether people's utilisation of and attitudes towards health care services had an effect on unmet need. To attempt to test this I included the variables grouped as 'medical care variables'. Further information on model specification, explanatory variables entered into the base model, and the variables removed from the model after significance testing can be found in Appendix 1.

Table 2: Logistic regression of factors affecting unmet need for contraception

Parameter estimates, standard errors and odds ratios from logistic regression models measuring effects of socio-demographic characteristics, medical care variables, and exposure to family planning messages in the media on unmet need for contraception, amongst married women with a need for family planning

Variables	Estimate	*SE*	Odds Ratio
Education			
None	0		1
Primary	-0.15**	0.07	0.86
Secondary+	-0.24**	0.09	0.79
Age			
15-19	0.89***	0.18	2.43
20-29	0.35***	0.07	1.42
30-44	0		1
45-49	0.54***	0.10	1.72
Number of Living Children			
None	0.79***	0.20	2.21
1-2 children	0		1
3-4 children	0.20***	0.07	1.22
5+ children	0.57***	0.09	1.76
Wealth Residence Composite			
Poorest	0.95***	0.12	2.58
Poorer	0.81***	0.11	2.24
Middle	0.61***	0.11	1.83
Richer rural	0.42***	0.11	1.53
Richer urban	0.37*	0.20	1.45
Richest rural	-0.06	0.13	0.94
Richest urban	0		1
Medical Care Variables			
Money	0.23***	0.07	1.26
Alone	0.20***	0.06	1.22
No provider	-0.29***	0.10	0.75
No drugs	0.22**	0.10	1.24
Health worker	-0.21***	0.06	0.81
Health facility	-0.12**	0.06	0.89
Media Influence			
Heard FP message	-0.11*	0.06	0.90
Intercept	-1.32***	0.14	

Note: *$p < .1$; **$p < .05$; ***$p < .01$
Source: Cambodia Demographic and Health Survey 2005

Socio-demographic characteristics, including education, age, parity and wealth, had important effects on the likelihood of unmet need. Key findings are:

- Education decreased the likelihood of unmet need; having secondary education had a greater effect than having only primary education.

- The independent effect of age was strong; with 30-44 year olds least likely to have an unmet need, then 20-29 year olds, followed by 45-49 year olds. The youngest age group, 15-19, were found to have 2.43 times the odds (of having unmet need) of 30-44 year olds. It is possible that this young age group is under-catered for in terms of family planning services and information, or perhaps they are less able to implement their contraceptive intentions (should they have any intentions to use). In a hierarchical society such as Cambodia where age is tied to status and power, and where young women are considered more virtuous if ignorant about sex, this age group of women (even though married) is likely to be in difficult position with regard to obtaining contraceptive information and technology, and negotiating with their partner about using it. (This is discussed further below).

- The effect of parity on unmet need is not straightforward. Women with 1-2 children were least likely to have an unmet need, and beyond parity 2 unmet need increases for parity 3-4, and again for 5 and above. Women with no children had over double the odds of having unmet need as those with 1-2. That nulliparous women are the group with the greatest odds of unmet need adds further support to the idea (discussed above) that attention should be paid to nulliparous postponers as a distinct category, rather than subsuming these women with spacers. The results in the regression above become more straightforward if we think about three separate needs for family planning: the need for postponing, spacing and limiting. Looking at the odds for women with no children (who we might assume are postponers), they have the highest odds of unmet need, followed by women with over 5 children. The higher the parity the more likely it is that these are women in need of contraception for limiting, given that the average ideal number of children in

Cambodia is 3.3 for 2005. Thus it may be inferred that postponers have the greatest unmet need for contraception followed by limiters and lastly spacers.

- Odds ratios show a clear pattern between wealth and unmet need, with the likelihood of unmet need increasing with every one unit decrease in wealth quintile. The poorer a women is, the more likely she is to have unmet need: the poorest women being over two and half times as likely as the richest urban women.

- Interestingly, residence seems to play no role in affecting unmet need. The comparison between the richest-urban and richest-rural was not significant. This indicates that geographical distance to family planning clinics is not a major obstacle to contraceptive use. This is supported by the fact that variables for both distance and transport being a large problem in seeking medical help for self were not significant in the model. This can be explained by the fact that social marketing of contraception is widespread, just under half (48.5%) of daily pill users use socially marketed brands (the daily pill being the most common method) (discussed below).

- Those who reported money being a problem in seeking medical care have an increased likelihood of unmet need compared to those for whom money is not a problem (in this respect). Concern over going to a health facility alone, and concern that there may be no drugs available both increase the likelihood of unmet need. Unexpectedly, reporting concern over no provider as an obstacle to health care decreases the likelihood of unmet need. Concern over no female provider was not significant, although here contraceptive services may differ from medical care. Getting permission to go to the clinic was also not significant. This corresponds to the finding that husbands' or others' opposition to use was cited by only 0.8% of non-users as their reason for not intending to use a method in the future. That some of the medical care variables had significant effects on unmet need indicates that there may be health system issues involved in unmet need for contraception.

- Exposure to family planning messages in the media has not had a great effect on the likelihood of unmet need. Having heard a family planning message in the past twelve months decreased the likelihood of unmet need by only 0.9 times, and this was only significant at the 0.1 level. This indicates only a small trend towards behaviour change communication (BCC) exposure leading to declines in unmet need, leaving the possibility that family planning promotion is having a negligible effect on unmet need.

This analysis has shown which factors increased the odds of having an unmet need for contraception. Having lower levels of education, wealth and being of a younger age group (below 44 years) all increased the odds of unmet need. That the youngest age group (15-19) and the nulliparous women have over double the odds of unmet need compared to the reference categories, shows that these groups are particularly at risk of unmet need. The previous chapter (4) discussed the timing of childbearing and the social norm of beginning childbearing immediately after marriage. That the youngest and nulliparous women have the highest odds of unmet need suggests this norm is not always the result of intentional desires to be pregnant, but can occur as a result of a lack of contraception. The difference between living in a rural or urban area was shown not to have a statistically significant effect on unmet need. This was an unexpected finding. The univariate correlation (shown using chi-square tests) between living in a rural area and having unmet need appears to be a spurious relationship, attributable to confounding effects of the other variables in the regression model. This suggests that the geographic distance from health care providers in rural areas does not make rural residents any more vulnerable to unmet need than those of similar characteristics in urban areas. This analysis points to the groups that are most vulnerable to unmet need, and that policy makers and service providers should be aware of: women with low or no education, low wealth, young ages, and many or no children. It has also pointed to some possible explanations for unmet need, which the next section goes on to examine further.

Explanations for unmet need in Cambodia

In the Cambodian DHS, women not using contraception and not intending to use it were asked to state their main reason for non-use. Health concerns together with fear of side-effects are the most cited reasons (39.8%[18] in 2005), suggesting women may wish to use a method, if they found one they perceived as safe. This figure has grown from 32.2% since the year 2000. In both years the second most common reason was difficulty becoming pregnant (20.1% in 2005 and 24.0% in 2000). This indicates that infertility, or the perception of infertility, may be a problem in this population. It is likely that this group of women perceive themselves to be not at risk of becoming pregnant, either because they are older, closer to menopause and subfecund, or they have sex infrequently. Thus they may consider the risk of pregnancy too small to bother with the costs and inconveniences of contraception (Robey *et al.* 1996). Opposition to use, which was low in 2000 - cited by 10%, mainly own opposition not her husband's or others' opposition - is now extremely low at only 2.0%. Lack of knowledge of either method or source has decreased from an already low 1.6% to 0.7%. Lack of access as the main reason was cited by 0.5% in 2000 and 0% in 2005, similarly 'costs too much' is very low at 0.5% for both years. In the DHS, women can only give one main reason, even though they may have multiple reasons. This is a major limitation of survey data which obliges people to constrain their answers and to place them into the format (or world view) of the survey designer. This is an issue which I come back to below.

[18] This is the sum of the proportion of women who stated health concerns (35.8%) and those who stated side-effects (4%).

Table 3: Reason for not intending to use a method

Main reason for not intending to use a method in the future amongst married non-users, who stated they did not intend to use a method in the future.

Main reason not to use a method			
Opposition to use		2.0	
	Respondent opposed		1.2
	Husband opposed		0.6
	Other opposed		0.2
	Religious prohibition		0.1
Lack of knowledge		0.7	
	Knows no method		0.5
	Knows no source		0.2
Method related reasons		42.1	
	Health concerns		35.8
	Fears side-effects		4.0
	Lack of access/too far		0.0
	Costs too much		0.5
	Inconvenient to use		0.5
	Interferes with body		1.3
Fertility related reasons		46.6	
	Infrequent sex		9.4
	Menopausal, hysterectomy		7.3
	Subfecund, infecund		20.1
	Wants more children		9.7
Other		7.6	
Don't know		1.0	
Total		100.0	100.0
n		2667	2667

The picture from survey data suggests that women are either not perceiving themselves to be at risk of conceiving or they are concerned about health risks and side-effects. Lack of knowledge, lack of access and cost appear not to be important obstacles to contraceptive use. Taking off from this starting point, I began fieldwork wanting to look in depth at how to account for this high level of unmet need. The DHS data analysis was conducted prior to qualitative data collection and analysis, and the quantitative findings (above) fed into the questions I asked and aspects I focused on in the qualitative research. The purpose of the following sub-section is to discuss the factors which explain unmet need, using explanations given by women and men I talked with, and my own observations. This explanation has 4 main strands which interlink with each other: 1) lack of knowledge, 2) problems of access, 3) method related concerns (health side-effects), and 4) broader social

norms that can create obstacles to contraceptive use. These four strands arose from my fieldwork inductively.

Knowledge of contraception

Quantitative data leads us to dismiss lack of knowledge as a reason for unmet need. Knowledge of contraceptive methods amongst married women is extremely high: 95.3 % knew at least one modern method in 2000 and by 2005 this was practically universal at 99.4%. The mean number of methods known for currently married women is 8.0. This has increased from an already high 6.5 in 2000. This would seem to suggest that the reason for low contraceptive use is not due to lack of knowledge. Clearly, controlling fertility with contraception is within women's 'calculus of conscious choice' (Coale 1973). However, my ethnographic results led me realize that women may know *of* a method yet still lack sufficient information to want to use that method. Knowledge was lacking about the basic facts – how to use the various methods, how they work, what a procedure would entail for an IUD fitting or sterilisation. This highlights the inadequacy of survey questions that focus on a binary response to measure knowledge of contraception: clearly, there are various levels and dimensions to such knowledge. Most (qualitative) respondents stated that they did not know how the pill or injection worked, beyond saying that it was 'hormones'- very few ventured a description of what hormones were.

One of my first interviews on arriving in Rumduol, my rural field site, was with a commune official. She described one of the rumours about contraception that she attributed to causing a decline in the popularity of the pill at a local level (in Rumduol village):

> "There was a case of woman who tried to do an abortion but not all the fetus came out and she began using the pill. The fetus was *steah* (to obstruct, block, choke, plugged up). She had attempted to do an abortion herself, by pressing her stomach and drinking traditional medicine. [She died.] So subsequently everyone in Rumduol village is afraid of using the pill, afraid they will die. But others use it and are not afraid. Another issue is women on the pill with not enough to eat – that is dangerous for their health. […] It was many years ago, 2, 3 or 5, but still some people are still afraid of the pill since then. " (female, rural site)

Others in the village, including the Village Health Volunteers (outreach workers who distribute contraception on behalf of the public health system), also reinforced her statement that this event had caused some people to stop using the pill.

In the course of the fieldwork I came across many 'rumours' about health risks and side-effects of contraception: sometimes a fear of risking serious illness such as cancer, heart disease, ectopic pregnancies, or 'lumps', at other times more immediate side-effects such as headache, nausea, dizziness, etc. Sometimes these fears were of health risks or side-effects that the contraceptive manufacturers report themselves on the packaging, so not simply to be disregarded as 'myths and rumours'. People did not have access to information that would allow them to assess those risks nor did they know whose advice to trust. Very often I found people relied on the advice of friends, neighbours and relatives - people they knew and trusted, and who had had experience with a particular contraceptive method – rather than qualified medical professionals. I found that this lack of knowledge, and other health system issues discussed in chapter 3, had led to a general lack of trust in the health care system. Furthermore, that this lack of trust was fuelling fears over contraceptive side-effects. This relates to context covered in chapter 3. Here I discussed the Cambodian health system, and raised the issue of trust in the health care system, and the divergence of the population in regard to their belief in the traditional or the biomedical health sector. For many people, their lack of trust in the health care system permeated into their view of modern contraceptives, as they perceived contraceptive technologies as stemming from the biomedical realm. If biomedicine was unfamiliar to them, they were also cautious about modern contraceptives.

> "Implant? I haven't heard of it. […] Nobody here uses IUDs. They use only the pill, condom, injection and abortion. I don't know why, maybe because we've never used it. *Ot dumloarb* (not our custom). The only people who have used it come from another village and they said that it is so difficult for them because they have got a bit of blood coming out, painful during having period. I heard that but I don't know."
>
> (Female, 36 years, 4 children (2 living), rural site)

This quote from a woman in Rumduol illustrates a common finding - that it is rare to find someone who wants to be the first to try something new. The experiences of people like

oneself (in this case other rural women) are relied upon in making contraceptive decisions. This unwillingness to be the first or only one to take up a behaviour is something that permeates Cambodian society in many aspects, not only contraception. There is a strong sense of conformity, and pressure to not step beyond the bounds of what is deemed normal.

Access: financial, administrative, geographic, and social barriers

Cost and income

At first glance it seems easy to say cost is not an obstacle to modern method use; on the face of the issue it appears that the economic explanation for not using contraception does not hold. Modern methods are available cheaply. Only 0.5% of women not intending to use a contraceptive method in the future cited cost as their main reason for this (DHS 2005). Women surveyed in the CDHS 2005, who used modern contraception, were asked how much they paid the last time they obtained a method (including the cost of any consultation). The median cost of contraception was 24 cents (in US dollars). (Only 5.9% obtained their method for free, and 3% did not know the cost (interestingly, 21% of women did not know how much condoms cost –an illustration of how little used they are and that men buy them). The public and private sectors, NGOs and social marketing schemes are all important sources of contraception, and in all these outlets subsidised modern methods are available. In my field sites, the contraceptive pills distributed by government health care providers were the combined oral contraceptive (COC) 'Diamond Lady' (containing levonorgestrel and ethinyl estradiol) and 'Orvette' (containing norgestrel) and a progesterone only pill (POP) recommended to breastfeeding women from 1 month after birth. Other brands available from pharmacies and private clinics included 'OK' and numerous others at higher prices. The injection (Depo-Gestin, a brand of medroxyprogesterone similar to Depo-Provera) and condoms are all offered widely at subsidised prices making them affordable. Amongst my informants, even the poorest, these methods were perceived of as cheap and easily available.

However, other methods, longer-acting methods - the IUD, the implant, and male and female sterilisation - were thought of as expensive and out of reach for most people.

Although a long-term method such as female sterilisation is a one-off cost, it was still seen 'too expensive', often without knowledge of how much it would actually cost. In the DHS survey women are asked the *main* reason for not intending to use a method – side-effects was by far the most common reason, but a more nuanced look at this issue, possible with ethnographic research, revealed that, even if side-effects were not an issue, price would be for the longer-acting methods. In my fieldwork sites the average cost of modern contraceptive methods was as follows (no difference between urban and rural prices):

Table 4: Cost of contraception in field sites

Contraceptive method	**Cost in US dollars (prices converted as 1$=4000Riel)**
Daily Pill (per month) -subsidised OK brand	0.13
-non-subsidised brands	6.00
Monthly Pill (per month)	0.25
Injections (3 months)	0.37
IUD	6.00
Condom -subsidised OK brand (pack of 12 from health clinic or village health volunteer) -subsidised brands (pack of 3 from a shop)	0.13 0.37
Female Sterilisation	175 .00
Male Sterilisation	175.00
Norplant	3.75
Monthly (Chinese) Pill (1 month)	0.25

The CDHS 2005 found the average price of contraceptives to be as follows:

Table 5: Cost of modern contraceptive methods from DHS 2005

Percentage of current users who did not pay for the method, who do not know the cost of the method, and the median cost of the method[19]

Current contraceptive method	**Median Cost of current method in US dollars (at R4242/$)**	**Percentage Free**	**Do not know cost**	***n***
Pill (price per cycle)	0.24	1.2	0.9	1116
IUD	5.89	14.2	0.0	178
Injections	0.35	1.9	0.1	794
Condom (price per pack)	0.14	15.4	21.3	294
Female Sterilisation	50.0	25.6	7.9	180
Male Sterilisation	*	*	*	9
Norplant	*	*	*	19
Monthly Pill	0.12	1.2	0.9	159
Total	**0.24**	**5.9**	**3.0**	**2749**

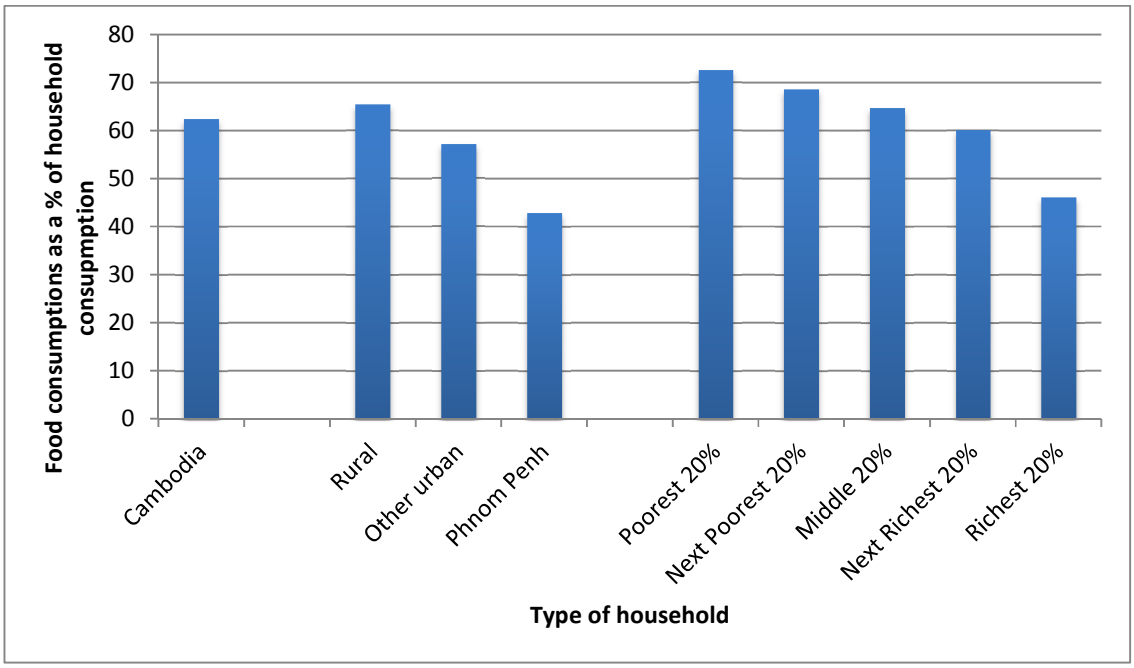
Data on average income in Cambodia is unavailable (UNDP 2007). The garment sector has a minimum wage of US$50 per month (NIS *et al.* 2010: 43) and amongst my informants working in the hospitality industry in Siem Reap salaries started at around US$40 per month. It is not simple to evaluate the cost of contraception relative to an average salary given the nature of the economy in Cambodia: firstly, because it is difficult to know what an 'average salary' is (particularly as salary may not be the only source of income), and secondly, because different people have different demands on the money available to them i.e. expenditure (such as paying for housing, dependants, and remittances). As discussed in the previous chapter (4), a high proportion of people work in the informal sector in unwaged jobs, partially subsidised off their land, (82.5% of employed adults over 15 are either unpaid family workers or own-account workers): estimates of earnings in the informal sector are not available (NIS *et al.* 2010: 25).

A nationally representative measure of standards of living is available in the form of per capita household consumption, calculated from the Cambodia Socio-Economic Survey (CSES); the most recent version with published results being the 2007 survey (World Bank 2009). Comparing per capita household consumption and prices of contraception allows us

[19] * Number of cases was too small (below 20) so the figures have been removed.

to gauge how affordable the various methods are. Mean per capita household consumption per day in 2007 was 4,964 Riel (1 US dollar equals approximately 4000 Riel), ranging from 13,324 in Phnom Penh, to 6,976 in other urban regions to 3,710 in rural regions (World Bank 2009:15). So the average for Cambodia, of 5000 Riel per day, makes the comparative cost of an IUD (R24000 or US$6) - almost 5 times the daily household consumption. Food consumption accounts for a huge share of overall household consumption, on average 62% of the total. Unsurprisingly, moving up the wealth quintiles, food as a proportion of total consumption decreases, and regionally the rural areas spend more of their money on food.

Figure 14: Estimated shares (%) of food consumption in total household consumption in current prices by region and per capita consumption quintile 2007



Source: Cambodian Socio-Economic Survey 2007 (after World Bank 2009 Table 8: 18).

Poverty is widespread in Cambodia and forces people to make hard choices about what to go without, but it would be over simplifying the matter to say that people do not have enough money for contraception – the issue is *also* about priorities and attitudes to expenditure at all levels of society. It is not straight forward to assume that money would be spent on food first and other items afterwards. In my field work I was surprised to find that even in fairly wealthy families there can be short intervals when members go without food. Although the consumption of large quantities of rice provided adequate calories, *prahok*

(fish paste), a condiment, or salt were substituted for meat and vegetables. This was either because of a temporary shortage of cash or a decision to forgo food in order to use money for something else. For example, the family may be building a new house or paying for a wedding, investment or medical treatment. The irregularity of cash income and expenses, for many (from rich to poor), and an absence of a culture of saving, creates a sense that such temporary cash flow shortages are normal and acceptable (at least, to a much greater degree than compared to my own culture in the UK). Relatively few of my informants had bank accounts; instead, accumulated wealth would be invested in property or jewellery, which would be sold when the money was needed. Looking at the CSES 2007 survey data we can see that 6% of total household expenditure went on "special occasions, as funerals, weddings, parties, rituals, cash gifts, charity etc." (World Bank 2009: 113). Even many of my poorest informants regularly donated money to the pagoda. When viewed within the wider cultural context such behaviour is rational: performing rituals and religious obligations, maintaining social relations and reputation are seen as important within a Khmer world view, and this is reflected in the amount of money spent on them. People acknowledged this, and even joked that for the money Khmers spend on building new pagodas they could have a health clinic in every village. Since most people do not receive a regular salary, people use complex coping strategies to budget, for example, substituting cheaper food items for quality products. There is an issue of cash flow, how much in liquid assets people have available at one time. Contraceptive methods that require a large expenditure at the outset are viewed as too expensive, even though, in the long-term they are cost effective.

Lack of knowledge on pricing

It is not only the high cost of long-term methods which make them inaccessible, but also the lack of knowledge regarding exactly how much they cost. Most of my informants did not know the cost of long-term methods, only that they were expensive. Discrepancies in pricing when obtaining methods from different sources, further compounds the issue. This uncertainty of pricing, (in my opinion) makes it less likely that people will seriously weigh up the option of such a method. The importance of saving face and the rigid social hierarchies play into a tendency to avoid situations which would be socially embarrassing

such as attending a consultation with a health professional but then not being able to afford a medical procedure or long-term contraceptive method. People would prefer to avert the potential for that kind of situation by avoiding going to the clinic in the first place.

Administrative barriers

Important obstructions to contraceptive use can be administrative barriers placed on who is allowed to use contraception. Such limitations appear to be present in Cambodia but are not fully transparent, as recent policy documents, such as the *National Strategy for Reproductive and Sexual Health in Cambodia (2006-2010)* (MOH 2006) and others (MOH 2010), do not make reference to protocols (or an absence of protocols) regarding who can and cannot use specific methods. However, Cambodia's first policy document on contraception, *Birth Spacing Policy for Cambodia (1995)* states: "Individuals and couples should have unrestricted access to Birth Spacing services" (MOH 1995: 2). The government's use of the term 'birth spacing' emphasises the use of contraceptives for the purposes of spreading out births, rather than limiting the number of births a woman has. The same document goes on to state: "Safe permanent methods of contraception should be available with appropriate counselling to those who request it on health grounds or grand multiparity" (MOH 1995: 2). Further detail is given in an undated Ministry of Health report which states the criteria which must be met for sterilisation: "medical reasons; if women <30 years minimum of 3 children, youngest child >2 years; if woman >30 years minimum of 2 children, youngest child >2 years; careful counselling; agreement of the spouse with consent signed by both of them; client must have the choice between local and general anaesthesia" (MOH undated: 13).

Whilst short-term methods seem to be without restrictions, the same cannot be said for long-term methods. In my interviews with health care providers some stated that anyone wanting to use any method was free to do so and there were no rules. However, a member of staff at the provincial (public) hospital stated that there *were* rules for who could access long-term methods: IUDs, implants, and male and female sterilisation. A person obtaining any of these methods would need to be married, to have 4 or 5 children already, and to have

permission from their spouse. It is likely that at least some private sector providers do not limit long-term contraceptive provision in the same stringent way.

Geographic and social barriers

As with cost, the issue of geographic access appears not to be an obstacle to contraceptive use when looking at quantitative data: no women cited 'lack of access/too far' as their main reason for not intending to use a method (table 3) (DHS 2005). However, qualitative data shows that distance can be a barrier. Amongst some rural informants the travel required for an IUD or sterilisation (to the district hospital) *was* seen as an obstacle, because of the time, the cost of travel and difficulty of arranging travel. Furthermore, the possibility of something going wrong and it being a long way to go back for a check-up, and the potential costs of not being able to work if health were impaired were seen as too much to risk for many rural women who needed to be physically fit to perform manual farm work. Here we see the interplay of cost and side-effect worries:

> "IUD- they don't use it." [Why?] "Fear. No one here has tried it so we don't know the results. We're far from the market. IUD and sterilisation…they are difficult to get done. You must get examined and sleep in the hospital. We don't have much money to go so don't. Some say contraception makes you thin, or get a problem and then you have to go back to the clinic to *leang* (wash/clean out). They stop using it or they get another injection to counteract the first – too hot, too thin. Others get used to it and are *som* (suited). Heard that if you use it you might get *gork cheeum* (stuck/frozen blood) where the blood vessels close down. Then when you stop using it and become pregnant, it might be difficult to give birth because a lot of blood might come out. There's a rumour of an ectopic pregnancy/deformed fetus and needing surgery to take it out. Everyone blames it on injectable contraception, but I know they had that in ancient times too. (Female, 31 years, 1 child, rural site)

This quote highlights this combination of reasons that together impede wider uptake of contraceptives: distance, cost, lack of trusted knowledge, fear of side-effects and longer-term health concerns. It was common in informants' statements about contraceptive decision-making to hear multiple reasons interacting with each other. This re-enforces my earlier point about surveys being unable to capture multiple reasons, in this case women's actual reasons are multiple and complex when they are given the chance to reply in full.

The issue of the distance needed to travel to obtain long-term methods is an interesting one, applying to rural areas only. In my rural field site people travelled equally long distances (as compared to the hospital) to consult traditional healers – *kru Khmer* – who had a particular reputation or specialism. So it seems this physical distance is interacting with social distance. For some it was acceptable to travel 10 km to a *kru Khmer*: people know what will happen, it is a predictable social interaction, with someone similar to themselves. However to travel 10km to the hospital, to meet someone of a different, probably higher, social standing in a very unfamiliar unpredictable interaction is much more daunting.

Arriving at the hospital can feel bewildering and people can be unclear about where to go and what to do. A client will, most likely, be seen by a stranger of a higher status than themselves. Due to the power dynamics in the provider-client relationship and the hierarchical nature of such relationships in Cambodia, the client is likely to feel unable to negotiate with the provider. It is a disempowering step to put oneself in the hands of someone else. The undesirable nature of this may be added to if an embarrassing and uncomfortable physical examination is needed, particularly given the context where people are not used to being examined by health professionals. Once the client has submitted to entering into that interaction, they may feel obliged to do as they are told. From this perspective it is easy to see why not entering into that interaction is preferable, less scary, than the unpredictable outcome that could occur from it. Furthermore, given that the IUD requires removal by a trained provider, for rural women, probably the same one who put the IUD in, it would require returning to the same person and telling them to remove it. In terms of saving face, a Cambodian woman is likely to feel uncomfortable going back and saying this in case it angered the person who put it in. Sterilisation (male and female) is still relatively uncommon in Cambodia, and in my field sites it tended to be viewed as something which negatively altered one's personality. Surgery, in any case, was something to be fearful of and treated as a last resort to save one's life, there was no concept of 'routine operations' amongst my informants.

Source of contraceptive methods

The source where married women obtain their contraceptive method varies greatly according to method: both the DHS data and my fieldwork confirmed this.

Table 6: Source of contraceptive method according to method, amongst married women who use contraception

	Pill	IUD	Injec-tions	Condom	Female Sterilis-ation	Male Sterilis-ation	Norplant	Monthly pill	Total
Public Sector	**32.9**	**35.4**	**58.0**	**20.7**	**78.9**	**85.7**	**15.8**	**5.7**	**40.5**
National hospital(PP)		4.5		1.4	26.1	0.0	0.0		2.2
Provincial hospital (RH)	0.3	4.5	0.9	1.7	40.0	28.6			3.5
District hospital (RH)	0.4	5.1	2.0	0.7	9.4	57.1			1.9
Health centre	30.1	12.4	51.3	14.6	1.1			3.1	29.7
Health post	1.0		1.4					1.3	0.9
Military hospital						0.0			0.0
other public	1.2	9.0	2.4	2.4	2.2		15.8	1.3	2.3
Private Medical Sector	**13.3**	**56.2**	**25.7**	**10.2**	**18.3**	**14.3**	**84.2**	**15.1**	**20.3**
Private hospital	0.3	1.1	1.4	0.7	5.0		15.8	0.6	1.1
Private clinic	4.7	33.1	8.4	6.1	12.2		63.2	5.0	8.7
other private medical	8.3	21.9	15.9	3.4	1.1	14.3	5.3	9.4	10.5
Other	**53.8**	**8.4**	**16.3**	**69.0**	**2.8**	**0.0**	**0.0**	**79.2**	**39.2**
Shop	31.7		2.9	47.3				64.2	22.5
Community distributor	13.0	0.0	5.4	6.5				0.6	7.5
Friend/relative	0.4	0.6	0.1	3.4				1.3	0.7
Other	8.8	7.9	7.8	11.9	2.8	0.0		13.2	8.6
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
n	1,101	177	792	290	167	7	19	158	2,711

PP = Phnom Penh

RH = Referral Hospital

From the DHS 2005, the majority of daily pill users (53.8%), condom users (69%), and monthly pill users (79.2%) obtain their contraceptives from sources other than the public

and private medical sectors. The majority of these women are purchasing them in shops (table 6). The IUD and implant are generally obtained from private medical facilities (56.2% and 84.2% - although Norplant is extremely rare *n* =19). Finally, injections (58%) and female sterilisation (78.9%) are most commonly obtained from the public sector. Male sterilisation is extremely rare (*n*=7). Overall the public sector accounts for 40.5% of contraception, the private medical sector accounts for 20.3% and the remaining 39.2% are obtained from other sources (mostly shops 22.5%).

Use of social marketing brands

The population relies heavily on social marketing brands of contraceptives which are subsidised. Almost half (47.6%) of daily pill users (the most common contraceptive method used) used the social marketing brand 'OK' – it is both cheap and widely available, from both public and private health clinics, 'village health volunteers' and pharmacies. The brand distributed at public health clinics (the OK pill) was used by 45.5%, with various other brands used by a small proportion of women. Table 7 shows urban women use social marketing brands more than rural women (73.8% compared to 44.1% respectively).

Table 7: Use of social marketing for the daily pill, married women

		'OK' pill	Other daily pills	total
Place of Residence	rural	44.1%	55.9%	910
	urban	73.8%	26.3%	160
Total		48.5%	51.5%	1070
	Pearson Chi-Square value = 48.004, df = 1, p-value < 0.001. Missing = 43.			

Informed choice

A lack of informed choice on contraceptive options available is exacerbating the fear of side-effects which is a major reason for unmet need. According to the DHS 2005, only 62.5% of contraceptive users were informed about potential side-effects or problems with their chosen contraceptive method. This is probably related to the findings above which showed that many women (22.5%) obtain their contraceptive method from shops rather

than medical providers. Only 59.9% were informed about what to do if they experienced side effects and fewer still, 54.5%, were informed about alternative options. These low figures go some way towards explaining why fear of side-effects and health concerns are the main reason for non-users not intending to use contraception in the future. The patterns vary by specific methods: users of the monthly pill received the least information on side-effects (only 31.1% informed of them, and 28.5% informed what to do about them). Users of injections received the most information (67% told about side effects). Worryingly, 12.9% of women sterilized in the last five years before the survey were informed that the method is permanent. This group of women were also least likely to be informed of alternative methods (only 32.0% received this information).

Table 8: Informed choice

Percentage of users informed about possible side effects, informed what to do if they experienced side-effects, and informed about alternative methods. Also, percentage of women sterilized in the last 5 years who were informed that sterilisation is permanent

Current contraceptive method	Told about side-effects by health or FP worker	Told what to do about side-effects	Told about alternative methods by health or FP	*n*	Among sterilised women, percentage told that it would be permanent
Pill	62.5	58.9	54.2	944	
IUD	62.8	64.7	53.1	124	
Injections	67.8	67.5	59.0	624	
Female Sterilisation	64.6	49.7	32.0	81	87.1
Norplant	*	*	*	16	
Monthly Pill	31.1	28.5	44.4	127	
Total	**62.5**	**59.9**	**54.5**	**1916**	**87.1**

Although I made no attempt to quantify the scale of lack of informed choice, findings from the fieldwork did support these quantitative results. Informants in the field had very mixed reports of how much information and advice on side-effects they were given, generally receiving less or none if they purchased contraceptives from shops or pharmacies, but some women reported receiving no information on side-effects or alternatives when obtaining a method from a health clinic (public or private).

Belief and trust in health care system

An important factor deterring modern method use was the lack of trust in the Cambodian health care system. Many people place their trust in the traditional healing sector (Chapter 3), and lack belief in biomedicine's capabilities. In an interview with the head of a health clinic, I explained that the main focus of my research was trying to find out what the obstacles were for those women who want to avoid pregnancy but do not use contraception. The health clinic head confirmed my hunch:

> "Oh that's down to their beliefs – they *sain kru aarek, sain neak ta* (worship/pray to and do offerings to guardian spirits). Also they are afraid of something new and different. Traditionally, in former times, Khmer had no contraception – they had 10 or 12 children, everyone – so it is still something strange for them. They are afraid to try it." (Male, 40s, rural site)

A lack of knowledge combines with a fear of the unknown; people trust their neighbours and listen to village gossip rather than the advice of health professionals.

> "Not many people use the pill now, most go to inject. They used to like the pill but they forgot to take it too often. One lady who came to get the pill, she'd used the pill before, from a seller not the government, maybe it had expired and she used it a lot. Then later came here and used this pill, then got a problem and went to the *pairt* (medic/doctor) the *pairt* said you used a lot of contraception. Then after that, she spread the rumour that the pill can cause a lot of problems. She got symptoms like *rerm* (boils) round her waist, over the area of her womb. I wanted to find out if it was my pills that had caused it. I went to the village head and said can I meet that woman. Then the woman denied spreading the rumours. That woman used the monthly pill for a long time, but only got problems later."
>
> (Female, village health volunteer, rural site)

> "One women with 12 children said she didn't want any more, didn't know what to do. I advised her to j*ong dai sbown* (be sterilised). She agreed. Then when I came back three days later she didn't want to. She had listened to the people around her. Another time I went to give advice and many people put their name down. Then two days later I went back to arrange a free car and no one wanted to go anymore." [Interviewer asks the reason for unmet need?] "Because they don't know much about it [contraception], the organisations go to educate people, offer money back or free, but they trust their neighbours more, for example, someone they know with experience. They think if they get sterilised they are afraid they won't be able to do heavy jobs." [Interviewer asks the biggest obstacle to contraceptive use?] "Knowledge. If they *jeh dung* (know and understand), they use." (Female, 20s, NGO health educator)

> "Some are afraid to use it [contraception], the ones who didn't go to discuss with a *pairt* (medic/doctor), if they go they aren't afraid. The ones who buy it from a shop and

> don't know how [to use it] they can get problems. Also some bodies are suited *trouv* (suited) to the pill others injection." (Female, 60s, traditional midwife)

This final quote, from a *chmob* (traditional midwife) who had had some biomedical training, brings together the ideas about fear and knowledge of contraceptives, with ideas about how bodies are perceived as different from each other. This leads into the following sub-section, which discusses concerns specifically related to contraceptive methods and their effects on the body.

Method related concerns: side-effects, discontinuation, and models of the body

Side-effects: health and well being

The foremost explanation for the unmet need for contraception to come out of the ethnographic research is the fear of side-effects and health risks associated with their use. In semi-structured interviews about contraception this was overwhelmingly the first and main reason stated for not using a specific method. My landlady in Daunchem, the urban field site, explained that people do not like to use contraceptives, because they do not understand enough about them, they are not educated about them, so they are worried it might affect their health:

> "All hormonal contraception, they don't want to use it because it could affect their health in the future and condoms not suited." (Female, 60s, teacher, urban site)

> "People here fear lumps in womb *doh nou sbown*. Some people believe rumours, such as irregular periods, or headaches, but they are the people who never come to the clinic to discuss [contraception with me]." (Female, midwife, rural site)

'Fear' (*klaaj*) was a word I heard over and over again in these discussions. In some cases a method had been tried and then discontinued due to the woman experiencing side-effects, but in many cases the method had not been tried because of the *fear* that they would experience a problem.

> "Some people don't use contraception because they say they are not suited – [it makes them] thin, fat, bleed, too much period, not enough period."
> (Female, pharmacist/drug seller, rural site)

> "There are a lot of side-effects. If you use injection it can make you hot inside your body. But if you protect by yourself, no problem. In general taking the pill makes you hot. The pill and injection are the same but the pill is weaker. But when you get your period it's not so good, it drops not like it normally does. It's not good...it's not like your normal blood, it's black and less than normal. Normally you might get 4 days, but [when taking the pill] only 2 days and black.' Then that's easier? Why bad? 'It's less and not good, black." (Female, 20s, 1 child, urban site)

> "I heard that if you do contraception after you are married it can cause you to be infertile, because if you have taken the pill or injection for a long time it can cause the womb to close permanently." (Male, 30 years, 2 children, urban site)

The daily pill, monthly (Chinese) pill, injection and implant were grouped together by informants as all working by 'hormones' to prevent pregnancy. They were roughly understood to contain the same or similar 'ingredients', with the monthly (Chinese) pill containing a higher dose than the daily pill, and the injection a higher dose than the monthly pill – based on the frequency with which it is administered. The 'ingredients' were often said to make the body hot and it was this hot state that was said to cause the relatively immediate problems: headaches, dizziness, nausea, hotness or coldness, weight gain or loss, vaginal discharge, changes to menstruation.

> "People who don't use contraception it's because of side-effects. Some inject – bleed lots, get thin, some suited some not suited. I was fine with daily pill and injection. I changed to injection after using the pill for a long time because I was afraid for my health." (Female, 61 years, 6 children, urban)

> "I used the daily pill for five years. It made me hot at first but not later, but after 5 years I worried they would make my womb *tung* tight and *rung* hard so I stopped using and quickly became pregnant." (Female, 34 years, 2 children, urban site)

A further source of concern was that even if the side-effects, such as headaches and nausea, were not experienced, or they could be tolerated, *long-term* use of a hormonal method was perceived to lead to potentially more serious health problems: drying, hardening or 'withering' of the womb, infertility, cancer, cysts, and other undefined health problems. Several informants discussed the idea of 'having a break' from contraceptives, or changing to another method, as something good for the body, particularly after using a method for some years:

> "I use day counting *kbouern pairt* because it's easy and I never have mistakes [used for 10 years since married]. If I take medicine [i.e. contraceptive pill or injection] I think it's difficult, I'm afraid of side-effects. Using medicine I'm afraid of cancer and stunted/undeveloped womb *grun sbown*, most people say they've never used medicine for a long time. They use only 2 or 3 years then they stop because they're afraid it will affect the womb. I don't know but I just heard from other people so I'm not sure whether this it true or not. Some are afraid of becoming infertile if they take medicine for a long time." (Female, 38 years, 2 children, urban)

> "I've heard that the OK pill can make withered/ruined womb *svet sbown*, if you use it for a long time you can become infertile. If you take too many pills or injections, then when you want a baby you cannot have one, the womb is closed forever." (Female, 28 years, 1 child, urban)

A concern over side effects was heightened when women were breastfeeding.

Breastfeeding

Women generally breastfeed their infants and in spite of daily contraceptive pills for breastfeeding women being cheap and widely available, contraception was a particular worry at this time:

> "The pill, they say it makes you hot, and can cause the child to get withered *svet*. The child doesn't get chubby and grow healthily, it gets thin. There are people who take the pill and they say like that. I'm afraid of it. When the child is still breastfeeding they're cold, and we're warm or they're warm and we're cold. Some people take the pill and they get blood coming out. I heard that and I don't dare use it. The people who used it first, everyone said they got some side-effects, this happen, that happen, so I'm afraid-condom, pill, injection. In our health we are fine [if we use natural method – withdrawal or day counting] not hot or cold, normal. Some people who inject drop blood the whole month, seeing them I'm afraid. We are successful by our way, natural way." [She uses withdrawal] (Female, 39 years, 4 children, rural site)

> "I heard if you do contraception while breast feeding the baby can wither and dry up *svet* [becoming skinny], or you can get lumps." (Female, 39 years, 2 children, rural site)

> "I used condoms when breast feeding as I was afraid the pill and injection would make the baby hot." (Female, 36 years, 4 children (2 living), rural site)

These quotes about breastfeeding also show how people frequently group all modern contraceptive methods together, for example condoms and injections, despite them working in completely different ways. Modern methods are lumped into one category which is little

understood and held in opposition to ‘natural ways’ i.e. using nothing to prevent pregnancy or using withdrawal and day counting.

Traditional models of body

Before conducting fieldwork I had presumed that I would find many informants holding an alternative view of how the human body works as compared to the biomedical model; a model of the body informed by the Khmer tradition of healing and medicine, a medical tradition practised concomitantly with biomedicine in Cambodia (Chapter 3). I had hypothesised that this alternative model of the body would be fairly fixed and well-formed and that people’s fear of modern methods of contraception would be grounded in it. This led me to ask many questions about how the body works, what parts it is made up of, and how specific contraceptives affect those parts or functions. Rather than finding a fixed body of principles, I found people’s knowledge to vary enormously and understandings of how the body physically works were frequently vague and patchy. On reflection this made sense, since it is a Western biomedical view grounded in Cartesian mind-body dualism that separates the physical body from the mental, spiritual and emotional self. Therefore it is part of the cultural setting that biomedicine has evolved in, to have such a body of rules and principles of parts and functions of the physical human body. In Cambodia the mental and physical are not so separate, nor is the social, nor the supernatural. In the Khmer world view, germs can make you ill, but so can a curse that stems from a social relationship turned sour. An ancestor or locality spirit which has inadvertently been angered could be the explanation for poor health, just as bacteria in unclean water could. Therefore it does not make sense, within this cosmology, to partition off the physical functioning of the human body, as we do (more or less) in the Western medical tradition. Other researchers have also highlighted the way traditional medical knowledge varies within populations, particularly between specialists and lay members of a population (Garro 1986; Randall 1993). I agree with Aveling (2012) who argues that international health interventions must avoid essentialising local spheres of knowledge as fixed and unchanging; often there are ambiguities and knowledge is not shared equally amongst all in a community. Local and global ideas mixed and were evident in people’s conceptualizations of contraceptive functioning.

The two ways of thinking, a biomedical and a traditional Khmer medicine, are not mutually exclusive. A curse can be seen as the root cause of a physical problem and the physical problem may be treated by biomedicine. Such supernatural beliefs can be the root explanation of why *that* person developed that disease. In the Cambodian view, illness is in a category with other misfortunes or *gruah t'nak*. A misfortune can take many forms such as losing property, accidents, an illness, or losing a job. This refers back to the discussion Khmer views of the body and illness in Chapter 3.

Informants' statements about contraceptive side-effects and functioning at times revealed the mix of traditional and biomedical knowledge: ideas about hormones interacting with humoral notions of hot and cold balance. Being in a hot state, as well as being a problem in and of itself, can also lead to other illnesses.

> "When a man knows his wife uses the pill, he feels sure of not getting pregnant. All the sperm can go in and mix with the woman's egg. Then the pill destroys those mixed eggs. At that time that is why it's really hot inside her so that's why it affects the health." (Male, 24 years, 1 child, urban site)

> "I treated someone for painful urine. She drunk my medicine- cured. But then later she took OK brand pills and came back with the same problem. Because they had made her hot." (Male, traditional healer, 60s, rural site)

However, informants often expressed more pragmatic attitudes to contraception: 'if it works for me I use it'. Rather than grounding their opinions in theories of how the contraceptive operates, their perceptions stemmed from their own direct experience or the experience of people they knew.

> "Some people say the pill makes you hot but for me it's normal - like I'm not taking anything, it didn't make me hot."
> (Female, monthly pill user, 31 years, 2 children, rural site)

> "All [contraceptive methods] are good according to which one you like."
> (Male, 48 years, 2 children, urban site)

Mood changes and virility

Very few participants I spoke with knew anyone who had undergone male or female sterilisation. For most people it was too unknown to be considered as an option and when I asked them about it they would just say they did not know anything about it. When people did talk about male sterilisation it was in negative terms. It was said to lead to mood and personality changes in the man, making him short tempered and angry, also reducing his libido and sexual capability, which in turn lead to relationship problems.

> "Male sterilisation? – most have problems. Many, their wives leave them, and their wives get another man on the side. They are not good at 'doing' [sex]. Not good at all. They argue every day. Some people want to kill themselves, about that problem. They cannot satisfy their wives because the man has no capability. Basically, they don't have the desire for sex. The water comes out as normal, but not really aroused. After one time, if the wife wants another time, the husband doesn't want to. If you talk about female sterilisation: difficult for the woman." (Male, 58 years, urban site)

This woman was asked about her experience after her husband's sterilisation:

> "It [male sterilisation] is not good. [My husband became] mean and hot tempered *gaik jeut chu chau*. Different from normal. Before my husband felt OK, but right now it seems like he has a bad feeling and hot temper. His characteristics have changed. Some people are OK. […] right after he had done it he was alright, but later I know that he changed his attitude. He feels regret after, that he did that [the operation]."
> (Female, 42 years, 3 children, urban site)

Beauty and menstruation

Another perceived problem with modern contraceptives is their effect on a woman's beauty, particularly in terms of the skin's complexion and body weight. This is seen to be related to the way hormonal methods affect menstruation. If menstrual flow were to be reduced, increased, irregular or stop this would be seen as a problem, upsetting the body's normal balance. Many of my participants, particularly urban and young women were highly concerned about their complexion and skin tone. Lighter skin is associated with beauty and many women go to great lengths to achieve lighter skin, avoiding sun exposure and using whitening creams. Working indoors was generally seen as desirable and a way to gain light skin. Skin colour is very much tied up with class in Cambodia, and amongst Khmers there is a wide variation of skin tones. Lighter skin is associated with higher status, and wealth.

The lightness of a person's skin is one of many factors that people use to determine one's place in the social hierarchy and therefore determine how someone is treated. One of the concerns with contraceptives is that the upset to menstruation can lead to less desirable skin. A related issue is weight gain or loss which can be caused by the pill and injection. Young women and urban women reported weight gain as a disadvantage to contraceptive use, and weight loss (but not too much) as a benefit. In a setting of food scarcity, such as amongst poorer women and rural areas, being too thin was highly undesirable. I found many rural women saw weight gain as a benefit of contraception, a sign of good health. It was often commented as evidence of their satisfaction with the pill or injection that they had put some weight on *meeun saik meeun cheam* (literally, 'to have meat and blood').

> "If I didn't use this natural method I would use one from the doctor, like an IUD. But it can make you get fat. Use the method according to ourselves and we can take care of our figure. They use the pill, can get fat. The majority get fat. I think that contraceptives can affect one's health. For your health, it can be hot, facial discolouration, become fat. I've seen it. Neighbours, or others, they say they use it and it makes them hot. The injection, every 3 months, you don't have a period, and get hot, facial discolouration, like that. Just heard them say, not seen. It's bad if you don't get your period, your complexion is not clear and radiant. We want to have it every month –it's good. It can change, your blood, we think like that in Cambodia."
>
> (Female, 36 years, 2 children, urban site)

> "Some contraceptive medicine can be good for one's skin, but a bit expensive like Jasmine [brand] pill. It's expensive for normal people. It's expensive but OK [brand] pill is also good too. It's only the rich people, they prefer the expensive one, and they are so boastful about using that medicine – it can cure all spots and facial discolouration, as well as make their skin beautiful, keep young for a long time, make lots of hormones." [Interviewer asks: "What are hormones?"] "Hormones? I just heard it, I don't know either. They said if somebody has lots of spots or acne, if no hormones the skin is dried up and our period is also hormone too. If no hormones we have no period either. So our period every month it means that it takes off the entire bad things –they come out." (Female, 38 years, 2 children, urban site)

Women also reported using the contraceptive injection or daily pill to bring on their menstrual period if they had experienced amenorrhoea (and at times injections other than the contraceptive injection). This single woman discusses using the pill or injection to regulate her periods:

> "Some use continually, others use once - like if you didn't get a period for two or three months: use it one time then you'll get a period. Once I didn't get a period for 3

> months and went to Om Jay's daughter [a nurse], who gave me an injection, don't know what of, but it made me really hot." [Interviewer: "Why do you want to get a period?"] "Because period blood is really bad and if you keep it in your skin is not going to be good – black and dull. Also it is not good for your health [not having periods]. Also period is changing your blood so that is good. Probably women can live longer than men because of this." (Female, 25 years, urban)

In my research this issue was usually discussed with reference to non-sexually active single women, and was understood to be unrelated to pregnancy. But it was also used as a euphemism by sexually active women who could potentially be amenorrhoeic due to pregnancy (and possibly as a way for them to return to normal periods without having to acknowledge they could be pregnant). In both cases it was said to be successful for bringing a return to regular periods.

Avoiding side-effects: condoms and natural methods

Another common theme was that people discussed their choice to use condoms or 'natural methods' as a way to avoid the side-effects and health risks of other modern methods.

> "Some, if they do injection they are afraid of having an accident/dangers, so they don't use it. They decide to use condoms, as condoms are easy."
> (Female, 44 years, 3 children, rural site)

> "I use condoms because I am afraid of my health being affected if I use the pill or injection." (Female, 26 years, 2 children, urban site)

> "I want to use withdrawal because…easy. If you take the pill you will ruin your health, there isn't one [method] that's good, some get thin, some get fat. Some who take the pill, a lot get facial discolouration *jooam muk.* And because my husband won't let me use the pill. He's afraid it will ruin my health."
> (Female, 35 years, 2 children, urban site)

These sentiments were shared by people who advised others on health, both in the biomedical sector and the traditional sector:

> "Most people use condoms, because it's easy. Most request them when we go to educate them. […] They prefer condoms to the pill or injection because of the side effects: too fat, too thin, blood all through the month."
> (Female, 20s, NGO health educator)

> "I advise people to use withdrawal, because it has no side-effects like taking pills or having the injection. A lot of people get side-effects like too hot. From not enough

> food, just rice, lacking nutrients, some eat just rice and salt. Also they test them on foreigners who are larger and have enough nutrients."
>
> (Female, 50s, traditional midwife)

The issue of using traditional methods as a way to avoid the side-effects of modern methods is addressed more thoroughly in the following chapter (6).

Problems with condoms

Although some people saw condoms as a way to avoid the side effects of hormonal methods, others had experienced or heard of different side effects related to condom use: that they would irritate or damage either the vagina or womb *roleat sbown*.

> "I never used condoms regularly, I tried it once but I don't like it. After using it I [my vagina] felt hot and irritated *gdaw grohaay*. Why can't I use it?"
>
> (Female, 27 years, 2 children, rural site)

> "I heard condoms irritate the womb *roleat sbown."*
>
> (Female, 29 years, 3 children, urban site)

> "Many people report irritation with condoms if so they should stop use."
>
> (Female, 30s, pharmacist, urban site)

> "Condoms can irritate the womb/vagina *roleat sbown* and cause diseases."
>
> (Female, 51 years, 6 children, urban site)

> "I have used them but it's not good if you use them for a long time - for the woman – it can irritate the womb/vagina." (Male, 26 years, 2 children, urban site)

This final quote illustrates the perception that long-term use is problematic. This was also the case for other methods (discussed above.)

Suitability

A recurrent idiom in discussions of contraception was that certain methods 'suit' certain people. It was widely accepted that what suited or fitted (*som* or *trouv)* one person may not work for another person. This could be due to how it affected their body or how well it fitted in with their lifestyle, priorities or preferences. For example: the inconvenience or embarrassment of having to obtain the pill or condoms regularly; forgetting to take the pill or when to get another injection; being unable to do heavy work; dislike of swallowing pills.

> "I've been using the injection for 10 years. It suits *som* [me]. It's no problem – easy. My health is easy/comfortable. Can work as normal. I've never tried any other method, only done the injection. I didn't dare swallow [to take the pill]. The midwife *pairt* gave me the injection to try. Before I was thin, and at that time the midwife said 'oh, go on, inject contraception - you'll become fat'. And when I did, I just kept getting heavier and heavier. *Meeun sait cheeum tuat* to have flesh and blood and fat. [i.e. Healthier and healthier] […] Inject is easy. People who take the pill, some drop a lot of blood. Injection – you don't have, it's easy. No need to use every evening. Us, 3 months, we go to inject. It's not easy to forget. Like if we take the pill, there are times when we forget; take the pill - it's easy to forget."
>
> *Interviewer: "Do you think there are obstacles/difficulties with using contraception?"*
>
> "No there is nothing difficult. If like me - nothing difficult. But some, they inject and then drop blood [i.e. abnormal or heavy periods] or whatever, so they stop using it. Some if they inject and aren't suited, they take the pill instead. If I took the pill I'd forget! But I never take the injection one after the other. I do it one every 6 months. It really works for me. When inject I don't have periods for 6 months, then when I do have [periods], so I inject again. Easy. In one year inject just 2 times."
>
> (Female, 44 years, 3 children, rural site)

> "Some use the pill, some use injection – according to what is suited to them. Some are not suited *som* – they feel not well if they are not suited to that method. […] I've used natural methods but now I'm using the pill. I just wanted to try another method to try it out." [Interviewer: Did you stop using natural methods because it's not really effective or..?] "No it's not like that. It's really effective, but I forgot it then if I used medicine it was alright. It would be so embarrassing/shameful [to get pregnant]. For young people they can use it [withdrawal or periodic abstinence] because they are good at memorising. Anyway, if they make a mistake it's alright because they are still young. For me, I'm too old to have a baby. You know here, for old people, they don't have babies, because it is so embarrassing in front of other people."
>
> (Female, 48 years, 5 children, urban site)

For some women, a dislike of swallowing tablets made them choose the injection over the pill. During fieldwork I found there to be a cultural norm of preferring injectable medicine over tablets (other researchers have also discussed this unwarranted over-reliance on injectable forms of medicine - Soeters & Griffiths 2003; Ovesen & Trankell 2010).

> "I hate tablets, when I swallow them I feel like I'm going to vomit, I don't know why. When I'm ill I only inject medicine, so that's why I decided to take contraception by injection." (Female, 27 years, 2 children, rural site)

Whereas condoms were said to cause irritation or pain for some women, they were said to reduce the pleasure of sex for men.

> "People don't like to use it much because it's not a good feeling *srool* - not skin to skin. Not suited." (Female, 59 years, 1 child, urban site)

> "I haven't used it but my friend told me that if you use condoms you might as well not have sex [i.e. no pleasure]. No good feeling." (Female, 29 years, 1 child, urban site)

Certain methods were seen to be less compatible with certain life styles. For a rural farmer whose schedule revolves around the farming season her daily routine can be very irregular, making it difficult to remember the pill.

> "I'm careless. Sometimes forget. If I were to take the pill or inject then sometimes I would forget, or be busy with work, then the way you take it, it's not regular. If you contracept by yourself [withdrawal or periodic abstinence]...well, you can do it. […] Even the injection you can forget too - when it's the end of the month you can forget. You've got to watch out, what time, what date is it. I don't know what date it is."
> (Female, 39 years, 4 children, uses withdrawal, rural site)

Broader social obstacles to contraceptive use

In the final part of this section, I broaden out the discussion on factors affecting unmet need; away from immediate barriers such as knowledge, access and method related issues, towards wider socio-cultural norms that can create obstacles to contraceptive practice. The appropriateness of a particular contraceptive method depends partly on the cultural construction of gender and sexuality. In Cambodia, high importance is placed on women's pre-marital virginity, and by extension, their ignorance of sexual matters (Tarr & Aggleton 1999; Fordham 2003). This places them in positions of less power when they do enter relationships, making it harder for them to discuss contraception with their partner. It can also mean young or unmarried women are stigmatised if seeking contraception or advice.

Relationships, trust and condoms

Previous studies have presented the idea that condoms are viewed negatively, as they are not considered suitable for a loving relationship and that the request to use them would be interpreted as almost an accusation or admission of extramarital sex (Tarr & Aggleton 1996; Fordham 2003). The times when my informants talked about this idea, was from almost the opposite angle – as in they saw condoms in a positive light because of STD

protection association - that women should be using it because they shouldn't trust their partners. Perhaps this was a reflection that they were talking to me – a researcher interviewing them about contraception, or perhaps it was because Siem Reap might have a higher proportion of sex workers than other areas of Cambodia as a destination for migrants and tourists. For example, a health educator tells women the main benefit of the condom is STD protection - that if your husband is not honest you could get an STD.

> "Some ladies think if their husband has a condom it means they think the husband has a girlfriend. If the husband sees the wife has condoms he will think the wife doesn't trust him. Some wives, when their husband comes back from Siem Reap, they won't sleep with him if he doesn't use a condom."
>
> (Female, 20s, NGO health educator, rural site)

Although amongst my informants I rarely met anyone who admitted to using condoms, I came across a perception of 'most others' using condoms.

Morality and condoms

In discussing who uses which contraceptive methods with the head of the rural health clinic, he mentioned that condoms were for *pooachj daarlaing pbayl yup* (those who 'go around' at night) and only used by one or two married couples. This was something I heard many times. The idea points to the association between condoms and illicit sex - premarital sex or extramarital sex. It also related to the idea of "geographical promiscuity" (Brickell 2007:137; 2011) that Brickell has written about in regard to Cambodia, the notion that increased spatial mobility away from the home is tied to a loosening of morals and acceptable behaviour, even more so at night. Social marketing of condoms promotes the idea that condoms are for groups of single men going to guest houses – and the kind of sexual relations that entails. For example, the government's campaign which promoted 100% condom use among sex workers and clients (Rojanapithayalkorn 2006) and the condom billboard adverts (observed during fieldwork), which use images of groups of young men drinking and socialising in a nightclub. It is a difficult balance. This approach to promoting condom use has seen success in reducing HIV in Cambodia (Rojanapithayalkorn 2006), but has compounded the association of condoms and illicit sex.

Gender and sexuality: Virginity

High value is placed upon women's virginity at marriage in Cambodia, as elsewhere in Southeast Asia. The reputation of the entire family is tied to the proper behaviour of their daughters, and virginity is a major part of this. Of course virginity cannot generally be observed by outsiders so it is the behaviour associated with virginity that is monitored – who a single woman is seen with, how independent they are, the idea of geographical promiscuity – of 'going around' with friends, particularly at night – drinking alcohol. Jobs in Siem Reap can be placed on a hierarchy of appropriateness in this regard and young women and their families have to negotiate whether the economic benefits are worth the reputation damage. I witnessed numerous examples of this during fieldwork: Charya deciding to stop travelling to a Siem Reap market from her nearby village to sell her father's fish catch; Bopha's parents forbidding her from working as a wedding beautician because it entailed being out at other people's houses at night; single mum Leakena's embarrassment at working at the karaoke bar because her children were asleep at that time and she could earn a relatively high salary. One's social circle and the physical circle one travels in, the time unsupervised and unchaperoned, and the hours one keeps become the outward signs of virginity. Concerned young women will police themselves to ensure their reputation is intact – not socialising after dark, not being alone with men, not drinking alcohol.

Sexual ignorance

By extension of this importance of virginity, single women are supposed to be ignorant of sexual matters, including contraception, as too much detailed knowledge may imply sexual experience. This has implications for when they do enter sexual relations. Often at marriage they are not equipped with knowledge about contraception, and if they do have the knowledge they are unlikely to feel empowered enough to raise the issue with their new spouse. The 'shyness' of young Khmer women is frequently talked about, and seen as a natural and positive attribute, distinguishing them from other nationalities, rather than a role expected or imposed by society. Of course, it can become a self-fulfilling prophecy as this is how society defines women. In practice these social barriers keep young women from gaining knowledge and access. With regard to their reproductive rights and health they are

disadvantaged by such social expectations, but with regard to their reputation and social standing it is in their interests to stay ignorant – or at least to present themselves as such.

Embarrassment

At times sheer embarrassment of talking about contraception can be an obstacle to use. A young NGO health educator stated that the ethnic Vietnamese women she works with on the Tonle Sap Lake, have a preference for IUD over condoms and other methods that must be used frequently. She explained this as due to their embarrassment - *eean kmas* -in talking about contraception. With an IUD the (nearly) one time only discussion and action which takes place in fitting one, was preferable to a repeated discussion (with health worker and husband) necessary for condoms, pill or injection use. A village health volunteer in Srolau, who sells condoms, also pointed to people seeking anonymity when obtaining condoms.

> "I sell condoms mostly to outsiders. Young men. Especially when it's a festival, they don't dare go to a place near them. They go far away to buy them."
>
> (Female, 30s, Village Health Volunteer, rural site)

Gender disparities and the role of men in family planning

Gender equality is now enshrined in Cambodian law, in both the Cambodian Constitution of 1993 and the Marriage and Family Law of 1989 (UNFPA 2011). However, according to the Ministry of Women's Affairs unequal gender relations are "deeply entrenched" (MOWA 2009: 26). Women's participation in politics is lower than in other countries in the region: the proportion of women elected at the commune level was only 15% in 2007 and to the National Assembly 19% in 2003 (UNFPA 2011). There are substantial gender differences in education and literacy, with female students accounting for only 39% of upper secondary school pupils (UNFPA 2011). According to the UN, "gender-based violence, including domestic violence, rape sexual abuse and trafficking remains a significant issue in Cambodia" (UNFPA 2011: 8). A systematic national survey in 2009 found that 22.5% of women had suffered violence perpetrated by their husbands (MOWA 2009). Furthermore attitudes which condone such violence are widespread: the same survey found that 50% of respondents felt that a violent response from a husband (even to the level of being life-threatening) was warranted when the wife's behaviour was

argumentative, disrespectful or disobedient (MOWA 2009: 25). A culture of impunity for perpetrators further exacerbates the problem. During my fieldwork I found attitudes that wives should defer to their husbands to create 'harmony' in the home were widespread, and arguably these are at the root of this justification for violence against women; wives should not do anything to anger their husbands and if the husband is angry it is their duty to calm him with, as I was told many times, 'sweet words'.

There is a double standard with regard to sexual behaviour for men and women in Cambodia: for men virginity at marriage is not regarded as being as important as it is for women. For some young men in Siem Reap visiting brothels on a night out is part of socialising. Acknowledging that gender roles are socially constructed and contested (Ong & Peletz 1995; and with regard to Cambodia, Brickell 2011a and Hill & Heng 2012), there nevertheless seems to have developed a dichotomy between good women (*srei la'or*) and bad women (*srei koich* or broken/ruined women). I was surprised when my neighbours in Siem Reap brought round their boyfriends to socialise in the front yard and were open about the fact these were married men. All the neighbours knew that the young women were being supported financially by the men. But Khmer friends were not surprised by this openness and lack of discretion. One explained it with a Khmer proverb:

> "If you put your hand in the *prahok* jar, put your whole arm in." (*prahok* is fermented fish paste and a common cooking ingredient). (Female, 24 years, no children)

She interpreted this saying:

> "*Prahok* is really smelly. If you touch it with your finger you will stink anyway, so you might as well put your whole arm. That is compared to a woman's reputation."
> (Female, 24 years, no children)

That was their metaphor for women's reputations – any hint of impropriety and the woman's reputation would be completely tarnished. Another Khmer proverb (commonly mentioned by Khmers in my fieldwork and by researchers working on gender in Cambodia (Tarr & Aggleton 1996) is:

> "Men are like gold and women are like white cloth."

This was explained to me as meaning gold can be dropped in the mud and become new again, but if a white cloth is dropped in mud it will never be clean again. With the implication being that men can recover from mistakes but women only have one chance to preserve their reputation.

Jacobson (2008) has discussed how polygamy was a well-respected institution in pre-colonial Cambodia: Angkorean kings are reported to have had large harems of women. (According to Jacobson (2008) this was a misreading of the 'women of the palace', that the French mislabelled as a harem and held up as a symbol of Oriental despotism, thus legitimizing the colonial project.) Whilst polygamy is illegal in contemporary Cambodia it remains something active in people's consciousness. It is not uncommon to hear gossip about politicians or elites having several 'wives'. The most common types of acid attacks on women (a growing crime in Cambodia) are widely held to be the result of *brapuan derm* (original or first wives) seeking to enact revenge and disfigure their husband's mistress (LICADHO 2003).

The terms *brapuoan jong* (later or second wife) and *sorhaay* both refer to a mistress that a man supports financially, usually in secret from his wife. There is a distinction between this type of extramarital relationship and the more directly economic, short-term transactional sex with a prostitute. I was told that it is not uncommon for men to visit brothels at the end of a night out as a group activity and not something to be ashamed of between each other (only something to be kept secret from wives or *songsa* girlfriends). The former types of relationships are feared by wives to a greater degree, one market seller I interviewed compared the latter type of relationship (with a prostitute) to paying for a meal:

> "I think it's a simple thing for most people, the man always has like that, I mean go out and then have another one, but just like...we eat something and then we go and it's finished. But it's not like a mistress. Mistresses make a lot of problems. They can have a baby. And without telling the wife, feed them, and lying…oh..the family must be complicated… sometimes divorce because of this problem."
>
> (female, 29 years, 1 child, urban site)

This quote exemplifies the relative tolerance to ad hoc transactional sex, which is seen as different from and less of a problem than a longer affair with a mistress. Keeping a mistress

was regarded as something only rich men would be able to afford. I came across a greater level of tolerance and resignation regarding marital infidelity on the part of the husband than I was accustomed to from my own background. This relates to the divergent concepts of the nature of men and women: the Cambodian view being that men are naturally inclined towards needing more women to satisfy them sexually, and to the double standards which place greater emphasis on women's reputations over men's, as being crucial to the harmony of the wider family. Divorce is seen as more shameful for a woman than a man, which may make women tolerate abusive relationships longer as the social sanctions for leaving their husband are strong. The category of *memai* refers to divorced or widowed women, yet there is no corresponding term for men (at least I did not come across one). The term is often used in a derogatory manner.

I frequently came across talk of men not being responsible for such actions – that it was male nature to be attracted to women and want more than one woman, and that there were many ways women tricked men into falling for them, for example, using sorcery from a *kru snai* (specialist in love magic). Whilst drinking coffee with a friend in the market one day, she told me that if a woman's husband is having an affair the wife can put her menstrual blood into something he will consume and he will leave his mistress. She insisted this was something people believed and that despite elders saying you go to hell for such an act, some women do it. Rather than the man acting of his own free will he is led astray by someone else.

Men and masculinity in the Cambodian context have received very little attention in academic literature, the exceptions are works by Brickell (2007; 2008; 2011b) and Jacobsen (2007 267-272; 2012). One of the aims of this research was to include the perspectives of men, as well as women, on the topic of family planning. While I think I achieved this to a degree, I found the men I interviewed were on average less forthcoming than the women. I frequently heard responses along the lines of 'I don't know anything about contraception because it's up to my wife'. The great importance placed on not losing face means there is a tendency to not discuss topics that you do not know about in front of somebody who is likely to know the 'correct' answer, such as an educated foreigner. So the lack of

willingness to talk about contraception on the part of men may have been something to do with this. Crucially I think that many men genuinely saw contraception as something which lay under the wife's realm of duties and not something which they concerned themselves with. This was frequently stated to me, and corresponds to other responsibilities and everyday tasks being very much gendered.

I also think the reason for men's quietness on the subject of contraception was partly to do with the interviewer effects of having two women interview a man, and that they may have been more forthcoming if I had had a male research assistant. Even better may have been to remove myself (a Westerner as well as a female) from these interviews and have a Cambodian male interview them, I think this would have made male respondents feel less inhibited and may have produced richer accounts. Price and Hawkins (2002) advocate for the use of peer ethnography in researching sexual and reproductive behaviour and I think this could have been fruitful in my research where the dual difference of my being a woman and a Westerner may have constructed too many barriers for some men to freely discuss such private topics. This may also have been a case where the use of the ethnographic method of long-term participant observation potentially hindered frank discussions from men: as I was trying to integrate and build rapport with friends and neighbours, I was aware that it was not appropriate for a woman to go around asking men about sexual behaviour. Had I been a researcher who was entering and exiting the field quickly, such as when conducting a survey or interviewing strangers, rather than as someone living in the community of study and trying to build longer term relationships, this may have been easier and more fruitful. I was aware of trying to keep a balance in the aims of my research, and conscious that being labelled within the community as someone known for inappropriate behaviour would hinder access to some informants.

Summary of Part 2

The second part of this chapter has analysed explanations for unmet need using both quantitative and qualitative data. A common finding in numerous countries is that side-effects are a major obstacle to contraceptive use (Stash 1999; Casterline *et al.* 1997;

Campbell *et al.* 2006); this was also the case for Cambodia. Both data sources confirm that fear of side-effects is an important obstacle to contraceptive use in Cambodia. The initial reading of the quantitative data, from the DHS, tells us that lack of knowledge, cost and distance are not significant barriers to contraceptive use. These results seem to show wide availability and cheapness of methods. However, with a more nuanced look, possible with ethnographic research, we find that these three factors can be and are obstacles. Thus, while it seems on the face of it that there is a wide selection of methods, that are cheap and available, actually, this only applies to oral contraceptives, injectables and condoms. Similarly, with the issue of women's knowledge of contraception: survey data suggests knowledge is universal, yet in depth qualitative data showed that this is not the case. Whilst most women had heard of several methods, they often knew little more than the name of a specific method. Having heard of a method does not constitute thorough knowledge, for example, knowledge of how it works, and what it will or may do to the user's body. Without thorough knowledge people are not confident enough to use modern methods.

The findings have shown that there are multiple reasons why women do not use, or have negative perceptions of, modern methods of contraception, and that these reasons often overlap and interact with each other. This has also been found in numerous other contexts (Casterline & Sinding 2000). For example, the issue of physical distance, social distance between client and provider, distrust of the health system, unpredictable financial costs, and health fears, interact together to discourage women from seeking long-term contraceptive methods. Modern methods are frequently grouped together and the side effects of one attributed to all. This makes the availability of the monthly pill particularly problematic: not only are users of this illicit pharmaceutical experiencing side-effects, but the side-effects of the monthly pill are then associated with other hormonal methods, therefore further discouraging use of contraception. Traditional models of the body differ from the biomedical model (chapter 3). This relates to contraceptive use when women interpret bodily changes due to use of a method in a negative way. Amenorrhoea, disruption of normal menses, and feeling hot, were all taken as warning signs that a method was having harmful effects on the body. Local concepts of human anatomy and physiology were also found to hinder use of modern contraceptives in Peru (Maynard-Tucker 1989). The final

section of the chapter examined broader social obstacles to contraceptive use. This discussion of the explanations for unmet need is continued in the following two chapters, as more findings are incorporated and a fuller picture emerges.

Conclusion

The purpose of this chapter was to establish the current patterns of contraceptive use in Cambodia, and to explain why women are not using modern methods despite not wanting to become pregnant. I began by examining patterns and trends in contraceptive use, using secondary analyses of survey data. After assessing the level of unmet need for contraception in Cambodia compared to other countries, logistic regression was used to analyse the factors associated with unmet need. Using the ethnographic findings of my fieldwork, I discussed women's and men's experiences and perceptions of modern contraceptive methods. This highlighted multiple and complex factors which act as barriers, preventing couples from controlling when and if they become pregnant.

Chapter 6

'The doctor's way': traditional contraception and modernity

This chapter explores the use of traditional methods of contraception in Cambodia. It begins by establishing the trends in the use of traditional methods, then assesses the factors which increase the likelihood of women using traditional as opposed to modern contraceptives (part 1). In part 2 explanations for the pattern of traditional method use are examined. Through further analysis of the Cambodian DHS 2000 and 2005 data and findings from the qualitative fieldwork, I examine the factors which explain the pattern of traditional method use. The chapter builds on the findings of the previous chapter (5) which looked in-depth at the perceptions and use of modern methods of family planning, as well as the factors that deter people from using modern contraceptives. Whilst the previous chapter focused on modern methods, this chapter addresses traditional methods: thus building up to a full picture of the way contraception is used and perceived in Cambodia. By looking at obstacles and determinants to traditional method use, the current chapter furthers the explanations outlined in Chapter 5 for unmet need for contraception (that is, when women use neither modern nor traditional methods, in spite of wishing to avoid pregnancy).

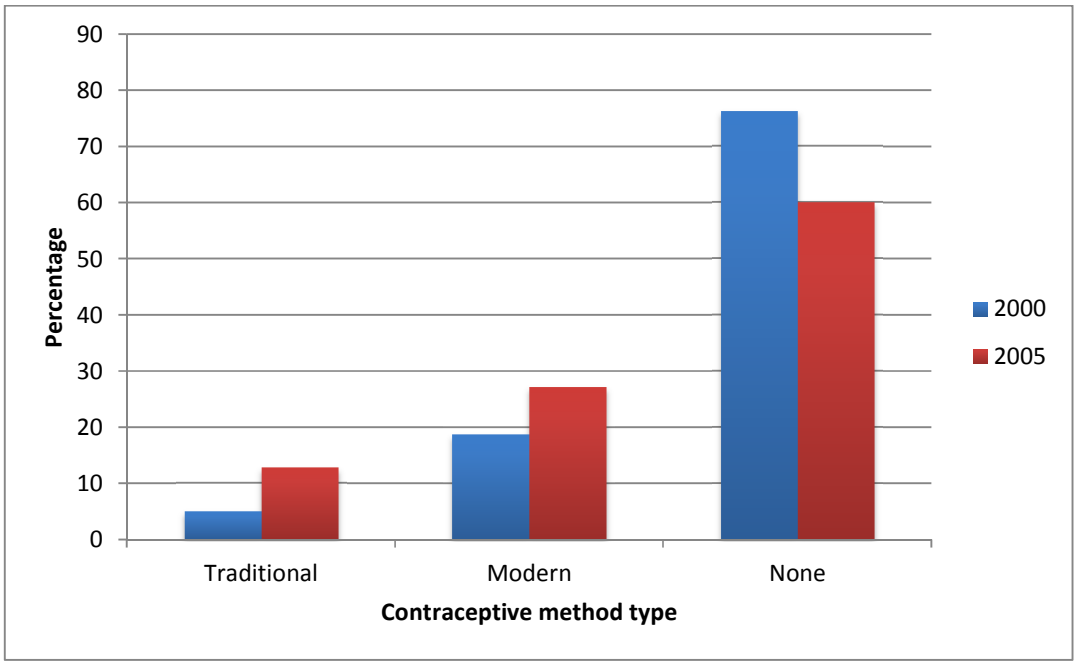
Part 1: Patterns of traditional method use

Contraceptive use and method mix

Between 2000 and 2005 there was a substantial shift in the contraceptive method mix of Cambodia, with traditional contraceptive methods becoming increasingly popular. Figure 15 shows that only 5% of married women were using a traditional method in

2000, and by 2005 this had grown to 12.8%. Since modern method use was also increasing during the same period, from 18.8% to 27.2%, it is difficult to see just how much traditional methods grew in comparison to modern methods.

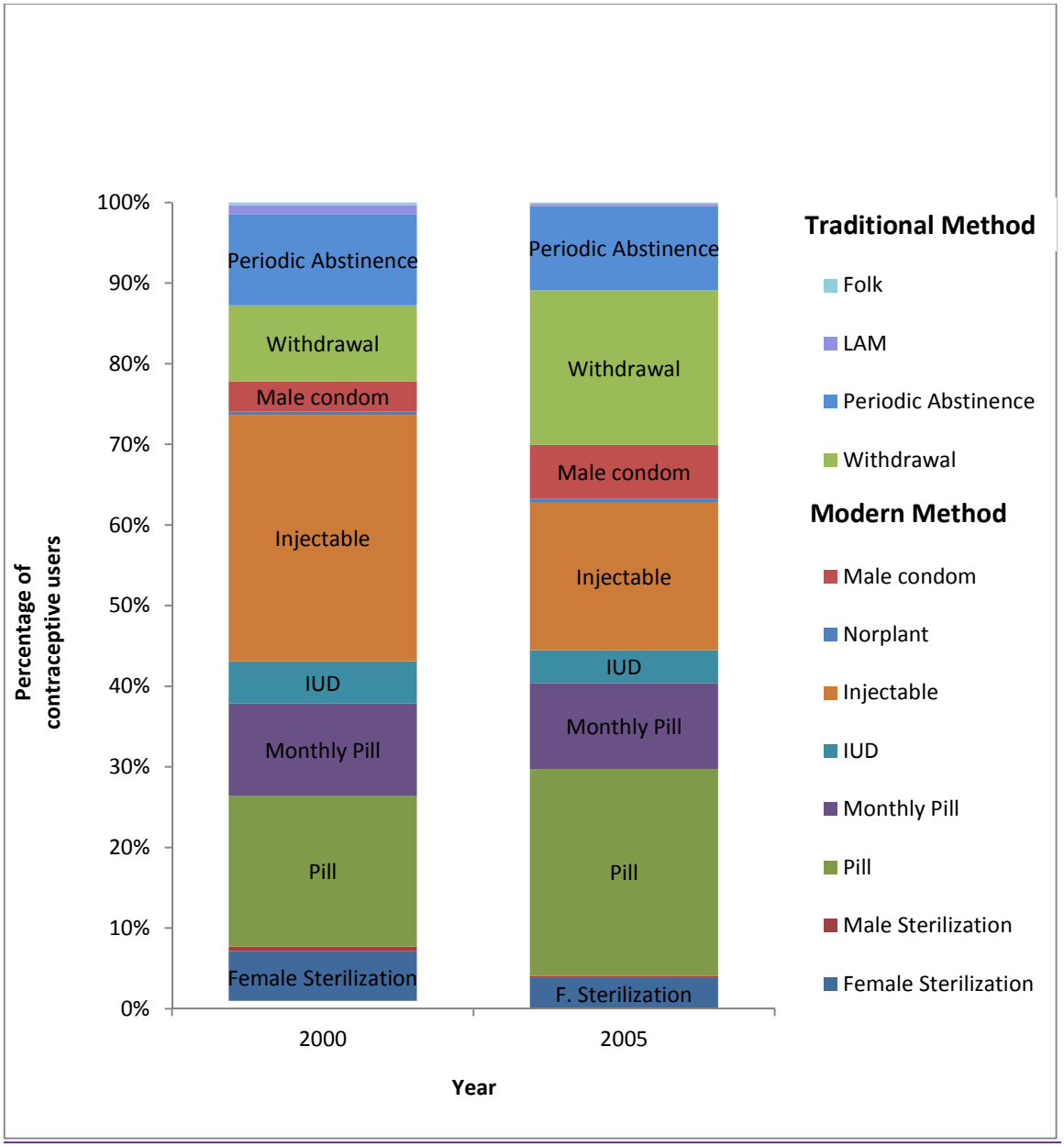
Figure 15: Contraceptive method type: percentage of married women (aged 15-49) in 2000 and 2005



n 2000 = 9071, *n* 2005 = 10087

To find out which method type increased the most it is helpful to look at traditional method use amongst contraceptive users only (excluding non-users), as in figure 16. As a proportion of all methods used, traditional methods (including folk methods, lactational amenorrhoea, periodic abstinence and day counting) increased from a fifth of users (21.2% in 2000) to nearly a third of all contraceptive users (32.4% in 2005).

Figure 16: Contraceptive Method Mix: percentage of married women (aged 15-49) using each contraceptive, amongst contraceptive users in 2000 and 2005



n in 2000 = 2159, 2005 = 4033.

By 2005 a traditional method, withdrawal, had become the second most popular method, used by a fifth of all users. Whilst use of withdrawal and the daily pill increased in

comparison to other methods, the proportions of contraceptive users relying on injectables or sterilisation decreased over this period.

Cambodia's neighbouring countries do not share the same patterns of contraceptive use. Both Thailand and Vietnam have high contraceptive prevalence rates. In Vietnam 91% of currently married women (aged 15-49) use a contraceptive method and a large share of the method mix is covered by IUD use (65% of currently married women use an IUD) (CPFC & ORC Macro 2003). In Thailand 72% of married women (aged 15-49) use contraception and almost all of this is modern methods: 70% use a modern method (NSO 2006). The key contraceptives in Thailand's method mix are the pill (31%), female sterilisation (25%) and injection (10%). In Indonesia the pattern is different again: the main methods used are injectables (28%) and the pill (13%), with all other methods used by less than 5% of married women (BPS & ORC Macro 2003). Here, the contraceptive prevalence rate is 60% amongst married women aged 15-49; the vast majority of this is modern method use (57%).

Demographic variation in method type

In order to further explore traditional method use, this subsection will look at the demographic variation in the *type* of contraceptive used. Crosstabulations are presented which show the relationship between contraceptive use type and various characteristics: age, education, residence, and wealth (table 9). The data are for women aged 15-49, who were married or living with a partner, using the CDHS 2000 and 2005. Chi-squared tests show that these patterns are statistically significant.

Table 9: Current contraceptive use type by background characteristics 2000 and 2005

Percentage of currently married (or in union) women according to contraceptive method type by background characteristic[20]

[20] Folk method cases have been combined with traditional method cases as the frequencies for folk were so low: in 2000 seven married (or in union) women reported currently using folk methods and in 2005 the figure was eight women. Wealth data was not available for 2000.

Background Characteristic	2000 Contraceptive Use Type: No Method	Traditional Method	Modern Method	Total percent	Total Sample Size	2005 Contraceptive Use Type: No Method	Traditional Method	Modern Method	Total percent	Total Sample Size
Age										
15-19	91.1	1.8	7.1	100	438	79.1	7.1	13.7	100	364
20-24	84.5	3.1	12.4	100	1008	65.5	11.3	23.3	100	1671
25-29	76.6	4.7	18.7	100	1612	58.4	11.1	30.5	100	1568
30-34	69.2	7.1	23.8	100	1797	51.0	15.6	33.4	100	1730
35-39	69.1	5.4	25.5	100	1765	50.4	15.1	34.5	100	1825
40-44	73.2	6.5	20.3	100	1428	57.4	14.6	28.0	100	1652
45-49	89.8	2.6	7.5	100	1023	78.8	9.3	11.9	100	1278
	Pearson Chi-Square value = 313.024, df = 12, p-value < 0.001. Missing cases = 0.					Pearson Chi-Square value =421.999, df =12, p-value < 0.001. Missing cases = 0.				
Education										
None	80.7	3.1	16.2	100	2798	69.8	8.0	22.2	100	2291
Primary	76.6	4.3	19.0	100	4960	59.5	12.9	27.6	100	5959
Secondary+	65.0	11.9	23.1	100	1314	49.7	18.4	32.0	100	1771
(Higher)						46.2	23.1	30.8	100	65
	Pearson Chi-Square value = 199.324, df = 4, p-value < 0.001.					Pearson Chi-Square value = 194.882, df = 6, p-value < 0.001.				
Residence										
Rural	77.8	4.3	17.9	100	7658	61.7	11.7	26.5	100	8515
Urban	67.3	9.1	23.6	100	1413	50.5	18.8	30.6	100	1573
	Pearson Chi-Square value = 91.831, df = 2, p-value < 0.001.					Pearson Chi-Square value = 87.777, df = 2, p-value < 0.001.				
Wealth	n/a	n/a	n/a	n/a	n/a					
Poorest	n/a	n/a	n/a	n/a	n/a	69.3	8.6	22.1	100	1957
Poorer	n/a	n/a	n/a	n/a	n/a	65.6	9.3	25.1	100	2029
Middle	n/a	n/a	n/a	n/a	n/a	61.3	11.5	27.3	100	1952
Richer	n/a	n/a	n/a	n/a	n/a	58.7	12.6	28.7	100	2037
Richest	n/a	n/a	n/a	n/a	n/a	46.0	21.7	32.2	100	2112
						Pearson Chi-Square value = 333.601, df = 8, p-value < 0.001.				
Total	76.2	5.0	18.8	100	9071	60.0	12.8	27.2	100	10088

The type of contraception used (traditional or modern) varies according to the background characteristics of women. Use of traditional and modern contraceptives rises with each increase in education level, wealth quintile and urban residence. The effect of increasing age on traditional method use is less straight forward - with traditional method use roughly increasing with age until it decreases amongst the 45-49 age group. Not only are education, wealth and an urban place of residence associated with more contraceptive use of both types, but we can see that in the most educated, wealthy and urban categories traditional method use accounts for a greater proportion of all contraceptive use. For example, in 2005 amongst the women with higher education 23.1% used a traditional method - relatively close to the proportion that used a modern method (30.8%). Similarly, for the richest quintile of women, 21.7% used a traditional method and 32.2% used a modern method.

Factors increasing the likelihood of traditional method use

To explore further the factors associated with traditional method use, whilst controlling for confounding, effects, binary logistic regression was used. This logistic regression model tests the likelihood of using traditional contraceptive methods, amongst married women aged 15-49 years who use a method of contraception (either traditional or modern). The response variable is whether women use traditional methods; modern contraceptive use is the reference category. Just as in the logistic regression model for unmet need (chapter 5), I used backwards elimination to specify the model. This was because it allowed me to begin with a model containing the complete set of explanatory variables in which I had a theoretical interest, and to systematically build the most parsimonious model by eliminating variables with no statistically significant effect on the response variable. Each variable was tested in turn using the likelihood ratio test. The variable with the highest *P*-value greater than the significance level of 0.05 was removed from the model, creating a new base model. This process was repeated until all the variables left in the model are significant at the level of 0.05.

The variables entered into the base model were, in general, the same as for the logistic regression model in chapter 5 which tested factors affecting the likelihood of having unmet need for contraception; again, they were selected as they were all variables from the data set which, in theory, could affect contraceptive use. Due to multicollinearity between wealth, residence and education, these three variables (or sets of dummy variables) had complex effects in this model. In order to make the results interpretable, interaction terms were included for 'wealth and education', 'wealth and residence', and 'education and residence'.

Table 10: Education level by wealth (currently married or in union women aged 15-49) in 2005

		Education Level			Total	Number of married women
		none	primary	Secondary+		
Wealth index	Poorest	40.4	55.9	3.7	100	1957
	Poorer	29.6	63.5	7.0	100	2028
	Middle	21.8	65.9	12.3	100	1953
	Richer	14.4	63.7	21.9	100	2037
	Richest	8.7	47.0	44.3	100	2112
	Total	22.7	59.1	18.2	100	10087
	Pearson Chi-Square value =1848.372, df =8, p-value < 0.001.					

There is a strong, and statistically significant, correlation between education and wealth (table 10). If we consider the education level of the poorest group, 40.4% have no education and 3.7% have secondary or higher. In comparison, amongst the richest group only 8.7% have no education, and 44.3% have secondary or higher. The balance between education level at each wealth quintile seems to be a gradual change as we move from poorest to richest.

Table 11: Education level by residence (currently married or in union women aged 15-49) in 2000

		Education Level			Total	Number of married women
		none	primary	Secondary+		
Place of Residence	Urban	16.2	49.1	34.8	100	1571
	Rural	23.9	60.9	15.1	100	8515
	Total	22.7	59.1	18.2	100	10086
	Pearson Chi-Square value =346.6841, df =2, p-value < 0.001.					

Table 11 shows there is a strong correlation between residence and education that is statistically significant. Amongst urbanites, 16.2% have no education and 34.8% have secondary or higher. Amongst rural women, a higher proportion have no education (23.9%) and fewer have secondary or higher (15.2%).

The base group for the logistic regression model is: currently married or in union women aged 15-49 years currently using a contraceptive method. The response variable is contraceptive method type; the outcomes are 0 for modern method use (reference category) and 1 for traditional method use[21].

Table 12: Logistic regression of factors affecting use of traditional contraception

Parameter estimates, standard errors and odds ratios from logistic regression models measuring effects of socio-demographic characteristics, medical care variables, and exposure to family planning messages in the media on contraceptive use type, amongst currently married or in union women using contraception in 2005

[21] A complete list of explanatory variables entered into the base model can be found in Appendix 2. The appendix also contains a list of the explanatory variables which were non-significant and therefore eliminated from the models after likelihood ratio tests.

Variables	Estimate	SE	Odds Ratio
Age			
15-19	-0.24	0.27	0.79
20-29	-0.29***	0.09	0.75
30-44	0		1
45-49	0.54***	0.14	1.72
Number of Living Children			
None	0.81***	0.29	2.26
1-2 children	0		1
3-4 children	-0.14	0.09	0.87
5+ children	-0.34***	0.12	0.71
Religion			
Non-Buddhist	-0.80***	0.28	0.45
Buddhist	0		1
Medical Care Variables			
Permission	-0.38***	0.14	0.69
Distance	-0.20**	0.08	0.82
Health facility	-0.14*	0.07	0.87
Media Influence			
Heard FP message	0.20**	0.09	1.22
Wealth			
Richest	1.35***	0.52	3.87
Richer	1.23**	0.54	3.42
Middle	1.27**	0.55	3.55
Poorer	1.49**	0.58	4.42
Poorest	0		1
Education			
None	1.19**	0.54	3.27
Primary	1.19**	0.53	3.28
Secondary+	0		1
Wealth Education Interaction			
For richest			
none	-1.43**	0.60	0.24
primary	-1.08**	0.54	0.34
secondary +	0		
For richer			
none	-1.41**	0.60	0.24
primary	-1.37**	0.56	0.25
secondary +	0		
For middle			
none	-1.34**	0.61	0.26
primary	-1.39**	0.57	0.25
secondary +	0		
For poorer			
none	-2.06***	0.64	0.13
primary	-1.57***	0.60	0.21
secondary +	0		
For poorest			
none	0		
primary	0		

secondary +	0	
Intercept	-1.76***	0.52

Note: *$p < .1$; **$p < .05$; ***$p < .01$
Source: Cambodia Demographic and Health Survey 2005

In order to interpret the effect of the interaction term for wealth and education, odds ratios were calculated separately (tables 13 and 14).

Table 13: Odds ratios for wealth differentials by education

Groups	Odds ratios		
	For women with no education	For women with primary education	For women with secondary+ education
Richest	0.92	1.31	3.86
Richer	0.84	0.87	3.42
Middle	0.93	0.89	3.56
Poorer	0.57	0.92	4.44
Poorest	1	1	1

The effect of wealth for different education levels:

- For women with no education being in any wealth category other than poorest decreases the likelihood of using traditional methods. However the effect of wealth does not go in one direction: being in the richest, richer and middle groups decreases the likelihood by 0.92, 0.84, and 0.93 times, respectively, however being in the poorer group decreases the likelihood by 0.57 times.
- For women with primary education being in the richest group increases the likelihood traditional use by 1.31 times, however being in the richer, middle or poorer groups decreases the risks compared to being in the poorest group.
- For women with secondary education, being in any other category than poorest increased the likelihood of traditional use substantially: being in the poorer group increased the odds by 4.42 times, slightly less increase for middle (3.55 times) and richer (3.42), but moving up again for richest at 3.87.

The effects of wealth on tradition method use are fairly complex, making it difficult to give a general statement. Having said this, if the two extremes only are compared with each other (i.e. the richest and the poorest) it is possible to draw some more intuitive conclusions:

- For women with no education, the odds of the richest group are 0.92 times the odds of the poorest group. For women with primary education, the odds of the richest are 1.31 times the odds of the poorest. For women with secondary or higher education, the odds for the richest group are 3.86 times the odds of the poorest group.

In conclusion, the difference between richest and poorest is largest for women with secondary education. Also, the effect of increasing wealth changes direction (i.e. increases or decreases the risks) depending on the level of education: amongst the non-educated being in the richest wealth group (rather than poorest) decreases the risks; amongst the primary educated, and even more so amongst the secondary educated, being in the richest wealth group increases the risks of traditional use compared to the poorest wealth group.

Table 14 presents the odds ratios for the effect of education on the likelihood of traditional method use.

Table 14: Odds ratios for education differentials by wealth

Groups	Odds ratios				
	For richest	For richer	For middle	For poorer	For poorest
none	0.78	0.80	0.86	0.42	3.29
primary	1.12	0.84	0.82	0.68	3.29
secondary +	1	1	1	1	1

The effect of education for different wealth groups:

- In the richest group, having primary education increases the likelihood of traditional use (by 1.12 times) over having secondary or higher education, whereas having no education decreases the likelihood (by 0.78 times) compared to having secondary education.
- In the richer, middle and poorer groups both having no education and having primary education decreases the likelihood of traditional use over having secondary education.

- In the poorest group having no education or primary increases the risks of traditional use by over three times (3.29) as compared to having secondary education.

In general, being more educated increases the likelihood of using traditional methods. However this pattern varies by wealth quintile with two key exceptions: the pattern is inverted for the poorest group, and amongst the richest group primary educated women are more likely to use traditional methods than secondary educated women. Within most wealth quintiles there is very little difference between the effects of primary and the effects of no education, thus the change appears to be taking place between primary and secondary schooling (the richest group differs here). In most cases, more education is having the effect of decreasing modern method use relative to traditional method use.

Residence is not significant after controlling for wealth and education (and interaction terms). This was also the case in the unmet need model (Chapter 5). On rerunning the model with the wealth variables removed, residence became significant. This suggests that residence acts as a substitute for wealth (as richer people tend to live in urban areas), and that it is wealth that is having the true effect on traditional method use. If we assume that rural women live further away from health facilities than urban women, this finding indicates that traditional method use is not something practised simply because these women live far from health facilities that supply modern methods. This interpretation is supported by the effect of the medical care variable 'distance being a problem': women who reported that in obtaining medical care for one's self, distance was a big problem, had a decreased likelihood of using traditional methods, relative to women who said distance was not a problem.

Traditional method use does vary by age but not in a single direction. The effects of age show that 45-49 year olds are the most likely to use traditional methods and 20-29 year olds are least likely. There is no significant difference between the likelihood of 15-19 year olds and of 30-44 year olds. The independent effects of higher parity act to decrease the likelihood of traditional use. Women with no children are more than twice as likely (2.26 times) to use traditional methods as women with 1-2 children. The difference

between women with 1-2 and 3-4 children was not significant, though having 5 children or more decreased the odds of using traditional methods. In other words, as parity increases the odds of traditional method use decrease. This suggests there may be a tendency to use traditional methods for spacing but once the ideal family size is reached, to change to a modern (and more effective) method to limit births.

Whereas religion was not significant in affecting unmet need, it is significant in affecting the type of contraceptive used. Being non-Buddhist, in a population where the majority (95%) are Buddhist (UNFPA 2011), decreases the likelihood of using traditional methods by around half (0.45 times).

Only three of the variables relating to medical care have a significant effect in this model. These are: getting permission to go to a health facility being a big problem; distance to the health facility being a big problem; and having visited a health facility in the last 12 months. They all reduce the likelihood of using traditional methods, over modern methods. Women who reported that getting permission to go to a health facility is a big problem have reduced odds of traditional method use: this may be related to the partner cooperation required to use traditional methods. We may have expected a difficulty in getting permission to go to a clinic to increase traditional method use, as health facilities are a source of modern methods, however this was not the case. Distance to the health facility being a problem also reduced the odds of traditional method use. Again we might have expected the opposite effect, that it would increase the odds of traditional methods, for the same reason. Modern methods are available at clinics, so it is unexpected to find that when distance is a problem, women have increased risks of modern contraceptive use. Variables unimportant (non-significant) in traditional method use are: getting money needed; having to take transport; going alone; concern no female health provider; concern no provider; concern no drugs; and having been visited by a health worker in the past 12 months.

Exposure to family planning messages in the media increases the likelihood of using traditional methods over modern methods. The expected effect would be for exposure to

family planning messages to lead to an increase in modern methods. It is possible that women hearing such messages are taking on board ideas about the advantages of spacing and limiting births but are choosing to use traditional means to achieve this. Alternatively, it may be that the wealthier and more educated groups of women (that this model shows have higher likelihoods of traditional method use) are more exposed to media, and thus receive more family planning messages in that media.

Summary of Part 1

The preceding sub-section interpreted the results of the logistic regression model for traditional method use. This summary will focus only on the variables I consider to have resulted in the most interesting findings: the effects of the variables related to socio-economic status. That is, wealth, education and residence. The effect of education was that being more educated, in general, increases the likelihood of using traditional methods. However, this pattern varies by wealth quintile with two key exceptions: the pattern is inverted for the poorest group, and amongst the richest group primary educated women are more likely to use traditional methods than secondary educated women. Within most wealth quintiles there is very little difference between the effects of primary and the effects of no education, thus the change appears to be taking place between primary and secondary schooling (the richest group differs here). In most cases, more education is having the effect of decreasing modern method use relative to traditional method use.

Wealth has complex effects on the likelihoods of traditional methods use, it varies by education level. The effect of increasing wealth changes direction (i.e. increases or decreases the risks) depending on the level of education: amongst the non-educated being in the richest wealth group (rather than poorest) decreases the risks; however, amongst the primary educated, and even more so amongst the secondary educated, being in the richest wealth group compared to the poorest group increases the likelihood of

using traditional methods. Residence is not significant after controlling for wealth and education (and interaction terms). On rerunning the model with the wealth variables removed, residence became significant. This suggests that residence was acting as a substitute for wealth (as richer people tend to live in urban areas), and that it is wealth that is having the true effect on traditional method use.

Part 1 has described patterns of traditional contraceptive use, and analysed the factors that increase the likelihood of traditional method use. In order to explain the trends that have so far been highlighted, the following section (Part 2) moves on to an analysis of qualitative data collected during fieldwork.

Part 2: Explaining the pattern of traditional method use

Many participants in this research expressed a dislike or dissatisfaction with modern contraceptive methods based on their experience or fear of side-effects to health (Chapter 5). Amongst these women traditional methods were often seen as providing a solution to the problem of avoiding pregnancy without jeopardising one's health. Although women of all social backgrounds placed great importance on being healthy, their orientations towards how to be healthy differed, to some extent along class lines. Their actions differed according to their level of trust in biomedicine, but also their trust in the type of biomedicine they could access. Amongst upper class women I found a lack of trust in the Cambodian health system; although they had a strong faith in biomedicine's efficacy, they were not confident that they could access the best of it easily. When affluent people in Siem Reap become seriously ill they travel abroad to seek treatment in Vietnam, Bangkok or Singapore. They regard the health system in Cambodia, both public and private, as inferior. They also do not necessarily have a blind faith in biomedicine, using it selectively and often combining this type of health-seeking behaviour with religious acts as a way to cure illness or maintain health. Many daily rituals are oriented to preserving health and happiness in one's family – from the daily lighting of incense, sacrificing offerings, and praying, to much larger calendar and life-

cycle rituals. People of all socio-economic levels often take action on the advice of fortune tellers *kru teeay* and gurus *kru*. For wealthy urbanites, they are likely to seek treatment for illness from a pharmacy or clinic, but, in light of the perceived health risks of modern methods, many prefer to control their fertility with a non-supply contraceptive method. They see a big difference between using medication for a one-off or temporary period to fix a problem, and using it regularly and long term when your body is healthy.

> "I used to use [the calendar method] because for me I like this one because I can avoid from the medicine, from having injection or doing something. I think… I'm afraid of problems in the future. That's why I use this one. But it's not so common in Cambodia." (Female, 29 years, 1 child, urban site)

For this woman, using a traditional method enabled her to manage her childbearing at the same time as avoiding the perceived risks of modern contraceptives. The following sub-sections examine different methods of traditional contraception in turn before discussing abortion and the use of multiple strategies to control childbearing.

Periodic abstinence[22] as 'the doctor's way'

The only fertility awareness method that I came across in my field sites was the calendar (or rhythm) method. The method requires that a woman monitor her menstrual cycle, and calculate the days she is fertile. Then she must either abstain from sexual intercourse or use another method during the fertile days. Far from being classified as a 'traditional method' as demographers would, it was often referred as *kbouern pairt* 'the doctor's way'[23]. People who used this method had learnt it from health care providers, usually a

[22] The term periodic abstinence refers to situations where sexual intercourse is purposely abstained from for a limited period of time. It usually describes periods of abstinence within a sexually active relationship. This may be practised as a way to avoid becoming pregnant or it may be practised for reasons unrelated to avoiding pregnancy, for example post-partum abstinence that is concurrent with breastfeeding. In this section I discuss periodic abstinence used for pregnancy prevention. In the section below entitled Abstinence I discuss periodic abstinence (during the post-partum period and menses), when the reasons stated for abstaining are not primarily related to pregnancy prevention.

[23] *Kboern* means a body of theories or principles.

midwife. It was seen as a method suitable for educated women (*neak jeh dung* – 'knowledgeable people'). There was a general consensus among people I spoke to (including the general population and family planning providers such as midwives and pharmacists) that this was a method only for 'knowledgeable people'. Some even said that it was only for those who had studied medicine. It was not seen as an option for illiterate (or rural) women, who were said to be more well matched with a method like the IUD or injection which required little monitoring of time or one's body, and only infrequent action.

> "Counting days? I think… [we] don't have that [in this village]. Some they read according to the book and do in line with that, but us here, not many of us read like those who read books. They read the method, how to do it in the book, when is the time… this month… this day… that day… yes they have [that method]. The people who have ever studied to be a *pairt* (medic/doctor), they know, but the normal people; who is going to know about that? They mostly protect by pill or injection." (Female, 44 years, 3 children, rural site)

> "Well to say how it is, some poor people are not very clever." [Research assistant interrupts: "Some poor families are illiterate"] "They don't know how to count days. They don't understand the way to do it, not clearly. So that's why they like to use the scientific methods like the IUD or injection: done in one time. It is easier than natural methods, avoiding from mistakes as well. They might try to use a natural method but then have a mistake and get pregnant, so after that they change to use something like IUD or injection."
>
> (Female, 42 years, 3 children, urban)

The calendar method was seen as being more challenging than other methods, but suitable for women whose daily lives already involved an awareness of the clock and the calendar, such as teachers or civil servants. Women in my rural field site, mostly farmers or shopkeepers, whose lives did not revolve around the clock and the calendar, perceived the method as something that would not fit with them. Some pointed out, that women who used 'the doctor's way' were women who were familiar with the Gregorian/international calendar, used in Cambodia for civil purposes. The other calendar system used in Cambodia is the Khmer lunisolar calendar on which religious events are based. Many rural women only follow the lunisolar calendar, important for observing the weekly *tngai sel* 'holy day' and larger religious festivals. In my rural site women often kept track of the month by looking at the waxing and waning of the moon,

not necessarily using a written calendar. Some explained their use of the Khmer calendar and unfamiliarity with the 'foreign calendar' as being part of the reason they could not use the day counting method.

There is also an issue of men's cooperation affecting the possibility of using the calendar method or withdrawal – whether the man can and will control ejaculation and/or abstain. Fertility awareness based methods require the women's partner to cooperate, by agreeing to abstain or use another method during the fertile period (WHO & CPP 2007: 239). Alternatively it requires sexual autonomy on the part of the woman to be able to control when she has sex (Johnson-Hanks 2002). Some thought this type of cooperation varied between socio-economic groups, others emphasised that this was down to the individual couple's relationship.

> "Poor people they don't know how to use the natural methods so that's why they go to do the injection. The people who are at the countryside, they are uneducated so they don't know how to use the natural methods, particularly because of the man's feeling. But the people who live in the city ('*neak psar* – market people') they decide to 'release' they will release [can control ejaculation]. But in the countryside they cannot control their minds at the end of sexual intercourse or they are drunk. And some men, they are really eager to have sex every day (*l'mowp*) [so cannot abstain]. Yes some people they like to sleep with their wife a lot. […] But us people who live in the city, normal people [rich people] they have their wife earn a living, not have lots of kids. They are educated so they can control their mind and they have to do the job as well." (Female, 51 years, 6 children, urban)

> "We use natural methods for couples who understand each other. But for people who live at countryside they drink beer or they cannot control their minds. According to our mind - if we don't understand each other so we cannot do this method too. I don't mean rich people only [can do it] but the most important thing is it's up to the family. Some they don't understand, even rich or poor, they think about their feeling only so we can say it depends on the people."
> (Female, 38 years, 2 children, urban)

As well as being considered to be a method suitable only for certain types of couples (who communicate and cooperate with each other) the calendar method fits with dominant Khmer ideals of femininity: of being self-disciplined and in control. Disciplined, in this sense, means being in control of one's bodily disposition, movement, speech and emotions, and in Khmer literature is associated with Khmer ideals of

virtuous women (Ledgerwood 1990). This is something articulated in schools and in advice from parents and elders about how girls should behave, and in the didactic codes for women, the *Chbap Srei* (Rules for Women). For example not laughing loudly, being messy or uncontrolled in one's movements. And being in control, in the same way that the norm is for women to be responsible for household budgeting, controlling the number and timing of births is seen to be largely the women's responsibility. A decision on having children may be made jointly, but then it is very much seen to be the woman's job to ensure that things go to plan. In the interviews, women who had had unplanned pregnancies and abortions often spoke of being 'blamed' and 'scolded' by their husband. Men likewise frequently commented that it was up to their wife to organise contraception.

> "According to my observation, it is only the woman who finds out about the method to protect from having a child. Men, they don't care about it. If their wife is ignorant about contraception, in the family they might have a lot of children. The man won't trouble himself with that. If us women didn't go out and find some method for ourselves to improve the standing of living of our families and waited for the men to do it…not likely. [They] don't bother themselves with that."
>
> (Female, 38 years, 2 children, urban)

> "No, you don't use withdrawal all the time, you use day counting too. Most important is to ask the wife, if she says we can [have sex] then we can. Important is: it's 'on' the wife [it is her responsibility]. The husband is not important, he doesn't know, because sometimes he gets drunk. […] Importantly, it is up to the wife."
>
> (Male, 24 years, 1 child, urban)

Because the calendar method is associated with biomedicine in a positive way (modern and scientific but without side effects), and associated with education (being only for 'knowledgeable people') it has come to be seen as something modern. In this way it correlates with identity ideals aspired to by wealthy, educated, urban women. It was in no way thought of as a 'traditional method' of contraception, but rather something for urban, well-informed, modern, educated women. As a method that conforms to these gendered norms and duties, and distinguishes the educated from the uneducated, not to mention having the advantage of maintaining one's health (and beauty), the calendar method has become increasingly popular for elites. This is confirmed by both the CDHS findings above and my qualitative findings. The push factors away from using modern

methods, and the pull factors towards non-invasive (or 'non-supply') methods both contribute to the pattern observed in survey data (Part 1 of this chapter), and therefore explain why the odds of using traditional methods (over modern methods) are greater for wealthy, educated women than poor uneducated women.

Withdrawal as 'our own way'

Unlike periodic abstinence, withdrawal was not associated with being scientific and educated, and I did not come across any health workers who advised people how to use it, as was the case for the calendar method[24]. However, like periodic abstinence, it did share the association of being a healthy way to delay or prevent births. I met women of all wealth levels who used or had used this method, but it was seen by some as being a method for the less educated, particularly if used as the only method.

> "[People who use withdrawal] don't have knowledge, they are not *neak jeh dung* knowledgeable people, they just know 'no water no baby'."
>
> (Female, 20s, NGO health education worker)

Unsurprisingly, given the nature of this method, it was often emphasised that this method required the husband to commit to it, thus it was said to be either entirely the husband's decision to do this, or more often that the husband and wife had agreed together to use this birth control strategy. I do not want to give the impression that Cambodian men are all extremely well-behaved and obedient towards their wives' choices regarding traditional method use, but rather that this is one of the limiting factors on the use of such methods: in order for the couple to practise withdrawal or abstinence the husband has to cooperate. If the husband refuses to use this method, or gets drunk and cannot control himself, or is unwilling to be abstinent during his wife's fertile period then traditional methods will not be used. The first quote is from a woman asked about any obstacles that put her off modern contraceptives, such as expense or having to travel to obtain them:

[24] It is possible that they did advise some people on use of withdrawal, but were not admitting it to me, perhaps thinking this would seem un-modern or incorrect.

> "No I don't think about that. But the important thing is my health. I don't think about it being expensive or making a journey. ... But they say if you use it, it doesn't affect your health, they spread out the information. But really/actually, in our couple we can discuss and use this method [withdrawal], so we use it. But if we didn't have this method, we would use another one, IUD or...But our family can talk together. If they don't agree, you must do something yourself like IUD or the pill. It's not important about the price, or anything, just health." (Female, 36 years, 2 children, urban site)

> "[Withdrawal] is according to the man, they might do that, it is up to the man if they don't want a baby. Nobody teaches that."
> (Female, 36 years, 4 children (2 living), rural site)

When interviewees were questioned about which methods of contraception they had heard of, people tended not to spontaneously include withdrawal as a contraceptive method, only including it in the category of contraception (*gar bunyea gomnert* 'birth delayer') when probed. It was often referred to as 'our own way', or 'my husband has his own way', thus separating it from other methods of contraception. Colloquially, it is referred to as *jat tuk graw beang* 'pour the water outside the pot' and usually causes some amusement when discussed; probably because it is directly related to the act of sex and, unlike condoms, has not been widely discussed and advertised in the media and public life. The separation of withdrawal (as 'our own way') from other methods of contraception, and the fact that it is still rather taboo in conversation (evidenced by the embarrassed laughter) raises the possibility that this method is underreported in survey responses. This was found to be the case in Sri Lanka where modern methods were open for discussion but traditional methods were not, leading to an underestimation of contraceptive prevalence (Gajanayake & Caldwell 1990).

Abstinence

The concept of abstinence is very familiar to Cambodians, in that there are specific times and situations which call for a person to *dtorm* 'abstain' from certain behaviours for religious or cultural reasons. Buddhist monks and nuns abstain from sex continually, as do some Buddhist lay people and some *kru khmer* (traditional healers) on *tngai sel* (holy

days). These lay men and women tend to be elders, beyond reproductive age for women, who have taken the 10 precepts of Buddhism. In this context the prohibition on sex is one of a number of religious proscriptions that entail a more ascetic, abstemious life. Such self-denial and restraint is a part of religious discipline, so whilst permanent or 'terminal' abstinence is seen as the norm for the elderly, it makes sense that periodic abstinence (the calendar method) is seen as acceptable for younger (i.e. reproductive aged) people. Furthermore, abstinence is also expected before marriage (chapter 4). For married couples of reproductive age the traditional context for abstinence is during the post-partum period and during menstruation.

Post-partum abstinence continues to be observed by both urban and rural women in my field sites. The length of time varies considerably between individuals, according to how disciplined they, or their husband can be and their strength of commitment to the beliefs justifying the traditionally longer post-partum abstinence (i.e. much longer than the recommendations they reported from health care providers of 1.5 to 4 months). Some women reported waiting a few weeks, others a year. People thought the average was around 3-6 months. They explained the reason for this is to protect their health. A woman who has recently given birth is said to be *sorsay kjay* (or *goan kjay)*. *Sorsay* is a collective term for all vessels and fibres in the body, including nerves, veins, and tendons. *Sorsay kjay* means 'unripe *sorsay*', and refers to the weakened state of a woman's body after birth, all post-partum women are described as being *sorsay kjay*. During birth a woman's *sorsay* are strained and exerted, from pushing and using up all her strength and energy; this is said to result in a cold state. Traditionally during this period a woman lies on a raised bed over burning embers of charcoal (*ang plerng* 'fire roasting'); the purpose being to return her body to a balanced state of hot/cold equilibrium and to help her breast milk to flow. In my rural field site many women continued to observe this practice, often on returning from delivery at a hospital or clinic. Likewise in the urban site, some women, instead of lying above embers, found other ways of restoring their hot/cold balance. To give some examples I came across: seeking out 'hot injections'; running a warm electric iron over their clothed lower abdomen; 'steaming' by sitting under a blanket with a large pan of just boiled water

containing fragrant plants; wearing a woollen hat and layers of clothes; taking the iron tablets they received after delivering at hospital (some women reported that hospital staff had told them the iron tablets would make them hot countering the need to lie above embers).

Of major importance in this recuperation period, widely recognized as a dangerous time, is the need to protect against *dtoah*, literally 'relapse'. The category of *dtoah* captures a range of health problems in the post-partum period, such as post-partum haemorrhage and post-partum depression, and can cause maternal mortality. Elders advise that to prevent *dtoah*, post-partum women should avoid heavy lifting and excessive physical work, cold showers, should abstain from sex and avoid certain foods (whilst there are many specific types of fruits or fish, for example, to avoid, many women eat only rice porridge during the period doing *ang plerng*). There are several types of *dtoah*, recognisable in different symptoms and depending on their cause. Traditionally they are treated by either *chmop* (traditional midwife) and/or *kru khmer* (traditional healer) with traditional medicines (*tnam Khmer* – 'Khmer medicine') made from tree roots. Preventative actions are taken in both the antenatal and post-natal period, and during delivery, including drinking *tnam khmer*, a protective ceremony *bodt seyma* (White (1996) and Hoban (2002) give detailed studies of pregnancy and childbirth in Cambodia, including several types of *dtoah*).

Sleeping with one's husband too soon after birth is said to cause a particular type of *dtoah* called *dtoah kbal domnaik* 'head of the bed relapse'. It was reported that this could lead to convulsions, and death. One *yay mob* (traditional midwife) described the symptoms as locked jaw, stiffness, trembling, pale face, dry peeling skin and weight loss. Sometimes the symptoms do not show immediately, but months or years later.

> Researcher: "Do you know any time that people abstain from sex?"
>
> Interviewee: "As I told you [the calendar method]."
>
> R: "What about after having a baby?"

> I: "After having a baby, maybe need to do that. They say longer will be better. I mean some people can do abstinence for 2 or 3 years, and then it will be good, better. But no one can do it. I heard somebody say now they can do maybe a year. It's the best I heard."
>
> R: "What is it good for?"
>
> I: "For the lady because they had the baby so they abstain for their health, so if you can abstain like this it's good for the ladies, not for the men. And also somebody said that if you just had a baby like this and you have sex, so sometimes if you didn't protect you will have a baby again. So it's quite early – too close together."
>
> (Female, 29 years, 1 child, urban site)

This quote touches on some of the issues that were commonly raised about post-partum abstinence, such as women having difficulty in managing their partner who did not want to abstain for as long the woman. Abstinence was perceived (by women themselves) as being good for the woman but not for the man. Others acknowledged that women too sometimes could not wait as long as was advised by elders. The quote also highlights how the traditional lengthy postpartum abstinence period, grounded in traditional Khmer medical reasoning (of the dangers of *dtoah* for *sorsay kjay* women), remains but has now been modified and amalgamated with biomedical advice to abstain - initially to recover from birth and then to spread out childbearing. Some interviewees, particularly rural women, justified the postpartum abstinence in traditional Khmer medical theory, whilst others, often urban, discussed it in the frame of 'doctor's advice'. It was common for both rural and urban women to know that 'doctors/*pairt*' recommend not having children spaced too closely together because of the negative effects for the mother's health.

In addition to the post-partum sex taboo, during a woman's period sex is also taboo. Women said this could cause health problems such as damage the womb, transmit germs and worsen their complexion. It is likely that this menstrual taboo is a historical remnant of Hindu influence in Cambodia, although there is not space for a discussion of this here. During fieldwork I came across other examples of blood being considered polluting, a key example being the ceremony practised by some families in my rural field site seven days after a child is born. The ceremony was primarily seen by members of the

community as a way to apologise to the *yay mob* (traditional midwife). The couple offers the ceremony in her honour as a way to pay back the debt they owe her: during the birth the midwife was in a low position of service to the birthing mother and became polluted with the mother's blood.

This discussion has highlighted the traditional contexts that terminal abstinence and periodic abstinence occur within: from religious abstinence, of clergy and lay people, to periodic abstinence after birth and during menstruation. None of the reasons for abstaining in these contexts are primarily, explicitly connected to avoiding pregnancy. They do however show that the idea of abstaining from sex is a long accepted behavioural choice in Cambodia in certain contexts. Therefore it should be no surprise that when a couple wants to postpone or limit childbearing, the calendar method is seen by many as an acceptable and legitimate way to do so.

Other traditional methods

As a proximate determinant of fertility, breastfeeding affects fertility. In Cambodia, as elsewhere (Randall 1996), it is not practised consciously as a way to control fertility. Whilst breastfeeding was widespread amongst research participants, no one discussed breastfeeding as a way to intentionally avoid pregnancy. However, women were aware that the absence of menstruation post-partum meant that they were unlikely to become pregnant. I rarely heard about any folk methods of contraception. The ones I did hear of included: pressing the lower abdomen in an attempt to make the sperm come out after intercourse and using the woman's closed legs for sex instead of intercourse. The latter method, known as coitus intercrura, has been found to be more commonly used than reported in surveys, often because it is not asked about (Caldwell *et al.* 1987). These two methods were reported to me from a woman who had had side effects from several modern methods and now used these methods and withdrawal. Several people also reported that drinking large quantities of traditional medicine (*tnam Khmer*) was a way to avoid pregnancy. The traditional medicine drunk during the postpartum period to

restore the *sorsay* (*tnam sorsay*) was said to delay pregnancy. The traditional medicine used as an abortifacient (discussed below) was said to lead to permanent sterility in some women if consumed in enough quantity. Both were said to work by 'drying out' and 'withering' the uterus (*svet sbown*) and neither were said to be reliable for every woman.

Abortion and multiple strategies of birth avoidance

Strategies for avoiding pregnancy were at times complex, multiple and dynamic; changing throughout women's life-courses as priorities and situations shifted. Several interviewees reported using multiple methods simultaneously, such as combining condoms with day counting and withdrawal, or using the daily pill and withdrawal. Usually this was to make pregnancy prevention more reliable. In discussions of traditional methods and their effectiveness some reported the possibility of resorting to abortion if they did become pregnant. Women paid close attention to their menstrual cycle, knowing when to expect their period, and using this as confirmation they were not pregnant. Rural women (mostly) knew when to expect their period based on the stage of the moon, for example 3 days after the full moon, and urban women more often keeping track of the date on a calendar. Some interviewees described how they would buy a pregnancy test if their period was overdue and if this were positive they would 'swallow a tablet', meaning use medical abortion pharmaceuticals.

Medical abortion drugs (mifepristone and misoprostol) are readily available in Siem Reap. They can be bought over the counter at several pharmacies for around $10 upwards for a single treatment/procedure. Women usually buy the drug in a pharmacy, not knowing even the name of it, simply telling the seller in the pharmacy that they are pregnant and want to abort, or that they 'want to bring back their period'. Not only modern method users had recourse to these drugs. Many of the women who talked about this strategy, were users of withdrawal or day counting for fear (or experience) of side-effects and health risks from modern methods. Although aware that medical abortion

itself also carries side-effects and health risks, the difference is, they explained, that using the abortion pill is a one-off event whereas a modern method (mainly referring to the pill or injection) requires regularly putting chemicals into one's body over a long period of time. It was this repeated, continuing long-term use of invasive methods that concerned people. Factored into the risk of abortion was the possibility that it would never be needed and their method would protect them from pregnancy.

In Cambodia, as in other Buddhist countries such as Thailand, abortion is seen as a sin. And for this reason some interviewees stated they would not consider it for themselves. However, many people agreed that there were circumstances, particularly if a family had many children and were living in poverty, where this would be, to some extent, justified. Abortion was simultaneously said to be *tomadar* 'normal' and *baap* a 'sin'. In interviews people were asked about their perception of abortion, the common first response was that it was 'not good' because it was 'bad for the woman's health', and secondly (sometimes only on probing) respondents said that it was a sin according to Khmer religion and went against Khmer tradition. It was more likely for older interviewees, both men and women, to talk about abortion in reference to religion, mirroring the way older people in Cambodia are acknowledged to usually be more devout than younger people.

The uncertainties related to health risks and side-effects associated with modern contraceptive methods mean that many women are put off using them altogether, whilst others use them but feel worried about the consequences. Few really want to be using 'invasive' (supply) methods, but for some women the need to avoid pregnancy (and the greater reliability of modern methods) means they are willing to take the health risks. Part of this relates to socio-economic status. Of the women I spoke to, wealthier and more educated women were more likely to know that they had the option of a (relatively) safe abortion, either a medical or surgical abortion, if they accidentally became pregnant through failure of their contraceptive method. They knew where to get it, they knew how, and importantly they knew they could afford it. I would speculate that this knowledge of having a 'back up' of a safe option is another contributing factor

as to why traditional method use is higher for more educated and wealthier women. They know they are using a 'less effective method' but they know that if need be they have the option of an affordable safe abortion. In contrast, poorer women were much less confident in their ability to access a safe abortion if they needed one. And I would speculate that this often pushes the poorer women to seek more effective methods than traditional contraception. Having decided they do not want another child at that time, they are less willing to risk the possibility of an abortion, knowing that a biomedical, safe abortion is out of their reach. One of the interviewees reinforced what I had been thinking about this link between wealth, traditional methods and abortion, when I asked about why rich people might prefer traditional methods:

> "Well I would say, the rich people have money, if anything happens they can have an abortion. The rich people they can get rid of it, easy. But when you don't have money, you have to use contraception."
>
> (Female, 28 years, 1 child, urban site)

Traditional methods of abortion continue to be performed in Cambodia, and I interviewed women who had both had the procedure and performed them. The person with the knowledge and skills to do such an abortion is the *yay mop* (traditional midwife), although not all *yay mop* know how or are willing to do it. The procedure involves a type of deep massage of the pregnant woman's lower abdomen, using both thumbs and forefingers in a pinching manner to break up and damage the foetus inside. Following this the pregnant women drinks a traditional medicine which is said to 'heat' her and 'melt' the foetus, making her abort. The medicine is drunk for 3 days by which time the abortion should mainly be over, then the woman is advised to look after herself in the same way a postpartum woman does – avoiding the same foods, heavy work, and keeping warm. Only in the rural field site was this practised, and some women stated they had found it a reliable way to manage their childbearing, having had several such abortions over their lives. Other women told of dreadful experiences, in some cases the abortion occurred successfully, but in others it was unsuccessful and life-saving biomedical interventions were needed. Still, several informants felt they trusted this 'natural' 'Khmer' method of abortion over biomedical options, aware that biomedical

options were not all safe (particularly those accessible to them, given their lack of knowledge and finances).

As well as the self-administered medical abortions discussed above, women wanting an abortion, particularly a later stage abortion, seek help from a '*pairt*'. The term *pairt* refers to someone with biomedical training, and tends to be used for medical personnel of all levels including doctors, nurses and midwives - I even heard it used to describe a clinic receptionist. Women seeking a biomedical abortion in Siem Reap are unlikely to know what level of *pairt* they are dealing with, and whether abortion is legal or illegal. Cambodia has some of the most liberal abortion laws in Asia (Potdar *et al*. 2008). Abortion is legal in the first 12 weeks upon the request of the women, and with restrictions at later stages, when performed by registered providers in registered clinics (RACHA 1997). However few people I spoke to during field work knew this, many thinking it was illegal. This is likely to drive people to unnecessarily seek 'back street' (unsafe) abortions, rather than going to legitimate providers of safe abortions.

Contraceptive use involves a dynamic decision-making process. Different contraceptive methods were not only seen as 'suiting' particular women and not others, but it was also acknowledged that over the course of a particular woman's life different contraceptive methods would become more or less appropriate. Each method has its pros and cons, which need to be repeatedly weighed up depending on social and economic circumstances. In other words, contraception is a dynamic decision, where different attributes will be prioritised at different life stages. Cambodian women recognized this. The effectiveness and reliability of modern methods was valued when pregnancy would be socially or economically more costly. Infertility was of less of a concern for women using a method to stop childbearing rather than a woman wanting to space or postpone birth.

> "With a natural one [i.e. a 'traditional' contraceptive method] sometimes we have a mistake, then it's very difficult. But if you are young, so you can use that. For example, you have just only one child, then you have a mistake and have 2 children. It's not too bad. But if you are old, you don't want any more."
>
> (Female, 25 years, no children, urban site)

The issue of effectiveness was also discussed by participants as being dependent on not only the method but also the user. And this was another factor contributing to whether a particular method 'suited' a woman. Some women commented that the pill was no more effective than day counting since it was easy to forget to take it, likewise, even getting a repeat contraceptive injection could also be forgotten or the dates mixed up. This illustrates that the effectiveness and reliability of different methods of contraception are open to interpretation.

Summary of Part 2

Findings from the ethnographic research, presented in part 2 of this chapter, explained the quantitative findings presented in part 1. Results of logistic regressions showed counter-intuitive findings: in general, increased education and wealth are associated with an increased likelihood of using traditional rather than modern methods. Qualitative results confirmed that traditional method use varied by socio-economic status, they also helped to explain this. Traditional methods were perceived as not suitable for everyone. The day counting method, referred to as 'the doctor's way', was said to be only appropriate for educated women. Whilst most women were concerned about the health side-effects of modern contraception, traditional methods offered a way to avoid such risks. Wealthier women were better able to deal with unintended pregnancies which may arise when using withdrawal or periodic abstinence. They knew they had the option of a safe abortion, which would not jeopardise their health and finances to a great degree. Therefore they were able to avoid widely perceived health risks of modern contraceptive methods and use a traditional method. However, economically disadvantaged women, equally concerned about side-effects, felt they could not risk another child or an (unsafe) abortion so opted for a more reliable contraceptive method. There was low knowledge about the legality of abortion, where to access services, costs and safety. Rural women from economically disadvantaged backgrounds relied on traditional abortion techniques, perceiving other methods to be out of reach financially, or less safe than traditional abortion techniques.

Discussion

Within the discipline of demography the term 'traditional contraception' has come to have a specific meaning relating to non-supply forms of birth control – i.e. methods that rely on behaviour changes that can be practised without the need for supplies. The category encompasses withdrawal, lactational amenorrhoea, terminal and periodic abstinence (including fertility awareness based methods[25]). At times 'folk methods' are also grouped with 'traditional methods', such as the use of herbal medicines, charms and incantations as a way to avoid pregnancy. Placed in opposition to 'modern contraceptives', the term 'traditional contraception' becomes subsumed with other related words: 'outdated', 'primitive' (Basu 2005). In thinking about how regional fertility transitions unfold, an intuitive expectation might be for a region to move from using no parity-specific fertility control, to using traditional methods to limit child bearing, and finally to a stage where modern methods are the prevailing means of managing births. This pattern was observed in Europe, where the decline in marital fertility occurred through the uptake of traditional contraceptive methods and abortion (Watkins 1986); only later did modern methods become the dominant way to control family size. Evidence has shown that marital fertility declined, in Europe, first in groups of higher social status (from as early the seventeenth century) before spreading to the wider population (Livi-Bacci 1986). Contemporary fertility transitions differ because of the widespread family planning programmes which provide and promote modern contraceptives. Nevertheless, there still may be an intuitive expectation for traditional methods to give way to modern methods. Bongaarts and Bruce (1995: 59), for example, based on data from non-European populations in the late 1980s, refer to "the abandonment of traditional birth-spacing methods in more advanced countries" in discussing changes in the prevalence of unmet need that occur at various levels of socio-economic development. Given these expectations and observations, the pattern of traditional method use in Cambodia seems all the more counter-intuitive. Why is it that wealthy, educated women are more likely to use traditional methods than poorer, less

[25] Fertility awareness based methods (such as calendar and symptom based methods) rely on detecting a woman's fertile period and abstaining or using another method during that time.

educated women? Through examining the social context and meanings of contraception, the unexpected pattern was explained.

A body of literature, largely produced by anthropological demographers, has drawn attention to seemingly counter-intuitive cases of traditional method preference in unexpected sectors of society, namely elite, educated, urban women. Highlighting that what demographers call 'traditional' can in other contexts be associated with being modern. Johnson-Hanks (2002) has pointed to the importance of researching contraception as a social practice grounded in social context, arguing that "women's contraceptive practice often achieves social goals beyond averting pregnancy" (Johnson-Hanks 2002: 231). In her research in Cameroon, periodic abstinence was used by over half of contraceptive users, being especially popular with young, educated, unmarried women. By practising periodic abstinence, users were asserting a modern, educated, and disciplined self, given the specific requirements entailed in using a calendar based method needing either partner cooperation or women's sexual autonomy. The method conformed to identity ideals aspired to within the local gendered system of honour; an explanation for an unusual contraceptive pattern that only makes sense given the social organisation in this specific culture (Johnson-Hanks 2002).

Alaka Basu's (2005) paper offers an explanation for the pattern found in India, whereby 'modern' (highly educated, urban) women are using traditional methods and 'traditional' women are using modern methods. She shows how two paradigms of modernity operate simultaneously in India, and both support different contraceptive regimes. Amongst higher socio-economic groups a 'back-to-nature' approach to a healthy body incorporating elements of the Ayurvedic medical system is seen as both nationalistic and modern. Within this framework non-invasive traditional methods are seen as desirable. Amongst lower socio-economic groups being modern is asserted in an increasing medicalisation, that is the faith in and use of biomedicine, and a changing view of what constitutes a normal female body, which emphasises the functioning body (whereby pregnancy and menstruation are a burden). This second conceptualization of modernity fits with the attributes of, and therefore encourages the use of, modern contraceptives:

scientific, efficient and convenient (Basu 2005). She suggests 'traditional contraceptives' are better described as 'ultramodern contraceptives'. This theory has been re-examined by Husain *et al.* (2012), who find traditional method use amongst Indian elites associated with son preference. Once the desired number of sons has been attained, users change from traditional methods to more effective modern methods (Husain *et al.* 2012).

My research complements and adds to this body of literature, showing that amongst Cambodian elites, traditional methods of averting births are thought of as amongst the most modern of contraceptive methods. In Cambodia, women who are wealthier and more educated are more likely to use traditional contraception than those who are less wealthy and educated. What demographers call 'traditional contraception' is actually thought of as being the most modern and used by the most modern (i.e. educated, wealthy) women in Cambodia. This counter-intuitive pattern can only be made sense of when viewed within the specific cultural system of meaning. In explaining the pattern of contraceptive use in Cambodia through relating it to the broader social processes in which it is embedded, the study also shows the value of anthropological ways of thinking about and researching demographic problems.

Traditional methods tend to receive a negative press in the arena of family planning. A key report by UNFPA and the Guttmacher Institute (Singh *et al.* 2009), which provides the most recent estimation of the global prevalence of unmet need, focused on unmet need for *modern* contraceptives rather than the standard definition of unmet need for *contraception* (either traditional or modern). It placed users of traditional methods into the group of women with unmet need. This estimate has since been used to advocate increased spending on family planning at the recent London Family Planning Summit, and in academic literature on family planning (Cottingham *et al.* 2012: 173; Shiffman & Quissell 2012: 181). Whilst the authors of the original report (Singh *et al.* 2009) are careful to use the term 'unmet need for modern contraception', subsequent writers who cite their estimate instead give the figure as the number of women with 'unmet need for family planning' (Cottingham *et al.* 2012: 173; Shiffman & Quissell 2012: 181). But

should meeting this unmet need for *modern* methods be a priority if women are satisfied with traditional methods?

The justification for emphasising modern contraceptive use rests on the lower effectiveness of traditional methods as compared with modern methods. Yet traditional methods are still much more effective than using no method at all. The current version of the WHO's family planning handbook (WHO & CPP 2007) gives contraceptive effectiveness measures which place fertility awareness methods above some modern methods such as female condoms and diaphragms (table 19 in Appendix 2). The ovulation method having a first year pregnancy rate of 3 pregnancies per 100 women over 12 months (based on consistent and correct use) compared with 5 per 100 for female condoms, and 85 per 100 if no method is used (WHO & CPP 2007). The difference between using nothing and a traditional method is much larger than the difference between using a traditional and a modern. Perhaps policy makers and programmers should concentrate on providing services and education to support both traditional and modern methods, given that, in Cambodia some women at least are satisfied with traditional methods.

A final implication of the findings of this chapter regards the diffusion of family planning attitudes and behaviours. Demographic debates have established the importance of the diffusion of innovative behaviours within cultural groups in accounting for regional patterns of fertility transitions (Coale & Watkins 1986; Cleland & Wilson 1987). That a sizeable proportion of Cambodia's elites are currently choosing to use traditional methods where modern methods are accessible to them raises the possibility that such behaviour may diffuse and be taken up more widely amongst the rest of the country's population.

Conclusion

This chapter has explored traditional contraceptive use in Cambodia. Through an analysis of the Cambodian DHS 2000 and 2005 data, an initially surprising finding was revealed: wealthy, educated women had a greater preference for traditional methods than poorer, less educated women. The chapter offered an explanation for this unexpected result. It became clear that the relationship between social class and notions of health was important for understanding the pattern. Whilst Khmer women of every social class placed importance on being healthy, how they acted to maintain or gain good health, and avoid ill, health depended on both their conceptualisation of a healthy female body and also their capacity (financial and otherwise) to achieve such a state. Differing paradigms of health exist simultaneously in Cambodia, and the ideas that cluster around these conceptual frameworks support different contraceptive regimes: i.e. a preference for traditional, modern or no contraceptive methods. Those different frameworks revolve chiefly around attitudes to, and trust in, biomedicine in general and the Cambodian health system in particular. But they are also grounded in people's pragmatic realities – what they know, what they can do and what they can afford.

Chapter 7

Conclusion

To conclude I outline the contributions this research has made to debates within demography and the family planning arena, paying attention to the methodological contributions of bringing an anthropological approach to a demographic problem. The final section reflects on the limitations of the study in terms of the scope of the research and interpreting the results, and suggests future directions for research.

This thesis is part of an emerging body of literature situated in the inter-disciplinary field of anthropological demography. While there is a long history of anthropologists and demographers working on similar or overlapping topics, their academic debates have often run in parallel rather than speaking to each other (Kertzer 1997). Since the end the 20th century work began to emerge at the interface of these two disciplines, such as the work of Greenhalgh (1994) on China, and Caldwell et al. (1988), Bledsoe (2002), and Johnson Hanks (2006) on African populations. Key overviews of this nascent tradition are works by Greenhalgh (1994), Kertzer & Fricke (1997), Basu & Aaby (1998), Riley & McCarthy (2003), Coast et al. (2007) and Johnson Hanks (2007). While demographers have been criticised for their unreflective use of others' ethnographies (Coast 2003), the use of qualitative methods in demography, traditionally a quantitative discipline, has grown over the last two decades (Randall & Koppenhaver 2004; Coast et al. 2009). Anthropological demographic work has made fruitful use of anthropological methods and theories, much of this corpus "draws on ethnographic methods and theories of culture to provide a richer understanding of demographic rates, or similarly, draws on demographic methods to confirm and strengthen the results of an ethnographic study" (Johnson Hanks 2007: 4). My own work fits into this tradition by bringing an ethnographic approach (in terms of epistemology and methods) as well as theories from

medical anthropology, in order to explain a typically demographic phenomenon: contraceptive use.

As part of this mixed methods study, I used participant observation, a method rarely used by demographic researchers (Randall & Koppenhaver 2004; Coast et al. 2007). This study is an example of how such an approach can be useful in understanding contraceptive use specifically, and more generally, in explaining demographic phenomena observed at the population level. This anthropological demographic approach allowed for a nuanced interpretation of contraceptive use in Cambodia; through a close attention to local contexts and lived experience I was able to explain demographic processes, behaviours and events. The study looked at women's and men's reproductive decision making with a focus on their experiences of and meanings given to contraception, situating these understandings within the broader social context. In doing so it expands on the growing research that incorporates statistical analysis of large-scale surveys and qualitative microanalyses in order to enrich understanding of population questions (Obermeyer 2005).

Perhaps the most important contribution to knowledge that anthropological research can bring to the study of demographic phenomena is the ability to capture an emic perspective: that is, the viewpoint of those whose behaviour is the subject of the study. Bringing fresh insight on issues which have been at the heart of a discipline for decades has the potential to refocus concepts and categories taken for granted but not universally held. Take, for example, the issue of traditional method use in Cambodia. From a strictly demographic viewpoint it seems problematic and puzzling that wealthier, more educated women should be choosing traditional over modern methods. Yet the anthropological analysis which brought to bear far more wide-ranging issues than is typical of demographic analyses - issues relating to the social, economic, and political context of childbearing and health seeking – revealed that their active choice to use these methods was far from illogical. Furthermore, it showed that the term 'traditional' method really pays no resemblance to the meanings attached to these methods in the Cambodian context. 'Traditional' is a value-laden concept, signifying characteristics which do not

match up with the situation. At best it is a misrepresentation leading to inaccurate understanding, at worst it has real world effects as generations of family planning counsellors, government planners and international donors read the term ‘traditional’ and, taking on board the signified meanings, view such methods as inappropriate, ineffective, of the past, and to be discouraged. This is problematic if women who are satisfied with their ‘traditional method’ are pushed to switch to a modern method and concomitant risk of unwanted side-effects.

Much of the focus on promoting modern over ‘traditional’ methods is based on the assumption that modern methods are more effective at preventing pregnancy. As I argued in chapter 6, this is questionable when we compare rates of unintended pregnancies published by the WHO (table 19 Appendix 2). Furthermore, why should effectiveness at preventing pregnancy be the single factor with which to judge contraceptive methods? Women and men have competing demands and desires, from work, to relationships, to personal well-being. They are likely to judge their contraceptive use in terms of how effectively it allows them to achieve all these aims rather than only in terms of biomedical effectiveness. In Cambodia, as elsewhere, some women decide modern methods are not the most effective at meeting their needs, and instead choose to use day counting or withdrawal.

My findings from Cambodia, added together with others from Cameroon (Johnson Hanks 2002), Italy (Gribaldo et al. 2009), India (Basu 2005) suggest it is time demographers updated their vocabulary. The term ‘behavioural methods’ is a more fitting replacement for ‘traditional methods’; it distinguishes the same methods (withdrawal, rhythm and LAM) from modern methods, without the inaccurate preconceived ideas that are attached to the term ‘traditional’.

The ethnographic findings of this thesis showed that use of ‘traditional’ or ‘behavioural’ methods varied by social class, because such methods were perceived as not appropriate for everyone. One way people chose to avoid the side-effects and health worries of modern methods was to use a behavioural method, either day counting or withdrawal.

Interestingly, day counting was thought of as ‘the doctor’s way’, and therefore modern and scientific. This meant it was considered suitable for educated women, who tended to be wealthier. It was presumed that the method could only be used by people familiar with the Gregorian (‘foreign’) calendar, so rural, illiterate or poor women were seen as (and saw themselves as) unsuitable candidates for this method. The type of relationship a couple had, and the willingness of men to cooperate in ‘natural methods’ was said by some to also relate to social class. Triangulating this with the quantitative findings, the results from the two types of data both support and reinforce each other, with the qualitative findings offering an explanation for the pattern seen in the quantitative data.

Unlike ‘the doctor’s way’, withdrawal was usually seen as distinct from all other methods of contraception and often referred to as ‘our own way’. It was known to be less effective, but many experienced users were satisfied with this method. Abstinence was discussed in its traditional roles: as a religious practice; for health and recovery in the post-partum period; and during menstruation. This helped to shed light on why abstinence as part of the day counting method has become a popular method of contraception with some women.

Abortion was said to be at once a sin and a danger to health, but also ‘normal’ in the sense of being a fairly commonplace mundane occurrence. People used multiple strategies for abortion including traditional techniques based on massage and herbal decoctions, as well as a variety of surgical and medical means. The circumstances of the procedure also varied, including self-medication at home, the home of a pairt, or a hospital. Private providers (some without formal training) were the most common providers of surgical abortions. Women are placed at great risk when they undergo an abortion in this context, as they have no way of knowing whether the abortion is safe or unsafe. This is partly due to a lack of awareness and a lack of regulation. The uncertainty amongst both the clients and the providers about the legal status of abortion in Cambodia, combined with the stigma associated with abortion, drives the practice underground into the homes of providers and clients rather than (safe) clinical settings, thus further endangering the women undergoing abortions. This stigma and uncertainty,

I would suggest, may also contribute to delaying women from seeking abortions and increase the chances they will use (unsafe) traditional techniques or attempt (unsafe) abortions themselves.

The qualitative findings pointed to a relationship between socio-economic status, contraceptive method choice and abortion. Whilst the concern over side-effects and health risks associated with modern methods was found amongst women of all socio-economic groups, some women were in a better position to be able to avoid or manage those risks. Wealthier women were aware that they would be able to access a (relatively) safe abortion, therefore some felt they could take the risk of using what they perceived to be a less effective contraceptive method (i.e. a behavioural method) that would allow them to avoid the health concerns associated with modern methods. The biomedical effectiveness of the method was a lower priority for some women, as they knew that if they became pregnant they had the option of resorting to an abortion. However, poorer women, particularly in rural areas, were aware that they were not in a financial position to risk having an abortion, knowing that an (unsafe) abortion could be very expensive and greatly jeopardise their health. Therefore some women felt forced to use a modern method because of its reliability in spite of their anxieties about the effect on their health. This dissatisfaction with a method that is currently being used is something not captured when women wishing to avoid pregnancy are divided into those with a ‘met need’ for contraception and those with an ‘unmet need’. It should not be presumed that women with a ‘met need’ are satisfied with their contraceptive method, or that they do not need further family planning and reproductive health services.

A key contribution this thesis makes is to understandings of unmet need for contraception, both in explaining the high rates in Cambodia and more generally as an academic concept employed in family planning policy. This thesis brings together both quantitative and qualitative approaches to examine the reasons for unmet need. Survey data and ethnographic findings all pointed to the same result: confirming that health fears and side-effects formed the greatest obstacles to use of modern contraceptives. In both types of data women stated that the main reason for not wanting to use

contraceptive methods was that the available methods were unacceptable, mainly on health grounds. However, the qualitative data, from both the interviews and participant observation, was able to show a richer and more nuanced picture, highlighting the complexity and interaction of factors. Physiological reactions to contraceptive technologies combined with cultural notions (such as how the body works or symbolic associations of side-effects or behaviours), social conditions (such as poverty, gender dynamics and unfamiliarity with biomedical treatment), and, potentially, biological conditions (such as underlying health and nutrition, and untreated RTIs) to reveal a complex picture of contraceptive experiences and perceptions. It is difficult to imagine how such multidimensional and interwoven obstacles could be picked up by quantitative study alone, particularly given that some of these aspects were unknown to the researcher at the start of the study. The DHS, for example, asks women to state their single main reason for not intending to use a contraceptive method in the future (NIPH et al. 2006). This simplification fails to capture the fact that there may be multiple reasons and that many factors can interact with each other to deter people from using contraception. Qualitative interview questions can be open-ended to allow interviewees to express their own interpretation rather than fitting into the interviewer's frame of reference. Participant observation adds another layer of explanation that research participants may not be aware of from their viewpoint.

The way demographers conceive of unmet need has also come into question in light of the findings of this thesis. Demographers have typically distinguished between unmet need for spacing or for limiting. Results from Cambodia show that this categorization misses an important group of women: those wishing to delay the onset of their first pregnancy. I have argued for the addition of a new category of unmet need for postponing, this would capture those women who have typically been categorized as having unmet need for spacing but are in fact nulliparous. Logistic regression showed that nulliparous women in Cambodia have the greatest odds of having unmet need as compared to women with few or many children. Qualitative findings in this study pointed to the desirability of having children early, soon after marriage. Physiological ideas, about needing (youthful) energy for childbearing and rearing, intermingled with

social ideals of appropriate behaviour for women at different life stages (such as marital status and parity) to create a rationale supporting childbearing soon after marriage. The quantitative picture supports this finding as married women in the youngest age groups (15-19 and 20-14) have the lowest levels of need for family planning (excluding women aged 45-49) (table 17 Appendix 1), indicating most of them want to have a child within the next two years. However, the women in these age groups who do not want a child in this timeframe have higher odds of unmet need for contraception than any other age group. They are a group who are being missed, possibly because the assumption among service providers is that all young, newly married women want to become pregnant. An added obstacle for this group of women is the difficulty they may face articulating a desire to postpone their first child, given the gendered roles and expectations which can leave young women relatively uninformed and unempowered in this context. Other researchers have also begun to distinguish between women wanting to delay their first pregnancy and those wanting to space or stop births (Darroch et al. 2011). I would suggest it is time for demographers to adopt the category of 'postponers' into their analyses of unmet need.

Another aspect of this study which could only have come to light through the use of an anthropological lens is that specific contraceptive side-effects give rise to locally constructed meanings. Injectables and the various types of oral contraceptive pills (the most widely available and widely used methods) were frequently grouped together as hormonal methods, and disliked or feared because of the side-effects and health risks attributed to them. Some side-effects were likely to not be tolerated by anyone, for example, headaches, nausea or vomiting. Other side-effects were perceived positively by some women but negatively by others; for example, poorer women or women in the rural field site often regarded weight gain caused by the injection as a beneficial side-effect; whereas wealthy and urban women more often disliked this result. A third type of side-effect was of particular concern because of culturally specific associations. Amenorrhea, which in some cultures could be seen as a convenient advantage (Bongaarts & Johansson 2002), was disliked and seen as a cause for concern due to ethnophysiological theories about healthy women's bodies. Similarly, if contraceptive

users experienced feeling hotter than usual, this was also taken as an indication that they should discontinue using that particular method. The once-a-month Chinese contraceptive pill was available from some private providers, despite being banned by the Ministry of Health due to safety concerns. This method was often grouped with other hormonal methods, and therefore its side-effects were linked in people's minds to the other hormonal methods (the daily pill and injection). Thus the salience of the specific meanings attached to each method or side-effect is situational and context specific.

A further contribution this thesis makes is to one of the tools and instruments used by demographers, surveys; specifically it highlights the limits of what we can learn from analysis of surveys such as the DHS. Through use of a mixed methods approach I found contradictions at times between the qualitative and quantitative results. The most important and misleading discovery was the picture emerging from the quantitative data which appeared to show that lack of knowledge and affordability were not obstacles to the use of contraception. Further analysis of this through qualitative research allowed a more multidimensional, thorough investigation and found that these issues were in fact problematic for many individuals. This is not to say that the anthropological methods were always more valuable. At times the impersonality of a survey style interview and an interviewer who will disappear after the interview and not return has its advantages. Whilst at times the familiarity of the ethnographer who has earned trust and built rapport can be advantageous for discussing sensitive issues, the fact that the ethnographer is embedded in the community for a relatively long time with networks and friendships probably also inhibits some from discussing personal problems such as conflict or domestic violence. I have already discussed how the ethnographer's characteristics affect the impression informants want to give, I believe my gender (and that of my research assistant) made men less forthcoming in interviews on contraception.

Whilst the DHS is very useful for providing indicators which can be compared across countries and trends over time, through researching the same issues with qualitative methods I found some problems. Firstly, recording only the single main reason for non-use of contraception misrepresents the complexity of multi-dimensional reasoning.

Frequently I found people to have multiple reasons which interacted with each other. Whilst the issue of health is an overriding part of the explanation for unmet need in Cambodia, the reasons are multidimensional and often interconnected. For example, geographic distance can be a deterrent to accessing health care when the destination is an unfamiliar and unpredictable site of a government health centre. Conversely, the same distance may be acceptable to reach a highly regarded traditional healer. Poverty and health fears interconnect when the poorest women dare not risk using a modern contraceptive because incurring the potential side-effects could prevent them from working, whereas wealthier women are aware they have the financial security of being able to take time off work to recuperate if necessary. Furthermore it is the nature of surveys that data are collected from an etic perspective; questions and answers are within the parameters of what the survey designer thinks is key, thus rendering surveys unamenable to new emic perspectives on what the issues are. Secondly, the DHS records only the most effective contraceptive method women used. This misrepresents what women actually do to avoid pregnancy: dual use of methods, abstaining or practices not on the list such as douching, pressing abdomen, coitus intercrura. The pattern of use is then distorted as the less effective methods are not recorded if women use a more effective one too.

The third issue is to do with question phrasing. Asking respondents ‘which contraceptive methods do you use?’ likely underreports behavioural methods as they are not always considered a ‘method’ and are potentially more embarrassing or taboo to talk about. A more suitable phrasing would be to ask ‘do you do anything to avoid becoming pregnant?’. Fourthly, reliance on the traditional health sector is under-represented by asking respondents when they used it to treat an illness or injury. The reasons people go to see practitioners in this sector are much broader and often preventative; thus the view from the survey results distorts the magnitude of the use of the traditional sector. Finally, the quantitative results are only able to give a relatively black and white depiction of family planning use, such as which group uses this or that. Building on this with qualitative research facilitated a much more nuanced, richer and situational understanding of those patterns, highlighting issues that are intertwined such as access to

abortion, social class and contraceptive use. The findings of this thesis, which interweaves both quantitative and qualitative sources, raises questions as to how much can be inferred from DHS type analysis into obstacles to family planning. Ultimately, it is the users of the DHS who should be aware of the limitations and the kind of inferences that can be made when they analyse it.

The aim of this thesis has been to explain the contraceptive practices and patterns observable at the population level by understanding the social and cultural context in which that behaviour takes place and is rationalised and made meaningful. This required taking a 'micro' approach to the phenomenon: examining Cambodian women's and men's experiences and perceptions of family planning technologies and techniques, and grounding those understandings in the wider context of their lives. Health concerns and side-effects were found to be the main reasons deterring women from using modern contraceptive methods. Local ideas of physiology and health were intertwined with structural factors - such as varying types of work and levels of wealth across different social classes - to create a logical rationale for people's contraceptive behaviour. Modern contraceptives (and surprisingly the 'behavioural method' of day counting) were perceived as stemming from biomedicine. Therefore an individual's level of confidence and trust in biomedicine affected how they perceived specific contraceptive methods. That trust in biomedicine was, in part, influenced by the form of biomedicine a person had access to and the varying degrees of quality that entailed. Whether this access to biomedicine was a high-end private hospital in the capital, a public sector institution, a village pairt with questionable credentials or a shop keeper selling pharmaceuticals – access to any of these was seen as access to a pairt and therefore to biomedicine. People's experiences played into their trust in biomedicine. Poorer and uneducated people often had lower trust due to the low quality and efficacy of the biomedical treatments they had received. The alternative epistemology of the traditional health cosmology was often a more familiar and trusted viewpoint amongst informants, and some placed their faith (and financial resources) in this sector instead of the biomedical sector. As well as structural factors such as geography and finances, access to

biomedicine also depended on each individual's knowledge, beliefs, social networks, and confidence to try something new.

The category of women labelled with an unmet need for family planning is not necessarily a permanent group; for many it is often a transitory state as people move through different stages of the life course, between having children and using different contraceptives. Similarly, deciding which contraceptive to use is not a one-off event, but is continually re-evaluated at different life stages; as priorities shift, the attributes of different methods become more or less favourable.

Implications for policy and practice

I have argued that lack of trust in the health care system is a major factor contributing to the unmet need for contraception. A fundamental reason for women not using or discontinuing use of modern methods is their concern over side-effects and health deterioration; this includes both experienced and feared effects. Part of this fear of side-effects and unwillingness to tolerate bodily changes stems from a lack of trust in biomedicine and in the Cambodian health care system (the Cambodian health care system being the biomedicine people have access to in Cambodia). If people do not receive adequate advice and instructions when they obtain modern contraceptives, and particularly information on what to expect regarding side-effects or how to cope with them, they are less likely to tolerate any bodily changes they experience. Lack of *informed* choice is contributing to fear of side-effects because not everyone receives a consultation when they obtain a contraceptive method, particularly if they obtain it in the private sector. Furthermore, if people have a general lack of confidence in the efficacy and safety of biomedicine, this can also make them less likely to tolerate side-effects. Even if a contraceptive provider were to warn a new user about changes that might occur, but could balance out over time, or be overcome by changing to a different daily pill (for example), the new user would need to trust the person giving the advice. If that

person were a representative of a health care system they lack trust in, then the new user would be disinclined to follow that advice.

Health system improvements

I would argue that the regulation of health care providers in Cambodia is a crucial step towards instilling trust in the sector. At present the private sector is poorly regulated, and the general population struggles to distinguish good quality, trustworthy practitioners. Stronger regulation should go hand-in-hand with awareness building campaigns to inform people about the standards and quality of care they should expect to receive. The population needs to know what standards they should be expecting, what costs they are likely to encounter, and what type of provider is qualified to administer specific types of services. At present, the term '*pairt*' is used indiscriminately for all health workers, regardless of the type and level of their qualifications and education. This regulation needs to be strengthened in the area of pharmaceuticals as well: the present system where patients rely on their own knowledge or the opinion of untrained drug sellers is endangering their health and wasting the small amounts of money available on inappropriate treatments (Ovesen & Trankell 2010 have also commented on this). Not only this, it also contributes to a lack of trust in biomedicine, as people perceive themselves to have tried the biomedical route to healing and believe that it has failed, when in fact, they have taken unsuitable types or amounts of medication because they failed to gain a correct diagnosis and prescription at the outset.

The over-the-counter availability of potentially harmful pharmaceuticals needs to be reviewed given the fast-paced changes that have occurred in the public health system over the last two decades. Whilst perhaps such easy availability of pharmaceuticals could be justified in the 1990s when pharmacies operated by business people not pharmacists were a useful supplier of medical treatments for a population with so few doctors and nurses, and a weak health system infrastructure - now in urban areas like Siem Reap, this is no longer the case – there are safer and better alternatives to the shop

drug sellers. There needs to be work to remove the patient-drug seller dyad and create a triangle between the patient, the doctor (to diagnose and prescribe), and the drug seller or pharmacist (as supplier of prescribed pharmaceuticals). Under the current situation the patient directs their own medical treatment from an uninformed position, and providers of pharmaceutical treatments are drug sellers motivated by profit. A move to ensure specific listed pharmaceuticals were available only on prescription would force patients to seek appropriate treatment from qualified (regulated) providers. The issuing of prescriptions may prove unpopular with pharmaceutical companies as it entails limiting access to their products, and the general population may initially dislike it as they are currently free to purchase whatever medications they wish. However, it ought to lead to better health in the population as people obtain the correct (and therefore more efficacious) medication, and this in itself will improve trust in the health care system and in biomedicine. It cannot be assumed that doctors will operate solely on the basis of improving their patients' health, just like the drug sellers they may be motivated by financial gain as well. Given this, further research and regulation is needed into the way pharmaceutical companies operate, particularly the way they currently offer incentives to doctors to prescribe particular pharmaceuticals.

There needs to be stronger enforcement of regulations already in place regarding pharmaceuticals. Problems continue with counterfeit and banned pharmaceuticals being available for purchase. The monthly Chinese contraceptive pill is an example of such a banned drug (Chapter 5); it is illegal to sell, but was readily available to buy in both my rural and urban field sites from private sector providers. Since it is regarded by the general population as another hormonal method along with the daily pill and injection, the side-effects caused by the monthly pill are attributed to these other hormonal methods too. The availability of potentially unsafe and ineffective pharmaceuticals (or incorrectly prescribed or administered drugs) damages the reputation of other pharmaceuticals by extension. This in turn creates another source of mistrust in biomedicine and the Cambodian health care system.

Raising public sector remuneration to an acceptable living wage would be another important step towards achieving improvements in the public sector health system, particularly aspects such as quality of care, absenteeism, and corruption that affect public trust and utilisation. Low pay and irregular distribution of staff salaries have been identified as the root cause of poor performance in Cambodian public institutions, because they force staff to seek income generation outside their government jobs (Soeters & Griffiths 2003: 75). In a study of one Cambodian operational health district, Jacobs *et al.* (2010) found acceptable financial remuneration to be crucial to maintaining the high service delivery during a transition from contracted management to a government operated system. This was achieved through performance related subsidies and user fee revenues. Other studies of the Cambodian health system have called for greater regulation of the private sector (Jacobs and Price 2004) as a way to overcome inappropriate health seeking behaviours, and ultimately to improve the health of the population. Men *et al.* (2005) call for a strengthening of the regulatory role of the central level of the health system as an important adaptation to the decentralisation occurring in the public sector. Any decision about whether or not to incorporate the role of traditional healers into private sector regulation needs to be approached with care. If traditional healers are to be regulated and drawn into a public policy framework, it needs to be done under an alternative system, and in some way that makes clear to the public the separation between the evidence based (biomedical) sector and the traditional sector. People need to be informed before they make choices about treatment.

Reproductive health services

Services for sexual and reproductive health should be broadened and strengthened; particularly urgent is the need for safe abortion services. The current situation of low awareness of the legality and quality of services at affordable prices drives women to seek unsafe abortions and wait longer before taking action, placing their lives in danger. Improvements in this regard are underway: at the end of my field work over-the-counter safe medical abortion pharmaceuticals (Medabon brand) were launched, with clear

instructions in Khmer, training for pharmacy staff (only registered pharmacies were supplied as outlets) and a helpline with further support for women experiencing complications. The improvement of sexual and reproductive health services is an end in itself, but with regard to the topic of this thesis, contraception use, it is also important. The findings of this thesis have pointed to the importance placed on maintaining good health and how this affects contraceptive use.

An issue related to this is the underlying burden of reproductive and other morbidities, particularly reproductive tract infections (RTIs), which make it unclear whether side-effects that women attribute to contraceptives are actually caused by other means (Sadana & Snow 1999). Cambodia has a high disease burden, and high prevalence of RTIs: a study of women visiting maternal and child health centres in Cambodia found high prevalences of bacterial vaginosis (12%) and vaginal candidiasis (39%) (Heng *et al.* 2010). It is possible that untreated RTIs are the true cause of some of the symptoms which are being assigned to modern contraceptives. If this were the case more widespread and effective treatment of RTIs may reduce what people perceive as side-effects, and in turn reduce discontinuation of contraceptives.

Increase contraceptive method choice

At present, the population relies heavily on the daily pill and injectables partly because these are the most widely available and affordable. The Cambodian concept of *som* (to suit or to fit) – the idea that a particular method needs to fit a particular woman – means that Cambodian women already have the notion that what is right for one person is not right for another. Providing a wider choice of methods, that are as easily accessible and affordable as the pill, injections and condoms are now, will mean more women and men find a method that is *som* or suitable for them. It is now well established from multi-country comparative research that there is a positive association between the number of contraceptive methods available in a country and the contraceptive prevalence rate (Jain 1989). In Cambodia, women presenting at government facilities for abortion services

where a larger range of methods were offered had significantly higher odds of contraceptive uptake following abortion care (McDougall *et al.* 2009). A greater range of methods should be available to women and men in a way that is accessible and gives them the freedom to make an informed choice. This should include teaching people about the most effective way to use behavioural family planning methods as well, since even though they are on average less effective (in the biomedical sense) than modern methods they are vastly more effective than using no method. Findings from this thesis (Chapter 6) show that rural, illiterate women in Cambodia are seen as unsuitable candidates for fertility awareness based methods, both by others and by themselves. However, the WHO family planning handbook states the method can be used effectively by couples with little or no formal schooling, and can be very effective (WHO & CPP 2007: 241; 253).

Administrative barriers to accessing long-term methods directly limit who can and cannot use contraceptives. Findings showed that protocols related to parity, marital status, spousal permission and age, are present in Cambodia in relation to the use of IUDs, implants and sterilization (chapters 3 and 5). Limitations that are not clinically warranted unnecessarily impede an individual's ability to attain the number of children they want at a time they desire. Long-acting methods should be made available and promoted where not contraindicated for medical reasons.

Findings showed that the costs of longer-acting methods can be prohibitive. Greater efforts should be made to increase the affordability of the IUD, particularly given that this method has a very low cost per year of protection in comparison to other methods (Bongaarts & Johansson 2002). A greater range of oral contraceptive pills should be made affordable for women who cannot tolerate the side-effects of the types currently available at subsidised prices. Different contraceptive pills vary in terms of composition, which means that the side-effects of each one differ (Vitzthum and Ringheim 2005). These differences need to be communicated to potential clients as well, since currently hormonal methods are often grouped together.

Research conducted in Indonesia found that whether a client's choice of contraceptive method was granted by the provider proved to be an important determinant of sustained use of contraceptives (Pariani *et al.* 1991). The authors state that "the relationship between health workers and their clients is an essential factor in program quality" (Pariani *et al.* 1991: 389). They point to the hierarchical provider-client relations and the importance placed on avoiding conflict and showing respect to superiors, which can make clients reluctant to turn down or disagree with a provider's suggestion. Whilst clients may not assert their preferences insistently, if their choice is denied in this subtle negotiation, ultimately they may leave with another method but will be more likely to discontinue use (Pariani *et al.* 1991). As in Indonesia, hierarchical client-provider relations and social norms of face-saving and conflict avoidance in social interactions are prevalent in Cambodia. Therefore providers need to ensure they are listening to clients and giving them the method of their choice, thus making them more likely to continue use. The recommendations of Pariani *et al.* for more reciprocal models of professional-client relationships that emphasise guidance and cooperation would be beneficial in Cambodia.

Development of new methods and improvement of existing methods

The findings of this thesis support the need for the development of novel contraceptive methods in order to meet the needs of men and women wanting to avoid pregnancy who are dissatisfied with existing methods. Methods currently available have been shown to be not acceptable to everyone. Each method has benefits and limitations the users must weigh up, depending on how they prioritise (and experience) efficacy, safety, convenience, and side-effects. With each additional method available, the chances that a client will find one acceptable to them increases. Multinational pharmaceutical companies may have little interest in developing new products targeted to the needs of people in developing countries given the profitability of these markets. Currently, "the vast bulk of research and development, manufacture and distribution of products supporting sexual and reproductive health, remains in the hands of multinational,

private, profit-making companies" (Cottingham & Berer 2011: 80). It may be that greater public investment is needed to develop and refine contraceptive methods, if there is to be "an agenda driven by public health needs" (Cottingham & Berer 2011: 80).

Male contraception is an example of a new method developed due to investment from the non-profit sector. The HRP[26] (the main UN instrument for research into human reproduction) has recently supported phase III trials of a reversible male contraceptive injection that works by inhibiting sperm production. "The present results show that monthly 500mg testosterone undecanoate injections can provide effective, reversible, acceptable, and readily delivered contraception for most healthy Chinese men without serious short-term adverse effects" (Gu *et al.* 2009: 1915). This is encouraging as it provides a new alternative for couples dissatisfied with the current range of contraceptive methods. The development of a pharmacological male contraceptive has been over 30 years in the making. Unlike other clinical research which is usually driven by the pharmaceutical industry, development of male contraceptives to this stage has only happened because of the commitment of civil society bodies such as the WHO and the National Institute of Child Health and Human Development (Nieschlag 2009). Most likely this lack of attention and funding from the private sector has been due to a (culturally specific) assumption amongst the decision makers, that men would not use a pharmacological method even if available. Recent research has shown this assumption to be incorrect: a study of over 9000 males in 9 countries across 4 continents showed that overall acceptance of hormonal male contraception was high, with variation between populations (Heinemann *et al.* 2005). In Germany, Spain, Brazil and Mexico 60-70% of men said they would be willing to use such a method if available (Heinemann *et al.* 2005).

Clinical trials of contraceptive technologies tended to assume that human biology and the physiological effects of contraceptives would be the same across populations (Gammeltoft 1999). Later research has suggested that human biology and contraceptive

[26] HRP stands for the UNDP/UNFPA/WHO/World Bank Special Programme of Research, Development and Research Training in Human Reproduction.

reactions are not universal (Bentley 1996; Gammeltoft 1999: 17; Vitzthum and Ringheim 2005). “Given that underlying risk factors for irregular menstrual bleeding, reproductive infection and osteoporosis vary among women and by population, and that women vary in their metabolic response to contraceptive steroids, the impact of contraceptive steroids on these aspects of women’s health cannot necessarily be generalised across regions or ethnic groups” (Snow 1994: 234-5). There is now evidence that levels of endogenous steroids differ between populations, and this suggests “there is substantial variation in the physiological response to exogenous hormones” (Vitzthum and Ringheim 2005: 13). Hormonal profiles of Bolivian women were found to be significantly lower than those of women in the United States, implying that lower doses of hormones would be needed to induce the same contraceptive efficacy (Vitzthum and Ringheim 2005). The case of a hormonal male contraception (above) is one such example showing that physiological difference between populations matters. The efficacy trials of this method showed that East Asian men responded differently to Caucasians: the former responding much better to the inhibiting effect of testosterone on spermatogenesis – the mode of operation for the contraceptive (Nieschlag 2009). Whilst the variability of risks for serious conditions (for example cancer or cardio-vascular disease) attributable to hormonal contraceptives has been studied across populations (and found to be minimal), the biological variability of non-serious side-effects has not been given the same attention (Snow 1994; Vitzthum and Ringheim 2005).

Analysis of DHS data from multiple countries has shown that discontinuation rates of hormonal contraceptives are generally high, and that side-effects and health concerns are the major reason for this discontinuation in developing countries (Ali & Cleland 1995; Vitzthum and Ringheim 2005). The literature on contraceptive side-effects often refers to them as minor or dismisses them as myths and rumours. Vitzthum and Ringheim (2005: 19) suggest this attitude that “women’s reports of side-effects are exaggerated or fantasies” may be due to the difference between the lower discontinuation rates in clinical trials compared to the higher discontinuation rates of other users. They point out that this discrepancy is unsurprising given that clinical trials are short-term and not representative of users (for example, participants are subject to inclusion and exclusion

criteria - such as having no medical conditions other than the one relating to the drug being trialled - and commitments to fixed intervals of the trial).

The policy implication suggested by such research (that attributes side-effects to the realm of rumour) is that there is a need for improved contraceptive counselling and education to help women anticipate and manage side-effects, and to dispel those myths (Vitzthum and Ringheim 2005). The problem with this is that it assumes such side-effects are minor (if not imagined) and can be tolerated. However, from the user's perspective, the results of 'minor' side-effects (headaches, nausea or loss of libido, for example) may severely impact on their quality of life, ability to be productive and their personal relationships (Vitzthum and Ringheim 2005). Since such side-effects are often stated as the reason for discontinuation (and unmet need, as this study found for the case of Cambodia), this suggests that users do not regard them as minor.

Counselling and education are important elements of quality of care in contraceptive services; however they are not the sole solution to meeting the contraceptive needs of women wishing to avoid pregnancy if the side-effects have a biological cause. Further research is needed to examine this. Snow calls for "closer examination of the physiological synergies between contraceptive technology and underlying reproductive health" (Snow 1994: 234), since the mechanisms for the pharmacokinetic variability in response to contraceptives are not fully understood. The more recent research into male hormonal contraception shows that this mechanism for the population variability is still not understood: "the reason for [the] ethnic difference could not yet be fully elucidated" (differences in body mass, fat and genetics are suggested) (Neisling 2009: 1891). There is growing evidence that supports the need for more clinical trials on the physiological variability of the effects of hormonal contraceptives across populations, particularly in developing country contexts, where women have lower BMIs, less body fat, and poor nutrition (Snow 1994; Vitzthum and Ringheim 2005). It may be that adjustments in doses tailored to populations would reduce side-effects; this would in turn reduce discontinuation and unmet need and generate all the associated benefits (Vitzthum and Ringheim 2005). I would agree with Gammeltoft (1999) that further research would

ideally combine “attention to physiological changes with investigations of the making-of-meaning processes to which they are intimately tied” (Gammeltoft 1999: 250). This would need interdisciplinary research to draw together biological analysis of contraceptive efficacy and side-effects, with social science approaches to understand the meaning and context of changes resulting from contraceptive use.

Education and awareness

The level of contraceptive advice and support that women and men receive needs to be increased. Women and men in my field sites often lacked knowledge of how methods work, how to use them correctly, and the suitability of different methods for different needs. Although, undoubtedly, there are individual staff in the public health system providing high quality consultations already, most staff are frequently overstretched in their duties and do not always have time to give this level of attention. If further support were available to discuss in-depth individual women’s and men’s particular problems, they may be more likely to find a suitable method. For example, teaching people how to use condoms properly could help reduce discomfort or prescribing alternative oral contraceptive pills may alleviate the side-effects caused from another pill (this would also require having a greater range of affordable supplies). More resources need to be dedicated to this kind of intensive support, and to encouraging women and men to seek out such support. More could be done to ensure that the village health volunteers, who distribute oral contraceptive pills and condoms, are able to fulfil this role, and be an accessible source of advice and support for potential contraceptive users. In light of the finding from this thesis that key sources of trusted information are friends and neighbours, behavioural change communication (BCC) should make use of this: using the village health volunteers more effectively by giving them a greater role and paying them salaries. Also BCC segments on radio and television could use testimonials since women value messages coming from those they perceive as people like themselves (not only the aspirational, idealised figures often used in advertising).

Knowledge and management of side-effects

There also needs to be more effective communication about contraceptive side-effects so that women are not facing unexpected problems that increase anxiety over modern contraceptives. More warnings and discussion about what can be experienced: which problems are likely to reduce with long-term use and which problems are signs that the user should discontinue using a method. At the moment, women do not always receive such warnings nor do they understand the way hormonal methods function. They are therefore unprepared if they experience side-effects, taking them as a sign to discontinue use. Further support and follow up consultations could also help people to use particular methods more easily and effectively. People taking antiretroviral therapy in Cambodia were found to frequently use mobile phone alarms, and radio and television shows as reminders for when to take a dose (Elliot *et al.* 2011). Similar reminders and strategies could help contraceptive users remember when their dose is due or keep track of their cycle for fertility awareness methods. Such techniques need to be tailored to the Cambodian context: for example, findings of this thesis showed that rural women often thought that they could not use the day counting method as they did not use a Western calendar. They could be taught this method with a Khmer calendar, or with CycleBeads[27]. There was a common perception that this method is not suitable for uneducated women, which is not the case, but providers would need to be trained and accept that uneducated women can use it if motivated and taught.

The policy decision needs to be made to mobilise resources for reducing unmet need for contraception. Other authors have questioned whether family planning has the same political support in Cambodia as other aspects of maternal health (Hemmings & Rolfe 2008; Liljestrand & Sambath 2012) (chapters 3 and 5), pointing to pro-natalist sentiment and inadequate promotion of long-term contraceptive methods (USG 2011). It seems likely that a resistance to family planning may be linked not only to the population losses of the Khmer Rouge era (Desbarats 1995), but also to ideas of continuity with

[27] CycleBeads are a colour-coded string of beads that help a woman use the standard days method, a fertility awareness based method (RHSC *et al.* 2012).

Khmer traditions which include young women's ignorance of sex, and a lack of openness to talk about sex, particularly between generations. There are forums opening up, such as television and radio programmes, where such issues are debated in public. However sex education in schools covers only the biological side of reproduction and not social or psychological issues surrounding sexuality and relationships. Men's and women's ignorance and shyness about facing these issues is contributing to fear and anxiety about contraceptives and accessing services and information. If sex education in schools is deemed culturally inappropriate, perhaps one of Iran's policies could be taken as an example: there, before a couple can marry, the bride and groom receive mandatory classes in family planning (Roudi-Fahimi 2002). Of course this is not ideal as single people would not receive this education. However, they may benefit indirectly as information is diffused through social networks.

In order to improve people's abilities to judge soundly the health concerns regarding contraception, counselling should cover not only the side-effects and risks, but also the non-contraceptive benefits. The health benefits of specific methods include reduced risks of pelvic inflammatory disease and ovarian and endometrial cancers (Cleland *et al.* 2012 Vitzthum and Ringheim 2005). "Informed consent should include patient appraisal of the risk/benefit ratio" (Herbert 1975: 555) and in order for them to do this they need to be able to place those risks into perspective. At the moment, risks are misunderstood[28].

Culturally competent health care

A broader debate that this thesis speaks to is how to deliver health care in the context of plural medical belief systems. In reference to the Cambodian population it has been suggested that reloading indigenous terms could be a way to improve utilisation and adherence to biomedicine. Kulig (1988) proposes loading biological concepts with

[28] To give one example, from this research, women reported fearing ectopic pregnancies with IUD use. Although a pregnancy occurring whilst using an IUD it is more likely to be ectopic, the absolute risk of ectopic pregnancies is lower than when no method is used, because the risk of becoming pregnant is so low (Cleland *et al.* 2012). It is very doubtful people have this level of knowledge when they express a fear of ectopic pregnancies.

culturally appropriate meanings – for example, using the indigenous concept of 'hotness' to explain how the pill prevents contraception. During fieldwork I heard women recently returned from giving birth in hospital in Siem Reap, refer to the iron supplements as 'hot medicine', or the injections they had been given as 'hot injections'. They had been told that since they had had this 'hot medicine' there was no need to *ang plerng* (the traditional post-partum practice of lying and sleeping over burning embers). Sometimes women headed this advice, other women postponed taking the pills until they had completed the traditional seven days of *ang plerng* as a way to avoid the double heating effects of hot medicine and *ang plerng*. Aside from being ethically questionable, this cultural reloading of terms would be detrimental towards improving the population's knowledge of and trust in biomedicine (something which I have argued is a key factor in reducing unmet need). Perhaps the Khmer and biomedical ontologies are too different and cannot be bridged successfully in this way (Au 2011). Instead I would suggest that the solution to unmet need is to make improvements in the biomedical options available and known to people, and let them make informed choices. In reference to family planning this means: equipping people with knowledge; improving contraceptive counselling; widening the range of available methods; improving and regulating the health system to increase trust; and investing more in the development of new methods and (population specific) refinement of existing methods. A greater range of methods would mean a greater chance of every individual finding a contraceptive they consider culturally and physically acceptable to them. Ultimately, the majority of people in Cambodia want to have the power to control their own fertility by deciding on the number, timing and spacing of their children. If there was a method they perceived to be suitable, they would probably be using it.

Limitations of this study

There are several limitations to this study: firstly, there are those which affect the extent to which the findings can be generalised; and secondly there are those aspects which, due to the decisions made at the stage of research design, limit the scope of the research.

Whilst the DHS data are collected in such a way as to allow statistical analysis and interpretation of the generalisability of the findings to the wider population, the findings from the ethnographic data cannot be said to be representative of the population in a statistical sense. However, my research design was aimed at selecting people and settings which were typical in many aspects of other people and places in Cambodia. In choosing the urban and rural research sites I aimed to gain access to a wide variety of demographic groups, whose life-styles were characteristic of people elsewhere in Cambodia. My judgement of 'typical' was based on the literature I had read, personal observations from previous visits, and discussions with informants in the early stages of fieldwork. The generalisability of qualitative work is not possible in the statistical sense, but I would argue that findings of this ethnography can be interpreted as having wider application beyond my two field sites. This is because I have aimed to capture the networks of meaning and the historical and social circumstances that are shared (to a greater or lesser degree) by Cambodians in other areas of the country. Furthermore, the findings I have presented fit into and build upon existing academic accounts of Cambodia and contraceptive use from both regional and thematic bodies of literature.

One factor stands out as potentially rendering my field sites atypical of Cambodia. Whilst conducting fieldwork, I was told that Siem Reap has a higher proportion of commercial sex workers than other parts of Cambodia due to it being a popular tourist destination and the attendant economic migration (I have not found literature to demonstrate this). This may have biased my result on perceptions of condoms, which I found were stigmatised as being associated with non-marital and commercial sex. In contrast, Hemmings and Rolfe (2008) found that condoms were not highly stigmatised or associated with commercial sex work in two other Cambodian provinces. However, previous studies showed similar findings to those of my thesis in regard to condoms (Fordham 2003).

The limitations of the study that reflect the scope and boundaries of the research are as follows. My study focused on contraceptive use amongst people who were married (or in a union like marriage). Therefore my findings do not consider single people who are

sexually active. I did however gain the perspectives of single people throughout my fieldwork. The decision to focus only on married people was made because I was interested in the group who make up the majority of sexually active people in Cambodia. Also, I presumed that there may be a different set of factors involved in unmet need for contraception for this group, given the cultural taboo on non-marital sex. Limitations of time and resources are always an issue when completing a piece of research, and this was no exception in this Ph. D. research.

In Chapter 2 I discussed the research design: a sequential use of mixed methods, with quantitative findings leading into the qualitative data collection. I explained my rationale for analysing the DHS 2005 data in this thesis rather than the DHS 2010 data in the section of Chapter 2 entitled 'quantitative research'. A direction for future research would be to compare whether, and in what ways, the situation has changed from the DHS 2005 to the DHS 2010. This is done briefly below.

What has happened to contraceptive use patterns between the Cambodian DHS 2005 and that of 2010? Firstly, current contraceptive use among married women (aged 15-49) has increased from 40% to 51%. At the same time, the unmet need for contraception has continued to fall, from 25% to 17%. In terms of the method mix, 35% of married women opted for modern methods (the figure for 2005 was 27%), while 16% used behavioural methods (13% in 2005). The mix of specific methods has changed little in the 5 year period. The most widely used methods remain the daily pill (15%), withdrawal (12 %), injectables (10%) and day counting (4%). In other words, long-lasting modern methods remain unpopular, and behavioural methods are still favoured by a significant proportion of contraceptive users. As in the 2005 data, the 2010 data reveal that the pattern regarding behavioural method use increasing with socio-economic status (Chapter 6) remains: compare behavioural method use among women with no schooling (9%) and women with secondary or higher schooling (23%). Interestingly, the proportions who use modern methods are the same in both these groups (34%). Regarding the difference between wealth groups, behavioural method use is 10% among the lowest quintile and

25% in the highest quintile. Notably, modern method use is actually lower in the highest quintile (31%) than the lowest quintile (35%).

So do the new data change the relevance of the findings in this thesis? No, for the following reasons: firstly, whilst there has been encouraging progress made in the period between the two surveys (contraceptive use has risen and unmet need has fallen) there is still room for much improvement. Of particular concern are the vast inequalities in unmet need, and health indicators, between different levels of education, of wealth, and place of residence (NIS *et al.* 2011). Secondly, there is the issue of sustainability. The improvements seen in this period coincided with considerable support from donor agencies. If donors' priorities change or targets are considered to have been met, how will this impact on the family planning and reproductive health needs of the population? Thirdly, reproductive and maternal and child health indicators (which are affected by unmet need for contraception – Chapter 1) remain below regional averages (WHO 2012). In short, the findings of this thesis are still relevant to solutions directed at meeting the contraceptive needs of the population.

Implications for future research

Many of the directions for future research that have emerged from this piece of research have already been pointed to in the discussion above. Therefore in this section, I will draw them together only briefly. An obvious area of future research, following from the previous section, would be to analyse the data from the CDHS 2010 beyond the descriptive analysis above. Are the same factors affecting the likelihood of unmet need and behavioural method use, to the same degree as they were in 2005? The descriptive statistics suggest so, but do not control for confounding effects. A second line of enquiry might be to extend the focus of this research to unmarried people to examine how contraceptive perceptions and use differ according to different types of relationships. Policy makers were not included in the present study but their attitudes to contraception, abortion and population issues in general impact on the wider society as their decisions

directly affect service provision and prioritisation of such issues. Therefore more needs to be known about their interpretations of these matters.

In Chapter 3 I described the healthcare system in Cambodia, pointing to several innovative schemes to improve reproductive health utilisation, such as HEFs, voucher schemes and incentives for deliveries. These have the potential to change the dynamics of service utilisation in a beneficial way but may have unintended consequences; the use and wider effects of such schemes should be examined.

My findings on the widespread experience (as well as perception) of contraceptive side-effects in this population indicate that more research needs to be done on understanding the biological variability of the effects of hormonal contraceptives on different populations. Furthermore, such research should not ignore the cultural construction of physiological changes as the meaning making process is interlinked with physiological response (Moerman 2002). It has been suggested by other authors that the high prevalence of contraceptive side-effect reports across the globe may in large part be due to a nocebo effect (the opposite of a placebo effect) (Grimes & Schulz 2011), whereby the expectation of an adverse reaction induces such an experience. Such research should attempt to pull apart this interaction between the pharmacokinetic response to hormonal methods, the background prevalence of illness symptoms, and the culturally specific process of meaning-making, as each of these aspects are involved in the experience of contraceptive side-effects.

Appendix 1

Table 15: Current contraceptive use of currently married (or in union) women aged 15-49 in 2000 and 2005

	2000				2005			
	Frequency		Percentage		Frequency		Percentage	
Any method	**2159**		**23.8**		**4035**		**40**	
Any modern method	**1701**		**18.8**		**2740**		**27.2**	
Pill		408		4.5		1114		11.0
IUD		115		1.3		177		1.8
Injections		667		7.4		793		7.9
Condom		82		0.9		290		2.9
Female sterilization		134		1.5		168		1.7
Male sterilization		14		0.2		9		0.1
Norplant		8		0.1		19		0.2
Monthly/Chinese pill		248		2.7		158		1.6
Any traditional method	**451**		**5.0**		**1288**		**12.8**	
Periodic abstinence		246		2.7		452		4.5
Withdrawal		205		2.3		836		8.3
Lactational amenorrhea		25		0.3		12		0.1
Folk method	**7**	**7**	**0.1**	**0.1**	**8**	**8**	**0.1**	**0.1**
No method	**6912**	**6912**	**76.2**	**76.2**	**6052**	**6052**	**60.0**	**60.0**
Total	9071	9071	100	100	10087	10087	100	100

Table 16: Need for family planning in Cambodia 2000

Percentage of currently married women according to their need for family planning, by background characteristics

Background characteristic	Need for family planning in 2000												
	Unmet need to postp-one	Unmet need to space	Unmet need to limit	Total unmet need	Use to postop-one	Use to spac-e	Use to limit	Total met need	No FP need	Total	Total number	Total need for FP	% of total need unmet
Age													
15-19	15.3	11.4	3.0	29.7	1.1	6.4	1.4	8.9	61.5	100	439	38.6	76.9
20-24	3.6	19.9	7.3	30.8	0.5	11.8	3.2	15.5	53.7	100	1010	46.3	66.5
25-29	0.5	19.2	13.5	33.2	0.2	12.5	10.7	23.4	43.4	100	1610	56.6	58.7
30-34	0.2	13.8	18.7	32.7	0	13.3	17.6	30.9	36.6	100	1796	63.6	51.4
35-39	0.1	11.3	20.8	32.2	0.1	7.8	23.1	31.0	36.9	100	1765	63.1	50.9
40-44	0.2	9.5	18.7	28.4	0	7.0	19.8	26.8	44.8	100	1428	55.2	51.4
45-49	0.1	4.6	10.6	15.3	0	1.6	8.7	10.3	74.4	100	1023	25.6	59.8
	Pearson Chi-Square value = 4404.487, df = 42, p-value < 0.001. Missing = 3.												
Residence													
urban	1.5	11.2	12.4	25.1	0.4	13.0	19.2	32.6	42.1	100	7655	57.7	43.5
rural	1.3	13.5	15.8	30.6	0.1	8.6	13.5	22.2	47.3	100	1414	52.8	58.0
	Pearson Chi-Square value =80.089, df = 7, p-value < 0.001.												
Education													
None	0.9	14.1	16.6	31.6	0.1	7.2	12.0	19.3	49.1	100	2797	50.9	62.1
Primary	1.5	12.4	16.5	30.4	0.1	7.9	15.3	23.3	46.2	100	4959	53.7	56.6
Secondary +	1.5	13.8	7.6	22.9	0.6	18.6	15.8	35.0	42.1	100	1313	57.9	39.6
	Pearson Chi-Square value =326.014, df =14, p-value < 0.001.												
Total	1.3	13.1	15.2	29.6	0.2	9.2	14.4	23.8	46.5	100		53.4	55.5
Number	121	1188	1383		15	839	1305		4217		9068		

Table 17**: Need for family planning in Cambodia 2005**

Background characteristic	Need for family planning in 2005												
	Unmet need to postp-one	Unmet need to space	Unmet need to limit	Total unmet need	Use to postp-one	Use to spac-e	Use to limit	Total met need	No FP need	Total	Total numbe r	Total need for FP	% of total need unmet
Age													
15-19	10.7	12.7	2.2	25.6	3.6	15.7	1.4	20.7	53.7	100	363	46.3	55.3
20-24	2.8	15.1	5.8	23.7	1.6	24.8	8.1	34.5	41.7	100	1670	58.2	40.7
25-29	0.6	13.3	11.5	25.4	0.4	23.5	17.7	41.6	32.9	100	1568	67.0	37.9
30-34	0.3	8.3	17.2	25.8	0	15.6	33.4	49.0	25.1	100	1729	74.8	34.5
35-39	0.2	4.7	21.5	26.4	0.1	6.4	43.2	49.7	24.0	100	1825	76.1	34.7
40-44	0.2	2.6	24.1	26.9	0	1.4	41.3	42.7	30.4	100	1653	69.6	38.6
45-49	0	0.6	20.4	21	0	0.2	20.9	21.1	57.9	100	1276	42.1	49.9
	Pearson Chi-Square value =5787.011, df =42, p-value < 0.001. Missing =0.												
Residence													
urban	1.2	7.3	13.3	21.8	1.8	13.1	34.6	49.5	28.8	100	1571	71.3	30.6
rural	1.0	7.9	16.7	25.6	0.2	12.3	25.7	38.2	36.1	100	8516	63.8	40.1
	Pearson Chi-Square value =144.689, df =7, p-value < 0.001.												
Education													
None	0.6	8.2	18.8	27.6	0.3	6.6	23.4	30.3	42.2	100	2291	57.9	47.7
Primary	1.0	8.0	16.9	25.9	0.3	12.8	27.4	40.5	33.6	100	5960	66.4	39.0
Secondary +	1.7	6.9	10.7	19.3	1.4	18.4	30.7	50.5	30.3	100	1836	69.8	27.7
	Pearson Chi-Square value =386.676, df =14, p-value < 0.001.												
Total	1.1	7.8	16.2	25.1	0.5	12.4	27.1	40.0	34.9	100		65.1	38.6
Number	108	788	1633		48	1254	2732		3522		10084		

Model Selection

Model 1: Binary Logistic Regression for Unmet Need

The first logistic regression model tests the likelihood of having unmet need, amongst women with a need for family planning. The response variable is whether there is unmet need; met need is the reference category.

Wealth and Residence Multicollinearity

Due to multicollinearity between wealth and residence a set of composite dummy variables was created (this is discussed below).

Table 18: Place of Residence by wealth quintile (married women)

		Type of place of residence		Total	Number of married women
		Urban	Rural		
Wealth index	Poorest	5.0 (6.2)	95.0 (21.8)	100.0 (19.4)	1,957
	Poorer	5.1 (6.6)	94.9 (22.6)	100.0 (20.1)	2,028
	Middle	7.2 (8.9)	92.8 (21.3)	100.0 (19.4)	1,952
	Richer	10.5 (13.5)	89.5 (21.4)	100.0 (20.2)	2,037
	Richest	48.2 (64.8)	51.8 (12.8)	100.0 (20.9)	2,113
	Total	15.6 (100)	84.4 (100)	100.0 (100)	10,087
	Number of married women	(1572)	(8515)		(10087)
	Pearson Chi-Square value = 2195.10, df = 4, p-value < 0.001.				

There is strong correlation between wealth and residence: while 95% of the poorest group live in rural areas, only 51.8% of the richest group live in rural areas. There is a large change in the relationship between the groups 'poorest through to richer' and the 'richest' group: all wealth groups between poorest and richer have approximately 5-10% living in urban areas. However for the richest group 48.2% live in urban areas.

To measure the effects of wealth and residence a composite variable was created. For the lowest three wealth quintiles 90-95% of respondents lived in rural areas therefore the distinction between rural and urban was ignored for these groups as sample sizes would have been too low. The upper two wealth quintiles were divided into four groups distinguished by residence as well as wealth (richer-rural, richer-urban, richest-rural, and richest-urban).

Model Specification

Backward elimination was conducted beginning with a model containing the complete set of explanatory variables. Each variable was tested in turn using the likelihood ratio test. The variable with the highest *P*-value greater than the significance level of 0.05 was removed from the model, creating a new base model. This process was repeated until all the variables left in the model are significant at the level of 0.05.

Base group: Currently married/in union women with a need for family planning

Response Variable: Unmet need

Outcomes are**:** 0=met need (reference category)

1=unmet need

Explanatory variables (entered into base model):

Education (highest level attained – none, primary or secondary+)
Age in 5year groups (15-19, 20-29, 30-44, 45-49)
Number of living children (including current pregnancy – none, 1-2, 3-4, 5+)
Wealth/Residence Composite (poorest, poorer, middle, richer-rural, richer-urban, richest-rural, richest-urban)
Religion non Buddhist (0=Buddhist, 1=other)

Medical Care Variables (0=not a big problem, 1= a big problem)

- Getting medical help for self: getting permission to go is a big problem
- Getting medical help for self: getting money needed is big problem
- Getting medical help for self: distance to health facility is big problem
- Getting medical help for self: having to take transport is big problem
- Getting medical help for self: not wanting to go alone is big problem
- Getting medical help for self: concern no female health provider is big problem
- Getting medical help for self: concern no provider is big problem
- Getting medical help for self: concern no drugs is big problem
- Visited by health worker last 12 months (0=no, 1=yes)
- Visited health facility in last 12 months (0=no, 1=yes)

Media Influence

- recently (in the last 12 months) heard family planning message in any media (either radio, tv, newspaper) (0=no, 1=yes)

Non-significant explanatory variables eliminated from the models after likelihood ratio tests

Religion

Medical Care Variables

- Getting medical help for self: getting permission to go is a big problem
- Getting medical help for self: distance to health facility is big problem
- Getting medical help for self: having to take transport is big problem
- Getting medical help for self: concern no female health provider is big problem

Appendix 2

Explanatory variables (entered into base model):

Age in 5year groups (15-19, 20-29, 30-44, 45-49)

Number of living children (none, 1-2, 3-4, 5+)

Religion non Buddhist (0= Buddhist, 1= other)

Medical Care Variables (0= not a big problem, 1= a big problem)

- Getting medical help for self: getting permission to go is a big problem
- Getting medical help for self: getting money needed is big problem
- Getting medical help for self: distance to health facility is big problem
- Getting medical help for self: having to take transport is big problem
- Getting medical help for self: not wanting to go alone is big problem
- Getting medical help for self: concern no female health provider is big problem
- Getting medical help for self: concern no provider is big problem
- Getting medical help for self: concern no drugs is big problem
- Visited by health worker last 12 months (0=no, 1=yes)
- Visited a health facility in last 12 months (0=no, 1=yes)

Media Influence

- heard family planning message in any media in the last 12 months (either radio, tv, newspaper) (0=no, 1=yes)

Wealth (poorest, poorer, middle, richer, richest,)

Education (highest level attained – none, primary or secondary+)

Residence (urban, rural)

Wealth*Education Interaction

Wealth*Residence Interaction

Education*Residence Interaction

Non-significant explanatory variables eliminated from the models after likelihood ratio tests

Medical Care Variables

- Getting medical help for self: getting money needed is big problem
- Getting medical help for self: having to take transport is big problem
- Getting medical help for self: not wanting to go alone is big problem
- Getting medical help for self: concern no female health provider is big problem
- Getting medical help for self: concern no provider is big problem
- Getting medical help for self: concern no drugs is big problem
- Visited by health worker last 12 months

Residence (urban, rural)

Wealth*Residence Interaction

Education*Residence Interaction

Table 19: Contraceptive Effectiveness: Rates of Unintended Pregnancies per 100 Women

Source: table after WHO & CPP 2007: 319

	First-Year Pregnancy Rates (Trussell)a 12-month		**12-month Pregnancy Rates (Cleland & Ali)b Family planning method**
	Consistent and correct use	As commonly used	As commonly used
Implants	0.05	0.05	
Vasectomy	0.1	0.15	
Levonorgestrel IUD	0.2	0.2	
Female sterilization	0.5	0.5	
Copper-bearing IUD	0.6	0.8	2
LAM (for 6 months)	0.9c	2c	
Monthly injectables	0.05	3	
Progestin-only injectables	0.3	3	2
Combined oral contraceptives	0.3	8	7
Progestin-only oral pills	0.3	8	
Combined patch	0.3	8	
Combined vaginal ring	0.3	8	
Male condoms	2	15	10
Ovulation method	3		
TwoDay Method	4		
Standard Days Method	5		
Diaphragms with spermicide	6	16	
Female condoms	5	21	
Other fertility awareness methods		25	24
Withdrawal	4	27	21
Spermicides	18	29	
Cervical caps	26d, 9e	32d,16e	
No method	85	85	85

a Rates largely from the United States. Source: Trussell J. Contraceptive efficacy. In: Hatcher R et al., editors. Contraceptive technology. 19th revised ed. 2007 (in press). Rates for monthly injectables and cervical cap are from Trussell J. Contraceptive failure in the United States. Contraception. 2004; 70(2): 89-96.

b Rates from developing countries. Source: Cleland J and Ali MM. Reproductive consequences of contraceptive failure in 19 developing countries. Obstetrics and Gynecology. 2004; 104 (2): 314–320.

c Rate for consistent and correct use of LAM is a weighted average from 4 clinical studies cited in Trussell (2007). Rate for LAM as commonly used is from Kennedy KI et al., Consensus statement: Lactational amenorrhea method for family planning. International Journal of Gynecology and Obstetrics. 1996; 54(1): 55–57.

d Pregnancy rate for women who have given birth

e Pregnancy rate for women who have never given birth

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