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## FERTILITY TRANSITION IN ETHIOPIA: A FOCUS ON URBAN FERTILITY AND THE URBAN-RURAL DIFFERENCES

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**FERTILITY TRANSITION IN ETHIOPIA: A FOCUS ON URBAN FERTILITY AND  
THE URBAN-RURAL DIFFERENCES**

(Spine title: Fertility Transition in Ethiopia)

(Thesis format: Monograph)

by

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Graduate Program  
in  
Sociology

A thesis submitted in partial fulfilment  
of the requirements for the degree of  
Doctor of Philosophy

Faculty of Graduate Studies  
The University of Western Ontario  
London, Ontario, Canada

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Entitled:

**Fertility transition in Ethiopia: A focus on urban fertility and the urban-rural differences**

is accepted in partial fulfilment of the  
requirements for the degree of  
Doctor of Philosophy

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## **ABSTRACT**

Fertility levels in most urban areas of Ethiopia have declined substantially in the face of low level of socio-economic development. In contrast, rural fertility remains at high levels. This study examines people's orientations towards reproduction, including the perceived benefits and associated costs of childbearing, and their attitudes concerning the changing reproductive behavior in urban areas. It also examines the extent to which demographic, proximate and socio-cultural factors can account for the urban-rural fertility differential. To achieve these objectives the study employed a combination of qualitative and quantitative research approaches.

Qualitative data are obtained from fieldwork conducted in collaboration with a local non-profit organization. The methodology includes in-depth qualitative interviews and focus group discussions. It was observed that urban residents may not have a significantly different motivation as to why they would like to have children compared to other sub-populations. Children continue to have an immeasurable value for urban residents. However, urban residents have a reproductive goal that take into account reducing costs in the face of economic hardships and tailoring preferences to achieve upward social mobility. Parents place emphasis on the wellbeing of a relatively smaller number of children and attaining a certain level of investment in their own human capital which are incompatible with large family size preferences. Respondents compared the childbearing experiences of their parents and their own generations. The reproduction model of the generation before them was based on the principle of "a child growing up according to its own destiny." In terms of uncertainties and risks, this view is mostly concerned about child mortality. Lately, urban residents are adopting a new model of



reproduction that is justified in achieving a higher standard of living and enhancing the social mobility of their children. The ideal behind this alternative model is “neither too many nor too few children.” To this effect respondents approve the use of contraception and over half of them were users. Although the practice of induced abortion is prohibited by law in Ethiopia, four out of five respondents confirmed that the practice is common and some even reported to have had abortions. This suggests that the role of abortion in regulating fertility for urban areas cannot be discounted. However, the true extent of the induced abortion in the society remains unknown, and quantitative information is lacking.

The quantitative analysis used data from the 2000 Ethiopia Demographic and Health Survey. Life table techniques were used to estimate the median ages at different parities and median durations between successive births, in urban and rural areas. A series of parametric hazard models were estimated to examine the effects of theoretically relevant demographic, proximate and socio-cultural covariates on the timing of births. Across all transitions, women who experienced child loss had faster transitions and therefore higher likelihood of subsequent births. Other covariates, such as union status, religion, and contraceptive use were also observed to have significant effect on the timing of births, and to play a larger role in urban areas. A major implication from these findings is that improving child survivorship is an important moderating factor in high fertility conditions, particularly in rural areas. The results also indicate that future studies are needed to conduct separate analyses of marital and non-marital fertility and examine the extent of induced abortion in urban areas.

Key words: fertility transition, reproductive change, qualitative analysis, Event History Analysis, unobserved heterogeneity, urban centers, Ethiopia

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## **CHAPTER ONE**

### **INTRODUCTION**

#### **1.1 Background to the study and research questions**

In contrast to the developed world, the change in reproductive behavior in many developing countries has begun much more recently. It is only in the past few decades that fertility in many developing countries has shown a rapid decline. Significant changes toward low family size have been observed in most of Asia and Latin America, while a few Sub-Saharan African countries have only recently joined this global trend. Fertility in sub-Saharan African countries remains considerably higher than in most other developing countries.

However, it has been documented that beginning in the early 1980s a few countries of the region, notably Botswana, Kenya and Zimbabwe have undergone a dramatic fertility decline (Blank & Rutstein, 1994). The fertility decline in these countries is largely attributed to a substantial increase in contraceptive use. Overall, the fertility transition is still underway in most sub-Saharan African countries. Data also show that there exist large variations among countries in their fertility levels.

Ethiopia, like most other Sub-Saharan African countries, has had a complex pattern of fertility change. The total fertility rate (TFR), which was 5.2 children per woman in 1970 (Ezra, 1997) increased to 7.7 in 1984 and then fell to 6.4 in 1990 (CSA, 1993) and 5.9 in 2000 (CSA & ORC Macro, 2001). However this national trend masks a very important variation in fertility behavior across regions and sub-regions within the country. Although fertility levels have declined for both rural and urban areas, significant

decline is observed in urban areas. Unlike rural areas, recent years have witnessed a substantial decline of average fertility in major urban centers of the country. Although the TFR for the country as a whole stood at 5.9 children per woman in 2000, the TFR in urban areas is almost half the national total, at about 3.3, while that of the rural areas is at 6.4 (CSA & ORC Macro, 2001). Studies invariably show that in all regions of the world, fertility levels vary between urban and rural areas. However, a difference of three children per woman as observed recently in Ethiopia between the urban and rural areas of a country is significant and needs to be explained.

An even more surprising finding from the 2000 Demographic and Health Survey and the 1994 census is that some urban centers are now experiencing a fertility rate below replacement level. For example, the country's capital, Addis Ababa, and Harar, an urban center located in eastern Ethiopia, have estimated TFR of 1.81 and 1.82 respectively. The fertility rate in some other major urban centers of the country is also relatively low: the city state of Dire Dawa and major urban areas in the northern, central and eastern parts of the country have now fertility rates that are below 2.5 children per woman (CSA, 2001, 1994). Therefore, it would be of paramount importance to understand the rapid change in the reproductive behavior of urban centers of the country and search for explanations for the unusually high fertility divide between these urban centers and rural areas.

From the perspective of classical demographic transition theory, a rise in life expectancy, wider use of contraceptives, industrialization and urbanization are deemed to radically change the behavior of couples with respect to family size (Notestein, 1945). However, this conclusion is not completely compatible with what is observed in urban Ethiopia. Fertility levels in most urban areas of the country have declined drastically in

the face of low level of human development. According to the latest data, the use of modern contraceptives in urban areas is 28 percent of married women at childbearing ages, while infant and child mortality rates are 97 and 58 per 1000 live births respectively (CSA & ORC Macro, 2001). The level of socio-economic development has been far from encouraging; the Human Development Index value of 0.367 ranks Ethiopia 170th out of 177 countries in 2003 (UNDP, 2005).

Caldwell et al. (1992) have suggested an infant mortality rate of 70 per 1000 live births and a comparably low child mortality rate as the necessary threshold for the onset of fertility transition. Bongaarts (2002), emphasizing the crucial importance of progress in human development for the future course of fertility, has noted that on average a life expectancy of 75 years combined with literacy near 95 percent are needed for a country to approach replacement level fertility. In the absence of all these achievements in terms of human development, the average fertility is generally expected to remain at high levels. This is not the case for urban Ethiopia.

In contrast to urban areas, fertility in rural Ethiopia, where 85 percent of the population is living, remains at high levels. The current rural TFR of 6.4 children per woman of childbearing age is high even by the standard of other Sub-Saharan African countries. For example, rural total fertility rate for neighboring Kenya was 5.1 children per woman in 1998 (NCPD, CBS & Macro International, 1998). Median age at first birth is lower in rural areas than in urban areas, with a difference of one year among women age 25-49. Childbearing in rural areas starts relatively early, with eighteen percent of women having already begun bearing children before age 20 (CSA & ORC Macro, 2001). Infant and child mortality rates in rural areas stood at 115 and 88 deaths

respectively per 1,000 live births (CSA & ORC Macro, 2001). The maternal mortality rate for the period 1994-2000 was 871 deaths per 100,000 live births for the whole country, which is one of the highest in the world. It is known that early child bearing, shorter birth intervals and large numbers of births per woman contribute to the poor health status of mother and child.

At the same time, rain fed agriculture, which is the mainstay of rural residents, implies a precarious livelihood due to the unpredictable weather conditions. It is always rural residents of the country who are highly affected by the recurrent drought and famine that the country has faced in the past and is still facing. In the face of widespread rural poverty, ecological degradation and continued fragmentation of arable land, especially in the densely populated central highland areas, average fertility in rural areas remains very high. As a consequence, the national population continues to outgrow socioeconomic development. Yet lower fertility is not impossible, as evidenced by that of urban areas.

As a starting point, we can advance certain speculations that may help us understand why urban fertility has attained such low levels in spite of low socioeconomic development. One possible explanation is that people in urban areas might have been “willing” to control their fertility and their “readiness” to have fewer births is an attempt to avoid the costs and uncertainties associated with large family sizes. As Dumont (1890) [Spengler, 1979] proposed in his “social capillarity” hypothesis, individuals might find the traditional large family norm incompatible with the urban way of life. People might consider large families as obstacles to their aspirations for personal success as well as to the success of their children.

In the past, several studies in Ethiopia attempted to explore the course and causes of fertility change in the country (Hassen, 1989, Hailemariam 1991, 1992; Zewoldi 1992, Kinfu 2000, 2001). However, an important aspect of fertility that these studies have not assessed in detail is the urban-rural fertility divide, and the factors responsible for this large variation. As Kinfu (2001) has noted, there is a need for further investigation of the rural-urban fertility divide, and the factors responsible for these large differentials. Accordingly, the fundamental question is how the different urban centers of a country, with little change in factors that typically influence fertility, have achieved such low level of fertility? In this respect it would be important to investigate the relevance to fertility behavior of not only the socio-economic conditions but also of ideas and ideologies (Caldwell, 1997). The study also attempts to identify the underlying factors behind the unusual fertility decline in urban Ethiopia.

Any lessons that can be learned from the experiences of urban areas might be useful in the development of measures that would moderate the high fertility at the national level. This would be informative to policy makers and in line with the government's intent to closing the gap between high population growth and low social and economic development. By studying how urban areas achieved such low level of fertility, we can possibly identify questions relevant to other sub populations who wish to follow the same path. At the micro level, this would also have implication for the improvement of the reproductive health situation of women and the well-being of children.

In general the importance of this study can be seen from two major perspectives. First, the study will be of importance from a practical or policy point of view as discussed

above. Second, from an academic perspective, the study will contribute to fertility change explanations based on empirical evidence.

## **1.2 Objectives of the study**

Based on the above observations, this study examines the patterns and factors that may be responsible for the change in reproductive behavior in urban Ethiopia. The study has two objectives. The first objective is to examine people's orientations towards reproduction, including the perceived benefits and associated costs of childbearing, and their attitudes concerning the changing reproductive behavior of urban areas. The second objective is to examine the extent to which demographic, proximate and socio-cultural factors can account for the urban-rural fertility differential.

## **1.3 Conceptual framework**

The study takes advantage of explanations from the different theoretical perspectives, as discussed in the next chapter of this thesis. Dumont's (1890)[Spengler, 1979], "social capillarity" hypothesis is one of the earliest works that explained the fertility transition process of France. Dumont observed that in an environment where people see the opportunity for self advancement and where success is not assured, as the case in urban centers, one of the factors over which they have control is that of modifying their fertility behaviour as a strategy to realize their aspirations. The idea that child bearing may hinder the realization of achievable goals during good times, or that it may cause the reversal of earlier achievements during periods of economic deceleration, is an important determinant of reproductive change (Casterline, 2001). Coale (1973) observed



that for reproductive change to take place three preconditions should be fulfilled. These are, couples have to be “willing” to make change they think legitimate (to control family size), “ready” to take advantage of smaller family size, , and “able” to have access to contraceptives that translates the readiness and willingness into action (see also Lesthaeghe & Vanderhoeft, 2001)

Cleland (2001) argues that in the case of developing countries, a plausible explanation for fertility change comes from the preceding large mortality reduction. For Caldwell (2001: 93), “any all-embracing theory must take socioeconomic change to be fundamental over long periods, but, for the timing of the onset of periods of fertility decline and the tempo of that decline, theory must also take into account ideologies, attitudes, and the mechanisms of fertility decline.” Accordingly, it would be imperative to search for any signs of change in the ideas and motivations of individuals regarding the benefits of smaller families, the use of family planning methods, and the practice of induced abortion that may have been associated with the urban fertility decline. In addition, this study attempts to examine whether there are changes in reproductive decision making between the previous generation and the current. Gender is another dimension that needs to be considered in fertility analysis (Mason, 2001, Presser, 2001). What is the role of the prevailing gender relationship in reproductive matters? By introducing the concept of gender in analyzing fertility change, this study seeks to determine whether both women and men perceive advantages to family size limitation. In particular, are both women and men “willing” to control family size, and “able” to secure access to fertility regulating technologies and devices?

The dissertation also explores the institutional contexts, the social, economic as well as political conditions of the country in the recent past to situate the salient changes in fertility in time and context. The changes in the past three decades that have shaken the social system in many different ways, such as the sudden switch from the centuries old feudal mode of production to a socialist system and lately the adoption of “liberalizing” policies prescribed by the international financial institutions. These changes were accompanied by the implementation of different programs and policies that left their marks at both macro and micro levels and that might help to understand the fertility divide between urban and rural areas.

#### **1.4 Data sources and analytical methods**

This dissertation combines both qualitative and quantitative research approaches. The study makes use of information from in-depth interviews and focus group discussions collected by the author. Fieldwork was conducted in five selected urban centers (Addis Ababa, Harar, Nazareth, Bahir Dar and Jimma) between May and August 2004. A total of 60 in-depth interviews were conducted with individuals of different background characteristics. In addition, there were two focus group discussions in Addis Ababa and one each in the remaining four cities. Information from these sources is utilized to help understand the changing reproductive behavior of urban centers. The qualitative data are specifically used to help understand why and how couples in urban centers manage to regulate their reproduction. The study also explored the reasons for the change in behavior and decision making process. The focus of the qualitative analysis is on the context of childbearing in people’s lives, including their interests to have children,

family size desires, and constraints relevant to this area of their lives, including those associated with reproductive health and family planning services.

The quantitative analysis on the determinants of fertility is based on data from the 2000 Ethiopia Demographic and Health Survey (ETDHS). The ETDHS collected information on women's background, reproduction, contraception, marriage, fertility preferences, and husband's characteristics among many other topics. A total of 15,367 women were interviewed with adequate sample sizes from urban and rural areas. Life table analysis is used in order to make comparisons of median ages at each birth and median durations between births. Taking advantage of theoretical thinking from various authors described in Chapter two, a multivariate analysis examines the importance of demographic, proximate and socio-cultural factors as determinants of fertility. For the regression analysis, event history models are estimated to determine the effect of the various covariates on women's transition to subsequent births.

## **1.5 Organization of the dissertation**

This dissertation is structured into six chapters including this chapter that introduced the research questions, objectives, data and methods of analysis. Chapter two situates the study in the context of relevant literature on reproductive change. Chapter three outlines the social, cultural, economic as well as institutional conditions of the country in the recent past that might influence the reproductive behavior of individuals and contribute to the changing fertility pattern at national and sub-national levels. Chapter four and five constitute the core of this dissertation. Chapter four presents findings from the qualitative study, including a detailed description of the data, the

process of collection and methods of analysis. Chapter five presents the findings from the quantitative analysis, and it also includes detailed description of data and review methods of data analysis. The last Chapter presents discussion of the findings. The chapter also discusses some of the shortcomings of the study and concludes by presenting the implications for policy and further research.

## **CHAPTER TWO**

### **DETERMINANTS OF REPRODUCTIVE CHANGE: A THEORETICAL REVIEW**

#### **2.1 Introduction**

Although attempts in interpreting observed fertility difference between populations, and, for the same population, overtime, have a long history in demographic literature and exist in various forms, these explanations can be broadly grouped into two categories: cultural and economic explanations. Economic explanations of fertility change emphasize the reproductive behaviour adjustment of couples in response to changing economic conditions. The focus is on the changing role of the family and the benefits and costs associated with childbearing.

The cultural approach to the interpretation of fertility change proposes that fertility differentials among societies or groups can be explained by changing cultural values and ideational elements. The cultural school of thought regards the emergence of new ideas and attitudes about small family size and fertility control as well as the consequent diffusion of these to the wider society, through social network and the media, as key mechanisms of fertility change.

There have also been attempts in recent years in projecting a unified theory of fertility decline, encompassing both cultural and economic perspectives (Caldwell, 1997). Other useful perspectives include the institutional approach, proposed by McNicoll, (1980, 1983, 1990, 1998) and the proximate determinants framework by Bongaarts and his colleagues (1978, 1982). The aim of this chapter is to review these approaches in

detail, and formulate, by way of synthesis, the theoretical approach to be followed in the present research.

## **2.2 Early and classical theories**

The first evidence of sustained fertility decline in human history took place in France, and it is also there that the earliest attempts in theorizing the causes of fertility change had emerged. Among these early writers is the French sociologist, Dumont who attributed fertility decline to “social capillarity”—the ambition [of individuals] to advance through the socio-economic ladder of a society (Dumont cited in Spengler, 1979:157).

Dumont argued that in an aristocracy the “common man” is left with a lesser amount of incentive to aspire to rise and develop in personal value since opportunities are very much restricted and most careers are reserved to the privileged class (Spengler, 1979:157). Hence, the majority of the population is not subject to “social capillarity” and remains content with its lot. As a result, fertility would not be deterred and large family size would be the norm. On the contrary, there would be an extensive desire to rise in socioeconomic scale in a political democracy like that of the French. In Dumont’s view, the urge to climb through this ladder is faced with two basic constraints: one that is external to the individual and linked to the prevailing system of societal inequality and the other which is internal and relates to the person’s own fertility behavior. In this respect, large family size is regarded as incompatible with personal success, and given that changing societal level inequality is perceived to be beyond the domain of individual

members, the only option left to them would be to consider and act upon what is within their reach—which is controlling their fertility behaviour.

Dumont further noted that in an environment where parents are uncertain about their own and their children's social/occupational mobility, they tend to respond by keeping their family size smaller. This, he argued, would enable parents to invest more on the wellbeing and necessities of fewer numbers of children and, thereby minimize the risks of downward mobility and maximize the chances of mounting the ladder of opportunity for their children. Dumont believed that France as a country would be disadvantaged by declining fertility (Spengler, 1979:159). Thomlinson summarized Dumont's fear in this regard as follows,

Dumont feared that social capillarity was causing the break-up of the French family. The more people desire to scale the social ladder, the fewer children they have to the disadvantage of the nation. Thus French population growth is being strangled by the openness of its class structure; societies with more rigid stratification systems have low capillarity and therefore no tendency for fertility to drop and population to decline (Thomlinson, 1965:62-63).

Depending on the degree of the intensity of the opportunity and urge to ascend in the socioeconomic ladder, fertility varies according to social class and place of residence. This intensity, according to Dumont, “was the product of the degree and the nature of the cultural influences impinging upon the specific members of a class or community” (Spengler, 1979:159). ‘Social capillarity’ is low among those who show less dynamism in their values, attitudes, tastes and preferences. According to Dumont, those who are unable to speak French and industrial laborers who realized that they could not become proprietors have lower social capillarity which translates to their having higher level of fertility (Spengler, 1979:159). It is assumed that urban centers, as centers of culture,

wealth and power, have a higher intensity to social capillarity which in turn encourages individual residents to postpone childbearing. Thus, in his view fertility was usually low among people and communities with intensified 'social capillarity' and high among those with lower social capillarity.

Dumont saw the solution to the depopulation of France in the disappearance of 'social capillarity' and its causes. He emphasized the necessity to reduce inequality, to stress the collective rather than the individual and reform the education system so that it fosters production, habits of work, and the desire to marry and found a family (Spengler, 1979:161). Dumont promoted social reforms that would eradicate social capillarity thereby turn the depressed level of fertility into an adequate number of births.

Another theory that is linked to the fertility transition in France, or more broadly, in Western Europe, and has come to occupy a central place in demographic literature is the demographic transition theory. At the core of this theory is the view that fertility decline is preceded by a mortality transition, and that countries move from high and stable birth and death rates to relatively low and stable mortality and fertility rates in three defined stages. The first stage is a stage where both mortality and fertility are equally high, leading to a relatively stationary population size. The second stage is a transitory stage and is characterized by accelerated mortality decline, while fertility remains at high level. This results in a high population growth. According to the proponents of the theory, mortality is quick to respond to changes produced by the modernization process. Improved standards of living, increased access to food, advances in sanitary and health care conditions, are believed to contribute to this decline of mortality.



Fertility, on the other hand, is much less responsive to modernization (Notestein, 1945:39). The proponents of demographic transition theory argue that it should not be surprising to observe high fertility among populations that experience severe mortality conditions. The high fertility strategy to ensure group survival, receives support from the prevailing religious doctrines, moral codes, customs, attitudes and beliefs (Notestein, 1945, 1964). Notestein (1945: 40) relates the decline in fertility to changes in the social and economic settings of a society that radically alter the motives and aims of people with respect to family size. In the case of Europe, industrialization and urbanization are believed to have brought about structural changes in the way social life was organized, prompting greater level of social and spatial mobility and a change in social goal from one that was directed at perpetuating the family or the group to one of promoting the health, educational and material welfare of individual members of the society (Notestein, 1945:40-41). As education became important, child-rearing became costly. In addition, as opportunities come to be based more on personal achievement than family ties or social affiliation, individualism and the motivation for family limitation began to develop, which eventually brought about fertility decline. In this respect, some resemblance can be seen between the Demographic Transition Theory and Dumont's "social capillarity" hypothesis.

However, as a widely used framework, the demographic transition theory has also been subject to criticism. One major issue is that the theory is silent, or almost silent, on the role of marriage delay in fertility transition (Kirk, 1996:364). Another relates to the weak correlation between the level of urbanization or industrialization and the decade in which nations or provinces first experience fertility decline (Mason, 1997:444). The

assertion that mortality decline always preceded fertility decline was also another source of criticism to the initial transition theory (Kirk, 1996:365). Despite such criticisms the demographic transition theory still remains a useful perspective, particularly in terms of the general observation that a transition takes place from high to low birth and death rates.

### **2.3 Mortality decline as an explanation**

Changes in reproductive behaviour, both at an individual and at a societal level, have been linked to mortality decline. In his *Theory of Change and Response in Modern Demographic History*, Davis (1963) argued that, faced with sustained natural increase resulting from the preceding decline in mortality, people resort to multi-phasic response with respect to fertility. These demographic responses include postponement of marriage, contraception adoption, the practice of sterilization and abortion, and outward migration. In this interpretation, Davis emphasized that the demographic response to sustained natural increase is not to be explained in terms of an increase in poverty or diminishing resources nor people's concern about "overpopulation." These demographic responses are due to instead to the antagonism between population increase and prosperity; the changed behavior is prompted by personal rather than national goals (Davis, 1963:350).

In a recent article, Cleland (2001b) attempted to reinstate the mortality decline thesis in explaining contemporary fertility transitions in developing countries. He argued, as Davis, that mortality decline constitutes both a necessary and a sufficient stimulus for fertility decline. He maintained that in the case of most developing countries of Africa, Asia and Latin America, the most plausible common cause for the rapid spread

of fertility decline in the past half century is improved survival (Cleland 2001a:60).

Following Davis, Cleland argued that the pathway through which mortality affects fertility is principally economic, that is, the pressure on households with large number of surviving children.

However, other pathways of influence of mortality on reproductive behaviour have also been postulated. These include the replacement and insurance effects and the child survival hypothesis. The latter is based on the assumption that in order for couples to practice fertility regulation, mortality had to be low enough creating the confidence that children would survive to adulthood (Chowdhury, Kahn, and Chen 1976:249). Until that level of confidence is established, parents would maintain higher desired family size and avoid the practice of contraception. They may adopt fertility regulation behavior only when there is consciousness of excess number of surviving children.

Mortality also influences fertility behaviour through what is known as “child replacement hypothesis.” This hypothesis postulates that couples that experienced child death are likely to attempt to “replace” the lost child in the shortest time possible, hence triggering a higher fertility than would otherwise be the case. The need for the replacement strategy, it is argued, will lose its relevance as the risks of child mortality declines in a society.

Yet another mechanism is the “insurance effect hypothesis.” Under high childhood mortality conditions, it is assumed that individuals attempt to ensure that they have adequate number of surviving children to take care of them in their old age. In a situation where mortality is high and couples are uncertain about the survival of their children, it is maintained that they tend to continue their high reproductive behavior;

fertility decline becomes possible only when couples develop the confidence that mortality is on the decline. Until then ‘hoarding’ is a viable strategy couples would exercise to insure themselves against future losses (Van De Walle, 1986:202-203, Van De Kaa, 1996: 407). Similarly, in a high mortality situation, young age widowhood may have an influence on individuals’ reproductive behavior. When individuals anticipate the loss of a partner, they tend to insure themselves by having children presumed to provide alternate support in their old ages. Individuals may consider having children early in their marital career to ensure future support of the surviving parent (Van De Kaa, 1996:407).

The empirical evidence for each of these hypotheses is, however, mixed. After reviewing evidence for a large number of European countries, Van de Walle (1986:233) concluded that it is difficult to “report that the historical evidence confirms the decline of infant mortality led to the decline of fertility.” This is supported by Knodel’s (1986) study of German villages, in which he found that fertility control was practiced in a relatively high child mortality environment. He argued that at a village level there is very little evidence to support one of the basic ideas of the demographic transition theory that fertility decline presupposes a decline in child mortality (Knodel, 1986:387-388). Nevertheless, Knodel (1986:388) acknowledges that there could be a link between reproductive behavior and child mortality at the individual or micro level.

## **2.4 Threshold hypothesis**

In its classic form, the demographic transition theory had been unable to define the precise threshold level of modernization (or social and economic indicators) that will allow identifying a population in which fertility is ready to fall (Coale, 1973:65). The

“threshold hypothesis” proposed by the United Nations in 1965 was an early attempt to address this shortcoming. This approach argues that fertility in a developing country will begin to decline only if a certain level of economic and social development is achieved - as measured through twelve indicators such as income per head, energy consumption, urbanization, infant mortality, female literacy, and cinema attendance - among other factors. Once that critical level of economic and social development is achieved, “fertility is likely to enter a decided decline and continue downward until it is again stabilized on a much lower level” (UN, 1965:143).

However, the search for universally applicable threshold that will trigger a fertility decline in all societies has proved difficult. Coale (1973) attributed this difficulty to the presence of more than one broad precondition, and proposed three general prerequisites. He held that for a marital fertility decline to take place (Coale, 1973:65):

- (1) Fertility must be within the calculus of conscious choice. Potential parents must consider it an acceptable mode of thought and form of behavior to balance advantages and disadvantages before deciding to have another child.
- (2) Reduced fertility must be advantageous. Perceived social and economic circumstances must make reduced fertility seem an advantage to individual couples.
- (3) Effective techniques of fertility reduction must be available. Procedures that will in fact prevent births must be known, and there must be sufficient communication between spouses and sufficient sustained will, in both, to employ them successfully.

Coale (1973:66) further noted that, following the authors of the transition theory, modernization produces the first two preconditions and the third was always latent. His latter observation is consistent with Hirschman (1994:212) who noted that societies adjust demographic behavior when circumstances warrant, and that some knowledge about fertility control has always been available in most historical societies. It is useful

to note in passing that Coale's second precondition, which recognizes the role of socioeconomic circumstances on fertility change, is also consistent with the ideas contained in the original demographic transition theory as well as the "social capillarity" argument advanced by Dumont. Similarly the first precondition of Coale, which relates to values, norms and attitudes, is considered in Dumont's writing when he underlined the changing fertility behavior of individuals following changes in the social and economic circumstances.

## **2.5 Micro-Economic explanations**

Unlike writings on the demographic transition theory and related classical writings which tended to focus on macro level interpretations, economic explanation of fertility change are largely micro oriented and attempt to investigate the interrelationship between economic circumstance and fertility behaviour at an individual level. Prominent among these is the classic work of Becker (1960, 1965), where he attempted to extend the consumer theory to the study of household demographic behavior. Central to this perspective is the rational couple, with given time and budget constraints, attempting to maximize their satisfaction between the number and quality of children on the one hand and other consumer goods and services on the other. Becker (1960:231) proposed that "fertility is determined by income, child costs, knowledge, uncertainty, and tastes." Consequently, the higher the income of the couple and the lower the price for child related commodities, the higher would be the desire for a larger family size. However, Becker (1960:231) noted that it is important to differentiate between the quantity and quality of children: the former refers to the number of children while the latter relates to

the amount spent, per child, on child related commodities. Since the quantity elasticity is small compared to the quality elasticity, Becker (1960:212) noted that price would have a more pronounced effect than income on fertility behaviour. Becker's theory has been criticized on many grounds. Van de kaa wrote that the central problem of this approach lies in that:

It cannot be anchored firmly in what we know about the way things happen in this world. While one might, with some imagination, place the story in the context of middle-class America, it is difficult to see how it could apply in a less developed country where time is abundant and 'consumer choice' largely absent (1996:411).

Mason (1997: 444) added to this concern by noting that the theory is "silent about the environmental and institutional conditions that change costs, income, or preferences, and thereby trigger fertility declines." Over the years, economists attempted to address some of the criticisms by incorporating ideas and hypotheses from other disciplines. For instance Leibenstein (1974, 1981) attempted to relax the basic assumptions of the theory by Becker and considered the implication of the social aspects. He argued that all parents make rational decisions and they are influenced by socialization. Fertility determinants are diverse, thus according to Leibenstein (1974:471) partial explanations to this change should come from economic changes and their social concomitants. In the effort to incorporate non-economic lenses to the original demand theory of fertility, Schultz (1976) added child mortality to the model, together with his discussion on the role of preferences and tastes.

A further advance in proposing a new frame of reference for fertility studies that brings together the economics and sociology of fertility has come from Easterlin (1978, 1983) and his collaboration works with Crimmins (Easterlin and Crimmins, 1982, 1985).

In contrast to Becker's demand model of fertility behavior, Easterlin's framework includes biological and cultural factors affecting the supply of children. In this framework, the demand for children, the supply of children, and the costs of fertility regulation are identified as the three proximate determinants through which all potential determinants of fertility are operating.

In this framework, the demand for children ( $C_d$ ) represents the number of surviving children parents would want to have, provided that fertility regulation is costless. This, in turn, depends on tastes, income and cost considerations (Easterlin and Crimminis, 1985: 14). The model assumes that the potential supply of children ( $C_n$ ) depends on natural fertility and children's chance of surviving to adulthood. The immediate determinants of natural fertility, which depend partly on physiological or biological factors and partly on cultural practices, include period of exposure to intercourse, fecundability, duration of postpartum infecundability, spontaneous intrauterine mortality, and sterility (Easterlin and Crimminis, 1985: 16).

Both the supply and demand factors determine the motivation for fertility regulation among couples. According to this framework, if couples do not have the motivation to control childbearing, which implies a situation of excess demand, there will be no family limitation. The analysis corresponds to Coale's (1973) second tenet, i.e., fertility regulation must be considered advantageous by couples. If couples have a lesser number of children than they desire, the situation can be explained by the supply conditions. On the other hand, in a situation where couples are highly motivated to regulate their childbearing, excess supply of children indicates a family size beyond the desired number. Here the potential role of the costs of fertility regulation becomes



important. If the costs of fertility regulation are greater than the excess supply of children, the likelihood of couples having more unwanted children increases. Conversely, if the costs of fertility regulation are lower than that of the excess supply of children, the likelihood increases that couples will regulate their childbearing to their desired level.

While the gap between the potential output and the desired number of children defines a couple's motivation to fertility regulation, the cost aspect of fertility regulation implies a combination of both subjective and economic considerations. Subjective or "psychic costs" of fertility regulation includes the dislike for the idea of fertility control and the discomfort that may arise from the use of certain methods, whereas economic costs refers to the time and financial requirements in order to have access to specific services (Easterlin and Crimminis, 1985: 17-18).

The Easterlin framework has been found to be helpful in explaining fertility determinants organized in terms of three proximate determinants, the demand for children, the supply for children and the costs of fertility regulation. Its usefulness is observed from the perspective of guiding fertility research to consider the contributions of socioeconomic and modernization factors on individual fertility (Kinfu, 2001:18). Nevertheless, this framework has also been criticized for incorporating few ideas about the institutional determinants of fertility decline (Mason, 1997:445). Similarly, Hirschman (1994) saw two limitations that this analytic framework shares with prior work in the literature. He wrote,

First, the assumption of natural fertility means that the wide variations in pretransition marital fertility (and marital fertility behavior) are outside the scope of the theory. Second, there is no effort to resolve the theoretical and empirical problems in the specification of what socioeconomic variables account for demand (Hirschman, 1994:215).

## **2.6 Social, cultural and ideational explanations**

Another tradition in the interpretation of fertility change is that which attributes fertility decline to social, cultural and ideational changes. Some of the important contribution of this perspective come from the works of Caldwell (1976, 1978, 1982), Lesthaeghe (1983), Lesthaeghe and Surkyn (1988), Cleland (1985), and Cleland and Wilson (1987). The social, cultural and ideational explanations of fertility change place emphasis on the first tenet of Coale's (1973) thesis, on couples' "willingness" to alter their reproductive behavior. The central tenet of this perspective is the view that changes in reproductive behavior are closely linked with changes in the societal value system regarding childbearing and the consequent adoption of new ideas and behaviors on fertility control and small family size. While economic factors are important, however, couples need to internalize the very idea of family size limitation as an acceptable behavior in order to modify their reproductive behavior.

For Caldwell (1976, 1978, and 1982, 2002) all fertility régimes are fundamentally rational, in economic sense, and primarily determined by the prevailing social and cultural circumstances. Accordingly, high fertility is rational in societies where children contribute economically to the traditional family-based production, and are less costly to their parents. On the other hand, in a market based capitalist system children become more expensive to rear and provide less return to their parents, by way of economic benefits, making small family, in those circumstances, economically rational.

Caldwell held that the fundamental issue in fertility decline is the magnitude and direction of intergenerational wealth flow. In all traditional societies this flow is from younger to older generations and it is only when this is reversed that high fertility would

give its way to low fertility as a rational behavior. When the notion of an individual's primary responsibility to his/her parents is widely accepted, the direction of 'wealth flow' is from children to parents. People think about the advantages of having large families within such social and cultural framework. This is where their actions become "economically rational." Caldwell argued that the reversal of wealth flow that triggered fertility decline is accompanied by "emotional and economic nucleation" of the family. He also argued that in developing countries this change is largely assisted by "Westernization." Westernization implies the transmission of the ideals and values of European concepts of family relationships and obligations through mass education and the expansion of the media (Caldwell, 2002:170). Once families become emotionally and economically nucleated, they shift their primary concern and investment from their parents and other extended family members to their own children.

The 'intergenerational wealth flow theory' is based upon patterns that Caldwell observed in sub-Saharan Africa. His critics have claimed that the theory's applicability in other settings is questionable (Freedman 1979, Mason 1997). Others also wrote about the difficulty of translating the theory into empirical, testable model (Schultz 1983) and the methodological problems of measuring the non-monetary components of wealth flows (Hirschman 1994:214).

In line with Caldwell, Lesthaeghe emphasizes the importance of the shift in ideational system to understand the changes in fertility and nuptiality. However, unlike Caldwell, he argues that, for reproductive change to take place, "a cost-benefit paradigm is necessary, but not sufficient;" it must be accompanied by secularization, individualism, and changes in the "meaning-giving (ideational)" system of the society (Lesthaeghe,

1983, Lesthaeghe and Surkyn, 1988). This approach proposes that the acceptability of fertility control is embedded in a much broader ideological development, not necessarily concurrent with economic modernization (Lesthaeghe and Wilson, 1986:292). Changes in reproductive behavior and changes in the value systems are seen as closely related. In an earlier work, Lesthaeghe wrote:

A fertility decline is in essence part of a broader emancipation process. More specifically, the demographic regulatory mechanisms, upheld by the accompanying communal or family authority and exchange patterns, give way to the principle of individual freedom of choice, thereby allowing an extension of the domain of economic rationality to the phenomenon of reproduction (Lesthaeghe, 1983:411).

Lesthaeghe observes the importance of economic considerations in the alteration of fertility behavior. He, however, stressed that in order to have a better picture fertility change explanations must take into account the role of ideational elements. The importance of integrating ideational and economic perspectives is also reflected in the work of Montgomery and Casterline (1993), who argue that explanations focusing on one of the two approaches alone would provide a limited understanding of fertility transition. Hence, for Montgomery and Casterline, the cultural and economic perspectives do not represent competing, but reinforcing approaches.

Based on historical and World Fertility Survey (WFS) data, Cleland and Wilson (1987) proposed that ideational changes should be given a central place in fertility decline. In their view, the fundamental thrust of most demand (microeconomic) theories that attribute fertility decline to structural changes, by opening the door to alternative forms of childbearing behavior, runs counter to the evidence observed in contemporary less developed countries. As the result, Cleland and Wilson challenged socioeconomic

explanations to fertility change and strongly advocated that the onset of fertility transition is prominently related to broad cultural factors. In this respect, their argument is distinct from that of Lesthaeghe and his collaborators where both structural and ideational factors are considered important to fertility change.

Cleland and Wilson argued that the reason modern parity specific form of marital fertility control is not consciously exercised in traditional societies is not necessarily because children in these societies represented 'high economic value for their parents' or that they played greater economic role. It is primarily because the society lacked the knowledge and means of effective fertility control. They wrote that:

- At the societal level, the timing of transition is strongly influenced by cultural boundaries and is associated rather with indicators of social development, such as literacy, than with economic indicators. Within societies the same is true; the onset of demographic change is more closely associated with parents' education and cultural affiliation than with economic factors, such as familial control of economic life or women's employment.
- the speed with which marital fertility decline due to birth control can occur in culturally homogeneous populations, and its pervasive nature in all economic sectors, testify to the diffusion of new ideas, rather than to changes in micro-economic forces, which are likely to act in contrary directions at the community or family level.
- declines in parents' demand for children do not appear to precede fertility transition, nor are fertility aspirations markedly lower in more modern sectors, except in Africa; rather, the distinction between groups with unchanging fertility and those experiencing transition is the propensity to translate desires into appropriate behavior (Cleland and Wilson 1987: 27-28).

In a recent contribution, Cleland (2001a) re-emphasized the role of diffusion in marital fertility decline by distinguishing two types of diffusion processes: blended and pure. The blended version referred to those explanations which bring together the classical demand theories and some elements of the diffusion perspective (Cleland, 2001a:45). Here the argument is that declining demand for children due to the effects of

modernization or increased supply due to improved survival would make fertility decline inevitable. Nevertheless, the timing of the onset of the decline and its speed would be conditioned by the diffusion process which implies the spread of new ideas and fertility regulation methods. In Cleland's view (2001a), the blended approach, including the fundamental role of improved survival would make a reasonable explanation of fertility change in the developing world. However, he argued that this lends a less convincing explanation to the European fertility transition (Cleland, 2001a:60). For him, the European fertility transition is more amenable to the 'pure' innovation-diffusion model, as the idea of birth control within marriage was an innovation of significance that on its own initiated the fertility decline (Cleland, 2001a:45).

As with other theories, Cleland and Wilson's perspective has also received criticisms. Mason (1992:12) argues that attempting to advance the idea of 'ideational' changes as the sole driving force behind fertility decline seems no more sensible than assuming that the demand for fertility is the only factor that caused fertility to decline. She proposes that any fertility decline is likely to result from a complex interplay of several factors and each decline could occur from a different mix of factors. Thus the supposed emphasis on either socioeconomic or cultural-ideational forces alone would be less helpful in advancing our knowledge of fertility change than recognizing the role of the interplay of several factors in the process.

## **2.7 The proximate determinants approach**

The interpretation of fertility change has been enhanced by studying the intermediate variables through which the social, economic and cultural factors influence

conception. Bongaarts (1978, 1982), Bongaarts and Potter (1983), building on the pioneering work of Davis and Blake (1956), developed a framework that permits a quantitative analysis of the proximate determinants of fertility. Davis and Blake (1956) elaborated eleven intermediate fertility variables through which the social, economic, cultural and environmental variables can affect fertility. The intermediate fertility variables are direct determinants of fertility while the socioeconomic, cultural and environmental factors are seen to influence fertility only indirectly. Bongaarts collapsed Davis and Blake's intermediate variables into eight factors and developed a multiplicative model that incorporates the four most important proximate variables as inhibitors of maximum fertility. These are marriage, contraception, induced abortion and postpartum infecundability.

This model assumes that fertility is lower than the biological maximum due to delayed marriage or marital dissolution, due to the effective use of contraceptives, induced abortion, and postpartum infecundability induced by breastfeeding or abstinence (Bongaarts, 1982:180). Stover (1998) suggested the use of sexual activity rather than marriage to define the index of proportions married  $[m(a)]$ . The suggestion seems reasonable since the index is seeking to approximate the effect of periods during which a woman is not sexually active. The various indexes assume values between 0 and 1. An index takes a value of 1 when that particular intermediate variable has no fertility inhibiting effect and a value of 0 in the event that a given intermediate variable has a complete fertility inhibition effect. Bongaarts suggests that the Total Fertility (TF) values of most populations fall within the range of 13 to 17 births per woman, with an average of about 15.3.

This approach by Bongaarts was found to be helpful due to its elegant conceptualization and widely applied to data obtained from large scale surveys. Although the framework allows researchers and policy makers to have a better understanding of fertility differentials among populations, it is criticized for leaving unaddressed the question “why?” and under what conditions some of the factors change, in particular the age at marriage or age at first birth (Kinfu 2001, Matthews 1994).

## **2.8 Institutional approach**

Another approach to fertility change explanation is the institutional approach. Major contributions to this approach came from McNicoll (1980, 1983, 1990, 1998). Institutions are seen as “a set of behavioral rules governing action or relationships in specific recurrent situations” (McNicoll, 1983:7). The institutional elements that are relevant to reproductive behavior are “likely to be an integral part of the ideological system, economic organization, daily life and political structure” (Van de Kaa, 1996:427). The focus under this approach is the relation between individual behavior and the institutional environment in which that behavior is observed. That is, institutional contexts influence the fertility decisions that individual members are making. Thus changes in these institutional settings could bring corresponding changes in reproductive behavior. The prevailing institutional arrangements of a society are depicted as offering the incentive structure for individual fertility behavior. According to McNicoll (1983:9), getting an accurate picture of how these institutional arrangements work is crucial in understanding their influence on individual reproductive behavior. He wrote that:



On a broad canvas, fertility transition can be linked to the institutional changes that accompany economic development; however, to understand fertility patterns and the course of fertility change in the detail needed to inform population policy design requires close investigation of those institutional arrangements in the particular society concerned (McNicoll, 1998:167).

McNicoll illustrated this approach through institutional analyses of specific societies. In the case of Guangdong, a South China province, the rapid fertility decline observed from the mid 1960s onwards was analyzed by examining the changes in the nature and extent of the rural social organization. The collectivization movement, communization, Cultural Revolution, different organizational forms such as peasants, women, and youth, came to the scene while landlords were made to lose their privileges and the importance of lineage was also undermined. These new developments were also accompanied by strong political and administrative structure. Fertility decline is explained as “primarily a response by parents and communities to the changed rural social structure” (McNicoll, 1980:444), although McNicoll appreciates the role of the expanded health care system, the antinatalist stance of the government and delayed marriage campaigns. Another case is Kenya where fertility was high until the late 1980s. In spite of the population pressure widely felt by rural residents, they continued to deal with the issue through migration to urban areas and stretching the rural labour absorption capacity, i.e., through further subdivisions of farm land and adopting plant varieties that provide high yield. Under such circumstances one would normally expect fertility to decline, a case which has not happened. According to McNicoll (1994:43), the reasons for this must lie in the Kenyan family system which is organized by lineage rather than conjugal ties. In this system the husband favors a large family while the wife has less decision making power. Similarly in Bangladesh, the clan system is portrayed as having

greater authority over the behavior of individual members which extends to marriage and property ownership (McNicoll, 1980:448). The labour return from children is important and grown sons are needed to guard the security of the widow and family property (ibid, 448). High fertility is in the interest of the powerful group or the clan. Thus McNicoll (ibid: 448) observes that a shift in the institutional settings is important for a transition to low fertility. Caldwell et al. (1999) emphasized the role of the massive changes in the society, unlike the findings of a report by Cleland and colleagues (1994) which accorded greater prominence to family planning programs in bringing fertility decline in Bangladesh. In their study Caldwell and his colleagues mentioned the continuing educational revolution that took place in Bangladesh since the 1970s manifested in the rise of girls enrollment and the number of schools, the sharp decline in availability of farm land which releases children from their labour contribution, increased urbanization, the introduction of mixed farming, among other factors as significant societal changes that influenced individual fertility behavior.

While it makes sense to use the institutional approach to explain fertility change in a given society, the problem arises of identifying those institutional elements that are relevant to individual reproductive behavior. McNicoll (1980:459) acknowledges this problem when writing, “still lacking, however, are well-designed empirical measures of the forms and dynamics of fertility-relevant institutions, and hence also what these measures would be needed for: well-constructed typologies of institutional settings.” Van de Kaa (1996:426) also observes that the institutional approach “does not so much attempt to explain why fertility changes, but outlines how the process of change will take place.”

## 2.9 Conclusion and approach in this study

Scholars from different disciplines, especially demographers, have been engaged in searching for explanations as to how fertility changes and what stimulates these changes. The various efforts have produced a rich understanding of the process of fertility transition but they have not produced a universally applicable explanation. Explanations that help us understand the fertility change in one society may or may not hold for another society. As we have seen, there is no single interpretation of fertility change that has escaped criticisms. Nonetheless, the previously reviewed theories have their merits in contributing to our understanding of fertility change in different settings. Mason (1997) suggested that, since different fertility declines will have different causes, the goal should be to understand the circumstances under which these causes are likely to operate.

On the other hand, Caldwell (1997) has proposed a “unifying theory” that would take into account both economic and cultural perspectives. He is with the view that little can be gained in explaining the global fertility transition by adopting a single mode of interpretation. Thus, theory must take into consideration both socioeconomic change and ‘ideologies, attitudes, and the mechanisms of fertility control’ in order to better explain long term trends and the timing and tempo of fertility decline in developed as well as developing countries (Caldwell, 1997:93).

Szreter (1995) applied historical explanation to study Britain’s declining fertility. He suggested a general explanatory framework formulated as “a change in the *perceived relative costs of childrearing*” which enables to identify the general as well as the particular aspects of historically changing relationship involved in the study of fertility decline (Szreter, 1995:446). ‘Relative costs’ of children refers to economic as well as

social, cultural or emotional considerations. In addition, the term ‘perceived’ implies the interrelationships between children and the perceiving agents, primarily parents but also siblings, neighbors, other community members, and interested political institutions. In the words of Szreter (1995:445-446):

Indeed, focus on the sources of change in these agents’ perceptions potentially involves the researcher in careful consideration of the full range of ideological, cultural, political and social forces and events in the histories of the national and local communities concerned: all the diverse, changing information contexts.

The other aspect of this framework is that fertility behavior would be influenced by the “changing social and cultural definitions of the tasks involved in childrearing or the state and duration of childhood” (ibid, 446). That is, fertility behaviour would also be a function of the processes involved in childbirth, as well as educating and training a child to adulthood.

Axinn and Yabiku (2001) recently applied the family mode of organization framework and life course perspective to develop hypotheses about the links between macro level social change and individual level fertility behavior. They argue that since there is no single unilateral route to demographic change among populations, fertility behavior can be influenced by a variety of social processes such as the mode of economic organization, the diffusion of ideas and institutional organization of social life (Axinn and Yabiku, 2001:1221).

Watkins (2000) focuses on cultural models of reproduction in a small geographic area, rather than individual reproductive behavior and larger boundaries. She identified three cultural models of reproduction for the Nyanza district of Kenya and argued that local networks are made to reevaluate their cultural models of reproduction following the pressure exerted on them by external forces.

This study takes advantage of these fertility change interpretations. Along the lines of these theoretical approaches, the subsequent chapters seek to identify a collection of key determinants that better explain the urban fertility change in Ethiopia. This approach is justified based on the following conclusions we draw from the previous literature review:

- Socioeconomic changes including mortality decline could be responsible in bringing changes in the values and costs of rearing children. Individuals may find that life in urban centers is incompatible with the traditional large family size (demographic transition theory, Dumont). The microeconomic considerations may inform individuals that family size limitation as a new form of behavior is beneficial and justified (Coale's precondition or in Lethaeghe's word the "readiness"). Similarly, economic strain (Davis, 1963; Dumont, 1979) in the face of improved child survival may have informed individual actors to modify their reproductive behavior.
- However, the literature review also enables us to realize that socioeconomic changes can only lend partial explanations to fertility change. It was noted that cultural, ideational factors mediate between socioeconomic changes and changes in individual's reproductive behavior. Studies invariably show that cultural elements such as religion, ethnicity, language and region explain a substantial degree of variations in fertility. These relate to the importance of new ideas, beliefs and related cultural considerations through which people

become “willing” (Lesthaeghe, also Coale’s precondition) to limit their family size, as also central to fertility change explanation.

- Examining the intermediate fertility determinants, especially the role of means of fertility regulation, are also beneficial to the analysis of fertility.

## **CHAPTER THREE**

### **ETHIOPIA: SOCIOECONOMIC, DEMOGRAPHIC AND INSTITUTIONAL PROFILE**

#### **3.1 Introduction**

This chapter aims at providing background information on the social, economic, demographic and institutional conditions of the study area. Fertility change is seen as part of the overall transformation of a given society. Mapping these changes that have taken place in the recent past and also reviewing current situations will help to situate the process of fertility change and variability. The chapter attempts to set the context of fertility change in Ethiopia. In addition to profiling the country based on data from various sources, the chapter briefly sketches the massive social change that the Ethiopian society has undergone especially after the mid 1970s.

#### **3.2 Geography and History**

Ethiopia is located in north eastern Africa alternatively known as the horn of Africa. It is situated between 3 and 15 degrees north latitude and 33 and 45 degrees east longitude. It has a total area of about 1.1 million square kilometers and became a landlocked country, following the independence of one of its former provinces Eritrea, in 1991. The countries that border Ethiopia are Djibouti and Somalia on the east, Kenya on the south, Sudan on the west and south west and Eritrea on the north and north east. Ethiopia is one of the oldest countries in the world and credited as the origin of humankind. It is the only non-colonized country (except the invasion of fascist Italy in

1936-1941) in the African continent. Diverse topographic features of the country include rugged mountainous lands in the north and central parts, and vast plain fields in the east and south. *Ras Dashen*, 4620 meters above sea level, is the highest peak while the *Afar Depression*, 110 meters below sea level, forms the lowest point. The great east African rift valley dissects the central highland plateau and runs through the lowland parts of the country. The climate is temperate in the highlands and hot in the lowlands.

Different provinces/regions of the country were administered by feudal landlords for centuries. A centralized monarchical rule which was introduced around the 1850s lasted until 1974 when the last emperor Haile-Sellassie I was overthrown. For the next 17 years the country was ruled by a group of military officers known as the *Deruge* that adopted socialism as state ideology. The *Dergue* administration in turn was toppled by the Ethiopian People's Revolutionary Democratic Front (EPRDF), a coalition of ethnic based political forces, in 1991. EPRDF has won a controversial third term in May 2005 and the country's current political situation is not as stable. Under EPRDF the country adopted a new constitution that introduced a federal system of political administration and a free market economic policy. This policy brought into effect massive restructuring to reverse the centralized policies of the previous regime. Present day Ethiopia is divided into nine semi-autonomous regions and two special city administrations, Addis Ababa and Dire-Dawa.

### **3.3 Religion, ethnic composition, language and marriage customs**

Judaism, which at present has a few followers, is believed to have existed in Ethiopia long before any of the religious practices observed today (Hollins, 2000:14).



Orthodox Christianity, which arrived in Ethiopia around the 4<sup>th</sup> century AD, gained ground first in the north and then continued to expand towards the south taking advantage of the political influence of the central government. Thus, the Ethiopian Orthodox Church has enjoyed the status of being a state religion up until 1974, when the church lost all its privileges. Ethiopia is also among the first countries where Islam was introduced.

According to the 1994 census (CSA, 1998:2), the majority of the population, 51 percent, are Orthodox Christians. Muslims constitute 33 percent followed by Protestants which comprise about 10 percent of the population while the remaining belongs to a diversity of other faiths.

Ethiopia, like many other African countries, is home for many ethnic groups speaking several languages. Not less than 80 ethnic groups that speak a corresponding number of languages and many more dialects make up the society. Based on the 1994 census, seven ethnic groups had populations larger than one million. These are *Oromo*, *Amhara*, *Somalie*, *Gurage*, *Sidama*, *Tigrawai*, and *Wolita*. About two-thirds of the population belongs to the *Oromo* and *Amhara* ethnic groups which constitute 32 and 30 percent of the population respectively (OPHCC, 1998: 66-80). Urban areas predominantly have the following ethnic composition in a decreasing order: *Amhara*, *Oromo*, *Tigrawi*, *Gurage*, and *Somalie* (OPHCC, 1998). *Oromos* followed by *Amharas*, *Somalie* and *Tigrawi* make up the largest ethnic groups of rural residents.

The 1994 census defined a mother tongue as the language one uses more frequently to communicate with her/his family members or guardians during childhood. Accordingly, *Amharic* is the mother tongue of 17.4 million people or approximately 29 percent of the population. As a mother tongue, *Oromifa* is the second most widely spoken

language, followed by *Tigrigna*. About 84 % of the population does not have the ability to speak a second language. Of those with this ability 9.6 % use *Amharic* while 2.9 % speak *Oromifa* as their second language (OPHCC, 1998). *Amharic* is the official language of the federal government.

Marriage, including consensual unions, has direct relations with reproduction. In a country like Ethiopia where marriage is accorded greater value, it is entered relatively early and most births are taking place within marital unions. Early marriage implies longer reproductive life span of women and a higher risk of pregnancy. The following table summarizes data on marital status and unions from the 2000 ETDHS and the 1990 National Family and Fertility Survey (NFFS).

**Table 3.1 Percent distribution of women and men by marital status, type of union and median age at marriage for women, Ethiopia, 1990 and 2000**

Marital status	1990	2000	
	Women (age 15-49)	Women (age 15-49)	Men (age 15-59)
Never married	17.6	24.0	39.9
Married	71.8*	62.8	55.7
Living together	-	0.9	0.3
Divorced	5.6	2.5	1.0
Separated	1.4	6.2	2.6
Widowed	3.6	3.6	0.5
Percent of women in polygamous union			
- national	14.3	14	
- rural	15.2	15	
- urban	6.8	7	
Median age at first marriage			
- women 20-49	-	16.4	
- rural	15	16.2	
- urban	16	17.8	

\*Includes those living together

Source: CSA, 1993, CSA & ORC Macro 2001.

Although there is a decline in 2000 in the percent married compared to 1990, two-thirds of women aged 15-49 and nearly 56 percent of men were married at the time of the

survey. The percentages of never married and separated women have increased over the years while divorce decreased. On the other hand in 2000 there is a slight rise in women's median age at first marriage compared to 1990 for both urban and rural areas. However, median age at first marriage is still lower for rural areas. With regard to marriage types, one out of seven marriages in Ethiopia is polygamous. This pattern is consistent over the years as the above table shows.

Marriage customs show some variation according to place of residence and ethno-religious characteristics. In rural settings and among most ethnic groups the groom's family is expected to pay dowry to the bride's in the form of cows and other items. The availability of enough resources for the purpose of dowry may have some impact on the timing of marriage. Most importantly, the availability of land (which is under government control) for the newlyweds to build their residential house and for use to support their family is crucial. In urban areas, there are signs of lavish wedding ceremonies which might make some would-be couples delay marriage until they are able to afford the expenses. A rather major problem in urban areas is the shortage of affordable housing for young people who would like to establish a family.

Land availability in rural areas, housing in urban settings, and to some extent costs associated with dowry and wedding party expenses may have some impact in delaying or accelerating marriages. In terms of mate selection, intermarriage between various ethnic and religious groups is more observed in urban than rural areas.

### 3.4 Economy

Despite its vast potential in natural and human resources, Ethiopia remains to be one of the poorest countries of the world. The country's real GDP per capita in 2002 based on the purchasing power parity (PPP) was US\$ 668 (UNDP, 2004:142). During the same period this average was US\$ 1,790 and US\$ 1,307 for sub-Saharan African countries and the Least Developed Countries respectively (UNDP, 2004:142). Data from the World Bank (2004) show that in 2002 the annual GDP growth rate was 1.9 percent while the value added in agriculture, industry and services, measured as percent of GDP, was 42, 11.3 and 46.7 percent respectively.

The UNDP reported that the percentage of the population living on less than \$ 1 a day, an indicator of income poverty line, is 26.3\* percent between 1990 and 2002.

Raising this indicator to capture those living on less than \$2 a day would paint an even darker picture, i.e., four out of five Ethiopians are living below this income poverty line. Similarly the Ministry of Finance and Economic Development, based on the 1999/2000 levels of real per capita consumption expenditure, reported that 45 and 37 percent of rural and urban residents were living in poverty. On the other hand, using a measure of food poverty line (measured by a food basket that provides 2200 Kcal/day), during the same period 41 and 47 percent of rural and urban residents were under food poverty respectively (MOFED, 2002:5).

The basis of the Ethiopian economy is agriculture. During 1991-98 on average 51% of the GDP and 80 percent of export earnings were contributions from this sector. At the same time, the sector employed more than 85 percent of

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\* refers to the most recent year available during the period specified

the country's population (Degefe & Nega, 1999:18). As the birth place of coffee, the country derives 60 percent or more of its foreign exchange earnings from this crop and an estimated 15 million people depend on the coffee industry for their livelihood. Changes in weather conditions, overproduction and deregulation in the international coffee market always have direct negative effect on the economy.

Ethiopian agriculture is characterized by its traditional methods of production (ox drawn plough, hoe farming) and its rain-fed feature. These basic features imply the sector's low productivity and vulnerability to nature. The problem of agricultural low productivity is further aggravated by the deterioration of per capita land holding especially in areas where sedentary farming is practiced. Degefe & Nega (1999:178) wrote that per capita land holding declined to just 1.0 hectare for the country as a whole while a little over a third of the holdings are less than 0.5 hectare.

It is only in the past five decades that Ethiopia turned from a state of complete food self sufficiency into that of widespread food insecurity. For instance in 1947/48 the country's annual grains export to the world market had reached to 150,000 metric tons (Alemayehu, 1988, cited in EPHA, 1997 p.1). However, especially since the early 1960s, this has changed and the country came to the situation where it cannot even fulfill its domestic food requirements. As the result, food aid and commercial imports were the mechanisms used to balance the food deficit.

### 3.5 Labor force participation/Employment status

Data obtained from the African Development Bank show that labor force participation has undergone modest structural changes. While labor force participation in the agricultural sector since the 1980s experienced a decline, the service and industrial sectors made slight gain (see Table 3.2).

**Table 3.2 Distribution of the Labor Force participation by sector, Ethiopia, 1980-1996**

Sector	1980	1985	1990	1996
Agriculture	80	77	74	72
Industry	8	9	10	12
Service	12	14	15	16

Source: African Development Bank, 2003

Employment status information from the 2000 DHS shows that 57 percent of women were working (comparable figure for men was 87 percent) at the time of the survey (CSA & ORC Macro, 2001:24-25). For women age 40-49, those divorced, separated and widowed were highly likely to be employed.

### 3.6 Education and health

Despite the low level of adult literacy, the 2004 UNDP Human Development Report indicated that there is some progress made over the years. That is, overall adult literacy rate rose to 41.5 percent in 2002 from its 1990 average of 28.6 percent. This average is 63.2 percent for sub-Saharan Africa during the same period. The combined gross enrollment ratio for primary, secondary and tertiary levels was very low at 34, compared to a ratio of 44 for sub-Saharan Africa. The same data set reveals the existence

of a wide gender gap in school enrolment, which favors boys. For instance female adult literacy rate in 2002 was 33.8 percent compared to 49.2 percent for males. In terms of the ratio of female to male students, net enrollment ratios at primary, secondary, and tertiary levels for the year 2000/01 were 0.79, 0.61 and 0.36 (UNDP, 2004:228). This clearly indicates that while females are disadvantaged in their access to education at all levels, the gap is even wider at the higher levels. Rose and Tembon (1999) observed that girls' enrolment in Ethiopia is behind that of boys due to culturally determined factors such as the gendered division of labor and early marriages in addition to the greater economic constraints faced by women.

Data on health services coverage are also far from encouraging. Between 1992 and 1999 the population with access to health services was only 46 percent (African Development Bank, 2003). In 2000, it was only 12 and 24 percent of the population respectively that had sustainable access to improved sanitation and improved water sources (UNDP, 2004:163). Furthermore, 42 percent of the population was undernourished, and nearly one out of two children was either under weight or under height for its age (ibid, 163).

Like in most other sub-Saharan African countries, HIV/AIDS poses a major health threat in Ethiopia. Based on UNAIDS' estimates, the UNDP (2004:167) reported that in 2003 the HIV prevalence among people age 15-49 was between 3.9 and 8.5 percent. On the other hand, data from the Ministry of Health provides a point estimate that indicates a total prevalence rate of 4.4 percent during the same time (MOH, 2004). Earlier the ministry reported that HIV prevalence was 6.6% for the year 2001 and 7.3% in 2000 (MOH, 2002). If these data are reliable the country is making good progress in

arresting the transmission of the epidemic. The burden of HIV/AIDS is severe among women. For instance in 2003 from an estimated 1.5 million people living with the virus, women constituted 54.5% and among the newly infected during the same time 53.7% were women (MOH, 2004). It is also women who have the burden of caring for the sick and taking over the responsibility of orphans in most instances. While the number of additional AIDS deaths are expected to escalate to 3.5 million by the year 2014 (MOFED, 2002:128), the number of AIDS orphans would increase to 2.5 million (MOH, 2002). The epidemic is affecting urban areas more than rural areas as seen from the current prevalence rate of 12.5% vs 2.8% (MOH, 2004). One major threat of the HIV/AIDS pandemic is its adverse impact on reversing the life expectancy gains. Projections made with and without AIDS scenarios show major set backs in life expectancy at birth. For instance, life expectancy declined to 46 years instead of 53 years in 2001 and it is estimated to reach 50 years of age by the year 2014 instead of 59 years which could be achieved in an AIDS-free scenario (MOH, 2002).

In general, the health and education sectors have a long way to go in order to respond to the public demand in terms of accessibility and affordability. Table 3.3 shows government spending to these sectors and other priorities as percent of GDP. As indicated, the spending towards health and education as percent of total GDP is not substantial. The table indicates that the country's priority seems its military rather than other social services. However this might be interpreted with caution as the year 1990 was the peak year for the protracted civil war and as 1998-2000 were also years of higher military mobilizations due to the border conflict with Eritrea.



**Table 3.3 Public spending priorities as percent of GDP, Ethiopia**

Public expenditure	1990	2002
On education	3.4	4.8*
On health	0.9	1.4*
On military	8.5	5.2
Total debt service	2.7	1.8

\*Data refer to 1999-2001

Source: UNDP, Human Development Report 2004, p. 205

### 3.7 Population change

Population data collection in Ethiopia has a brief history. Unlike some other African countries, the country has limited historical data. There is no well established vital registration system except the one that is collected by certain public institutions such as schools and hospitals. Until the 1984 census, which is the first of its kind, the sources of demographic data were the different sample surveys undertaken by the former Central Statistical Office (CSO) renamed Central Statistical Authority (CSA). Two major multi-purpose national sample surveys have been carried out in 1964-1967 and 1969-70. There was also the 1978 demographic survey of Addis Ababa. While the multipurpose surveys solicited information on diverse topics in both urban and rural areas, the focus of the latter was population information of the capital city (CSA, 1993). The 1984 census, the 1990 National Family Fertility Survey, the 1994 census, the 1995 Addis Ababa Fertility Survey and the 2000 Ethiopia Demographic Health Survey are major sources of data on population size and characteristics in recent years.

In terms of population size, Ethiopia is the second most populous country after Nigeria in sub-Saharan Africa. In mid 2005 the Ethiopian population is estimated to be 77.4 million (PRB, 2005). Based on the 1984 and the 1994 censuses, the population was

42, 616, 876 (OPHCC, 1991:5) and 53,477,265 on respective census dates implying an average intercensal growth rate of 2.2 percent per year (OPHCC, 1998:15). The majority of Ethiopians live in rural areas. In 1994 only 13.7 percent (CSA, 1998) of the population was living in urban areas, a slight increase from the 11.4 percent in 1984. The Population Reference Bureau uses the figure of 15 percent of the population living in urban areas in 2004 (PRB, 2004).

**Table 3.4 Population sizes of major urban centers, Ethiopia, 1994-2005**

Urban center	1994	2000	2005
Addis Ababa <sup>1</sup>	2,084,588	2,491,000	2,899,000
Dire Dawa	164,851	219,000	278,000
Harar <sup>1</sup>	76,378	86,000	96,000
Mekelle	96,938	129,000	165,000
Awassa	69,169	89,399*	104,000**
Debrezeit	73,372	89,000	107,000
Nazareth <sup>1</sup>	127,842	172,000	221,000
Jimma <sup>1</sup>	88,867	120,000	154,000
Bahir Dar <sup>1</sup>	96,140	129,000	164,000
Dessie	97,314	130,000	166,000
Gondar	112,249	150,000	191,000

<sup>1</sup> Urban centers included in the qualitative study.

**Source:** data for 1994 are obtained from; OPHCC, 1998. Data for 2000 and 2005 are obtained from United Nations, *World Population Prospects: The 2002 Revision and World Urbanization Prospects*.

\* Data refer to July 1999 and obtained from CSA, 1999.

\*\* Data refer to 2003 and obtained from US Department of State, Background Note: Ethiopia.

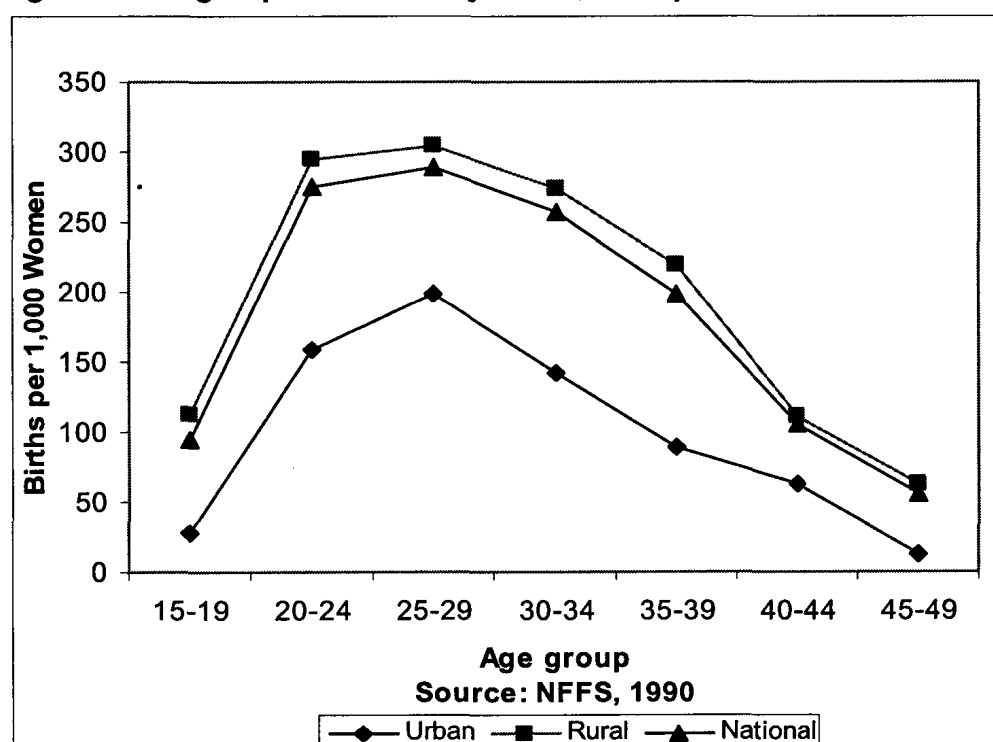
A major characteristic of Ethiopian urbanization is that it is only the capital of Addis Ababa that has a population with inhabitants of 500,000 or more. A few urban centers as shown in Table 3.4 have a population size between one hundred and three hundred thousands. Most urban centers, also referred as towns, in Ethiopia have a concentration of population which is under one hundred thousand.

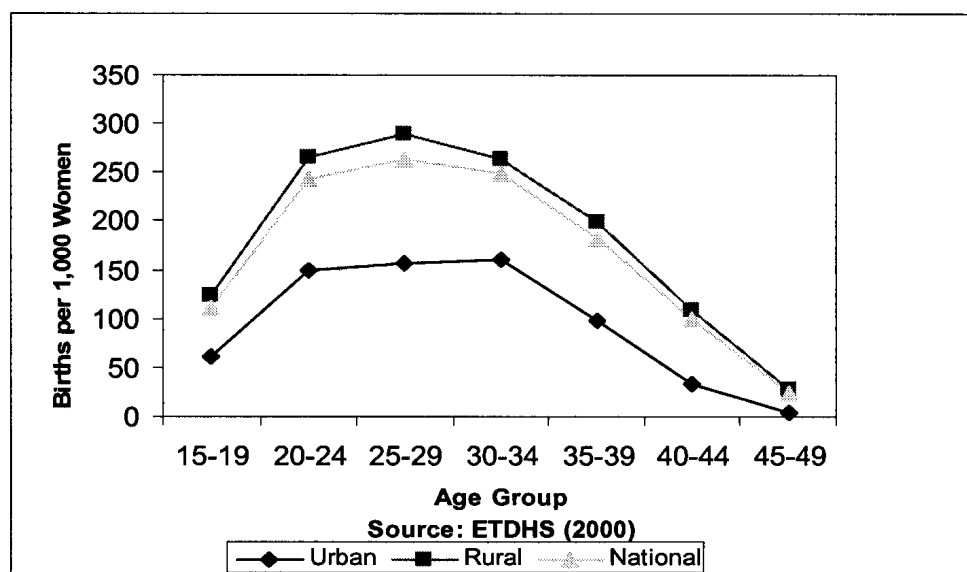
In the Ethiopian case, urban and rural areas are delineated following a definition based on population size by the government. Urban areas are those with a population of 2000 and more. The present study followed this definition. However, people move

between urban and rural areas and maintain social and economic links. Unlike in most other African countries, however, urban residents in Ethiopia do not usually keep an additional residence in rural areas. The only exception might be the Guraghie ethnic group, where a significant number keep strong ties with their rural roots. Most of them visit at least once a year their rural residence and it is also highly likely that they may have another family of their own in rural areas.

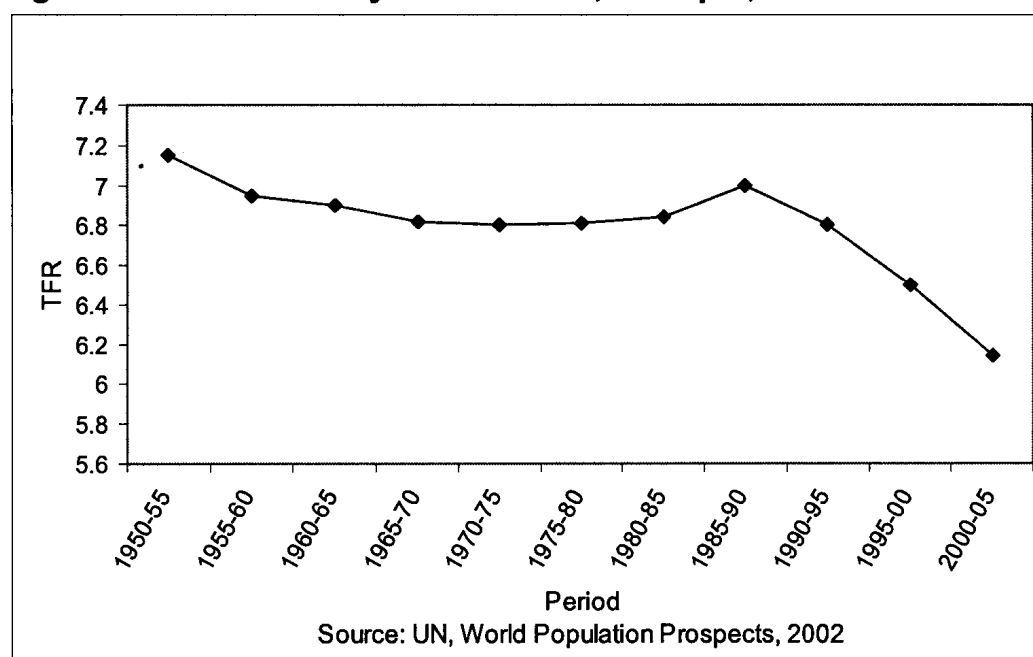
As the Figures 3.1 and 3.2 depict, Age Specific Fertility Rates from the 2000 DHS show slight decrease compared to the rates from the 1990 NFFS, except the 15-19 age group. However, there is no significant change in terms of pattern. Child bearing is low for the 15-19 age group and those ages 20-34 contributed about two thirds of the total fertility rate in both surveys. Similarly in both 1990 and 2000 an Ethiopian woman would have almost three quarters of her life time births by age 35. In both 1990 and 2000, rural residents have a fertility level almost double that of urban residents.

**Figure 3.1 Age Specific Fertility Rates, Ethiopia 1990**



**Figure 3.2 Age Specific Fertility Rates, Ethiopia 2000**

Examining the trend in total fertility across the years indicates that the country's TFR did not show any marked decline between the years 1950 and early to mid 1980s, a time when it exhibits even slight increase. It is since the late 1980s that total fertility rate began to decline, from about 6.8 in 1980-85 to a little below 6 in 1995-2000.

**Figure 3.3 Total Fertility Rate Trends, Ethiopia, 1950-2005**

On the other hand, infant and child mortality rates, although still at high levels, have exhibited a decline over the past two decades. Infant death rate has declined from its 1980-84 level of 127 per 1000 live births to 105 in 1985-89 (CSA, 1993:286) and then to 97 by 2000 (CSA & ORC Macro, 2001:99). Similarly, under five mortality rate was about 200 per 1,000 live births in 1980-84 (CSA, 1993:291) which declined to 166 per 1,000 live births in 2000 (CSA & ORC Marco, 2001:99). The decline in infant and child deaths is largely attributed to improved health services (CSA, 1993: 289). However, data from the UNDP (2004: 171) indicate an infant mortality rate of 114 per 1000 live births in 2002, higher than the sub-Saharan Africa average of 108 deaths per 1000 live births. Regarding deaths among children of ages five and under, Ethiopia has a slightly better score (171 for Ethiopia vs 178 per 1000 live births for sub-Saharan Africa).

### **3.8 Family planning**

Current contraceptive prevalence is only 8.0 percent (6.3 modern and 1.7 percent traditional methods) among currently married women (CSA & ORC Macro, 2001:52). In 1990 the level of contraceptive prevalence was 4.8 percent. It is urban residents who make up the larger proportion of contraceptive users. Accordingly, 28 percent of urban residents were using any method of modern contraception compared to slightly over three percent of rural residents (CSA & ORC Macro, 2001:55).

One possible reason for the low level of contraceptive use in the country might be the recent introduction of family planning programs. There is no organized government sponsored family planning program in Ethiopia. Successive governments refrained from making any major involvement in this respect. As a result, family planning services are

mainly delivered by non-governmental organizations and private health care providers. It is the Family Guidance Association of Ethiopia (FGAE), a non-profit organization affiliated to the International Planned Parenthood Federation (IPPF), which pioneered modern family planning services in 1966. Since the early 1990s, other non-profit and private groups also have provided similar services. Although the official contraceptive prevalence estimates show a low level, some studies commissioned by international NGOs active in the field of family planning in the country have claimed that contraceptive use has increased tremendously. This could be seen as a genuine dissemination of reliable research findings or an ambitious step in justifying the worthiness of their intervention, in order to obtain more donor support. For instance a Pathfinder International commissioned study claimed that the percentage of current contraceptive users in the four largest regions, Amhara, Oromia, Southern Nations Nationalities and People's Region (SNNPR) and Tigray, home to over four-fifths of the population of the country, is about 36, 39, 28 and 34 percent respectively (Pathfinder International-Ethiopia, 2004:25). Even among rural residents, Contraceptive Prevalence Rate (CPR) is found to range between 24 percent for SNNPR and nearly 34 percent for Oromia which is very high compared to any previous estimates. Perhaps findings from the 2005 Ethiopia Demographic and Health Survey (results not yet released) will provide a better picture in regard to the level of contraceptive usage.

### **3.9 Population policy**

The need for a comprehensive population policy has been felt by some activists and academics in the past. The *Dergue* government had also formed a population and

development planning unit under the then office of central planning. However, a national population policy was promulgated by the Transitional Government of Ethiopia (TGE) in 1993. This policy has a general objective of “closing the gap between high population growth and low economic productivity through planned reduction of population growth and increasing economic returns” (TGE, 1993:27). Some of the policy’s specific objectives are:

- a) Reducing the TFR from 7.7 children per woman to approximately 4.0 by the year 2015;
- b) Increasing CPR from the current 4.0 percent to 44 percent by the year 2015;
- c) Reducing maternal, infant and child morbidity and mortality;
- d) Significantly increasing female participation at all levels of education;
- e) Removing all legal and customary practices militating against the full enjoyment of economic and social rights by women including the full enjoyment of property rights and access to gainful employment (TGE, 1993:28-29).

In general, the Ethiopian population policy implies that the government is viewing high population growth detrimental to economic development and expresses the actions to be undertaken in order to bring change.

### **3.10 Social change, institutional factors and demographic change**

The following paragraphs highlight major social changes that took place in Ethiopia in the last three decades (especially after 1974) and attempt to show a possible link between these changes and the reproductive behavior of couples. The year 1974 marked the year when peoples’ dissatisfaction toward the imperial administration and its feudalistic economic system reached to its limit. Popular uprisings across the country led by the student movement gained momentum when other sections of the society joined the

movement. The country was swept by a revolution that would bring drastic changes in the social, economic and political structure in the following years.

A military socialist government, widely known as *Dergue*, hijacked the cause of the popular revolution and assumed power in 1974. The *Dergue* declared socialism as its ideology. Political and economic restructurings were implemented along this guiding principle. Strong state monopoly over the economy and a central planning system were instituted. The Orthodox Church lost its status of being a state religion. By early 1975, all large financial institutions and manufacturing industries had been nationalized. During the same period, a rural land reform proclamation brought land under government control, abolishing the age-old landlord-tenant relationship. The proclamation gave individual farmers user rights over their holdings. Agrarian socialism was adopted as a policy. It was to be promoted through collective ownership of the means of production along with villagization, resettlement, and the formation of service and producers' cooperatives. Private ownership was discouraged and reduced to an insignificant level in size and scope. Through the villagization and resettlement programs a huge number of rural families were made to move from their old residential locations to new sites. Some estimates suggest that by the mid 1980s between 30 and 40 percent of the rural population were relocated into new villages (Hansson, 1995:33). The government justified this program as famine relief, and an important prerequisite to supply basic social services to the rural population. Others, including the population affected, saw this as a further move by the government to consolidate its grip on individual rural families, for taxation purposes and for the collection of agricultural produces through a quota system. In the same manner as rural land, urban land and extra houses came under



government control and individuals were allowed to own only a single dwelling unit. Real-estate development was discouraged.

The revolution brought a strong administrative structure that goes down to the community level. The smallest administrative organ called *Kebele* in an urban setting and peasant association (PA) in a rural setting were instituted and later became important administrative and political machineries that allowed the government to have control over practically each and every family and individual. The *Kebeles* and PAs had the capacity to mobilize youth for army conscription, ration basic consumer items that were in short supply, and mobilize people to literacy classes.

The revolution also brought many new ideas to the society. For instance people now realized that mobility depends not on where one belongs (land owning class). Rather mobility is through personal achievement. As the idea of mobility was tied to education, more and more parents began to send their children to school. Many adults took part in the government sponsored national literacy program which is believed to have exposed them to new ideas and ways of life however small these might be.

Another new idea that began to circulate in the society during the time of the revolution relates to gender relations. The revolution unequivocally pronounced that men and women are equal, and women are encouraged to join women's associations to mobilize their efforts. There were persistent discussions on state media and agitation by leaders and grassroots cadres of the revolution on the need to change the existing gender relations. This would undoubtedly inform the society and provided exposure to new ways of looking at the issue. In light of the above discussion, Kinfu (1999:6) noted that;

The increase in female education and changes in views about their role, which is associated both with the 'revolution of ideas' about gender-equality and the feasibility

of attaining alternative life style due to changes in the opportunity structure, are likely to be among the forces behind later marriage and lower fertility within marriage.

In a situation where real-estate development is hampered and the capacity of individuals to build their own houses is severely limited due to economic difficulties, housing shortage in urban centers become a serious problem. Traditionally newlyweds were expected to have their own dwelling unit. With the housing shortage, the previously uncommon residential arrangement of living with ones parents after marriage surfaced. Thus the issue of housing may have contributed to the postponement of many marriages and births (for instance Kinfu, 2001).

Economic hardships in urban areas made life for the majority of the population worse from one year to another. People faced insecurity to maintain themselves and their families. The labor absorptive capacity of the state-controlled industrial, manufacturing and service sectors reached a level of saturation. The civil service sector continued to absorb a limited number of local and foreign trained experts and became larger.

Other major events that brought institutional change include war, famine and drought. Drought and famine affected millions during the mid 80s. In addition to nature, human-made factors such as poorly designed rural development policies were blamed for the drought and famine. The years that followed the famine year are characterized by certain demographic consequences such as lower fertility (Lindstorm and Berhanu 1999, Kidane 1985).

Throughout the years that the *Dergue* government stayed in power it was fighting the various rebel movements. This has impacted the economy to a great extent. Forced conscription was the method of fulfilling the ever increasing army manpower need which

caused great anxiety among parents and young people alike. Even before the civil war had intensified, the *Dergue* government conducted mass killings of young people in urban areas by what is known as the infamous “red terror” campaign. Although figures vary depending on the sources, many human rights groups agree that the number of victims through this campaign stood in the thousands. This may have impacted negatively the attitude of couples and may have made them revise their reproductive goals. The following oral literature (poem) originally told in Amharic and translated here into English perhaps portrays this attitude. The poem is allegedly told by a mother [to the provincial administrator] whose son was in prison from where the chances of coming out alive were minimal.

*Dear Mr. X, our times “almighty”  
On behalf of my son under your custody  
I kneel down and beg your utmost mercy  
For I have decided not to give birth any more  
Rest assured, I won’t come again to ask your favor*

The purpose of bringing the above verse is not to claim that this particular event (though carried out nationwide) led to a fundamental shift in the reproductive decision making of urban couples. This thesis does not aim at testing the effect of the mass killings of the time on reproductive behavior. The purpose is to simply illustrate some of the events that may have relevance to fertility behavior as portrayed through oral literature of the time.

The *Dergue* government was overthrown in 1991. The political forces that helped to overthrow the *Dergue* have been in power since then. Under the new government the country adopted a federal political system and the role of the government in the economic sector has drastically reduced. State owned enterprises were privatized. The regional and

federal governments inherited the administrative model developed by the *Dergue* at the community level. *Kebeles* in urban areas and peasant associations in rural areas continue to serve as the smallest administrative units. These institutions were once again effectively utilized by the present government to mobilize the public for issues of national relevance. The country's economy which exhibited modest improvement in the mid 1990's is considerably affected by 1998-2000 the border conflict with Eritrea, sporadic drought, and the political instability that followed the divisive May, 2005 elections. All these, in addition to the current oil price increase, put much pressure on individual citizens. As a result, the cost of living in both urban and rural areas has become expensive.

### **3.11 Summary**

This chapter has presented the socioeconomic, demographic and institutional profile of Ethiopia. This background information helps facilitate interpretations of fertility levels and trends. The country has varied ecological features and a population that is diverse in terms of religious, language, and ethnic compositions. Ethiopia has the second largest population in sub-Saharan Africa characterized by its youthful age structure, high fertility rate and a predominantly rural residential pattern. The economy is largely agrarian, where the majority of small landholders practice mixed farming that largely employs traditional methods, and under the mercy of nature. Any change in the agricultural sector would always have its impact on the overall economy of the country.

School enrollment at all levels of education, especially for girls, is at its low levels. With regard to the health sector, HIV/AIDS is a serious concern for the country. A

major setback resulting from the HIV/AIDS epidemic is the reversal in the improvement of the level of life expectancy at birth. Contraceptive prevalence is low. Median age at first marriage at the national level is under 17 years. Infant and child mortality rates need to be improved to reach to the level enjoyed by countries of medium and high human development. There have also been major social changes in the past two to three decades. It is well known that fertility can be affected by a multitude of factors. These changes may have contributed to the changing reproductive behavior of couples in urban areas.

## **CHAPTER FOUR**

### **REPRODUCTIVE CHANGE IN URBAN ETHIOPIA: A QUALITATIVE ANALYSIS**

#### **4.1. Introduction**

Like most other sub-Saharan African countries, Ethiopia has yet to complete its fertility transition. It has a total fertility rate of 5.9 children per woman in 2005 (PRB, 2005) which is among the highest in the region. The country, by most conventional measures, is a less developed country, where the prevalence of high fertility is not surprising. However, results from the 1990 National Family and Fertility Survey, the 1995 Addis Ababa Fertility Survey and the 2000 Demographic and Health Survey show that some parts of the country are presenting a different picture. That is to say, urban areas of the country have recorded a dramatic decline in their fertility rates while rural fertility has not matched this change. As a result, the fertility gap between urban and rural areas has widened.

Based on qualitative data, this chapter examines the reproductive change that is taking place in urban areas of the country. The desire to have children and the constraints within which people operate determine the actual number of children people would have. In this regard, the chapter assesses the perceptions people have towards reproduction in general and the perceived benefits and associated risks of childbearing in particular. Respondents were asked to reflect on the attitudes and the values that underlie the preferences they have for the size of their families. The chapter also examines the ideal and expected childbearing experiences of urban residents. The contribution of some of the proximate determinants of fertility has also been considered. The chapter also

examines how participants in the study see the fertility transition, based on a question asking them to compare the childbearing experiences of their own generation with that of their parents. In addition, the chapter looks at how participants assess the gap in birth rate between urban and rural areas. Participants give possible explanations as to what has triggered changes in the reproductive behavior of urban residents as compared to rural residents. However, since rural people have not been included in this study, the views presented here basically simply reflect the attitude of urban residents towards their rural counterparts.

This chapter is organized into five major sub-sections. The part that follows this introductory note sets the stage by summarizing the various theoretical explanations of fertility change to guide the presentation of findings and analysis. The third part describes data and methods. This is followed by an extended presentation of findings and interpretations. The presentation of the findings of this study is organized around issues that are considered to be critical for an understanding of the motivations and justifications of reproductive behavior change currently taking place in urban areas of Ethiopia. Finally the chapter provides a summary of major findings and conclusions.

## **4.2 Theoretical considerations**

The study of the determinants and consequences of fertility change has long been an important topic in the social sciences and demographic research. As we have seen in Chapter two, the findings from the wide range of inquiries conducted so far have advanced our understanding as to why fertility changes. This section returns briefly to these theoretical questions, with a further elaboration on the value and costs of children.

As we have seen, the classic Demographic Transition Theory considers mortality decline, reductions in the economic value of children and improvements in socio-economic conditions as critical factors for stimulating fertility decline. This theory argues that industrialization and urbanization have brought about structural changes that have led to the gradual change in the cultural, social and institutional arrangements that have hitherto encouraged higher reproductive behavior (Notestein, 1945).

As another possible explanation, the micro-economic theories of fertility change extend consumer choice theory to fertility behavior (Becker, 1960, 1988). According to this approach, given the time and resource constraints, individuals would calculate the costs and benefits of having children just as they do with other consumer durables. The micro-economic theories of fertility change postulate that rational individuals or couples work to maximize their utility from the consumption of a combination of consumer goods. The quantity/ quality tradeoff operates when parents consider how many children to have and how much resource to allocate per child. The implicit assumption of the demand theory is that unless childbearing benefits parents, they may choose not to have children.

Caldwell's wealth flow theory postulates that fertility decisions are always rational, whether in developed or less developed societies. When there is a net positive flow of economic resources from children to parents, which is the case in most traditional societies, fertility remains high. Similarly, fertility is lower when the net flow of resources from parents to children is positive, which is the case for transitional societies. In this context, the reversal of the direction of wealth flow is fundamental to fertility reduction (Caldwell, 1976).



The idea that the motivation to have or not to have children depends on the economic benefits and costs is basic for most theoretical explanations as seen above. However, children also provide many other types of benefits beyond the strictly economic ones. In the context of developed countries, for instance, the value of children can be seen from the perspective of their capacity to reduce uncertainty, i.e. the motivation to have children is greatest among those with limited or no alternative means of reducing uncertainty (Friedman et al. 1999:5, 1994).

Bulatao (1979) has classified the value of children in three groups; *instrumental assistance* (help with housework, help in old age, financial/practical help, family name, religious/social obligations, adult status/ social norms), *rewarding interactions* (companionship/ love, happiness/ play/ fun/distraction, marital bond) and *psychological appreciation* (living through children, achievement/power, character/responsibility, incentive to succeed, fulfillment). The costs of having children are also classified in *financial, childrearing demands, restrictions on parents* and *costs to social relationships*. Fertility is expected to change when perceptions regarding the relative benefits and costs change. Fawcett (1983) summarizes the empirical evidence on the link between the perceived values and costs of children and fertility preferences or behavior as follows.

- Expectations of economic benefits from children are associated with high fertility; the same is true for other instrumental satisfactions having to do with the continuity of the family and traditional role relationships.
- Psychosocial satisfactions (rewarding interactions and psychological appreciation) tend to be associated with low fertility.
- Perceptions of financial costs do not have any clear or consistent impact on fertility.
- Perceived restrictions on parents, including work-related opportunity costs, have a relatively weak negative effect on fertility.
- The perceived demands of childrearing, such as emotional strain and physical work, do not usually have a significant effect on fertility (Fawcett, 1983: 439).

Yet another approach towards interpreting reproductive change is by elaborating on the linkages between fertility and mobility. For instance, Greenhalgh (1988) argues that on the ladder of social advancement, security and mobility form a goal hierarchy, such that once security goals have been achieved, actors move on to pursue mobility goals. She further assumes that the linkages between security, mobility and fertility are shaped by the political, economic, and social institutions in which that behavior is observed (ibid, 638).

In his “multiphasic theory of demographic change,” Davis (1963) argues that regulating family size is one option for households who experience economic strain as a result of the imbalance between limited economic resources and household size, itself an outcome of mortality decline. Along with this, people’s conviction that it is their demographic behavior which prevents them from taking advantage of emerging opportunities provides the incentive to modify their reproductive behavior (Davis, 1963:352). Similarly, the “social capillarity” explanation, advanced by Dumont, argues that the aspirations of individuals to move up the socio-economic ladder motivate people to control their fertility (Spengler, 1979). McDonald (2000) observes that in high fertility societies, women may choose to have fewer births in order to shape their own and their children’s future for the better. However, at the early stage of the transition, smaller family size does not benefit the economic well-being of the family.

Casterline (2001) reinforces the notion that rising economic aspirations and expectations, which are linked to structural changes, directly impinge on fertility desires. When households perceive that they are falling short of their goals, they may resort to restricting their childbearing in order to reduce the gap between economic aspirations and

achievements (Casterline, 2001:34). The conviction held by many urban residents that childbearing hampers the realization of achievable aspirations during good times or is an obstacle to maintaining earlier achievements in times of economic strain is a key determinant of fertility change. Casterline proposes that the perception that reduced fertility should be part of a strategy to achieve economic aspirations is the most important determinant of cross-national variation in the pace of fertility decline (ibid, 2001).

LeGrand et al. (2003) have observed that reproductive goals and risks include factors other than the number of children and child mortality. Parents like to have successful and healthy children, which imply the need for more resources. In the absence of sufficient investments, parents may take on significant risks of undesirable child outcomes. By way of reducing such risks, parents resort to making sure that sufficient investment is available in terms of health care, schooling, 'moral' upbringing and other important aspects in the lives of individual children (LeGrand et al., 2003, 396). Raising the necessary resource, something which requires time, finance, and emotions, is more feasible for those who maintain smaller families. Writing on values and low fertility in Italy, Dalla Zuanna (2004) argues that a better quality of life, which parents would like to provide for their child or children, might be the reason why Italians have lower fertility.

McDonald (2002) argues that very low fertility is the product of constraint rather than of preference. For instance, there are many people who are prepared to undergo expensive and emotionally challenging infertility treatment as well as those who go through the process of adoption, in order to have children. In developing countries, for many people, remaining childless is the least desirable option and people try anything in their power to have a child or children. In other words, most people desire to have

children. However, as McDonald (2002) argues, risks and uncertainties intervene, causing hesitation when making reproductive decisions. Another European study concludes that due to uncertainties in the labour market and the increasing importance of education, young Spanish people have been scared away from making the transition to parenthood (Simo Noguera et al., 2002).

This chapter examines the Ethiopian urban fertility transition, along the lines of these theoretical explanations. The theoretical approaches suggest that people's fertility desires are a reflection of the cultural and social features of society, while the economic structure provides the constraints within which they make their decisions. In societies or groups where large family is encouraged, it is highly likely that people have a higher rate of desired as well as achieved fertility (Shah & Nathanson, 2004). Socio-economic change is responsible for causing changes especially in the costs of rearing children. In this study, we ask what the attitudes and the values are that underlie the family size preferences of urban residents in Ethiopia. Individuals may find that life in urban centers is incompatible with the traditional large family. If this is true, we can expect that limiting family size is seen by urban residents as a way of risk avoidance, just as it is a means to self-advancement and to providing their children with the desired opportunities. However, we can also expect that having children is still seen as a source of social prestige, security later in life and emotional satisfaction and happiness. Therefore, it is expected that urban residents balance adherence to social and cultural norms while seeking to avoid the risks associated with having a large family.

### 4.3 Research approach

Most studies on fertility change in Ethiopia have focused on quantitative analyses of data from large-scale sample surveys and the two censuses that the country conducted in 1984 and 1994. However, these studies provide few interpretations on the context, culture, values and decision frameworks. These interpretations can be better obtained using qualitative methods. In contrast to survey results which describe the variance of the phenomenon, qualitative studies can produce rich narrative descriptions (Maggioni, 2004). Accordingly, for this part of the study, a qualitative research method has been adopted.

The chapter seeks to discern the attitude towards and justification for the reproductive behavior of urban residents. The emphasis is on learning, in as much detail as possible, the meanings, definitions, and descriptions that respondents provide, while answering the research questions at hand (Berg, 2004). The qualitative analysis is expected to permit a better understanding of the context of childbearing in people's lives, their interests in having children, family size desires and constraints relevant to childbearing, including those associated with reproductive health and family planning services.

Two data collection strategies, in-depth interviews and focus group discussions, were employed to collect information. In-depth interview is preferable when the objective, as is the case in this study, is to understand the perceptions of respondents or learn how participants come to attach certain meanings to phenomena or events (Berg, 2004). In-depth interview is advantageous for a variety of reasons. It is an excellent way of discovering the subjective meanings and interpretations that people give to their

experiences; it has the potential to help in finding new ways of understanding and developing theories during the research process as well as precluding peer influence[in contrast to focus groups] on people's responses (Liamputtong & Ezzy, 2005:71-72).

On the other hand, its limitations include the fact that in-depth interview takes a great deal of time and energy and is also difficult to do well since it requires persistence, and sensitivity to the complexities of interpersonal interactions (Liamputtong & Ezzy, 2005: 72). In the context of this study, the advantages of using in-depth interview outweighs the limitations, since the purpose is to elicit the attitudes, perceptions and motivations of respondents regarding reproductive behavior and decision-making.

In contrast, the use of focus group discussions as a data collection strategy for this study is intended to profit from group dynamics. Participants can brainstorm and react to the ideas or suggestions of others. Unlike the one-to-one interviews, in focus group discussions different views, suggestions and solutions can be put forward by participants to any question or issue. A major strength of focus group discussion is its emphasis on group interaction in order to produce information (Liamputtong & Ezzy, 2005). Some people might be more comfortable discussing issues in a group environment than in a one-to-one interview.

On the other hand, focus groups have limitations in that they cannot explore the complex beliefs and practices of an individual person, as is the case with an in-depth interview (Liamputtong & Ezzy, 2005:97). Information from focus groups reflects only the views of participants. Another limitation of focus groups is that some participants may dominate the discussion and others may feel forced to conform to views to which they really do not hold. In the present study, effort was made to ensure that groups were

composed of participants who shared certain common characteristics. For instance, of the six focus group discussions, four were organized solely for women while the remaining two were convened for men. In one of the urban centers, focus group participants were largely commercial sex workers. In another, participants were all Muslim housewives who were not employed in the paid labour force.

In general, focus groups and in-depth interviews are two different data collection methodologies that can be used to address different questions. While focus group discussions are instrumental to exploring norms, general perceptions, and beliefs, in-depth interviews help to examine personal experiences, behavior and motivations. For reason of convenience, this study presented a sub set of similar questions used in the in-depth interview to focus group participants without taking advantage of the different strengths of the two methods.

#### **4.3.1 Data collection**

Data for this study have mainly come from fieldwork conducted between May and August 2004 in Ethiopia. Five major urban centers of the country, namely Addis Ababa, Nazareth, Bahir Dar, Jimma and Harar were covered by the fieldwork. Geographical location, population size and composition and a relatively low total fertility rate, as indicated in the 2000 Ethiopian Demographic and Health Survey (ETDHS), were considered in selecting the urban centers.

Two of the urban areas, Addis Ababa the capital and Harar in the eastern part of the country, have a fertility rate below replacement level. Addis Ababa is administered by a city government while Harar is the capital of the Harari regional government. Bahir Dar

to the northwest is predominantly Orthodox Christian and the seat of the Amhara regional government. Jimma, located in the southwestern part of the country, is a zonal town within the Oromia regional government, while Nazareth, located in the central part of the country, was the capital at the time of the fieldwork. Since the current administrative divisions of the country follow lingual and ethnic lines, the population in the surroundings of the selected urban areas largely comprises one single ethnic group and usually follows the same religion. Three of the urban centers included in this study (Bahir Dar, Jimma, Harar) have to some extent a similar population composition as their surroundings. On the other hand, the populations of Addis Ababa and Nazareth show a more diverse ethnic and religious background.

Individual participants of the study from each of the five urban centers were selected based on the criteria developed prior to the commencement of the field work. Background characteristics such as marital status, religion, ethnicity, education and employment status were taken into account while selecting respondents. The sample was not intended to represent the population from which it was drawn. Instead, an attempt was made to ensure the inclusion of urban residents with different characteristics. However, it should be noted that sample selection for the qualitative study was purposive. Given logistical limitations, the selection largely relied on recommendations from contact persons in each city who were approached to help in the process. In this respect the introduction of some degree of bias is unavoidable.

In order to make sure that 10 individual in-depth interviews in each urban area could be conducted, we over-recruited potential respondents. Accordingly, between 12 and 15 individuals were approached in each urban area to take part voluntarily in the



study. In the end, a total of 60 in-depth individual interviews (on average 12 persons per urban centre) were successfully conducted. Similarly it was planned to convene a total of 6 focus group discussions, with 6 to 8 participants in each, two in Addis Ababa and one each in other urban centers. All focus group discussions were conducted as planned. A total of 37 individuals, on average about 6 persons in each focus group, took part in the discussions. Overall, 97 individuals participated in both in-depth interviews and focus group discussions (see Appendices A and B).

With the selection criteria in mind, recruiting potential interviewees was made possible with the help of various organizations and individuals. The researcher's personal connections with organizations and individuals in each city eased the selection process. In three of the urban centers, the heads of the regional Family Guidance Association and staff helped in identifying some of the interviewees and provided spaces where focus group discussions could be conducted. In Jimma and Harar, the data collection process benefited from the support of the research assistants who came from the same urban centers.

Once a potential interviewee was identified, the purpose was explained along with the issues to be covered and the expected timing. Then they were asked if they would be willing to participate in the study. In situations where potential respondents chose not to participate they were thanked for their time and the search for another potential interviewee proceeded. If they were found to be willing, interviewers read them a written consent form ensuring anonymity and confidentiality. A copy of an Amharic translation of this form, which also contained the addresses of the non-profit organization (Professional Alliance for Development in Ethiopia) and this author, was left for any

interested interviewee. Finally, the consent of an interviewee was requested before tape-recording the interview. A similar procedure was followed in the case of focus groups. Individual interviews were carried out in locations which interviewees found suitable.

Six research assistants, two males and four females, were recruited. One was a graduate student, three with first degrees and the remaining two were undergraduate students. These assistants were given training on how to conduct one-to-one interviews and to facilitate focus group discussions. Prior to the fieldwork, they studied the interview guidelines to familiarize themselves with the data collection instrument. They were also requested to observe actual interviews conducted by the investigator and given the chance to do their own mock interviews. Two of the research assistants, who conducted many of the individual interviews and focus group discussions, were also made to take part in a half-day training and experience-sharing session by one of the leading private consultancy firms in the country – the Miz-Hasab Research Centre. Since in-depth interviews are more like conversations, research assistants were reminded to probe whenever they felt that more information could be obtained.

The development of the survey instrument, and guidelines for the qualitative data collection benefited from a 1982-83 qualitative fertility survey in Tunisia (Beaujot and Bchir, 1984). A checklist of points and issues that were included in the in-depth interview and the focus group discussion was also informed by the research questions at hand and similar studies conducted in the past (Knodel et.al, 1984, Kinfu, 2001). The checklist was pre-tested in Addis Ababa before it was administered to the other areas. Based on the feedback received during the pre-test and in consultation with the research assistants, some modifications were made before producing the final version. The same set of

questions was asked from both focus groups and in-depth interview participants, except that an extended version was used for one-to-one interviews; that is, focus groups were asked and encouraged to deliberate on a similar but selected set of questions.

Questions were open-ended and organized in different sections. The first part was intended to solicit background information about respondents. The second section asked about reasons for having children, reasons why the respondent would want to have children, about attitudes toward large and small families. Questions were asked concerning who has large and who has small families and concerning attitudes toward not having children at all. Also included in this section were questions about the size of the family the respondent expected to have and the reasons for this. Similarly, questions were posed on ideal family size and preferred gender composition. Respondents were also asked whether they had observed any difference in the number of children between their parents' generation and their own generation. The third part inquired about marriage: preferred marrying age for men and women, preferred marrying age for daughters and sons, attitudes toward married women working outside the home, and attitudes toward divorce. The fourth part comprised questions on family planning and abortion. Finally, respondents were asked to share their views on the big gap between urban and rural residents as regards the number of children they have.

Interviewers were encouraged to make sure that all questions were put to each respondent. However, provided there was no digression from major themes and general topics, the wording or the order of questions or points of discussion could vary from one interview session to another as circumstances dictated. The whole process allowed respondents to participate in a relaxed manner and provide detailed comments on the

issues raised. In three urban centers (Addis Ababa, Nazareth and Jimma), male and female interviewers interviewed their respective gender counterparts. In the two other urban centers, female interviewers interviewed both male and female respondents. Two focus group discussions were facilitated by the principal investigator and four by the research assistants, including one in the presence of the principal investigator. The research assistants encouraged focus group respondents to provide further explanations to their responses. This strategy worked well for most but not all interview sessions. Interviews and focus group discussions were conducted using the local language, Amharic, which is widely spoken in all urban areas.

#### **4.3.2 Data analysis procedures**

All audio-taped interviews were transcribed in their entirety. Research assistants also kept brief field notes on each interview. Audio-taped interviews were translated into English and transcribed into texts. Translations and transcriptions were made by two of the research assistants and a professional who knows both English and the local language, Amharic. Finally, the texts were edited by the researcher and prepared for computer-assisted analysis. Transcriptions were entered onto NVivo software, which enables data to be organized along thematic lines. Transcriptions were then coded according to some pre-determined themes and other themes were added while coding the documents.

The analysis process aimed at identifying common themes in the transcribed documents, based on the thematic coding used to organize information. The process entailed summarizing, categorizing, and constantly comparing individual in-depth interview transcripts so as to derive patterns of response. This helped to identify recurring

ideas and issues in the responses. Background characteristics of participants were entered into SPSS and imported to NVivo in order to summarize the attributes of respondents. For instance, it was possible to summarize information on respondents' attitudes to small or large family size by gender, or knowledge about an aspect of fertility regulation by age. The analysis compares the information gathered through in-depth interviews and focus groups, as well as findings from previous studies. This makes it possible to verify consistency in findings from different data sources. While reporting findings and in the analysis, excerpts from focus group discussions and in-depth interviews are presented for documentation. Care was taken to maintain the anonymity of participants, so respondents and focus groups were simply identified by number. For one-to-one interviewees, the respondent's age and marital status are also provided in brackets.

#### **4.3.3 Limitations of the study**

This qualitative study does not intend to make generalizations on the reproductive behavior of urban residents in Ethiopia. The aim is rather to learn as much as possible about urban residents' attitudes towards, perceptions on and justifications for the reproductive behavior currently observed in their locality. It also aims to learn from their perspective on how they see the fertility change in their own area compared to that of rural areas. In this manner it is hoped to provide detailed descriptions on the reproductive change that is currently underway in the selected urban areas, which could not otherwise be gained from quantitative analysis alone. The absence of a rural sample is one limitation which leaves this study without a control group. Thus, any comparison between urban and rural reproductive behavior does not tell us about the orientation of

rural people. It rather indicates how urban people see themselves in relation to persons in rural areas. The quantitative analysis of the next chapter addresses this limitation.

The in-depth interview sample may have overrepresented ever-married persons while single people are overrepresented in the focus groups. Focus group participants came largely from the younger age group (15-24). On the other hand, the majority of in-depth interview participants were of prime childbearing age (25-34). The inclusion of most respondents with a high school education or more is justified by the concentration of educational institutions in urban areas and the relatively good access to services. Some interviewees provided only very brief responses to some questions and in some cases chose not to comment at all. This can be attributed partly to the interviewers failing to pose follow-up questions or to the respondents feeling uncomfortable and choosing not to respond. Despite the minor limitations outlined above, it is hoped that the findings and arguments of this study will provide insights and spark interest for further investigation.

## **4.4 Findings**

### **4.4.1 Characteristics of respondents**

Table 4.1 presents the percentage distribution of participants in the qualitative study according to selected characteristics and gender. Of the total 97 participants in this study, 60 (48% female & 52% male) took part in an in-depth interview and 37 (68% female and 32% male) participated in the focus groups. A comparative number of one-to-one interviewees were drawn from the five urban centers. Except for Addis Ababa, where two focus group discussions were conducted, only one focus group discussion was organized in each of the remaining four urban centers. As a result, Addis Ababa had double the number of focus group participants as compared to the four remaining urban areas.

**Table 4.1 Percentage distribution of participants of the study by selected characteristics and current average number of children, according to sex**

	In-depth interview			Focus Group		
	Female (N= 29)	Male (N=31)	Total (N= 60)	Female (N= 25)	Male (N= 12)	Total (N= 37)
<b>Urban Center</b>						
. Addis Ababa	20.7	22.6	21.7	24.0	50.0	32.4
. Nazareth	17.2	19.4	18.3	-	50.0	16.2
. Bahir Dar	20.7	19.4	20.0	24.0	-	16.2
. Harar	20.7	19.4	20.0	24.0	-	16.2
. Jimma	20.7	19.4	20.0	28.0	-	18.9
<b>Age group</b>						
. 15-24	27.6	9.7	18.3	52.0	50.0	51.4
. 25-34	55.2	54.8	55.0	28.0	33.3	29.7
. 35 +	17.2	35.5	26.7	20.0	16.7	18.7
<b>Education</b>						
. None/some primary	17.2	16.1	16.7	40.0	16.7	32.4
. Primary complete/ some high school	24.1	22.6	23.3	28.0	-	18.9
. High school compl. & above	58.6	61.3	60.0	32.0	83.3	48.6
<b>Employment status</b>						
. Employed (public/ private org)	31.0	45.2	38.3	30.0	41.7	34.4
. Self employed	24.1	45.2	35.0	20.0	25.0	21.9
. Sex worker	-	-	-	30.0	-	18.8
. Not employed	44.8	9.7	26.7	20.0	33.3	25.0
<b>Religion</b>						
. Orthodox Christian	51.7	45.2	48.3	48.0	41.7	45.9
. Muslim	31.0	41.9	36.7	44.0	33.3	40.5
. Protestant	17.2	12.9	15.0	8.0	25.0	13.5
<b>Ethnic Group</b>						
. Guraghe	17.2	16.1	16.7	-	16.7	5.4
. Amhara	41.4	51.6	46.7	40.0	50.0	43.2
. Oromo	24.1	19.4	21.7	40.0	25.0	35.1
. Harari	3.4	6.5	5.0	8.0	-	5.4
. Other	13.8	6.5	10.0	12.0	8.3	10.8
<b>Marital status</b>						
. Single	41.4	41.9	41.7	56.0	75.0	62.2
. Evermarried	58.6	58.1	58.3	44.0	25.0	37.8
<b>Current average number of Children</b>						
. all interviewees	1.6	1.4	1.5	-	-	-
. ever-married interviewees	2.7(N=17)	2.3(N=18)	2.5(N=35)	-	-	-

Over half of the focus group participants were aged 15 to 24, while in the one-to-one interview slightly over half of respondents were aged 25-34. The average age of women in-depth interview respondents was 28.2 years while for men it was 31.4 years. Both men and women focus group participants had a comparatively low average age, 26 years.

The majority of in-depth interview and focus group respondents (60 percent and 49 percent respectively) had completed high school or had some post-secondary level of education. Compared to individual interviewees, there were twice as many focus group participants (16% vs 32%) with no formal education or with some primary level of education.

Over 90 and 60 percent respectively, of male one-to-one interviewees and focus group participants were either employed by public and private organizations or self-employed at the time of the field work. This compares with only half of the female participants in each of the study categories. Among women focus group participants, 19 percent were sex workers. The “not employed” category, which included students and housewives, constituted slightly over a quarter of all participants.

The percentage of Orthodox Christians was high, followed by Muslims and Protestant Christians in both one-to-one interviews and focus groups. Close to 45 percent of respondents from both in-depth interview and focus groups belonged to the Amhara ethnic group. Oromos constituted 22 and 35 percent of one-to-one interview and focus group participants respectively, and 17 percent of in-depth interview compared to 5 percent of focus group participants were Guraghes, while a similar percentage of participants in both study categories came from Harari and other ethnic groups. With



regard to the marital status of participants in the study, 62 percent of focus group participants were single, compared to 42 percent from one-to-one interviews. Conversely, there were more ever-married participants in the one-to-one interviews than in the focus groups.

As Table 4.1 indicates, participants of in-depth interviews had on average 1.5 children, with minor differences in the figures between men and women. When we consider ever-married interviewees separately, this average rose to 2.5 children, with women having 2.7 children compared to men with 2.3.

#### **4.4.2 Attitudes towards reproduction**

Following Beaujot (1988), focus groups and individual interviewees were asked to provide explanations regarding why people have children. The question aims at identifying the values people usually attach to having children themselves as well as the values they assume for other people. The vast majority of participants in the study provided multiple reasons for having children both for themselves and for others.

The benefits people expect to draw from having children can be categorized in three broad categories, employing part of Bulatao's (1979) framework - *expected economic benefits/other instrumental assistance, psychological satisfaction, rewarding interactions*. Table 4.2 summarizes responses from focus groups to the question "why do people have children?" Table 4.3 presents percentage distribution of one-to-one respondents according to their responses to the question "why do people have children?"

**Table 4.2 Summary of responses from focus groups to the Question “why do people have children?”**

Attitude	Focus Groups					
	FGD-1	FGD-2	FGD-3	FGD-4	FGD-5	FGD-6
Reasons for having children	Men	Men	Women	Women	Women	Women
.To see oneself through children	–	×	×	×	–	–
.Children provide joy	–	×	×	–	–	×
.Support in old age	×	×	–	–	–	×
.Follow the will of God	×	×	×	×	×	–
.To continue the family tree	×	×	×	–	–	–
.To have inheritor/heir	×	–	×	–	–	–
.To have children is natural	×	×	–	–	–	–
.Strengthen love between couple	–	×	–	×	–	–

× - Mentioned by at least one participant

\* - Mentioned by majority or all participants

- No participant mentioned this

**Table 4.3 Percentage distribution of one-to-one interviewees, according to their responses to the Question “why do people have children?” by sex**

Attitude	Female	Male	Total
Reasons for having children*	(N=29)	(N=31)	(N=60)
.To see oneself through children	48.3	45.2	46.7
.Children provide joy	65.5	12.9	38.3
.Support in old age	34.5	29.0	31.7
.Follow the will of God	17.2	16.1	16.7
.To continue the family tree	10.3	19.4	15.0
.To have inheritor/heir	6.9	22.6	15.0
.To have children is natural	13.8	12.9	13.3
.Strengthen love between couple	20.7	6.5	13.3

\* Question that allows multiple responses

#### 4.4.2.1 Expected economic benefits and other instrumental assistance

Many of the responses, from both focus groups and individual interviewees, to the question why people have children, fall into the category of economic or instrumental benefits. The responses from male and female focus groups and individual interviewees refer to the benefits parents draw from children in terms of financial and emotional

support during old age. Participants also mention other instrumental aspects such as having heirs, continuing the family line and fulfilling God's will.

An important reason that emphasizes the value of children in terms of expected economic returns to parents relates to their importance in ensuring the livelihood and emotional support for aging parents. Focus groups as well as one-to-one interviewees identified expected economic and emotional benefits from children such as "*old age support*," "*continuing the family tree and having an heir*" as important motivations for having children. As Table 4.2 shows, these reasons were mentioned in half of the focus groups and particularly by men, the following comments being typical:

*Moderator:* Why do people want to have children?

*Respondent # 1:* First, humankind must carry on reproducing, otherwise life stops. The other reason is parents would like to have someone to care for them in their old age (FGD-2, Male, Addis Ababa).

*Respondent # 4:* I think having a child and reproducing one's likeness is the ultimate goal in life for most people (FGD-6, Female, Jimma).

In terms of gender differences, compared to female focus groups, "continuing the family tree" is more important for male focus groups. Anticipating "old age support" is also stronger among male focus groups and having children is considered as natural. On the other hand, women focus groups were more likely to emphasize reasons such as "seeing oneself through children."

As with the focus groups, one third of in-depth interview participants attached considerable value to financial, material and emotional support in old age, which people expect from their children. Children are the most important and dependable sources of old age security, as one interviewee argues in the following:

Why I wanted to have children is because they will support me in many ways, they will feed me, they will defend me and if I can, I will educate them (IDI-16, 35 years of age, married woman, Bahir Dar).

The implication here, typical for many other interviewees, is that one needs to have children regardless of one's ability to support them. This view sees children as a source of material and financial support. Individuals heavily rely on children for security later in life. As the following quotations show, other women and men in-depth interview participants justify having children along the same lines.

... to have a descendant, a successor. Children take care of parents in their old age. For myself, I will have someone who will take care of my funeral, be my namesake (IDI-44, married man, 38 years of age).

I know children are necessary. When I get older, relatives will not be there for me. So children are essential. It is also your child who inherits your property (IDI-50, single woman, 19 years of age).

Different people have different ideas about childbearing; some see giving birth as a way of reproducing themselves, some have children in order to have heirs and others have children as a source of wealth (IDI-06, married man, 38 years of age).

Elaborating on his own experience, the last respondent suggests that his own decision to have children is partly explained by mere accident and partly to submit to the will of his parents, something he feels obliged to do. He feels that giving grandchildren to his parents is something he owes them.

I had no special reason, becoming a father was not intentional. My family forced me. And I also considered having children as an obligation. I fathered three children, the first two in quick succession and the last one some time later (IDI-06, married man, 38 years of age).

Like the focus groups, the reasons “continuing the family tree” and “having inheritor” are more frequent among male one-to-one respondents compared to female

respondents. In one-to-one interviews “support during old age” is given as a more important reason by female respondents compared to male respondents, which is different from the results obtained from focus groups.

Replying to the question, “Why do you yourself want to have children?” most interviewees say that they want to make sure that they have someone to take care of them in the latter stages of their lives. This care is expected to last until their final hours and beyond. The question “who is going to take care of my funeral once I have gone” was raised by many when putting their case for having children. Two reasons for having children, *continuing the family tree and having an heir*, are predominant among male one-to-one respondents. *Continuing the family tree* is also observed as an important reason among male focus group participants.

In each of the focus groups, with the exception of FGD-6, participants argued that in reproducing, parents are fulfilling God’s/Allah’s will. For instance, participants from FGD-5 agreed that as gifts of Allah, children would be cared for by their creator. As a result, these participants said that some people had children motivated by such a notion. Other focus groups (FGD-1, FGD-2, FGD-3, and FGD-4) held a similar view. One in six in-depth interview participants, where women and men were equally represented, gave religious reasons when replying to the question why people had children. The following comments are from women and men interviewees.

... to follow the biblical words of God where He tells people to have children and populate the earth (IDI-01, ever married woman, 28 years of age).

It is God’s will that people have children (IDI-31, ever-married woman, 25 years of age).

People want to have children according to the dictates of Allah. He says be fruitful and multiply (IDI-39, single woman, 22 years of age).

They [people] see a child as a gift from God (IDI-11, married man, 34 years of age).

People want children because they are gifts from God (IDI-46, single man, 25 years of age).

For both focus group and one-to-one interview participants, obeying God's will is felt to be important motivation for having children as the above quotations suggest. As seen in Tables 4.2 and 4.3 "following the will of God" in having children is equally important for both men and women in focus groups as well as in-depth interviews.

#### **4.4.2.2 Psychological rewards**

Focus groups and individual interviewees mention three values in having children that indicate the psychological benefits parents expect to receive. These are, firstly seeing oneself in one's offspring, secondly, having children as an incentive to succeed in life and finally, having children as an indication that someone is able to shoulder responsibility. *Seeing oneself in one's offspring*, in particular, was prominent in both one-to-one interviews and half of the focus groups. Men and women focus group participants from two urban centers suggest that humans creating likenesses of themselves is quite natural (FGD-1, FGD-3).

A significant proportion of one-to-one interviewees elaborated on the importance of living on through one's children. Nearly half of the respondents used a local metaphor, which, literally translated into English, means: "to see one's eyes with one's own eyes." Both male and female respondents underlined the importance of "creating or having one's own likeness," "having an image of one's self," "having a name -sake."

People want to have children because they want to have their own replica (IDI-43, married man, 43 years of age).

To see oneself through one's children (IDI-58, married man, 37 years of age).

As the saying goes, to reproduce oneself and see one's own eye in one's child (IDI-01, single woman, 28 years of age).

People want to have children to see their own images and to leave their name and history to the next generation (IDI-14, married woman, 23 years of age).

The value of *living on in one's children*, as seen in the above quotations is the most important motivation for having children among one-to-one interview respondents (47%) (Table 4.3). It can be seen that a slightly higher percentage of female interviewees attached prominence to this value as compared to their male counterparts.

#### **4.4.2.3 Rewarding interactions**

A fair proportion of participants in the study suggested that the other reasons for having children were linked to the ideas of *children as a source of happiness* and *children as strengthening the love between the couple*. Among the focus groups, FGD-2 (men), FGD-3, FGD-4 and FGD-6 (all women) suggested that the value of children in terms of providing joy and strengthening the bond within the couple were important. The presence of children in a marriage was seen as strengthening the necessary cohesion between parents. Focus group participants indicated that childbearing is especially important to women, in that it guarantees them much needed acceptability on the part of the husband's extended family and contributed towards a peaceful married life. The following transcript from a focus group discussion conducted in Bahir Dar substantiates this issue.

*Moderator:* Why do people want to have children?

*Respondent # 3:* If couples don't have children, they won't have a warm marriage. The husband may divorce his wife if she does not give birth to a child.

*Respondent # 6:* ... If the wife does not give birth, the husband's family can disturb their peace (FGD-4, women).

A similar notion was held by male focus group discussion participants from the capital, Addis Ababa.

*Respondent # 5:* ... if you do not have a child, you won't be happy, however successful you are. Families without children are prone to divorce.

*Respondent # 6:* Having children is a symptom of health. It is also a matter of satisfaction... (FGD-2, men).

Over a third of in-depth interview participants (Table 4.3), of which women made up the majority, stressed that children are sources of happiness. According to these respondents, having children gives meaning to life as it puts a positive stamp on the relationship between parents. An interviewee who has completed her reproductive career has the following to say in this regard:

In a married life children are necessary. They cement the love between the parents. Children strengthen love. Married life without children is void (IDI-41, married woman, 49 years of age).

Respondents agreed that children can make one happy and "they let a parent forget all his/her troubles." Most respondents emphasized that children make a house full of life and it is a joy to see them playing around. A mother of seven and a grandmother with several children said that "a child is a precious jewel." By virtue of having a child, one is wearing a beautiful and valuable ornament. Then she asked, "Who doesn't want to have that?" Some respondents take the argument further and suggest that it is mandatory to have children for all the reasons mentioned:



It is a must to have a child in one's lifetime (IDI-55, single woman, 25 years of age).

We cannot afford to be without children (IDI-16, married woman, 35 years of age).

It is necessary for us, as human beings, to have children (IDI-34, married man, 30 years of age).

People should reproduce before they die (IDI-33, married woman, 27 years of age).

In general, the reasons for having children, as reiterated by both in-depth interview and FGD participants, are found to reinforce one another. This implies that as individuals and also when approached as a group, urban residents hold similar views on the question of why people have children. The value of having children was expressed in terms of economic, psychological and other benefits children are expected to provide to parents. Despite this general consensus, the relative importance in the values of having children varies according to gender. For example, the importance of children in uniting husband and wife in love within marriage is more often cited by women, particularly by in-depth interviewees. Children are portrayed as essential for a woman in securing greater love from her husband and winning his family's favour. For most men respondents, passing on their name and property to the next generation are more important.

#### **4.4.3 Attitudes toward large and small families**

Participants in this study were asked about their attitude toward large and small families. What they consider to be large or small and who they perceive as having a large or small family? Of the six focus groups, participants from two of them (FGD-2, men & FGD-5, women) reported that they considered families with six or more children as large, while two other focus groups (FGD-3, & FGD-4, women) considered those with four or more children as being large. Table 4.4 summarizes attitudes from focus group participants on large and small families.

**Table 4.4 Summary of attitudes on large and small family sizes, focus group participants**

Attitude	Focus Groups					
	FGD-1	FGD-2	FGD-3	FGD-4	FGD-5	FGD-6
	Men	Men	Women	Women	Women	Women
<b>Large family size</b>						
. 2-3	×	×	—	—	×	-
. 4-5	×	×	*	*	×	-
. 6+	×	*	×	×	*	-
<b>Attitude toward large families</b>						
. Approval	×	—	—	—	—	—
. Conditional approval	×	×	×	—	—	—
. Disapproval	×	×	*	×	—	*
<b>Who has large number of children?</b>						
. Low income & other disadvantaged groups	×	—	—	—	—	×
. Those with no formal education	—	—	×	×	*	—
. Highly religious/blessed people	×	*	×	×	—	—
. Family planning non users	×	-	-	-	-	-
. Rural residents	×	—	—	×	—	×
. Those with traditional values (e.g. a child can grow in its own fate)	—	—	×	—	—	×
<b>Small family size</b>						
. 1	×	×	×	*	—	-
. 2	×	×	*	×	*	-
. 3	×	—	—	—	×	-
. 4+						
<b>Who has small number of children?</b>						
. Family planning service users	×	×	—	—	—	—
. Educated people	×	×	×	×	×	×

× - Mentioned by at least one participant

\* - Mentioned by majority or all participants

- No participant mentioned this

A participant from one of the focus groups suggested that “if a family has a good income, it is OK to have up to six children, provided that there is a decent interval between births” (FGD-1, men, Respondent #3). A few focus group participants, especially men, said that if families had the financial means, even these numbers should not be considered large.

I would consider the number of children in a family large if that number cannot be financially supported (FGD-1, men, Respondent #1).

Over 50 percent of one-to-one interview participants shared the view of two focus groups (FGD-2 & FGD-5) mentioned earlier. These in-depth interviewees considered families with six or more children to be large (slightly over 60 per cent of women, as compared to 45 per cent of men). A few respondents suggested that two and three children already represented a large family. Table 4.5 shows the percentage distribution of one-to-one interviewees according to attitudes towards large and small families.

**Table - 4.5 percentage distribution of one-to-one interviewees, by attitudes toward large and small family sizes according to sex**

Attitude	Female	Male	Total
<b>Family size one considers large</b>	<b>(N=29)</b>	<b>(N=31)</b>	<b>(N=60)</b>
. 2-3	7.1	6.5	6.8
. 4-5	32.1	48.4	40.7
. 6+	60.7	45.2	52.5
<b>Who has large number of children?*</b>	<b>(N=29)</b>	<b>(N=31)</b>	<b>(N=60)</b>
. Low income & other disadvantaged groups	51.7	48.4	50.0
. Those with no formal education	65.5	12.9	38.3
. Highly religious people	34.5	29.0	31.7
. Family planning non users	44.8	19.4	31.7
. Those who doesn't understand what it takes to have and raise children	17.2	19.4	18.3
. Rural residents	27.6	12.9	20.0
. Those with traditional values & ideas	13.8	6.5	10.0
. Rich people	10.3	9.7	10.0
. Those in polygamous marriage/ have multiple sexual partners/ women with no household decision making power	10.3	3.2	6.7
<b>Attitude toward large families</b>	<b>(N=29)</b>	<b>(N=24)</b>	<b>(N=54)</b>
. Approval	3.4	12.5	7.5
. Conditional approval	17.2	20.8	20.8
. Disapproval	79.3	66.7	73.6
<b>Small family size</b>	<b>(N=25)</b>	<b>(N=26)</b>	<b>(N=51)</b>
. 1	12.0	23.1	17.6
. 2	48.0	30.8	39.2
. 3	8.0	30.8	19.6
. 4+	32.0	15.4	23.5
<b>Who has small number of children?*</b>	<b>(N=29)</b>	<b>(N=31)</b>	<b>(N=60)</b>
. Family planning service users	27.6	22.6	25.0
. Educated people	69.0	48.4	58.3
. Those who balance b/n their resources & the number of children they want to have	20.7	3.2	11.7

\* Questions that allow multiple responses

In this study, when participants were asked “Who has a large family?” focus group respondents suggested that people from rural areas, the less educated and those in the low income bracket are those with large families. Rural residents were seen as having large families, expecting economic returns from children and striving for social status through numbers. Another common reason given as to why rural residents have large numbers of children was that life is relatively inexpensive compared to that of urban areas. Focus group participants from Jimma posed a question that in good time and especially in the past, “What would rural residents buy except salt?” That refers to the fact that the only essential commodity entailing monetary exchange for rural residents is salt, which has to be brought from the outside, while other goods and services can easily be accessed from the surrounding areas at no or little cost. Participants from this same focus group agreed that the limited taste for consumer items and the relatively low cost of living that rural residents enjoy contribute to reproductive behavior which favours large families. In addition, the lack of information about the benefits of birth control is cited as one reason why rural people have large numbers of children, as compared to urban residents (FGD-1, men, FGD-4, women). Children, for rural residents, are still sources of farm labour and they can help the family in many different ways, which is a further reason for having a larger number of children.

Data from in-depth interview participants support views held by focus groups with regard to defining large families. One in five one-to-one interviewees (Table- 4.5) suggests that it is rural residents who have large families. One in two in-depth interview respondents say that “low income and other disadvantaged groups” (IDI-12, married man 45 years of age, IDI-09, single man, 25 years of age) have large numbers of children.

Men and women agree in almost equal numbers on this characterization of large families. Over one third of individual respondents suggest “illiterate people or people who lack formal education” as having large families. This is particularly the case for most women respondents. Less educated people are portrayed as lacking important information on family planning and power to make decisions on birth control. The respondents also hold the view that people with such backgrounds usually live in rural areas. The following interview transcript substantiates how a variety of factors work together to make someone have a large family.

People in rural areas are uneducated and do not use birth control methods... They do not see any disadvantage in having many children and even those who may want to use family planning lack the decision-making power to act on their own behalf. As a result they end up having large numbers of children (IDI-26, married woman, 26 years of age).

Highly “religious families and those whose wombs are blessed” are also among those that have large families, according to some focus groups and in-depth interview respondents. In four of the focus groups, male as well as female, participants strongly relate large families with religious affiliation, particularly with those who follow Islam.

*Moderator:* Who has large numbers of children?

*Respondent #2:* Muslims tend to have more children as a religious duty. They often marry more than one wife and have more children.

*Respondent #6:* It is a mechanism to make sure that their religion continues. That is why Muslims have more children.

*Respondent # 5:* It is because of culture and religion, particularly in rural areas, that people tend to have large families. Those who follow a certain religion might be against family planning. As a result they end up having many children. The uneducated, those with low incomes and the unemployed may also have more children (FGD-2, men).

About a third of one-to-one interviewees (Table 4.5) suggest the motivation for having large families as being God's will, i.e. related to an individual's religious orientation. Two interviewees say that:

People who have children are those who are blessed by God... those who are blessed to propagate their seed (IDI-44, married man, 38 years of age).

People who have many children are blessed by God. This is what I say (IDI-45, married man, 43 years of age).

Unlike the focus groups, only a few one-to-one interviewees particularly relate the motivation for a large family with Islam. For example, an interviewee said that "Muslims have large numbers of children because their religion allows the men to have more than one wife" (IDI-07, married man, 50 years of age). Although very few in-depth interview respondents particularly associate being Muslim with having a large family, for the majority it could be the case for Christians or persons of any denomination. The focus group participants are the ones that strongly associate Muslims with large families.

Family planning non-users are identified by one focus group while nearly a third of individual interviewees (more women than men) mention this group of people as those with large numbers of children. Maybe this reason is so obvious that it is not mentioned by other focus groups and the majority of one-to-one interviewees. Participants from FGD-6 suggest that sometimes husbands also force their wives not to practice contraception, another cause of eschewing family planning.

Focus group participants from Jimma stated that traditional values and attitudes such as "once a child is born, bringing up is no problem" would induce certain families not to worry about controlling their fertility. A focus group member from FGD-3 [female] commented that "people may think that rearing a child is demanding only at

infancy and after a while children help themselves and their parents too” (Respondent # 2, women, FGD-Addis Ababa). Those embracing such a notion find family size limitation less important. Some one-to-one respondents also support this idea, suggesting that there are people who think and act on the principle that “a child grows anyway, following its own destiny.”

Some one-to-one respondents judge those with large families negatively, accusing them of “careless or irresponsible” behavior. According to these interviewees, some families do not have much idea of what is required to rear children. One interviewee mentions that:

some are even more irresponsible, for example people on the streets and the visually impaired go for having children, anticipating help from them, using them as guides (IDI-03, single man, 25 years of age).

Another respondent also states that:

...those who are drunkards, those who do not love their wives, and those who are not serious enough to foresee the future have many children (IDI-17, married woman, 40 years of age).

The respondents above hold the view that people should find the balance between the resources they have and the number of children they want. In addition, they are of the opinion that parenthood is a responsibility and one should accept it only if one is sufficiently capable.

Very few individual interviewees mention rich people, those in polygamous marriages or with multiple sexual partners as having large families. Rich people are mentioned by focus group respondents as having large families. However, the poor and underprivileged were seen more often than the rich as having larger families. Some study

participants see no connection between being rich or poor and having large numbers of children. For example, a focus group participant suggested that:

...it is not because people are poor or rich that they have many children. This depends on the interest of individuals. Sometimes people continue to have children in order to meet their [children's] sex composition goal (FGD-6, women, Respondent # 4).

Participants from the same focus group believed that in the past free aid (food items and certain materials) played a role in encouraging people to have more children. This was not mentioned by respondents from other towns.

*Moderator:* It has just been mentioned that the provision of aid encourages the poor to have more children. How can this be the case?

*Respondent #1:* In the past anyone who was able to produce proof of being poor, from the local (Kebele) administration, was entitled to receive aid. The free gift varied according to family size and those with more children received more.

*Moderator:* So do you think this encouraged some to have more children?

*Respondent #1:* Yes.

*Moderator:* How about now?

*Respondent # 3:* It is no longer the case [all agreed]. Lately the focus has been on those who have lost their parents due to AIDS. At the same time they [the local administration and aid agencies] have divided the community into three groups, firstly, those who have nothing, secondly, those who just get by and the last group includes those who are comparatively well-off. Free gifts [aid] are given only to AIDS orphans and maybe to those in the second group (FGD-6, women).

It is widely known that Ethiopia is still one of the recipients of emergency and development aid from bilateral, multilateral and private sources. There are arguments at least in the community of development workers and sometimes among the general public that free handouts of aid have created dependency. However, it is not clear whether the distribution of emergency assistance has contributed to change in reproductive behavior.

Another point on which participants were asked to comment was their opinion on large families and whether having a large family was advantageous to parents. Ideas



pooled in the six focus group discussions with regard to people's attitudes towards large families show little consensus (Table 4.4). For instance male focus group participants from Addis Ababa evaluated large families in relative terms. That is to say, if families can afford to raise their children well, having a large family might be advantageous. One of the participants brought a saying into the discussion that goes, "One child is for one day," which implies that a small number of children is disadvantageous for a family. However, the same participant also mentioned that families with many children do not always benefit. Members of this focus group held the view that large families should be seen in relative terms, i.e. having many children could be advantageous to some but not to others.

Male focus group participants from Nazareth favour the idea of rich people having large families. Making his case, one of the participants in this group said that "if a family owns a wide range of business establishments, instead of hiring outsiders their own children could be in charge of each of these, thus increasing family income. Or in situations where children work for employers they could support their parents financially." Although some participants shared his view, one participant contested the idea of "children from rich families supporting parents." In general, male focus groups approved of large families under certain conditions. On the other hand, women participants from Addis Ababa were not in favour of large families, for reasons seen in the following:

*Moderator:* What do you think of large families? Do you see any advantages or disadvantages for those who have large numbers of children?

*Respondent # 1:* I think it is disadvantageous because the children could lack proper education and other essential care. It may be difficult even to feed them.

So it is disadvantageous to have lots of children, especially for families of low economic status.

*Respondent # 2:* If a family is economically better-off, it is not bad to have more children but if they are poor it is not good to have a large family.

*Respondent #3:* I would say that even if a family has a good income, having more children is not advantageous because parents may not be able to give proper care to their children.

*Respondent # 4:* Parents would not have enough time for their children even if they could cover the expenses. So children may not get enough love and attention from their families (FGD-3, women).

As seen from the remarks above, women participants associate the economic well-being of families with the number of children they have. As they argued, it may be possible for families with a strong economic base to have a large number of children (which was also an argument forwarded by men). However, the issue of raising children is seen as going beyond its financial implications. Children need to get love and attention from parents, which implies the availability of another important resource - time. Participants felt that it would be difficult for parents to find enough time for child-rearing, when the number of children in a family is large.

The attitudes of in-depth interview participants towards large families provided a clearer picture. About 74 percent of one-to-one interviewees disapproved of large families, nearly one out of five respondents gave their conditional approval, while a small minority gave outright approval. In disapproving of large families, respondents largely based their argument on economic feasibility and to a lesser extent on the issue of women's health. Most respondents argued that current earnings are not sufficient to even modestly support more than a limited number of children. Unlike in the past, nowadays children needed to be schooled, well fed and there are also transport and health-related expenses. Thus, bringing up children in the ever expanding urban way of life is seen as an economic burden compared to former times:

People who have many children are illiterate people and those who have not taken their income into account. As a result they end up having more children than they can support. Children need to be educated, fed, clothed... etc. If children are deprived of all these things, maybe parents are having them beyond without being able to take good care of them (IDI-38, married woman, 25 years of age).

After these discussions on large families, participants were asked to define what they thought was small and to identify who has such families. Small families were identified by almost all focus groups as those with one or two children (Table 4.4). In contrast to the response they gave in defining those with large families, focus groups easily agreed on what constituted small family size. In all the discussions held in the five towns, respondents remarked that it is educated people and those who used family planning who have smaller families. Education was considered to be the most important factor in exposing individuals to new ideas, one of which was the advantage of regulating one's own fertility. The rich were identified more with smaller families than with large ones, as the following comments from various focus groups show:

The rich and the educated sections of society have limited numbers of children because they want to have more time for their own (FGD-5, women, Respondent # 2).

Those who are educated and those who get access to information and see the benefits of family planning have less children (FGD-2, man, Respondent # 5).

When we look around, families who are well educated, from the higher class [the rich] have less children than the poor (FGD-1, man, Respondent # 2).

Educated couples have fewer children because they have longer intervals between births and they are more concerned about the future of their children. These individuals are more concerned to provide good things for their children (FGD-6, woman, Respondent # 1).

As with the focus groups, families with two children are defined by over one third of individual interviewees as small, while one out of five respondents consider families with 4 or more children as small. Nearly half of the female individual respondents consider families with two children as small, while about a third of the men consider this number small. Women are more likely than men to consider families with 4 children as small. The majority of one-to-one interviewees state that educated people often have small families (women are more likely to attribute small family size to being educated). Not surprisingly, family planning users are also seen as having small families. Those who are able to balance their resources with the number of children they want to have also have small families, according to some respondents. Clearly, respondents comment more favourably on small families than large ones, but a quarter sees four and more as still being a small family.

In general, female focus groups tend not to favour the idea of large families, unlike their male counterparts. Rural residents, the less privileged, the uneducated and those who do not use family planning are seen by both focus groups and individual interviewees as being more likely to have large families. On the other hand, there is some support for the idea that people with small families are better educated and have a higher standard of living. In the case of Ethiopia, education often means an urban living environment, relatively good access to services and information, aspiring to ascend the social ladder as well as having the opportunity to work to this end. Educated people see the importance of managing available resources in order to gain the best possible future for their children.

#### 4.4.4 Expected and ideal numbers of children

Participants of this study were asked about the current number of children they had, how many children they expected to have and what they considered the ideal family size, either for themselves or for others. Since the focus group discussions omitted some of the questions relevant to individuals, participants were only asked what they considered the ideal size for a family. No focus group suggested an ideal family size with more than four children. For most participants of the focus groups, four was a good number for a family to have while others chose two as the ideal family size. However, they approved of this number provided that the family is able to support them all. The number four is also chosen by many because it implied a good mixture, i.e. each child would have a brother and a sister. The focus groups who mentioned two as the ideal number were also significant and almost all of them expressed the wish for one boy and one girl. Having only one child was considered by focus group participants as “too risky because something could happen to him/her,” as the following comment shows. That is, there is a risk of child mortality.

...as my friend said earlier ‘one child is for one day’. If something happens to that child it might be difficult to have and raise another one. It is better to have more before it is too late” (FGD-2, men, Respondent #1).

Unlike focus group participants, in-depth interviewees were asked to name their expected and ideal number of children. Table 4.6 shows the mean expected and ideal numbers of children for female and male one-to-one-interviewees. The average ideal number of children for all in-depth interview participants was found to be 3.1 children, with average figures of 2.8 for men and 3.3 for women. These numbers are lower than the findings in the 2000 DHS, where the average ideal family sizes were 4.3 for men and 4.1

for women from urban areas (CSA & ORC Macro, 2001:93). Mean ideal numbers of children for ever-married respondents show close resemblance to the figures from all respondents (see Table 4.6). As with the focus groups, ideal numbers of two and four were the most common, with over half of the men saying two and about 60 percent of the women saying four children was ideal.

**Table 4.6 Average expected and ideal number of children for all and ever-married one-to-one interviewees (number of persons in brackets), for five major urban areas**

Average number of	All interviewees			Ever-married interviewees		
	Female	Male	Total	Female	Male	Total
Expected children	3.2 (28)	2.7 (29)	3.0 (57)	3.6 (16)	2.8 (16)	3.2 (32)
Ideal children	3.3 (24)	2.8 (27)	3.1 (51)	3.6 (14)	2.8 (14)	3.2 (28)

When asked to justify their answers, most respondents gave cost-related reasons. They stated that the number of children they had mentioned as ideal was the number that fit their budget, thus guaranteeing better care for them (see Table 4.7).

**Table 4.7 Percentage distribution of one-to-one interviewees according to their responses to the question “why ideal?” by sex**

Attitude	Female	Male	Total
<b>Why ideal?*</b>	<b>(N=29)</b>	<b>(N=31)</b>	<b>(N=60)</b>
. because this number fits my budget and allow me to provide good care to my kids	41.4	38.7	40.0
. for balanced sex composition	20.7	16.1	18.3
. some may die	3.4	3.2	3.3
. for the sake of mother's health	3.4	3.2	3.3

\* Question that allows multiple responses

The second most important reason given by respondents as to why they considered a certain number of children ideal for them was for the purpose of achieving a desired sex composition of children. This reason also gained prominence among focus group participants, as seen above. Among the one-to-one interviewees who mentioned 2 or 4 children as their ideal, most of them attached importance to the sex composition of their children. Where some respondents wavered between two numbers, most said that they decide on the higher number only if their income has increased sufficiently to support an additional family member.

When asked about the size of the family they expected to have, respondents said that on average they expected to have 3 children, with women anticipating more children than men. The mean expected number of children for ever-married interviewees was 3.2 children. Ever-married women anticipated on average 3.6 children compared to ever-married men with 2.8 children. Five per cent of all in-depth interview respondents said that the number of children they would have up to the end of their reproductive life span was “up to God.” Four out of five respondents stated that they expected to have either 2 or 4 children. These respondents indicated that the number they expected to achieve is the most they can support given their economic situation. Some of them explained that they “can’t afford beyond that number,” others also mentioned that attaining a balanced sex composition came into play when specifying 2 or 4 expected number of children. The health of the mother was also mentioned by some to justify the number of children they expected:

I want to have two children because I want to give them the best. The other reason is I do not want to see the pain the mother has to go through during labour (IDI-47, married man, 36 years of age).

I do not think I can manage beyond that number [2 to 4]. If it is below that number, they lack brother and sister (IDI-46, single man, 25 years of age).

With this number they will have enough things for their needs. That is food, clothing, education etc. (IDI-25, married man, 25 years of age).

This is because I want to send my children to good schools, and to invest what the family has in those children. To make sure I have one of each sex, if I have one girl and one boy, then I will stop at two. But if the first two happen to have the same sex, I will add one more, but not more than three altogether (IDI-01, single woman, 28 years of age).

For example, now I have a son. But I want him to have a sister. If I have two boys and two girls, everyone will have brother and sister (IDI-38, married woman, 25 years of age).

The ideas expressed to justify the size of the families the respondents expected, as shown above, correspond to the responses they gave when justifying their ideal number of children. Overall, urban residents choose about three children as their expected and ideal family sizes, a figure which is slightly above the average number of children they currently have. The number indicates that urban residents prefer small family sizes. The figures for expected and ideal number of children for all and ever-married respondents are very close to each other. The average ideal number of children given by focus groups and one-to-one interviewees is also almost identical. Participants in this study (both focus groups and individual interviewees) emphasize aspects such as reaching a desired sex composition goal, allocating a relatively good amount of resources to each child and balancing family size with economic capacity, when justifying their choice of ideal and expected family sizes. Participants are skeptical about being able to provide their children with the basic necessities, if they have too many children. A small group of participants in this study, preferring not to give a definite number, replied that it is “up to God” to decide on the number of children that families have.



#### 4.4.5 Remaining childless

Participants of this study were specifically asked their opinion on not having any children at all. The question was worded as “What do you think of not having any children at all? Would individuals/couples benefit from this or be disadvantaged?” The table below contains a summary of one-to-one respondents’ attitudes on remaining childless.

**Table 4.8 Percentage distributions of one-to-one interviewees, by attitudes toward remaining childless by sex**

Attitude	Female	Male	Total
<b>Attitude toward not having children at all</b>	<b>(N=27)</b>	<b>(N=22)</b>	<b>(N=49)</b>
. Beneficial to couples/individuals	3.7	0.0	2.0
. Not-beneficial to couples/individuals	85.2	95.5	89.8
. Has neither advantage nor disadvantage	11.1	2.1	8.2
<b>Circumstances people may/should not have children*</b>	<b>(N=29)</b>	<b>(N=31)</b>	<b>(N=60)</b>
. When couples are financially/economically constrained	55.2	41.9	48.3
. Can't think of remaining childless under any circumstance	17.2	25.2	21.7
. When there are health concerns to either spouse	13.8	22.6	18.3
. If the relationship is not working	24.1	6.5	15.0
. It might be the work of God	3.4	6.5	5.0
. Personal choice	6.9	0.0	3.3

\* Question that allows multiple responses

In all focus groups, participants agreed that not to have children is not advantageous at all. Similarly, as Table 4.8 shows, 90 percent of one-to-one interviewees disagreed with the idea of not having any children at all. While four out of five women were opposed to the idea, it was 95 percent of men that disagreed.

Focus groups argued that a “family could not be happy without children.” In addition, children were considered necessary for keeping the love between spouses intact, as heirs to the family wealth and supporters for parents during old age. In marriages where there are no children, couples would miss all these things and remain disadvantaged.

*Moderator:* What do you think of not having children at all? Would families benefit or would they be disadvantaged?

*Respondent # 4:* Not having children is difficult. When husband and wife sit together they need to have children around them to make the room full of life.

*Respondent # 3:* If there is no child in a family, in the future, who is going to inherit the wealth they have?

*Respondent # 6:* If you have a child you spend a lot of time with her/him and you don't roam around without purpose. You are obliged to be focused. So having a child is advantageous.

*Respondent # 2:* The other important reason is that people who don't have children may give up easily on simple things/challenges in life, but if they have children they will do anything to succeed for the sake of their children (FGD-4 women).

Individual interviewees emphasized that remaining childless is an undesirable phenomenon that could happen to couples. The consensus, from both one-to-one interviewees and focus groups, was that there should be at least one child in a family. The disadvantages of being without children as mentioned by participants included loneliness, lack of status and respect in the community. The burden of remaining childless is especially hard on women due to the cultural and traditional outlook of the community. This is despite the remarks by most participants that some families remain childless due to infertility problems, which could be attributed to the man, the woman or both.

When focus group and one-to-one interview participants of this study were further probed to think of any more scenarios where people should not have children, they gave responses that implied risk avoidance (Table 4.8). Two focus groups acknowledged that

couples could remain childless voluntarily if they agreed to do so. In Harar, a woman focus group participant stated that “a couple may agree not to have children in order to have better lives for themselves” (Respondent #1), while another respondent from the same group argued “people may decide not to have children until they make sure that they have accumulated all the essentials for a child’s sound upbringing” (Respondent #2).

The reactions from in-depth interview respondents were also in line with the views reflected by focus groups. Almost one out of two interview respondents mentioned that in a situation where people are financially constrained and unable to take proper care of children, it is better not to have any at all. This reason was much more important to women than men. The following excerpts from interview transcriptions substantiate how people in urban areas place major emphasis on the necessity of being financially sound in order to assume the responsibility of raising a family.

Yes, there are many factors why individuals or families may consider not having children. The first reason is poverty. They may belong to the low income group. For example, the husband may be a labourer and the wife might be working as a maidservant. I think it is better when such people do not have children. I want them to live together without having a child (IDI-41, married woman, 49 years of age).

The primary reason is poverty. If they do not have enough income to raise their children, it is no use having children. It is good to have a child if you have income (IDI-39, single woman, 22 years of age).

It is better if poor families don’t have children but paradoxically it is the poor that are having more (IDI-35, single man, 19 years of age).

We see some families that are unable to give proper care to their children and we sometimes wish that they hadn’t had them (IDI-29, married woman, 27 years of age).

If the family is living in severe poverty, it is better not to have children because if they can’t provide education for their children, it is better not to have them in the first place (IDI-10, single man, 35 years of age).

The opinions of focus groups and individual interviewees regarding possible scenarios where it would be better not to have any or additional children revealed that many disapproved of people having children when they were living in poverty or in dire financial straits. Participants held the view that risk and uncertainty reduction should be part of the decision-making process in family building strategies. The first uncertainty is the perception that childbearing might jeopardize the parents' self-advancement, the second one being that having a child without making sure that there are adequate resources put the child's upbringing at risk.

Participants also mentioned that remaining childless might be preferable for people in poor health and in poor relationships. A common view among focus group participants, regarding circumstances where it is preferable not to have children at all, was in a situation where either of the couple is HIV-positive or otherwise ill. This view was shared by individual interviewees as well. Approximately one out of every five interviewees (Table 4.8) was of the opinion that in a situation where there is significant health concern on the part of either of the spouses (examples cited were people with HIV/AIDS and those with long-term disability) it would be better to remain childless. The health concern scenario was more important among men than women, as Table 4.8 shows. Another scenario proposed by both focus groups and individual interviewees for not having children was if they are in relationships that are not working as they should (much more important to in-depth interview women, where a quarter emphasized this).

Surprisingly, even after being probed, a significant minority of participants could not conceive of the idea of being childless. This was especially true of in-depth interviewees. One out of five individual interview respondents replied that "they cannot

think of any scenario where couples/individuals should remain without children.” Unlike women, it was men who could not think of any scenario where other couples or individuals would be better off by remaining childless. The following excerpts substantiate this:

I could never accept married life without a child (IDI-07, married man, 50 years of age).

There must be at least one or two children in a marriage. It is not a good thing to be childless (IDI-58, married man, 37 years of age).

I never wish a family to be childless. If someone has no child, it means that he/she has not continued the line. Who is going to inherit the wealth? (IDI-12, married man, 45 years of age).

No, there is no such instance at all. I would like everyone to have at least one or two children (IDI-02, married woman, 34 years of age).

No I can't think of such instances. Families should have at least one child (IDI-26, married woman, 26 years of age).

Even in situations where respondents had some reservations on couples/individuals having children, they were still in favour of at least a minimum number for everyone. The following quotation from an interview conducted with a single woman who was yet to start childbearing shows an opinion shared by a few others. This respondent expects to have two children, with an ideal family size of four.

Yes, it is not proper for people to give birth when they do not have enough means to feed a child. As the Amharic proverb goes, it is like “*having mumps on top of goiter*.” Whatever the circumstances a person must have a child. There is no love without children. One must give birth. Let providence take the child's fate in its hand. One must reproduce (IDI-43, single woman, 28 years of age).

Opinions such as the above seem contradictory. That is to say, some respondents question the economic capability of some families necessary for rearing children properly but support the idea of having children regardless. Here one can observe the deeply

entrenched ideas of “a child follows its own destiny,” a view which is not uncommon among Ethiopians.

In general, only rarely did participants consider remaining childless as being due to personal choice or “the will of God/Allah” (see Table 4.8). Childlessness, whether voluntary or involuntary, is not something with which the societal norm feels comfortable. Society sympathizes with couples when it is openly known that they cannot reproduce for some reason, despite their strong wish to become parents. The involvement of others may range from suggesting traditional and modern ways to help couples to become parents, to putting pressure on them to split up and end their marriage. Women in relationships that bear no children are particularly disadvantaged.

The overall consensus is for everyone to have at least one or two children. At the same time, respondents make exceptions in some cases where they are not certain children will be cared for well. Most participants remarked that those who cannot provide proper child care due to economic incapability or poor personal health would be better off avoiding childbearing. This also applies to commercial sex workers and poor people on the streets. Despite the economic factors that favour a change in the fertility behavior of couples, voluntary childlessness is not within the realm of choice. As observed in the section that dealt with opinions on small and large family sizes, participants were in favour of small families rather than remaining childless. Thus, childbearing is valued to a greater extent, while keeping the number of children per family small to allow maximum available resources per child is emphasized. In a situation where a child’s sound upbringing and parental self-fulfillment are less guaranteed, participants favour employing a “wait and see strategy,” both for others and for themselves.

#### 4.4.6 Fertility regulation

It has been widely documented that contraceptive use and abortion are among the most important proximate determinants of fertility. Previous research has shown that, in the case of Addis Ababa, the role of contraception was not as important as other factors as a cause for the below-replacement level of fertility in the city (Kinfu, 2000, 2001).

This study has examined the role played by contraceptive use and abortion in the change in the fertility levels of urban areas. Assessing the knowledge, attitudes and practices of respondents has been of great help in this regard. Tables 4.9 and 4.10 contain responses from focus groups and one-to-one interviewees on fertility regulation issues.

**Table 4.9 Summary of attitudes towards family planning and abortion by focus groups**

Attitude	FGD-1 Men	FGD-2 Men	FGD-3 Women	FGD-4 Women	FGD-5 Women	FGD-6 Women
<b>Attitude toward family planning</b>						
. approval	*	×	*	*	*	*
. disapproval	-	×	×	-	-	-
<b>Attitude toward men's family planning use</b>						
. Approval	×	×	-	-	-	-
. Disapproval	×		×	-	-	-
. Conditional approval	-	×	×	-	-	-
<b>Does your religion support family planning?</b>						
. yes it does	-	-	-	-	-	-
. no it does not	*		*	*	-	-
. not sure	×	-	-	×	×	-
<b>Induced abortion in urban areas is</b>						
. common practice (I know someone)	-	×	*	×	×	*
. less common	-	-	-	-	×	-
. I do not know	-	-	-	×	-	-
<b>Legalizing abortion</b>						
. in favor	-	-	-	-	×	-
. not in favor	-	-	*	*	×	-
. conditional agreement	-	-	-	-	-	-

× - Mentioned by at least one participant

\* - Mentioned by majority or all participants

- No participant mentioned this

**Table - 4.10 Percentage distribution of one-to-one interviewees by attitudes toward family planning and abortion, by sex**

	<b>Female</b>	<b>Male</b>	<b>Total</b>
<b>Attitude toward family planning</b>	<b>(N=29)</b>	<b>(N=25)</b>	<b>(N=54)</b>
. Approval	100.0	88.0	94.4
. Disapproval	0.0	12.0	5.6
<b>Family Planning service</b>	<b>(N=27)</b>	<b>(N=25)</b>	<b>(N=52)</b>
. User	44.4	60.0	51.9
. Non-user	55.6	40.0	48.1
<b>Attitude toward men's family planning use</b>	<b>(N=26)</b>	<b>(N=24)</b>	<b>(N=50)</b>
. Approval	73.1	45.8	60.0
. Disapproval	26.9	37.5	32.0
. Conditional approval	0.0	16.7	8.0
<b>Does your religion support family planning?</b>	<b>(N=29)</b>	<b>(N=26)</b>	<b>(N=55)</b>
. Yes it does	44.8	15.4	30.9
. No it does not	27.6	57.7	41.8
. Neither support nor reject	17.2	19.2	18.2
. Not sure	10.3	7.7	9.1
<b>Induced abortion in urban areas is</b>	<b>(N=29)</b>	<b>(N=23)</b>	<b>(N=52)</b>
. Common practice (I know someone)	72.4	87.0	78.8
. Less common	17.2	4.3	11.5
. I do not know	10.3	8.7	9.6
<b>Legalizing abortion</b>	<b>(N=28)</b>	<b>(N=26)</b>	<b>(N=54)</b>
. In favor	35.7	34.6	35.2
. Not in favor	53.6	46.2	50.0
. Conditional agreement	10.7	19.2	14.8

#### 4.4.6.1 Family planning

Focus groups as well as one-to-one interviewees throughout the five urban centers gave their approval on the use of family planning services (see Tables 4.9 & 4.10). The consensus among participants was that contraception would help individuals to find a balance between available resources and their family size. A focus group participant from Addis Ababa said:

...it is also useful to restrict birth until the time is appropriate for someone who wants to start a family or have an additional child (FGD-3, women, Respondent # 3).



In a similar way, another respondent from the same focus group noted:

...in families where there is large number of children we see that parents are unable to provide proper care. As a result, children are forced on to the streets and get involved in prostitution and other unwanted activities. Thus, family planning is very important in reducing such problems; it contributes towards stability (FGD-3, women, Respondent # 5).

As with participants in the focus groups, most in-depth interview respondents support the idea and practice of contraception. All women and the majority (88 %) of male respondents approve of family planning services (Table- 4.10). Among the ideas that recur from one interview to another in support of family planning are that it enables one to limit or regulate births, that it helps to create a balance between the number of children and family resources, and that it is also good for the nation's socio-economic development.

Although the majority of focus group members and one-to-one interviewees were in favour of family planning, there were a few voices that opposed the use of contraception. Disapproval of male contraceptive methods was particularly high. Just over a quarter of female one-to-one respondents disapproved of male sterilization. Likewise, slightly over half the men who gave their approval to family planning use disapproved of male sterilization. Thus, only about 73% of women and 46% of men fully approve of contraception that targets both genders. The following comments from focus group participants represent the dissenting voices on contraceptive use:

I do not support the use of contraception. This is in God's hand and it should remain that way, not in ours (FGD-3, women, Respondent # 2).

In some ways it is good, in others it is bad. Overpopulation is not our problem; it is the system that is the problem. Especially with the alarming rate of HIV/AIDS infection, it worries me to whom we are going to leave this country behind (FGD-2, men, Respondent #6).

From among one-to-one interviewees, some 5 percent (all of them men) shared the views contained in the above excerpts. These respondents stated their disapproval of family planning use on religious grounds as the following quotations show:

I do not support family planning because God commands us to be fruitful and increase in numbers (IDI-49, married man, 46 years of age, with 4 children. He replied, "It's up to God" when asked about the number of children he expected to have.)

I do not support family planning, because it is meddling in God's work. It is blasphemy (IDI-44, married man, 38 years of age, with 6 children. He is also quoted as saying, "It's up to God.")

In the case of those who strongly oppose the idea and practice of family planning, their opposition often has its roots in their religious orientations, as the above comments from focus groups and individual interviewees indicate. On the other hand, a few others also mentioned doubts about supporting contraception, considering the high rate of HIV/AIDS infection and prevalence that will continue to claim many lives in the coming years. Despite the high level of approval for family planning, the majority admit that it is not practiced as much as it should be. Among in-depth interview participants, only 52 percent of respondents (44 % women and 60 % men) claim to use family planning (Table 4.10). This discrepancy might arise due to the inclusion of many people in the sample who are not married and have not yet started a family. But this argument does not make much sense, if these individuals are sexually active, in which case the practice of contraception should be higher.

In an attempt to assess the role of religious institutions in determining how the individual uses contraception, participants were asked where their religious leaders stood on the issue of contraceptives. In three of the focus groups, participants indicated that the

use of family planning is not supported by their respective religions, while others said they could not tell for sure. While 42% of one-to-one respondents suggested that contraception is not supported by their religion (twice as many men said this than women), about a third of them argued that their religion supports the practice (three times more women said this than men). Nearly one in five one-to-one respondents mentioned that their religion neither supports nor rejects the idea of family planning and one in ten respondents were not sure about it.

Another possible reason for the low use of contraception could be the reluctance of individuals, as the following interviewee (a small shop owner from Addis Ababa) suggests:

People are reluctant when it comes to family planning. Perhaps it is not more than 10 to 15 per cent [according to the 2000 Ethiopian Demographic and Health Survey in urban areas, it is about 28%]. For example, I have condoms in my shop but people do not buy them. Even if they do, they buy them in the evenings [so as not to be seen by others] and they often send kids to get them. This shows that the attitude of society has not been changed when it comes to using contraceptives, although they appreciate the service... I used to talk to people about family planning and encourage them. Because I am not married, they were not willing to talk to me so I stopped doing that. I think family planning services are essential for this nation if we want to follow in the footsteps of countries that are free of poverty and famine (IDI-09, single man, 25 years of age).

In general, very few participants expressed reservations about contraceptive use. Most participants described the use of contraception as useful, adding that even more needed to be done to increase service coverage.

#### **4.4.6.2 Abortion**

In a situation where contraceptive use is not widespread, it is reasonable to expect a high incidence of induced abortion. The prevalence of abortion in a society has its

impact on both the individual and aggregate levels of fertility. The degree to which abortion is practiced can also indicate the latent demand for contraception. Apart from a few hospital-based studies (Yoseph 1989, Bekele 1991), there are no studies that have investigated the impact of abortion on fertility rates in Ethiopia. The present study includes questions that help to ascertain how common abortion is in urban areas. It also includes questions on the reasons why people resort to abortion, and respondents' attitudes towards legalizing abortion. According to the current Ethiopian law, abortion is illegal unless it is done for strictly defined reasons. The law makes some provisions if the pregnancy is considered to be a health risk to the mother.

In almost all focus group discussions, with the exception of a few participants, the majority replied that induced abortion is a common practice in urban areas. Most of them explained that they knew someone who had in the past undergone the procedure. Participants also said that they knew people in their respective communities that provided backyard abortion services:

Yes abortion is common. Women resort to abortion because they fear exclusion from the community if they have a child outside of marriage (FGD-3, women, Respondent # 1).

Abortion is common among commercial sex workers and students. A student carrying pregnancy to term means discontinuing her education. Furthermore, students are afraid of their parents' and the community's reaction at large (FGD-4, women, Respondent #3).

The majority of one-to-one interviewees agree with focus groups when stressing the widespread practice of induced abortion in urban areas. Four out of five in-depth interview participants suggest that induced abortion is common practice (see Table 4.10)

and they know someone who in the past underwent the procedure (more men than women suggest this). One woman mentions that she has experienced induced abortion herself and she also knows others who have gone through with it.

Yes it is common. I know other women who have gone through with it and it has also happened to me. People resort to abortion when they realize that they cannot raise the child properly (IDI-04, married woman, 25 years of age).

Unprotected sex and in some cases rape might lead to unwanted pregnancy. Focus group participants suggest that pregnancy might also occur because a woman lacks a basic sex education, an idea shared by many in-depth interviewees. As mentioned by many one-to-one respondents, Ethiopian society does not approve of childbearing outside of marriage. Women are afraid of the exclusion, embarrassment and unfair treatment from the neighborhood and from their immediate family members. Due to lack of support from all these groups, if they get pregnant before marriage, many women resort to induced abortion. Although the societal norm disapproves of having a child before marriage, this norm applies more to women than it does to men.

Although the majority of individual interviewees and all but one focus group knew someone who had undergone induced abortion in the past, only a third of one-to-one respondents and only one focus group were in favour of legalizing abortion. Some 15 per cent of respondents conditionally approved of legalizing abortion. Half of the in-depth interview participants opposed the idea, where more women than men were against making it legal. Similarly, three focus groups were not in favour of legalizing abortion.

The debate about whether the government should consider legalizing abortion has already begun and there are women activists and a few civil society groups that are currently promoting the idea of legalizing abortion. Despite the absence of legislation, at

least in the capital, there is a rumor that one private hospital has been providing the service for quite a while. In the same manner, in most other major urban centers, another Non-Governmental Organization has also been providing a procedure which is “close to but not exactly” abortion, as the organization puts it. In one focus group, all the participants are well aware of this fact and in their eyes, the NGO is providing nothing other than “abortion services” (FGD-6, women). Although participants call the service offered an “abortion service,” the organization claims that it is carrying out something called MR (Menstrual Regulation).

If we consider together those who are in favour and those who conditionally approve of legalizing abortion, we can observe that one-to-one respondents are split down the middle on this question. That is to say, respondents show mixed feelings. Some say that instead of forcing people to seek the help from backyard abortionists, who often employ unsafe procedures, it is better to make it legal and provide a safer service. Others oppose the idea and alternatively call for sex education, access to contraception and even having a child rather than undergoing abortion.

The comparatively low level of fertility in urban centers compared to that in rural areas encourages one to ask whether the practice of induced abortion is used as possible alternative. This question gains credence if the majority of participants state that induced abortion is a widespread practice in urban areas. Thus, in the case of the urban areas of Ethiopia, at least for the time being, induced abortion seems to be playing a significant role in regulating fertility in conjunction with modern contraception.

#### **4.4.7 Perception of fertility decline**

As indicated in the introductory chapter of this study, most major urban centers of the country are experiencing a rapid fertility decline while rural fertility remains high. Although this is not unique to Ethiopia, there are only very few countries (Uganda, Togo, Tanzania) with a similar gap between urban and rural fertility. The current study asked participants two questions in an attempt to find out how they see the transition in urban fertility. The first question asked all participants whether the Ethiopian urban–rural fertility differential, as shown in recent surveys, is equally felt by ordinary urban residents. And if so what in their view has accounted for this change. The second question was presented only to in-depth interview participants, respondents being asked whether they noticed any difference between the number of children in families of their parents' generation and their own and their interpretation of this phenomenon.

Almost all participants of this study agreed that the number of children per family is less for urban than for rural residents. The majority of one-to-one respondents also stated that there was quite a difference between the previous and their own generations in terms of the number of children in families. Most compared the number of children their own parents or grandparents had had with their own current or expected family sizes. Accordingly, they said that the current generation has indeed fewer children.

Focus groups and individual interviewees discussed what possible factors might have contributed to this change. They identified possible sources which might motivate urban residents to alter their fertility. The major factors that were mentioned by respondents can broadly be grouped as follows:

#### 4.4.7.1 *Economic value and cost of children*

For rural residents, children are perceived as a form of wealth and as having great economic value, as most participants indicated. At the same time, raising children is perceived as less costly for rural families than for urban families. The common view was that, for urban residents, the cost of raising children outweighs the economic return. Conversely, for rural residents, children contribute with either domestic or farm-related work, as the following focus group participants from Addis Ababa state:

*Respondent # 1:* ...And the children could help their family through labour in agriculture and as shepherds. But for families in urban areas ... children have more cost in terms of their education, health care and the like. So families are forced to limit their number.

*Respondent # 3:* Children are considered as wealth for the rural people and they are also regarded as old age security. Rearing children need not be costly. Because girls can get married early while boys can contribute to family labour. But in urban areas, the cost of raising children is high and the return in the form of old age support or other benefits is not significant. What people in urban areas expect is to see their children self-supportive and successful. And for this the responsibility lies on parents.

*Respondent # 4:* People in rural areas think that children are wealth for the family and they are not concerned about their clothing and other needs. They think that a child comes with its own destiny (FGD-3, women).

In this study, focus groups and one-to-one interviewees across the towns agree that the economic value of children in the urban areas has declined with recent social changes while the cost of rearing them has increased. Focus groups agree that in urban settings children are now becoming recipients of parental resources instead of contributors to the family economy. The case for rural residents is the exact opposite. In-depth interview participants echo this line of argument. Under such circumstances, it



would be logical to have a family size that can be properly supported with the available income as the following statements show:

Urban people have a limited number of children because life is hard in the city (IDI-46, single man, 25 years of age).

...people in rural areas think that a child can benefit the family through contributing to the agricultural work... the standard of living in urban areas is high and the cost of rearing children is also high. So they are forced to have one or two children (IDI-28, married woman, 25 years of age).

In urban areas the cost of children is high. That is, children should have better education and the high standard of living in urban areas doesn't encourage people to have more children (IDI-36, married man, 27 years of age).

Some one-to-one interviewees prefer not to "exaggerate" the difference in the cost of living between urban and rural areas. In their view, life has become tough in both rural and urban areas. They suggest that it is the perception of individuals towards childbearing that matters most. In rural areas, the decision whether to have a child or not may not be purely dictated by financial considerations.

There might be economic problems both in rural and urban areas but rural dwellers don't consider children as an economic burden to the family, they love to have more children (IDI-35, single woman, 19 years of age).

...there is a low economic standard in both rural and urban areas, but people in urban areas are willing to limit the number of children to correspond to their limited income (IDI-56, married man, 37 years of age).

The above interviewees basically agree with the point that fertility in urban areas has dropped in comparison with rural areas as well as with their parents' generation. However, they prefer to explain this by implying that urban residents are "willing" to change their reproductive behavior while their rural counterparts are not.

Turning to the question of changes in fertility behavior from the last generation to this one, the majority of one-to-one respondents observe that there has been a drop in the number of children among this generation of parents. Participants attribute this difference to people's desire to avoid the economic hardship that comes with having large families:

My family had two female and eight male children and if you compare the number of children I want to have in the future, it is much less than this [he expects to have 4 children] (IDI-13, single man, 25 years of age).

There is a big difference. The number of births has decreased because nowadays life is very hard (IDI-49, married man, 46 years of age).

There is a big difference. My parents, for example have 13 children and they suffered to manage the family... The difference is due to the economic conditions of the country. Now life is very expensive compared to former times [The respondent has two children which is also what she expects to have] (IDI-17, married woman, 40 years of age).

Yes, for example my parents had five children but I don't want to have more than two children because I have seen the experiences of my parents and I don't want my children to grow up the way I did (IDI-29, married woman, 27 years of age).

Yes there is a difference. The difference is seen in the decreasing number of children among today's families. People have changed in such a way that they are focusing more and more on children's education...and the quality of life for the family. Another reason for this change, I think, is that life has become so expensive. Thus, if families limit the number of children they have, they benefit (IDI-01, single woman, 28 years of age).

As the above interviewees argue, the current generation of urban residents is having smaller families as a response to bad economic circumstances. People have become aware of the changing environment in childrearing, with its serious financial implications. Under such circumstances, urban residents tend to have smaller families and try to allocate maximum resources per child rather than spreading resources thinly among a number of children.

#### 4.4.7.2 *Education, mass media, rising aspirations and public awareness*

Urban residents are portrayed, by both focus groups and individual interviewees, as better educated than their rural counterparts, which enables them to make informed decisions on aspects that affect their lives. Education is mentioned by almost all participants as the main reason for people preferring to have fewer children. The effect of education is to raise the age of marriage and the age of first birth. In one focus group, participants said:

Due to education people in urban areas plan [prolong] their age of entry into marriage. They also plan the number of children they will have (FGD-3, women).

An individual respondent reinforced the idea from the focus group, stating:

In the past, especially in rural areas, a boy or a girl who reached the age of 18 would be pressured or forced to marry early for various reasons. This is no more the case for urban areas. In urban areas people are expected to have their own jobs and incomes and to achieve this, they sometimes wait [in school] until they are 30 or 40, before entering into a marital relationship (IDI-09, 25 years of age, single man, Addis Ababa).

As the above comments show, unlike older times, nowadays people have developed the tendency to achieve a certain level of education as a step towards establishing themselves before entering into marriage or starting to have children.

Education is also seen as a factor that exposes couples to new ideas in terms of family planning. Being educated is associated with increased awareness about topics related to reproduction as well as empowerment to take personal decisions which may not be in total agreement with the prevailing norms and traditions of the society. The urban environment thus creates favourable conditions for individuals to evaluate the advantages and disadvantages of having more children and to take an informed decision on using family planning services (IDI-33, single man, 27 years of age).

Urban residents are more likely to embrace a major innovative idea, concerning for example contraception, according to most participants in the study. In this respect the role of the mass media is crucial. Mass media coverage is relatively widespread in urban areas, as there is better coverage of educational institutions. One interviewee from Nazareth mentioned the significance of imitating the experience of others in urban settings. He said, in addition to better media exposure and the information that can be gained on different topics from various sources, “urban residents can also copy the experiences of others, like the experiences of the more educated” (IDI-56, married man, 37 years of age).

The other explanation offered by focus groups and individual interviewees for the effect of education on reproduction in urban areas is linked to the desire of parents to send their children to the best schools, which cost more. It is obvious that since the early 1990s, exclusive private schools at all levels have been expanding in urban areas. There is a growing desire by urban residents to make use of such newly available services despite their sizeable cost implications. By having smaller families, individuals are attempting to increase the chances of providing the best possible education for their children. The following interview excerpt from an in-depth interview participant represents the views of many others in this respect:

Compared to my mother’s time, lots of things have changed. There is the question of a child’s upbringing. Now we take special care how to educate our children. For instance, in the old days women were oppressed. No school for them. But nowadays we do not want girls to stay at home. There is progress in terms of encouraging girls to attend school and get jobs outside. This was not the trend before (IDI-43, 28 years of age, single woman, Jimma).

The roles of education, the mass media and public awareness have been mentioned by one-to-one respondents as cross-cutting each other. The following excerpts contain some of the impressions of in-depth interview respondents on the role of education, the mass media and awareness concerning the fertility rates in urban and rural areas and the previous generation and the present one.

The main reason, I say, is education and consistent awareness raising. This has changed the behavior of urban dwellers. Comparatively, urban people have better access to health services, they listen to the radio more. But the rural people might not have the same opportunity ... Lack of awareness and ignorance especially on the part of men makes them less concerned about discussing ideas with their wives. For instance even if the woman wants to use contraceptives, the man may not be supportive (IDI-05, single woman, 29 years of age).

I think the main reason is the rural population is less exposed to new ideas while the urban part has better information. One should not necessarily go to school to get information. Urban residents have better access to the media and other services (IDI-43, single woman, 28 years of age).

Some others also mention that there is a change in people's attitudes towards appreciating and embracing a small family norm in urban areas. This change of attitude observed among the present generation of urban residents can once again be attributed to education. Once they internalize the benefits of a small family, individuals begin to adopt the means of achieving that goal.

Yes, there is change. There were many of us in our family. My parents [who lived in a rural area] were not willing to use any contraceptive method and their religion didn't allow that either. But when we come to urban areas, even if religious restriction is still there, they get the idea that they can decide on the number of children they want to have. This change has come due to education, learning from the experiences of others and observing their surroundings [influenced by their environment] (IDI-11, married man, 34 years of age).

There is a big change regarding the number of children people have now. I can cite my own experience. My parents were married while they were still dependent

on others. You can say they were “irresponsible.” My mother first gave birth at the age of 16, it was not well thought out. Nowadays people take their income into account before giving birth to a child. We have also reached an age where we know more about family planning services (IDI-43, single woman, 28 years of age).

The idea of education and the mass media being instrumental in helping people to be conscious of the benefits of a small family emerged clearly in focus groups as well as in-depth interviews. In order to achieve this goal, according to the participants in the study, people are postponing marriage, interested in using contraception and attempting to negotiate from relatively equal positions in marriage.

#### *4.4.7.3 Knowledge and use of family planning services*

The other reason consistently mentioned as a possible reason for the lower fertility rates in urban areas relates to contraception. Compared to rural residents, urban residents are in a better position to be knowledgeable about family planning services.

Access to the services is also better in urban than in rural areas.

In rural areas information on family planning is not available. Even if the service is there, women do not use it due to cultural barriers that discourage contraception (FGD-3, women).

Similarly, individual interviewees think that family planning services might be responsible for lowering the fertility level in urban areas:

... People in urban areas get adequate information about family planning and have access to the service. But people in rural areas lack the same opportunity (IDI-15, single woman, 19 years of age).

... One reason why urban people have small families is because everything is within reach. ... Various service delivery outlets are available and the mass media promote the use of family planning services (IDI-47, married woman, 36 years of age).

The fact that family planning education and services are more readily available in urban areas is consistent with the findings of the 2000 Demographic and Health Survey (CSA & ORC Macro, 2001). However, their prevalence is not impressive compared to other countries in the region.

A related point is the decision-making power that women have in the family, which has implications for issues concerning reproduction. Here it should be pointed out that the degree of household decision-making power available to women is less in rural than in urban settings. In particular, it is difficult to win men over to family planning ideas and make them supportive of their spouses. In a situation where all household decisions, including reproductive, are made by men, especially for rural households, it is highly likely that people will not practice contraception and thus end up having a large number of children.

#### *4.4.7.4 Housing*

Another issue that emerged from the interviews is how the shortage of housing in urban areas forces individuals to postpone marriage. A respondent from one of the urban centers considers housing shortage as a possible influence on people's childbearing behavior (IDI-43, single man, 32 years of age). The lack of adequate housing has been mentioned as a factor that discourages married couples from having more children.

Another respondent has the following to say in this regard:

... in urban areas the problem of housing could force people not to have more than a small number of children and for the same reason, they might also delay their marriages (IDI-35, single man, 19 years of age).

#### 4.5 Discussion and conclusion

Since the childbearing experiences of Ethiopians vary significantly according to where they live, this chapter aims at looking into the factors that may have contributed to the remarkable change in the reproductive behavior in urban areas. Having children is still accorded great value in the culture. Intentionally remaining childless is frowned on by the vast majority of people. This is true even in the face of clear constraints. There are some who propose that people should not have children in cases of severe economic hardship or poor health, while others, and they represent the majority, propose that there should at least be a minimum number (either one child or two), regardless of circumstances. People want to have children in most cases to “see their own eyes with their own eyes” as the saying goes. This is a common form of justification throughout the society. Just as in other settings, children are also treated as a source of happiness as well as of support in old age. While children are more important to men in terms of passing on the name and having an heir, for women they are seen as a sort of social glue that helps them get accepted by their husbands’ extended family and the community at large. The instrumental aspects of the benefits that come from having children are more important for men, whereas for women, it is the rewarding interaction of being happy and creating a warm relationship within marriage that counts most.

Respondents also see smaller families as a result of people marrying and having children later in life, having previously spent more time investing in their own human capital. A respondent to an in-depth interview summarizes the role of rising aspirations in affecting marriage and family-building decisions as follows:

Urban dwellers have less children because firstly, they spend half their time in school, secondly, they spend their best years toiling for money and trying to settle



down, thirdly, they squander their time searching for a mate. ... Finally, when they settle down, if they are lucky they probably only have one or two children (IDI-44, married man, 38 years of age).

Although the above interviewee tends to blame the indecisiveness of individuals for not making marriage and family top priorities, he also comments that people are aspiring to have the best in life. In order to achieve this goal, people are taking more time to accumulate their own human capital. In order not to compromise their children's future and in order to maintain a decent standard of living, individuals are putting increased emphasis on balancing the size of the family with available resources.

People allocate greater resources per child as a strategy towards preparing their children for the competitive urban environment. A good education has become especially important for urban residents, who want their children to excel in life. This can only be accomplished with a small family. In environments where social mobility is seen to be possible but not assured, the "social capillarity" principle would be specially relevant and individuals would limit the size of their families to achieve this mobility for their children. In this respect, the findings of this qualitative study support Dumont's "social capillarity" hypothesis.

Dalla Zuanna (2004) argues that the risk of not ensuring the social mobility of their children and not being able to guarantee support for additional children provides the incentive for most Italians to opt for smaller families. When parents see little or no opportunity of social mobility for their children, they do their best to produce "high quality children" who have a better chance of success. Moreover, reproductive goals and risks include factors other than the number of children and child mortality (LeGrand et al. 2003). As participants of this study have observed, investing in health care, schooling and

social upbringing of children reduces the risks of bringing up unsuccessful children. Ensuring such investments is something done by those who opt for the small family. We can draw the conclusion that people in urban areas have undergone a significant change in their motives, perceptions and behavior that has in turn modified the way they look at things. This is largely a result of the expansion of education and the various institutional changes that Ethiopian society has experienced in the last three decades.

Education, greater status for women, a taste for a more sophisticated lifestyle, and economic hardship are mentioned as factors that contribute to the shift towards the small families preferred by urban residents. In particular, parental aspirations for a better lifestyle, both for themselves and their children, even in the face of economic hardship, put pressure on people's reproductive choices. Investing in one's own human capital, which conflicts with social reproduction, is seen as one way of avoiding risks on the global labour market (McDonald, 2002). Despite the general desire to have children, the qualitative data used in this study confirm that most people are hesitating to have children due to various risks and uncertainties attached to parenthood. The increasing importance of education, which in the context of Ethiopia means better job opportunities and a higher standard of living, is holding young people back from starting families.

As this study shows, urban residents, by way of responding to pressures from economic constraints while hoping for success on the social ladder, are slowly freeing themselves from the social norms and values that encourage large families. They are increasingly adopting values that encourage smaller families, thus trying to cope with uncertain economic circumstances and the difficulties of achieving upward mobility.

## **CHAPTER FIVE**

### **VARIATIONS IN THE TIMING OF BIRTHS: ANALYSIS OF ETHIOPIA DEMOGRAPHIC AND HEALTH SURVEY DATA**

#### **5.1 Introduction**

Although the emphasis in this dissertation is to examine fertility change in urban areas, this part of the study extends the analysis to rural areas in order to make comparisons and analyze the overall fertility transition of the country. The chapter uses the 2000 Ethiopia Demographic and Health Survey (ETDHS) which gathered information from women in reproductive ages, 15-49, on the timing (year and month) of the birth of their children. The chapter begins by providing a brief description of the survey including issues related to data quality. The section also presents measurement considerations, the choice of statistical models and estimation procedures. The third part of the chapter presents the findings of the study which includes descriptive analysis of covariates used in the parametric models, life table analysis of the timing of births and durations between successive births. The bivariate and multivariate analyses of determinants of births at given parities are then presented. The chapter concludes by discussing the findings of the study.

#### **5.2 Ethiopia Demographic and Health Survey**

The 2000 Ethiopia Demographic and Health Survey (ETDHS) was the first of the two surveys conducted in the country. The latest and second round survey was undertaken between April and August 2005. Neither preliminary nor final results of this second round survey are currently available for public use. As a result, this study used

data obtained from the first round. The 2000 ETDHS was conducted by the Central Statistical Authority (CSA) under the auspices of the Ministry of Health. The survey was funded, primarily, by the United States Agency for International Development (USAID) and the United Nations Population Fund (UNFPA), with technical assistance from ORC Macro under the MEASURE DHS+ program. The major objective of the 2000 Ethiopia DHS was to provide policymakers and planners with detailed information on fertility, family planning, infant and child mortality, maternal and child health, nutrition as well as information on knowledge of HIV/AIDS and other sexually transmitted diseases (CSA & ORC Macro, 2001).

The ETDHS collected information from a nationally representative sample of 15,367 women aged 15-49 and 2,607 men aged 15-59. The survey permits the estimation of key population and health indicators at the national level, and for urban and rural areas respectively. The sample was designed to provide similar estimates for the nine administrative regions of the country, namely, Tigray, Affar, Amhara, Oromiya, Somali, Benishangul-Gumuz, Southern Nations, Nationalities and Peoples Region (SNNPR), Gambela and Harari, and the two Administrative Council Areas of Addis Ababa and Dire Dawa (CSA & ORC Macro, 2001).

### **5.2.1 Data quality**

For this study, reliable estimates of the timing and durations between successive births depend on the accuracy and completeness of information reported by respondents. Like all surveys, the DHS is subject to sampling and non-sampling errors. Sampling error refers to the variation of estimates from one sample to another and how they differ from

the population parameters. The degree of variability between all possible samples indicates the sampling error. This error can be evaluated statistically using the standard error for a particular statistic (Maxim, 1999). The sampling errors for the Ethiopia DHS are calculated for variables of primary interest and given in the final survey report (CSA & ORC Macro, 2001). Selected list of variables and their sampling errors extracted from the report is reproduced in Appendix E. Apart from minor variations observed for the estimates of sub-populations, the relative standard error for most estimates at the national level are small, implying that the DHS sample allows for reliable estimates.

Another source of error is non-sampling error. Respondents may misreport or may be totally unable to provide information on certain events and on the dates at which these events occur. Interviewers may also misrecord information from respondents or be unable to contact the selected respondent. In this respect, the survey achieved response rates of 98 and 94 percent for eligible women and men respectively. The response rate for women does not show any marked difference between rural and urban residences. In contrast, rural men were slightly more likely to complete an interview than urban men.

The degree of completeness of reporting is an important indicator of data quality. In a country such as Ethiopia, where the literacy rate is low, it is highly likely that respondents may provide incomplete report on the year, month and date of birth for themselves or their children. For instance, among the variables of interest to this chapter, while information on month of birth is missing for about 6 percent of births in the past 15 years prior to the survey, there were no missing information of year of birth for births for the 15 years preceding the survey. Complete information on education was obtained for all respondents. However, an important variable with a significant percentage of missing

information (18%) was ‘age/date at first union’. Despite this, the missing information for this particular variable was imputed at the head office from related variables. In addition, dates have been imputed for other key event variables when they were not provided by the respondent or these dates are found to be inconsistent (for example less than 7 months between births) (CSA & ORC Macro, 2001). These are, the date of birth of each child, date of conception of current pregnancy, and date of start of use of current contraceptive method. Latest rounds of DHS are also known to benefit from the experiences of previous rounds which add to their improved qualities. Previous researchers who used the same dataset (Sibanda et.al, 2003) have suggested that these data are of good quality. Overall, the DHS data used in this study are reasonably reliable.

### **5.3 Measurement issues**

Women ages 15-49 years constitute the units of analysis for this study. The Ethiopia DHS allowed the collection of information on the birth history of individual women to a maximum of twenty births. The actual maximum number of reported births was 18. The birth history information contains relevant demographic information on each child such as sex, date and year of birth, whether that child is alive or dead and age at death. The sample women are divided by parity and further disaggregated into two groups of interest, i.e. urban and rural. Urban areas have a total fertility rate of 3.1 children per woman. The analysis is thus restricted to the first four parities. Restricting the analysis to the first four parities allows sufficient cases when the sample is further subdivided along the various covariates. This in turn ensures the stability and reliability of the estimated coefficients and standard errors.

**Table 5.1: Number of women ever exposed to given parities and percentage (in bold) of those who experienced the event, by place of residence, Ethiopia, 2000**

Parity	Place of Residence		
	Urban	Rural	National
Parity 0	4543 <b>51.1</b>	10821 <b>72.3</b>	15364 <b>66.0</b>
Parity 1	2321 <b>73.2</b>	7819 <b>85.4</b>	10140 <b>82.6</b>
Parity 2	1700 <b>72.0</b>	6678 <b>83.2</b>	8378 <b>81.0</b>
Parity 3	1224 <b>72.8</b>	5558 <b>82.4</b>	6774 <b>80.7</b>

Table 5.1 shows the distribution of women ever-exposed to and achieving a given parity by place of residence. Among women exposed to the risk of a given parity, the percentage of those who went on to achieve that particular parity was consistently higher for women from rural areas. Statistical analysis is performed on data obtained from 15,364 individual women, of which 4543 were urban residents and 10,821 were living in rural areas.

The sections that follow discuss the operationalization of variables used in this study. We begin with the descriptive analysis of the dependent variable and then move on to discuss independent variables that are expected to affect the timing and durations between successive births. These independent variables are taken from previous studies where they are found to affect the timing of transition to successive births. As the various independent variables are described, brief mention will be made of the theoretical context and the hypotheses underlying the proposed analysis.

### 5.3.1 Dependent variables

The dependent variables for this study are durations, measured in months, between successive births. In the DHS the year and month when an event occurred was reported for most age related variables, such as respondent's age, date of first marriage, and dates of births from first to the *n*th birth. Based on this information the variables were transformed into Century Month Code (CMC). The CMC indicates the number of months elapsed since the beginning of the past century, which in the case of the 2000 ETDHS refers to months since the year 1900. The intervals between successive births were calculated by subtracting the CMC of the immediate previous birth from the CMC of the current birth. For the first birth, however, this interval is the length of time between age 10 and a woman's age at first birth. The conventional origin point age 15, which we observe in most fertility studies, is not used in this study. If age 15 is used as an origin point, nearly 5 percent of births will be excluded from the analysis. In order to make use of information on all births this study used age 10 as an origin in the analysis of first births.

Two other variables would have been preferred to serve as an event origin instead of age. These are age at first marriage and age at first sexual intercourse. Exploratory analysis using age at first marriage as an event origin showed that about 3 percent of cases have had first births prior to marriage which results in negative durations. Also an additional 14 percent of women had their first births within nine months of marriage. These two groups make up a large proportion of women who had conceptions before marriage. Ignoring all these conceptions and focusing on the remaining sample would



limit the analysis to conceptions occurring after marriage. This study opted to make use of all cases without differentiating marital and non-marital fertility.

The other potential, and perhaps a more meaningful event origin for the first birth process, would have been age at first sexual intercourse. When asked how old they were when they first had sexual intercourse, about 23 percent of women replied that they have not had sexual intercourse at all at the time of the survey. Of the remaining 77 percent who replied to have had sexual intercourse, nearly 3 percent gave either inconsistent responses, or replied “I do not know” or had missing values. More importantly, the dataset does not include the CMC values of the timing of first sexual intercourse.

The durations between successive births can also be seen as survival times since last birth for second order and higher births. In the case of first birth, this duration is the survival time between age 10 and the date of respondent’s first birth. Women may or may not have experienced births within each of these intervals up until the time of the survey. Those women who have not experienced the event are said to be right censored and their exposure time is accounted from the time they are exposed to first birth, i.e. from age 10 to the date of the survey. Although information is lacking on whether and when the event of interest has occurred for right censored cases, the use of parametric hazard model allows their exposure time to be taken into account. Thus, the estimated hazard models assume that the process governing censoring and the risk of births are independent of one another (Hosmer and Lemeshow, 1999).

Various models examining the transition to the next higher order birth were estimated, since women who are exposed to the next higher order birth are those who had an immediate lower birth order. For instance those who are exposed to the second birth

are those who already had a first birth. These transitions are examined for urban and rural areas by fitting separate models.

### **5.3.2 Independent variables**

Life table analysis allows us to examine the variations in timing of births by splitting the data set by categories of variables of interest. This approach assumes that all women in the same category are exposed to the same risk at any given time. As a result, life table analysis permits the examination of the gross effects of demographic, economic, behavioral and socio-cultural factors that are expected to affect fertility. However, it is known that the risk of experiencing a given birth varies for women according to the various attributes they manifest. In order to capture the net effects of each of these variables this study employs multivariate analysis. In the past, various studies have identified different variables that potentially determine fertility. For instance the role of child mortality in affecting fertility has been observed in previous studies (Davis, 1963; Chowdhury, Kahn, and Chen, 1978). Proximate determinants such as contraception, induced abortion, age at first marriage are also well documented as factors that affect fertility (Davis and Blake, 1956; Bongaarts, 1978; 1982). The socio-cultural determinants of fertility such as education, religion, ethnicity, language have also been an area of research interest for demographers (for example: Cochrane, 1979; Cleland and Rodriguez, 1988; Lesthaeghe and Jolly, 1995). Along the lines of these studies, we control for some of the variables which are further described in the following sections.

Event history analysis has the important feature of allowing for both time invariant and time varying covariates in model estimation. However, in the present

analysis all the covariates of interest are time invariant. The values of these covariates refer to the values at the time of the survey. Type of union and survival status of previous children, however, could be treated as time varying predictors. In the case of the survival status of previous children, the interest in this study is to examine the effect of the death of previous children on the transition to the next birth. That is, whether the presence or absence of child death contributes to the timing of births. In particular, the analysis attempts to answer whether, for instance, the death or survival of the first child affects the transition to third or fourth births. But some of these deaths occurred after the fourth birth. In effect, the analysis is considering whether women who are more likely to have been subject to child deaths have been faster in making specific transitions. On the other hand, information on marital status changes between different birth transitions is not readily available in the data set used here. The ETDHS contains complete information on respondents' first marriage. However, for those in polygamous marriages, the time their husbands took additional wife/wives is not known.

## **5.4 Demographic and proximate variables**

### **5.4.1 Age cohort**

Following earlier researchers (Gyimah, 2001, St. Bernard, 1992), age cohort is included in all the models to capture the factors that could differently affect the generations over their life course. The assumption is that women who belong to certain cohorts would have been exposed to similar macro level experiences. Since the DHS collected information from individual women aged 15-49 years, it is possible to create three cohorts of women: 1) old cohort consisting of those aged 35 and above, 2) middle cohort consisting of those between ages 25-34, and 3) young cohort which includes those

between ages 15-24. It is expected that members of the younger cohort are more exposed to new ideas and practices that would encourage longer transitions to the next birth. The revolutionary experience and associated societal changes discussed in Chapter 3 of this dissertation might have its greatest impact on the middle cohort. The older cohort is expected to have shorter transitions times and a higher risk of subsequent births.

#### **5.4.2 Type of union**

The type of union for women might also have some influence on fertility. In the ETDHS it was noted that about 14 percent of married Ethiopian women are in polygynous unions (CSA & ORC Macro, 2001). Polygyny in some cases is viewed as a factor that increases fertility while in other occasions it is seen as reducing fertility (Gyimah, 2001, 2005). At macro level, polygyny can be associated with high fertility since it tends to increase the proportion of women who are in a married state, which in turn exposes them to the risk of childbearing (Lardoux & Van De Walle, 2003). Polygyny encourages early marriage, and remarriage of widowed and divorced women. At micro level, polygyny may reduce fertility mainly through reduced frequency of sexual intercourse (ibid, 2003). In this study, the type of marital union is categorized into 1) monogamous, 2) polygynous, 3) formerly married, and 4) never married, and included in all the models. Due to insufficient number of observations, the “never married” category is dropped in the models that estimate the timing of third and fourth births. We expect those women in polygynous unions and the never married to have a longer birth interval.

### 5.4.3 Survival status of previous children

The relationship between child mortality and fertility has been investigated widely and research findings show that the experience of child loss contributes to changes in reproductive behavior among individuals. That is, women who experienced child loss may intentionally replace lost children, compared to those whose children have survived (LeGrand et al., 2003, Gyimah, 2005). In general, as the chances of child survival increases, its effect on the behavior of individuals in terms of replacing a lost child tends to diminish. Similarly, with improved child survival there is a lower tendency to have a higher desired number of children in order to accommodate the risk of child death.

Ethiopia has one of the highest infant and child mortality rates in the developing world. In order to determine the role of child survivorship on fertility, this variable is included in the models estimating the transition from first to second, second to third and, third to fourth births. For the models that examine the transition to second birth, it is introduced as dummy with two categories: 1) first child alive, 2) first child dead. For the third birth it is coded as 1) both previous children alive, 2) one alive and one dead, 3) both previous children dead. For the fourth birth it is categorized as 1) all previous three children alive, 2) two alive & one dead, 3) one alive and two dead, 4) all three dead. We expect women who experienced the death of a child to have a higher risk of childbearing and closer birth intervals than those who never experienced child loss. It is also expected that for those who experienced a recurrence of child death, the risk of birth would be higher and that they will have a shorter birth interval.

#### **5.4.4 Age at first marriage**

Age at first marriage is an important variable in most fertility studies since it indicates the beginning of a woman's exposure to sexual intercourse and hence to the risk of childbearing. Early age at first marriage implies an early initiation of one's reproductive career and a longer exposure time to childbearing, while late age at first marriage implies delays and shorter exposure time to childbearing. Thus, the variable age at marriage has a significant potential to affect the level of fertility in a society especially in the absence of effective contraception. In the Ethiopian context, the median age at first marriage for women between ages 20-49 in 2000 is 16.4 years, which indicates the culturally accepted practice of early marriage. Also, since 94 percent of Ethiopian women were married by age 25 (CSA & ORC Macro, 2001:77), marriage can be considered as a universal phenomena. In this study, age at first marriage is included in all models and has three categories: 1) 16 years and under, 2) 17 years and above, and 3) Never married. It is expected that women who marry early will have shorter durations to subsequent births. Never married women would have longer duration.

#### **5.4.5 Age at first birth**

Age at first birth, which relates to age at first sexual intercourse or age at first marriage, also has some influence on lifetime fertility. Like early age at first sexual intercourse or age at first marriage, early age at first birth implies a longer reproductive lifespan and subsequently higher lifetime fertility. Given that, in Ethiopia, more than 50 percent of women of age 30 and above had their first birth in their teens (CSA & ORC Macro, 2001) this variable is included for the models that estimated the risk of second

and higher order births. It has been categorized into: 1) 18 years and under, and 2) 19 years and above. It is hypothesized that women who had their first birth at a relatively younger age would have shorter transition times to subsequent births.

#### **5.4.6 Use of contraceptive methods**

The level of use of contraception and its efficacy directly relates to fertility. In a situation where contraceptive use is widespread and women are practicing efficient methods, low fertility is a norm. In the DHS women reported the number of children they had at the time they adopted contraception for the first time. This provides a crude measure of contraceptive practice within a given birth interval, i.e., before the first birth, second birth and so forth. We control for contraception initiation in the model that estimates the risks of having first and second births. The variable is coded taking value of one for those who have not started using contraceptives before the birth of their first or second child, and a value of two for those who have started using any contraceptive method before the birth of their first or second child. Due to the small number of cases, it was not possible to include this variable in the models that estimated the timing of third and fourth births. It is expected that the transition to first and second births would be faster for those who did not initiate contraception within the interval. Alternatively, those who practiced contraception within the interval are expected to have a longer birth interval and consequently a lower risk of subsequent births.

## **5.5 Socio-cultural variables**

### **5.5.1 Maternal education**

Fertility research invariably shows that maternal education is an important determinant. Female education is expected to reduce desired fertility by making women more receptive to modern social norms, reducing dependence on children for status and social security, and increasing the opportunity cost of time (Dreze and Murthi, 2001). The mechanism through which education affects fertility can work in different ways. When women spend longer time in school they postpone their marriage and childbearing reducing their exposure time. Educated women are also better positioned to have an enhanced knowledge of contraception and are highly likely to adopt an efficient method. Another argument is that educated women face lower risk of infant and child mortality and as a result, they settle for fewer births. Better educated women would also tend to focus more on child quality and invest more in children's education as a route to status and a better standard of living.

The education variable used in this study indicates the level of education obtained by women at the time of the survey. Despite the fact that educational level can change over time, it is assumed that in the case of Ethiopia it would change very little once women commence childbearing. In this study, maternal education is measured as number of years a woman has completed in school and categorized into four groups; no education, some primary and primary complete, and some secondary and secondary complete and higher. We hypothesize that with increased level of education, the risk of childbearing for higher order births for women will decrease.



### 5.5.2 Religion

Studies done in both developed and developing countries document that religion influences the demographic behavior of people (Lehrer, 2004, McQuillan, 2004). There is some evidence that fertility rates tend to be higher among Muslims than other groups in India (Dreze and Murthi, 2001). A similar trend is observed by Goldscheider (1999) for Israeli Muslims. In the United States high fertility is observed among Mormons, and Catholicism has pronatalist stance. Some religions provide psychological and social incentives to couples who have many children, in the form of approval, social status and blessings (Lehrer, 2004).

The mechanism through which religion influences fertility is subject to debate. Some of the world religions have clear positions on some of the proximate determinants of fertility and influence fertility directly. This can be called a “particularized theology” hypothesis (Goldscheider, 1999; McQuillan, 2004). The other approach known as the “characteristics hypothesis” maintains that the relationship between religion and fertility is mediated by socioeconomic factors. Once these variables are controlled, the effect of religion may disappear. In order to examine whether there exist fertility differentials among women who belong to different faiths, this study included religion in all the models. It is coded as 1) Orthodox Christians, 2) Protestants 3) Muslims 4) Traditional and others. The last category is dropped from the urban model due to small number of cases. Among the followers of the two dominant religions of the country, we expect that Muslims would have faster transitions to the next birth compared to Orthodox Christians.

### 5.5.3 Ethnicity

Ethnicity is included in the models with the intention of capturing the influence of unique cultural practices and customs on the reproductive behavior of the members of a given sub population. Ethiopia is referred as a “mosaic of nations and nationalities” with over 80 ethnic groups each with its own unique cultural and linguistic features. Thus, it would be reasonable to expect some kind of variation in the fertility behavior of women belonging to different ethnic groups. Past studies also show the presence of completed fertility differentials by ethnic origin (Kinfu, 2001). Some ethnic groups may have customs and traditions that tend to make fertility lower or higher. In this study, ethnicity is categorized into seven groups: 1) Amhara, 2) Oromo, 3) Tigrawi, 4) Guragie 5) Somalie 6) Affar and, 7) Others. In the dataset, values are available for over 50 ethnic groups. The selection of the ethnic groups included in the models is based on the number of cases in the sample. For instance, the category with the smallest number of cases, which is Affar, has over 200 more cases than the group that follows. Since the number of Affars in urban areas is small, this category is merged with the “other” category. We expect Oromos and Somalis to have shorter timing of births compared to Amharas.

### 5.7 Methods of regression analysis: event history models

As indicated earlier, the DHS provides valuable birth history information on the timing of each birth that had occurred to individual women. Data are also available on the socio-economic and cultural backgrounds of women, gender and survival status of each birth. These data permit us to estimate event history models which allow a dynamic analysis of the childbearing transitions. In addition, unlike life table analysis, event

history models allow the inclusion of other substantively relevant covariates to explain the *risk* of experiencing the event under study. There are certain basic concepts and issues related to event history analysis. First, two concepts, *hazard* and *risk set*, are fundamental to event history modeling (Allison, 1984). The risk set refers to the pool of individuals who are exposed to experience a certain event at each point in time. The hazard of an event occurring can be interpreted as the instantaneous probability that an event will occur in a given interval, provided that this event has not occurred before the beginning of this interval (Blossfeld et al., 1989:31). In our case, the hazard of experiencing the first birth applies to women of age 10 and above. For second and higher order births, the hazard of experiencing parity  $i+1$  refers to those who already had parity  $i$ .

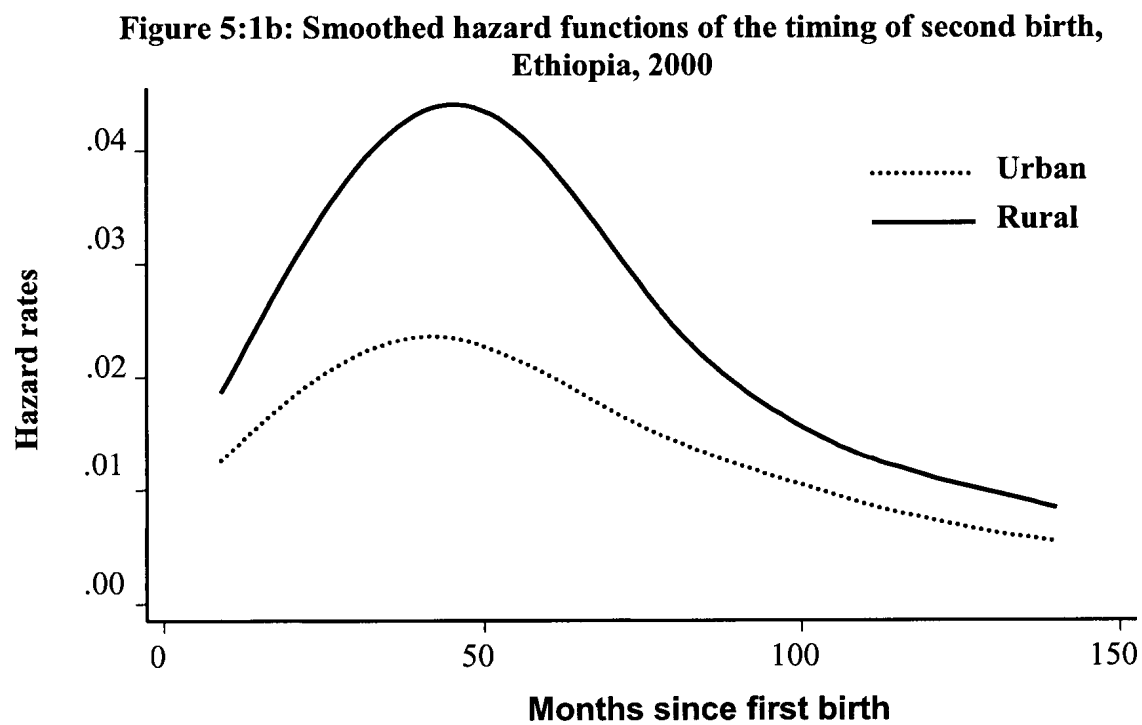
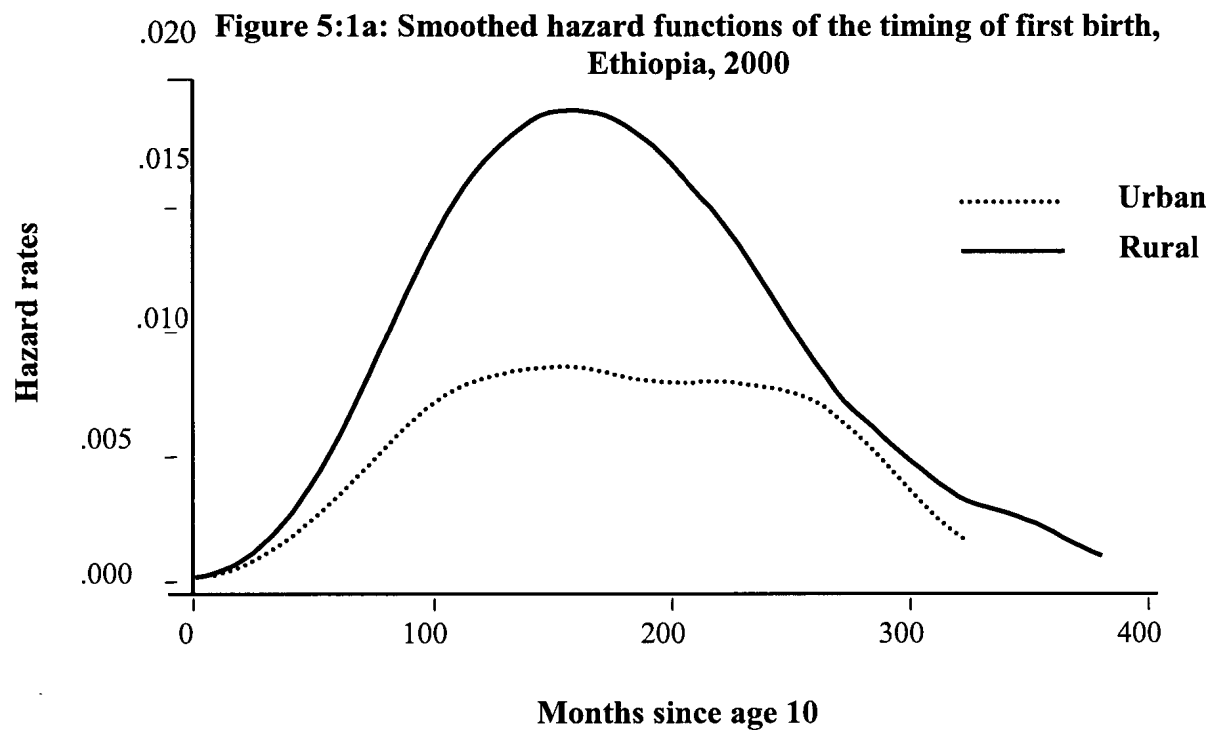
Second, event history data, as the case in the DHS, are mostly gathered retrospectively, which introduces the issues of *selectivity* and *censoring*. Selectivity implies, among others, that respondents of retrospective surveys are survivors. Those who died or migrated at the time of the survey will necessarily be omitted, introducing bias (Blossfeld & Rohwer, 1995). Censoring refers to cases who did not experience the event of interest within the observation period. Some woman may never have any birth or never experience higher order births. Also, the date the survey was conducted marks the date at which observation was terminated. In our case, the DHS collected partial information on the maternity history of women at the date of the survey. For instance, for those women who were yet to complete their reproductive career (e.g., those in their prime reproductive ages of 24-35) information is only available up until the date of data collection. For some others, we may have records up to parity  $i$  and observation ceased before we observe whether or when parity  $i+1$  has occurred to them. We consider those

who did not experience the event by the survey date as being *right censored*. In a retrospective survey like that of the DHS, it is impossible to avoid the problem of censoring. Ignoring censored cases is not recommended as a remedy to the problem since this leads to reduced sample size which in turn leads to biased estimates (Blossfeld et al., 1989). It is critical to employ appropriate techniques of analysis, such as those which use maximum likelihood estimation, in the presence of censoring. Ordinary Least Squares (OLS) is not a preferred analytic strategy. Logistic regression uses maximum likelihood but it does not take censoring into account.

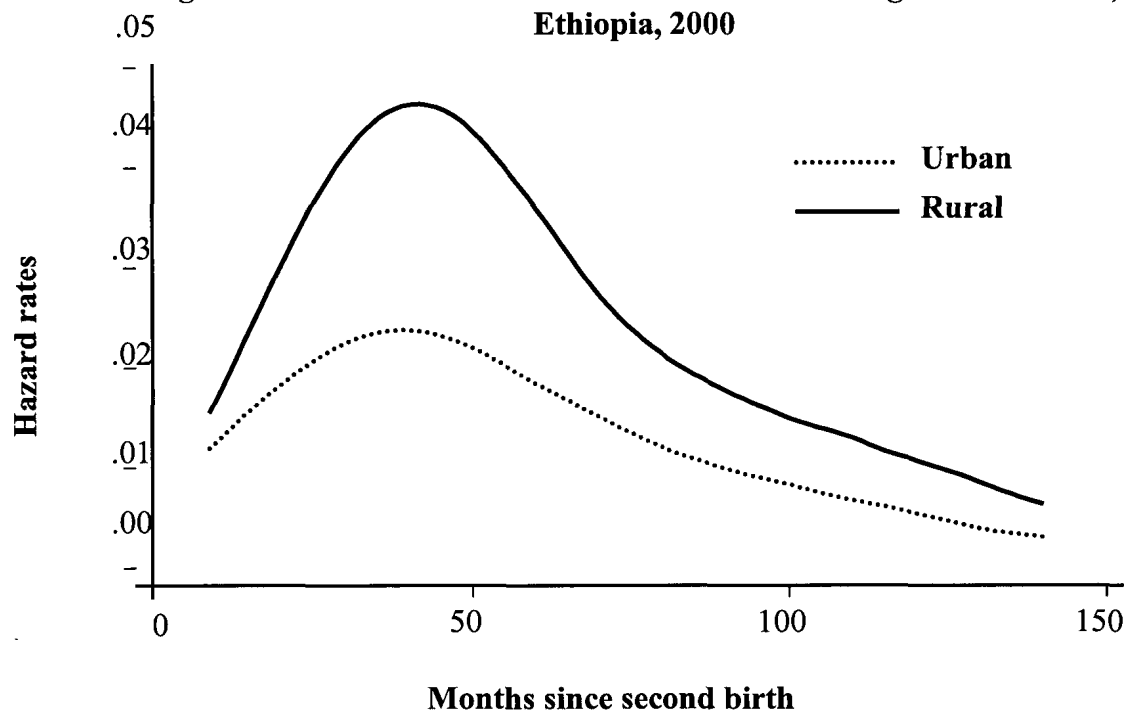
The most appropriate strategy is to employ event history models which allow the inclusion of censored information into the analysis (Blossfeld et al., 1989, Willett & Singer 1995, Singer & Willett 2003). Event history analysis may take non-parametric, semi-parametric or parametric forms. The life table technique is a non-parametric analytic strategy. It is possible to estimate separate life tables according to individual covariates, but this makes the process cumbersome. In particular, life table analysis does not allow the simultaneous inclusion of covariates to examine their influence on the timing of births. Implicitly, the life table technique assumes that the risk of experiencing the event of interest is the same for all individuals. However, it is known that the chances of experiencing the event of interest vary for individuals or groups according to certain background, environmental, socio-economic, and bio-demographic characteristics. Unlike the non-parametric life table technique, the Cox (1972) proportional hazard model is a semi-parametric model which allows controlling for a set of covariates. A further feature of the Cox proportional hazard model is that it does not require the specification of the hazard function.

The issue of specifying the hazard function takes us to the idea of parametric models. The parametric survival models require the specification of the hazard function which is missing in the case of semi-parametric models. The parametric hazard models assume that the underlying timing function follows some known mathematical distribution. In addition, this model assumes that the specified time dependent distribution is the correct one for the event under consideration. There exist several varieties of the survival model which differ among one another depending on the assumed distribution of the timing function. For this section of the dissertation, a log-normal distribution is chosen, which assumes a non-monotonic hazard rate that initially increase and then decrease (Blossfeld and Rohwer, 2002). This choice is guided by both its theoretical relevance and visual inspection of graphical representation of the hazard rates.

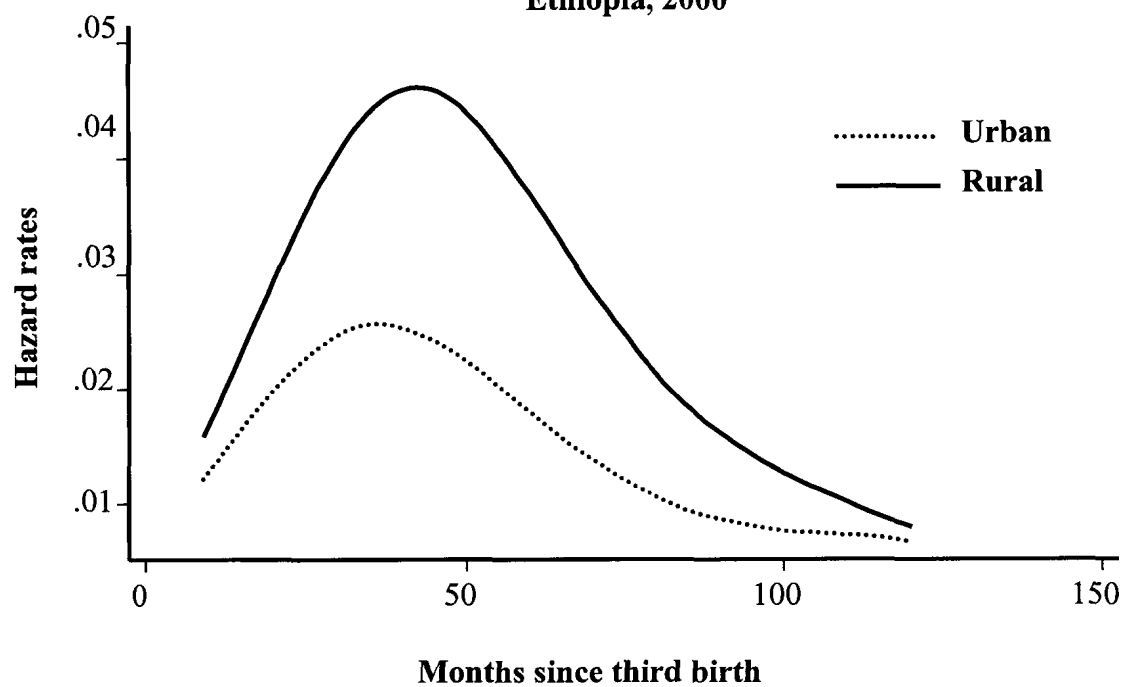
Graphs, based on the hazard rates, obtained from life table estimates are shown in Figures 5.1a to 5.1d. These graphs clearly suggest that the hazard of subsequent birth follows non-monotonic shape. That is, the hazard of subsequent births initially increases with the increase in durations, reaching a peak and then decreases exhibiting a unimodal distribution for all births. These features are in accordance with the assumptions of the log-normal distribution and all the parametric models are estimated following this distribution.



**Figure 5:1c: Smoothed hazard functions of the timing of third births, Ethiopia, 2000**



**Figure 5:1d: Smoothed hazard functions of the timing of fourth births, Ethiopia, 2000**



In addition to plotting the hazard rates and inspecting them visually, null models were built that specify different timing functions in order to choose the best distribution. The likelihood ratio tests help to assess the best fit model. The results of the likelihood ratio tests for exponential, weibull, log-normal and log-logistic distributions are presented in Appendix F. From this table it can be clearly observed that the models that use the log-normal or log-logistic distributions are the best fit models (based on larger log-likelihood values). If the idea of diffusion is suspected to operate, the log-logistic model would have been the preferred timing function. For this study, therefore, the log-normal distribution is selected. The log-normal hazard  $h(t)$ , survival  $S(t)$ , and density  $f(t)$  functions can be expressed as :

$$[1] \quad h(t) = \frac{\frac{1}{t\sigma\sqrt{2\pi}} \exp\left[\frac{-1}{2\sigma^2} \{\ln(t) - \mu\}^2\right]}{1 - \Phi\left\{\frac{\ln(t) - \mu}{\sigma}\right\}}$$

$$[2] \quad S(t) = 1 - \Phi\left\{\frac{\ln(t) - \mu}{\sigma}\right\}$$

$$[3] \quad f(t) = \frac{1}{t\sigma\sqrt{2\pi}} \exp\left[\frac{-1}{2\sigma^2} \{\ln(t) - \mu\}^2\right]$$

Where;

$\Phi(z)$  is the standard normal cumulative distribution;  
 $\sigma$  is the standard deviation of the normal distribution, and  
 $\mu$  is the mean.



The log-normal hazard model is estimated using STATA which allows maximum likelihood estimation. STATA provides the option for the log-normal model to be estimated in terms of either the proportional hazard metric, as in the Cox model, or in accelerated time failure (AFT) metric which produces time ratios. In this study, the parametric models are estimated using time ratios. For each covariate, a time ratio value greater than one can be interpreted as individuals in that particular category experience the event at a later timing, compared to those in the reference category of a given covariate. Conversely, a time ratio value of less than one implies that individuals with a particular attribute will experience the event of interest faster than those in the reference category. The overall significance of the models is assessed using the log-likelihood ratio statistic. This statistic is used to compare models that are nested as the case for this study. A model is nested within a second model provided that the latter model contains all the variables from the previous model and some more additional variables.

### **5.8 Unobserved heterogeneity**

So far, the models we are intending to build allow us to examine the effect of the different measured covariates on the timing of subsequent births. Some may experience faster transition from parity  $i$  to  $i+1$  than others or they may experience later transition. In the parametric hazard models, we are assuming that controlling for various individual characteristics and including proximate and other covariates in the model would explain the differences in the duration and timing of experiencing the event. However, there will always be some level of unobserved differences. We can sometimes include additional covariates to explain unobserved heterogeneity. However, this approach may not be

feasible. Thus, addressing the issue of unobserved heterogeneity is recommended (for example Heckman and Singer, 1984). In addition, accounting for unobserved heterogeneity helps to capture the true effects of the observed variables (Trussell & Hammerslough, 1983; Blossfeld and Rohwer, 2002).

This study addresses the issue of unobserved heterogeneity by including a term for frailty as a multiplicative factor in the log-normal hazard model described earlier. The frailty term is assumed to take a gamma distribution which is quite flexible and recommended for this purpose (Sastry, 1997). The theoretical justification for including the frailty term can be seen in the context that over time there will be women who may not experience child birth for some biological or unknown genetic factors. Some others may also be susceptible to faster transitions to the next birth which cannot be fully explained by the models for observed heterogeneity. A drastic fertility decline in urban areas of a country, where the role of other potential explanatory factors is minimal, may also make us think of the possible role of sterility and infertility. The true level of sterility and infertility may not be known unless some form of biological study is made which was not conducted in the Ethiopian case. Thus, it is important to examine unobserved heterogeneity as well.

## **5.9 Findings**

Section 5.9.1 presents a description of the distribution of women according to the various covariates that are theoretically expected to have some impact on reproductive behavior. Estimated and observed median ages of women at different parities are then presented, along with the observed and estimated durations between successive births. In

section 5.9.3, bivariate results of the relationship between individual covariates and the timing of subsequent births are assessed. The multivariate findings of the effects of the various measured variables on the timing of subsequent births are presented in section 5.9.4. The section that follows presents findings from the model that includes a term for unobserved heterogeneity in order to account for the role of unmeasured factors that may possibly affect the timing of births. In the light of theoretical expectations, the last part of the section presents discussion of the major findings of the analysis.

The results will be given without weights. In effect, the variation in weights is not large, with a range of 0.01 to 5.2. Analyses that were attempted with weights did not show different results than those without weights. There is also the difficulty that the weighted results were producing “pseudo-log likelihood estimates” rather than the more easily interpretable log-likelihood estimates to check the model fit. The lack of weights does mean that the point estimates for the population have slight bias. In particular, 30 percent of the sample is urban, while the weighted results would show 18 percent urban, which is a little higher than the 1994 census result of 15 percent. That is, the urban areas are over-sampled in the survey.

### **5.9.1 Descriptive statistics**

Table 5.2 presents the demographic, proximate, and socio-cultural characteristics of women who were considered in the analysis of the various birth transition processes. The table also shows the distribution of women according to their place of residence along with the covariates of interest in this study.

**Table 5.2: Number and percentage (in bold) of women ever exposed to risks of 1st - 4th births by place of residence and other covariates, Ethiopia, 2000**

Covariates	First births			Second births			Third births			Fourth births		
	Urban	Rural	Total	Urban	Rural	Total	Urban	Rural	Total	Urban	Rural	Total
<b>Age cohort</b>												
35 years & above	1,055	3,264	4,319	986	3,192	4,178	892	3,116	4,008	773	2,991	3,764
	<b>23.2</b>	<b>30.2</b>	<b>28.1</b>	<b>42.5</b>	<b>40.8</b>	<b>41.2</b>	<b>52.5</b>	<b>46.7</b>	<b>47.8</b>	<b>63.2</b>	<b>53.8</b>	<b>55.5</b>
25 - 34 years	1,360	3,257	4,617	938	3,014	3,952	676	2,730	3,406	419	2,246	2,665
	<b>29.9</b>	<b>30.1</b>	<b>30.1</b>	<b>40.4</b>	<b>38.5</b>	<b>39.0</b>	<b>39.8</b>	<b>40.9</b>	<b>40.7</b>	<b>34.2</b>	<b>40.4</b>	<b>39.3</b>
15 - 24 years	2,128	4,300	6,428	397	1,616	2,013	132	832	964	32	321	353
	<b>46.8</b>	<b>39.7</b>	<b>41.8</b>	<b>17.1</b>	<b>20.7</b>	<b>19.8</b>	<b>7.8</b>	<b>12.5</b>	<b>11.5</b>	<b>2.6</b>	<b>5.8</b>	<b>5.2</b>
<b>Union status</b>												
Monogamous	1,727	6,344	8,071	1,505	5,700	7,205	1,156	4,862	6,018	843	4,036	4,879
	<b>38.0</b>	<b>58.6</b>	<b>52.5</b>	<b>64.9</b>	<b>72.9</b>	<b>71.1</b>	<b>68.0</b>	<b>72.8</b>	<b>71.9</b>	<b>68.9</b>	<b>72.6</b>	<b>72.0</b>
Polygynous	116	1,191	1,307	103	1,106	1,209	79	992	1,071	64	843	907
	<b>2.6</b>	<b>11.0</b>	<b>8.5</b>	<b>4.4</b>	<b>14.1</b>	<b>11.9</b>	<b>4.6</b>	<b>14.9</b>	<b>12.8</b>	<b>5.2</b>	<b>15.2</b>	<b>13.4</b>
Formerly Married	775	1,232	2,007	629	993	1,622	448	816	1,264	311	675	986
	<b>17.1</b>	<b>11.4</b>	<b>13.1</b>	<b>27.1</b>	<b>12.7</b>	<b>16.0</b>	<b>26.4</b>	<b>12.2</b>	<b>15.1</b>	<b>25.4</b>	<b>12.1</b>	<b>14.5</b>
Never Married*	1,925	2,054	3,979	83	21	104	16	6	22	5	3	8
	<b>42.4</b>	<b>19.0</b>	<b>25.9</b>	<b>3.6</b>	<b>0.3</b>	<b>1.0</b>	<b>0.9</b>	<b>0.1</b>	<b>0.3</b>	<b>0.4</b>	<b>0.1</b>	<b>0.1</b>
<b>Age at first marriage</b>												
Age 16 & under	1,374	5,674	7,048	1,206	5,140	6,346	983	4,536	5,519	766	3,888	4,654
	<b>30.2</b>	<b>52.4</b>	<b>45.9</b>	<b>52.0</b>	<b>65.7</b>	<b>62.6</b>	<b>57.8</b>	<b>67.9</b>	<b>65.9</b>	<b>62.6</b>	<b>70.0</b>	<b>68.6</b>
Age 17 & above	1,244	3,093	4,337	1,032	2,661	3,693	701	2,136	2,837	453	1,667	2,120
	<b>27.4</b>	<b>28.6</b>	<b>28.2</b>	<b>44.5</b>	<b>34.0</b>	<b>36.4</b>	<b>41.2</b>	<b>32.0</b>	<b>33.9</b>	<b>37.0</b>	<b>30.0</b>	<b>31.3</b>
Never married**	1,925	2,054	3,979	83	21	104	16	6	22	5	3	8
	<b>42.4</b>	<b>19.0</b>	<b>25.9</b>	<b>3.6</b>	<b>0.3</b>	<b>1.0</b>	<b>0.9</b>	<b>0.1</b>	<b>0.3</b>	<b>0.4</b>	<b>0.1</b>	<b>0.1</b>
<b>Age at first birth</b>												
18 years & under	-	-	-	1,149	4,244	5,393	940	3,794	4,734	734	3,302	4,036
	-	-	-	<b>49.5</b>	<b>54.3</b>	<b>53.2</b>	<b>55.3</b>	<b>56.8</b>	<b>56.5</b>	<b>60.0</b>	<b>59.4</b>	<b>59.5</b>
19 years & above	-	-	-	1,172	3,578	4,750	760	2,884	3,644	490	2,256	2,746
	-	-	-	<b>50.5</b>	<b>45.7</b>	<b>46.8</b>	<b>44.7</b>	<b>43.2</b>	<b>43.5</b>	<b>40.0</b>	<b>40.6</b>	<b>40.5</b>
* This category is dropped from, the multivariate models of third & fourth births, due to small number of observations												
* The Never Married category for the first birth process is substantial because this value refers to those who are never married at the time of the survey												
** This category is dropped from all multivariate models												

Cont'd Table 4	First births			Second births			Third births			Fourth births		
Covariates	Urban	Rural	Total	Urban	Rural	Total	Urban	Rural	Total	Urban	Rural	Total
<b>Contraceptive use</b>												
Not user	3,837	10,636	14,473	1,877	7,613	9,490	-	-	-	-	-	-
	<b>84.5</b>	<b>98.3</b>	<b>94.2</b>	<b>80.9</b>	<b>97.3</b>	<b>93.6</b>	-	-	-	-	-	-
User	706	185	891	444	209	653	-	-	-	-	-	-
	<b>15.5</b>	<b>1.7</b>	<b>5.8</b>	<b>19.1</b>	<b>2.7</b>	<b>6.4</b>	-	-	-	-	-	-
<b>Education</b>												
No education	2,361	8,222	10,583	1,253	5,962	7,215	927	5,111	6,038	664	4,279	4,943
	<b>52.0</b>	<b>76.0</b>	<b>68.9</b>	<b>54.0</b>	<b>76.2</b>	<b>71.1</b>	<b>54.5</b>	<b>76.5</b>	<b>72.1</b>	<b>54.2</b>	<b>77.0</b>	<b>72.9</b>
Primary	1,030	1,500	2,530	497	1,089	1,586	371	917	1,288	268	751	1,019
	<b>22.7</b>	<b>13.9</b>	<b>16.5</b>	<b>21.4</b>	<b>13.9</b>	<b>15.6</b>	<b>21.8</b>	<b>13.7</b>	<b>15.4</b>	<b>21.9</b>	<b>13.5</b>	<b>15.0</b>
Secondary & higher	1,152	1,099	2,251	571	771	1,342	402	650	1,052	292	528	820
	<b>25.4</b>	<b>10.2</b>	<b>14.7</b>	<b>24.6</b>	<b>9.9</b>	<b>13.2</b>	<b>23.6</b>	<b>9.7</b>	<b>12.6</b>	<b>23.9</b>	<b>9.5</b>	<b>12.1</b>
<b>Surv. Stat. of prev. chi</b>												
Alive	-	-	-	1,954	5,725	7,679	-	-	-	-	-	-
	-	-	-	<b>84.2</b>	<b>73.2</b>	<b>75.7</b>	-	-	-	-	-	-
Dead	-	-	-	367	2,097	2,464	-	-	-	-	-	-
	-	-	-	<b>15.8</b>	<b>26.8</b>	<b>24.3</b>	-	-	-	-	-	-
Both alive	-	-	-	-	-	-	1,211	3,807	5,018	-	-	-
	-	-	-	-	-	-	<b>71.2</b>	<b>57.0</b>	<b>59.9</b>	-	-	-
Alive 1 dead	-	-	-	-	-	-	406	2,149	2,555	-	-	-
	-	-	-	-	-	-	<b>23.9</b>	<b>32.2</b>	<b>30.5</b>	-	-	-
Both dead	-	-	-	-	-	-	83	722	805	-	-	-
	-	-	-	-	-	-	<b>4.9</b>	<b>10.8</b>	<b>9.6</b>	-	-	-
All alive	-	-	-	-	-	-	-	-	-	730	2,502	3,232
	-	-	-	-	-	-	-	-	-	<b>59.6</b>	<b>45.0</b>	<b>47.7</b>
2 alive 1 dead	-	-	-	-	-	-	-	-	-	351	1,847	2,198
	-	-	-	-	-	-	-	-	-	<b>28.7</b>	<b>33.2</b>	<b>32.4</b>
1 alive 2 dead	-	-	-	-	-	-	-	-	-	116	912	1,028
	-	-	-	-	-	-	-	-	-	<b>9.5</b>	<b>16.4</b>	<b>15.2</b>
All dead	-	-	-	-	-	-	-	-	-	27(2.2)	297(5.3)	324(4.8)

Cont'd Table 4	First births			Second births			Third births			Fourth births		
Covariates	Urban	Rural	Total	Urban	Rural	Total	Urban	Rural	Total	Urban	Rural	Total
<b>Religion</b>												
Orthodox Christian	3,064	4,348	7,412	1,567	3,210	4,777	1,128	2,730	3,858	784	2,269	3,053
	<b>67.4</b>	<b>40.2</b>	<b>48.2</b>	<b>67.5</b>	<b>41.0</b>	<b>47.1</b>	<b>66.4</b>	<b>40.9</b>	<b>46.0</b>	<b>64.1</b>	<b>40.8</b>	<b>45.0</b>
Protestant	426	1,673	2,099	188	1,126	1,314	128	938	1,066	95	769	864
	<b>9.4</b>	<b>15.5</b>	<b>13.7</b>	<b>8.1</b>	<b>14.4</b>	<b>13.0</b>	<b>7.5</b>	<b>14.0</b>	<b>12.7</b>	<b>7.8</b>	<b>13.8</b>	<b>12.7</b>
Muslim	1,036	4,333	5,369	557	3,137	3,694	438	2,708	3,146	341	2,275	2,616
	<b>22.8</b>	<b>40.0</b>	<b>34.9</b>	<b>24.0</b>	<b>40.1</b>	<b>36.4</b>	<b>25.8</b>	<b>40.6</b>	<b>37.6</b>	<b>27.9</b>	<b>40.9</b>	<b>38.6</b>
Traditional & Other***	17	467	484	9	349	358	6	302	308	4	245	249
	<b>0.4</b>	<b>4.3</b>	<b>3.2</b>	<b>0.4</b>	<b>4.5</b>	<b>3.5</b>	<b>0.4</b>	<b>4.5</b>	<b>3.7</b>	<b>0.3</b>	<b>4.4</b>	<b>3.7</b>
<b>Ethnicity</b>												
Amhara	2,154	2,276	4,430	1,074	1,744	2,818	769	1,465	2,234	525	1,204	1,729
	<b>47.4</b>	<b>21.0</b>	<b>28.8</b>	<b>46.3</b>	<b>22.3</b>	<b>27.8</b>	<b>45.2</b>	<b>21.9</b>	<b>26.7</b>	<b>42.9</b>	<b>21.7</b>	<b>25.5</b>
Oromo	1,057	3,102	4,159	572	2,155	2,727	414	1,850	2,264	306	1,549	1,855
	<b>23.3</b>	<b>28.7</b>	<b>27.1</b>	<b>24.6</b>	<b>27.6</b>	<b>26.9</b>	<b>24.4</b>	<b>27.7</b>	<b>27.0</b>	<b>25.0</b>	<b>27.9</b>	<b>27.4</b>
Tigraway	351	1,132	1,483	214	845	1,059	165	721	886	124	612	736
	<b>7.7</b>	<b>10.5</b>	<b>9.7</b>	<b>9.2</b>	<b>10.8</b>	<b>10.4</b>	<b>9.7</b>	<b>10.8</b>	<b>10.6</b>	<b>10.1</b>	<b>11.0</b>	<b>10.9</b>
Guragie	479	383	862	191	236	427	133	214	347	96	173	269
	<b>10.5</b>	<b>3.5</b>	<b>5.6</b>	<b>8.2</b>	<b>3.0</b>	<b>4.2</b>	<b>7.8</b>	<b>3.2</b>	<b>4.1</b>	<b>7.8</b>	<b>3.1</b>	<b>4.0</b>
Somalie	160	625	785	93	454	547	81	406	487	72	364	436
	<b>3.5</b>	<b>5.8</b>	<b>5.1</b>	<b>4.0</b>	<b>5.8</b>	<b>5.4</b>	<b>4.8</b>	<b>6.1</b>	<b>5.8</b>	<b>5.9</b>	<b>6.5</b>	<b>6.4</b>
Affar****	12	573	585	8	445	453	8	379	387	5	301	306
	<b>0.3</b>	<b>5.3</b>	<b>3.8</b>	<b>0.3</b>	<b>5.7</b>	<b>4.5</b>	<b>0.5</b>	<b>5.7</b>	<b>4.6</b>	<b>0.4</b>	<b>5.4</b>	<b>4.5</b>
Others	330	2,730	3,060	169	1,943	2,112	130	1,643	1,773	96	1,355	1,451
	<b>7.3</b>	<b>25.2</b>	<b>19.9</b>	<b>7.3</b>	<b>24.8</b>	<b>20.8</b>	<b>7.6</b>	<b>24.6</b>	<b>21.2</b>	<b>7.8</b>	<b>24.4</b>	<b>21.4</b>
<b>Total</b>	4,543	10,821	15,364	2,321	7,822	10,143	1,700	6,678	8,378	1,224	5,558	6,782
	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

\*\*\* In the multivariate models of urban areas this category is dropped due to small number of cases

\*\*\*\* In the multivariate models of urban areas this category is merged with the "Other" category

A total of 15,364 women (30% of them urban & 70% of them rural residents) were at the risk of having first birth. Overall, two thirds of these women experienced the event (see Table 5.1). Of those exposed to the risk of first birth, more rural women (72%) compared to urban (51%) had their first birth. Among the 10,140 women who were exposed to the risk of having second births, 83 percent (8378) had achieved this parity. The percentage of women who attained parity two is lower for urban areas (73 %) compared to rural areas (85%). The 8378 women who had second births were at the risk of having a third birth. Of these number of women, 6774 or 81 percent of them had experienced the event (see Table 5.1). Once again, it is only 72 percent of women from urban areas that went to have a third birth compared to 83 percent from rural areas. Among those exposed to the risk of a fourth birth 81, 73, and 82 percent of them at the national, urban and rural levels have experienced the event respectively.

Turning to the type of union of those exposed to first birth, 53 percent of women were in monogamous unions, 9 percent in polygynous, 13 percent were formerly married and 26 percent were never married. Across all transitions, women in monogamous unions constitute the larger proportion. A slightly higher proportion of rural women compared to urban are in monogamous unions. Apart from the first birth, the formerly married constitute the second highest percentage among women exposed to second and higher order births. The percentage distribution by type of union also indicates that while polygynous union is widely practiced by rural women the “never married” are concentrated in urban areas particularly among those who were exposed to first births.

The significance of age at first marriage and at first birth in fertility analysis has been mentioned in previous sections of this dissertation. Among those who were exposed to the risks of second to fourth births, largest percentage have married for the first time when they were 16 years or younger. The pattern is similar for both urban and rural areas. Also, majority of women exposed to the risks of second to fourth births had their first birth when they were 18 years and younger which implies that child bearing in Ethiopia begins relatively early.

With regard to contraceptive use, in both urban and rural areas, it is only 6 percent of women who used contraception before their first birth. A similar percentage of women used contraception before they had their second birth. However, more urban women were contraceptive users than rural women.

On the survival status of the previous children, about 24% of women who were exposed to second births experienced the death of their first child, although rural women experience the larger proportion of child deaths. For those exposed to the risk of a third birth, both of their previous children survived for 60 percent of respondents, one of them survived for 30 percent of them and less than 10 percent lost both children. In the case of the survival status of the previous three children, for those exposed to the risk of fourth birth, the distribution shows urban women have lost less children than their rural counterparts.

The majority of women (69 %) exposed to the risk of first birth had no education, while 16 and 15 percent of them had some primary and some secondary or higher level of education. This picture varies for urban and rural areas. For example, over a quarter of urban residents had some secondary or higher level of education compared to the 10



percent from rural areas. Similarly, the percentage of women with no education in rural areas (76%) is higher than urban (52%) areas. Among women exposed to the risks of second to fourth births, over two thirds had no formal education and a small percentage had a high school or above level of education. Three quarters of rural women had no formal education while it is almost one in two women from urban areas with the same level of education indicating better chances of educational attainment for women from urban areas.

In terms of religion, Orthodox Christians followed by Muslims make the largest proportion while Protestants and members of other faiths constitute small percentage of women at the risk of various parities. The descriptive statistics reveal that two thirds of urban residents are Orthodox Christians and another quarter are Muslims. Comparatively rural areas had equal proportion of Orthodox Christians and Muslims.

Ethnic distribution of women associated with the risk of having first to fourth births show that the largest are the *Amhara* and *Oromo* ethnic groups. The percentage of women from urban areas who belong to the *Amhara* ethnic group is twice that of rural areas across all births. Compared to urban areas, a slightly higher proportion of rural women belong to the *Oromo* ethnic group. *Tigrawis*, the third largest ethnic group in this sample, made up about 10 percent of cases and most are from rural areas. *Guragies* are mostly from urban areas while most *Affars* live in rural areas. Over one in five women belong to one of the many “other” different ethnic groups.

### 5.9.2 Median ages at different parities and median duration between births

Table 5.3 presents observed and estimated median ages of women at different births. Estimated values are derived from life table analysis that takes into account censored cases, making these more reliable than the observed values. For all parities, the estimated median ages are higher than the observed values. As shown in Table 5.3, about 50 percent of women in Ethiopia had their first birth by age 20. The results indicate that on average, at the national level, there is a difference of over two years between median ages of women at subsequent births.

**Table 5.3: Observed and estimated median age at each birth by place of residence, Ethiopia, 2000**

	Median Age at			
	1 <sup>st</sup> birth	2 <sup>nd</sup> birth	3 <sup>rd</sup> birth	4 <sup>th</sup> birth
National				
- Estimated	20.14	22.03	24.59	27.01
- Observed	18.67	21.50	24.08	26.33
Urban				
- Estimated	22.37	23.24	25.74	27.82
- Observed	19.33	22.33	24.91	27.08
Rural				
- Estimated	19.59	21.77	24.38	26.86
- Observed	18.41	21.25	23.87	26.25

As expected, median ages at birth of urban women are higher than those of rural women across parities. This difference is more pronounced for the first birth, where the difference is over two years. While half of urban women had their first births by age 22, the same proportion of rural women achieved this by age 19. The difference between median ages of urban and rural women slightly decreases at higher order births. Despite

this pattern, while 50 percent of urban women with third births had their fourth birth by age 28, an equivalent proportion of rural women achieve this parity a year earlier.

Overall, on average median ages of urban women are higher than those of rural women by about a year and half for parities one to four.

Median durations in months between respondents' 10<sup>th</sup> birth day and the dates of their first births and between successive births are presented in Table 5.4. Like the median ages, estimated durations are higher than observed durations for all transitions. Also, as these estimates are obtained using life table techniques the estimates are more reliable than the observed values.

**Table 5.4: Observed and estimated median durations in months between age 10 of respondent and first birth and between successive births by place of residence, Ethiopia, 2000**

	Median durations between			
	Age 10 & 1 <sup>st</sup> birth	1 <sup>st</sup> birth & 2 <sup>nd</sup> birth	2 <sup>nd</sup> birth & 3 <sup>rd</sup> birth	3 <sup>rd</sup> birth & 4 <sup>th</sup> birth
National				
- Estimated	121.44	31.91	32.43	32.26
- Observed	104.00	29.00	29.00	29.00
Urban				
- Estimated	147.76	36.18	36.89	35.87
- Observed	112.00	31.00	31.00	31.00
Rural				
- Estimated	114.83	31.07	31.74	31.74
- Observed	101.00	28.00	29.00	29.00

Examining the durations between successive births beginning from first birth indicates that rural women on average have a 4 month shorter transition time to the next birth, compared to urban women. For urban women, median durations between births are above 36 months for the first two transitions and above 35 months for the transition from

third to fourth births. The median duration between age 10 and the respondent's first birth is much longer (higher by over 30 months) for urban women, compared to women from rural areas.

Overall younger median age at first birth at the national and sub-national levels go with the expectations from the culture that encourages childbearing at younger ages. Also, newlyweds receive the pressure and blessings from the society to give birth soon after they marry. Delay in having subsequent births, as evidenced by the longer duration between successive births, is also according to expectation in a culture where breastfeeding is widely practiced.

### **5.9.3 Bivariate relationships**

Log normal accelerated failure time models were estimated to examine the relationship between each covariate and the timing of subsequent births. The results from this analysis are presented in Table 5.5. For dummy coded variables, a time ratio greater than one from these models suggests later timing, which in turn indicates lower risk of experiencing the transition to the next parity, for those with that particular attribute compared to women in the reference category. Conversely, a time ratio less than one indicates an earlier timing or a higher risk of experiencing a subsequent birth for women in this category compared to those in the reference category.

Table 5.5: Bivariate relationship between the timing of first, second, third and fourth births and selected covariates, Ethiopia

	Time Ratios			
	1 <sup>st</sup> birth	2 <sup>nd</sup> birth	3 <sup>rd</sup> birth	4 <sup>th</sup> birth
<b>Age Cohort</b>				
35 years and above <sup>R</sup>	1.00	1.00	1.00	1.00
25-34 years	1.10 (0.01)***	1.03 (0.015)**	1.01 (0.02)	1.06 (0.016)***
15-24 years	1.33 (0.01)***	1.19 (0.022)***	1.11 (0.03)***	1.14 (0.06)**
<b>Type of Union</b>				
Monogamous Marriage	1.00	1.00	1.00	1.00
Polygynous Marriage	1.02 (0.01)	1.00 (0.019)	1.00 (0.02)	0.98 (0.02)
Formerly married	1.06 (0.01)***	1.21 (0.021)***	1.20 (0.02)***	1.14 (0.02)***
Never Married	2.97 (0.06)***	2.85 (0.27)***	2.26 (0.37)***	4.40 (1.35)***
<b>CP initiated before 1<sup>st</sup>/2<sup>nd</sup> child</b>				
No <sup>R</sup>	1.00	1.00	—	—
Yes	1.48 (0.03)***	1.58 (0.04)***	—	—
<b>Age @ first marriage</b>				
16 years & under <sup>R</sup>	1.00	1.00	1.00	1.00
17 years and over	1.54 (0.01)***	1.02 (0.014)*	1.00 (0.02)	1.00 (0.02)
Never married	3.18 (0.06)***	2.78 (0.26)***	2.21 (0.36)***	4.34 (1.34)***
<b>Age @ first birth</b>				
16 years & under <sup>R</sup>	—	1.00	1.00	1.00
17 years and over	—	1.03 (0.013)**	0.99 (0.01)	0.99 (0.02)
<b>Survival stat. of 1st child</b>				
alive <sup>R</sup>	—	1.00	—	—
dead	—	0.77 (0.01)***	—	—
<b>Surv. stat. of prv. 2 Child.</b>				
both alive <sup>R</sup>	—	—	1.00	—
1 alive 1 dead	—	—	0.88 (0.014)***	—
both dead	—	—	0.75 (0.018)***	—

Table 5.5: Cont'd

	1 <sup>st</sup> birth	Time Ratios 2 <sup>nd</sup> birth	3 <sup>rd</sup> birth	4 <sup>th</sup> birth
<b>Surv. Stat. of prev. 3 child.</b>				
all alive <sup>R</sup>	—	—	—	1.00
2 alive 1 dead	—	—	—	0.91 (0.02)***
1 alive 2 dead	—	—	—	0.85 (0.02)***
all dead	—	—	—	0.70 (0.03)***
<b>Education</b>				
No education	1.00	1.00	1.00	1.00
Primary	1.04 (0.01)***	1.02 (0.02)	1.02 (0.02)	1.06 (0.02)**
Secondary & higher	1.11 (0.03)***	1.06 (0.02)**	1.04 (0.02)*	1.00 (0.02)
<b>Religion</b>				
Orthodox Christian <sup>R</sup>	1.00	1.00	1.00	1.00
Protestant	1.05 (0.01)***	0.94 (0.019)**	0.90 (0.02)***	0.97 (0.02)
Muslim	0.99 (0.01)	0.80 (0.012)***	0.81 (0.01)***	0.82 (0.01)***
Traditional & others	0.99 (0.02)	0.91 (0.03)**	0.93 (0.03)*	0.96 (0.04)
<b>Ethnicity</b>				
Amhara <sup>R</sup>	1.00	1.00	1.00	1.00
Oromo	1.01 (0.01)	0.79 (0.014)***	0.82 (0.02)***	0.83 (0.02)***
Tigrawi	0.95 (0.01)**	0.93 (0.021)**	0.94 (0.02)**	1.01 (0.03)
Guragie	1.24 (0.03)***	0.88 (0.029)***	0.83 (0.03)***	0.97 (0.039)
Somalie	1.04 (0.03)**	0.65 (0.02)***	0.66 (0.02)***	0.71 (0.02)***
Affar	1.00 (0.02)	0.81 (0.03)***	0.81 (0.03)***	0.80 (0.03)***
Others	1.01 (0.01)	0.85 (0.02)***	0.85 (0.02)***	0.90 (0.02)***
<b>Type of place of residence</b>				
Urban <sup>R</sup>	1.00	1.00	1.00	1.00
Rural	0.81 (0.01)***	0.81 (0.012)***	0.80 (0.01)***	0.82 (0.02)***

Notes: R = Reference Category; Standard errors in brackets; Significance levels \*\*\*= 0.00; \*\*=0.05; \*=0.10

Age cohort is found to be significantly associated with the transition to subsequent births. This is consistent for all transitions and shows a similar pattern. That is, the time to the next birth is longer for the young and middle cohorts compared with women from the older cohort. For instance, in the case of the second birth, women who belong to the young cohort have a 19 percent longer duration compared with those ages 35 and above. With regard to the type of union, the formerly married and the never married tend to show later transitions to subsequent births. For example, in the transitions to the first and fourth births, the never married show a transition time which is 3 and 4 times longer than those in monogamous union respectively. Age at first marriage is related to all transitions while age at first birth is associated with the second birth process but not with the third and fourth births.

In the transition to the first and second births, contraceptive initiation before the birth of the first and second child are both associated with the pace of the transition. Women who practiced contraception before the birth of their first child had a 48 percent longer transition time, and those who used contraception prior to the birth of their second child had a 58 percent longer transition time compared with non-users.

As expected, the survival status of previous children and the transition to subsequent births are significantly associated. For instance, the transition time to the second birth is shorter by 23 percent for those who lost their first born. Similarly, in the transition to the third birth, women who experienced the death of both of their previous children would have a 25 percent quicker transition compared to those whose children survived. The pace of the transition would also be faster (30 percent) for those who lost 3 of their previous children compared to those whose 3 previous children survived.

Education, religion, ethnicity, and the type of place of residence are all highly associated with the transitions to subsequent births. Women with primary, secondary and higher levels of education are significantly different from women with no formal education with respect to the timing of first births. For the timing of second and third births, women with secondary and higher level of education are observed to significantly differ from those with no education. With respect to religion, compared to Orthodox Christians, Protestants (except for the first birth) and Muslims are observed to have faster transitions to subsequent births. With the exception of the transition to the first birth, all ethnic groups are observed to make a faster transition to subsequent births compared to women from Amhara ethnic group.

Two preliminary conclusions can be drawn from the bivariate findings presented above. First, the association between demographic and proximate variables and the timing of subsequent births are consistent and strong across all transitions. The only exception to this pattern is the association between the variable age at first birth and the timing of successive births. Similarly, socio-cultural variables show significant association with the transition to subsequent births. The bivariate analysis showed that for all parities rural women have a significantly shorter transition time to the next birth.

Although the bivariate findings provide indication of the relationship between the dependent and independent variables they do not take the effects of other relevant variables into account. In order to determine the net effects of each covariate, and adjusting for the effects of others, we now turn to multivariate analysis. In addition, the multivariate analysis estimates separate models to examine the effects of covariates on the timing of births for urban and rural women. The effects of the covariates at the national level are also examined and results are presented.



#### **5.9.4 Multivariate parametric hazard models of the effects of various covariates on the timing of births**

The results from the multivariate analyses are presented in Table 5.6 to Table 5.9 for the transitions to first, second, third and fourth births. The tables show results from models based on measured variables and from models that included a term for unobserved heterogeneity. As indicated in Table 5.1, two thirds of women in the sample have had a first birth and among those exposed to higher order births over 80 percent of them experienced the event. In a situation like this, it is preferable to show the relative speed of transitions to the next birth, rather than to focusing only on the risks of having subsequent births. As a result, all models are estimated using the time ratio metric.

The first model controls for demographic and proximate variables. The second model, which is the full model, adds socio-cultural variables to the first model. The third Model introduces a term for unobserved heterogeneity. By comparing these models we can determine whether the relationship between timing of births and the demographic and proximate factors is maintained when the socio- cultural variables are included. At the same time, we can test whether there are unmeasured factors that explain heterogeneity and whether the time ratios remain stable once we re-estimate the full model by introducing a term for unobserved heterogeneity.

##### **5.9.4.1 First birth**

Table 5.6 presents the results of the timing of first births and the covariates that are expected to have some impact on this process for urban and rural areas. The negative log-likelihoods and Chi-Square statistics indicate that the overall models are significant.

**Table 5.6: Time ratios of having first births by various covariates and urban-rural, Ethiopia, 2000**

	Time Ratios					
	Model 1	Urban Model 2	Model 3	Model 1	Rural Model 2	Model 3
<b>Age Cohort</b>						
35 Years & above <sup>R</sup>	1.00	1.00	1.00	1.00	1.00	1.00
25- 34 years	1.02 (0.02)	1.01 (0.02)	1.05 (0.02)**	0.98 (0.01)**	0.98 (0.01)**	1.00 (0.008)
15-24 years	0.98 (0.02)	0.97 (0.02)	1.01 (0.02)	0.99 (0.01)	0.99 (0.01)	1.02 (0.01)**
<b>Type of Union</b>						
Monogamous <sup>R</sup>	1.00	1.00	1.00	1.00	1.00	1.00
Polygynous	1.00 (0.04)	0.99 (0.04)	0.98 (0.04)	1.03 (0.01)**	1.02 (0.01)**	1.02 (0.01)**
Formerly married	1.05 (0.02)**	1.05 (0.02)**	1.03(0.02)*	1.11 (0.01)***	1.10 (0.01)***	1.08 (0.01)***
Never Married	3.34 (0.10)***	3.38 (0.11)***	3.14 (0.09)***	3.50 (0.13)***	3.53 (0.13)***	3.27 (0.01)***
<b>Age @ first Marriage</b>						
16 years & under <sup>R</sup>	1.00	1.00	1.00	1.00	1.00	1.00
17 years and above	1.61 (0.03)***	1.62 (0.03)***	1.68 (0.03)***	1.49 (0.01)***	1.51 (0.01)***	1.54 (0.01)***
<b>CP initiated before 1<sup>st</sup> child</b>						
No <sup>R</sup>	1.00	1.00	1.00	1.00	1.00	1.00
Yes	1.29 (0.03)***	1.30 (0.03)***	1.27 (0.03)***	1.16 (0.04)***	1.15 (0.04)***	1.17 (0.03)***
<b>Education</b>						
No education		1.00	1.00		1.00	1.00
Primary		0.99 (0.02)	1.00 (0.02)		0.98 (0.01)**	0.97 (0.01)**
Secondary & higher		0.96 (0.02)**	0.97 (0.02)		0.99 (0.01)**	0.99 (0.01)
<b>Relgion</b>						
Orthodox Christian <sup>R</sup>		1.00	1.00		1.00	1.00
Protestant		1.03 (0.03)	1.03 (0.03)		0.98 (0.01)	0.98 (0.01)
Muslim		1.08 (0.03)**	1.07 (0.03)**		1.02 (0.01)*	1.02 (0.01)
Traditional & Others		-	-		1.05 (0.03)**	1.02 (0.02)

Cont'd Table 5.6		Time Ratios				
	Model 1	Urban Model 2	Model 3	Model 1	Rural Model 2	Model 3
<b>Ethnicity</b>						
Amhara <sup>R</sup>		1.00	1.00		1.00	1.00
Oromo		0.96 (0.02)	0.97 (0.02)		0.96 (0.01)**	0.99 (0.01)
Tigrawi		1.04 (0.03)	1.05 (0.02)**		1.02 (0.02)*	1.05 (0.01)**
Guragie		0.95 (0.03)	0.96 (0.03)		1.05 (0.03)**	1.09 (0.03)***
Somalie		1.00 (0.05)	1.02 (0.05)		0.97 (0.02)*	0.99 (0.02)
Affar		-	-		1.15 (0.02)***	1.15 (0.02)***
Others		0.96 (0.03)	0.97 (0.03)		1.00 (0.01)	1.03 (0.01)**
SIGMA			0.381			0.309
THETA			0.302			0.260
Sample size	4543	4543	4543	10820	10820	10820
Number of failures	2312	2312	2312	7818	7818	7818
Negative log likelihood	2036.32	2012.07	1947.77	4145.89	4083.59	3876.71
Likelihood ratio Chi-square	2547.77	2568.61	2649.61	4434.59	4560.25	4871.84
DF	7	16	16	7	18	18
Prob . Chi sq	0.000	0.000	0.000	0.000	0.000	0.000
Theta Chi-sq			128.60			412.7
Prob			0.000			0.000

Notes: R = Reference Category; Standard errors in brackets; Significance levels \*\*\*= 0.00; \*\*=0.05; \*=0.10

With the exception of age cohort, all demographic and proximate covariates in Model 1 have significant association with the first birth process in both rural and urban areas.

With respect to the type of marital union, the formerly married and the never married significantly differ from those in monogamous union in their transition to the first birth. In particular, the never married in both urban and rural areas take three times longer time to make the transition to first births compared to those in monogamous union. Similarly, the formerly married in both rural and urban areas show a significantly longer transition time to first birth compared with those in monogamous unions. The length of this duration is comparatively longer for rural women. Also, rural women in polygynous unions have a three percent longer duration time to first birth compared to those in monogamous union. This is not the case for urban women.

As expected, women whose first marriage has occurred at a relatively later time have a significantly longer timing to first birth in both urban and rural areas. However, the duration is higher for urban than rural women. For instance, while urban women who had their first marriage by age 17 and later have a 61 percent longer duration to first birth compared to those who were married by age 16 and under, this transition time is only 49 percent longer for rural women. Also, compared to those who did not use contraceptives, the transition time to first birth is longer by 29 percent in urban and 16 percent in rural areas for those who used some form of contraception before the first birth.

Model 2 for both urban and rural areas show significant improvement over Model 1 as evidenced by the higher likelihood ratio and model Chi-Square statistics. There is no substantial change in parameter estimates and the direction of influence between the two models, indicating the strength of the association between the Model 1 covariates and the transition to first birth.

Examining the effects of socio-cultural variables suggest that the timing of first births in both urban and rural areas is slightly different for women with secondary or higher level of education compared to those with out any formal education. However, the direction of the effect is not as expected. That is, women with secondary and higher level of education have faster transition to first births. Most of these women (41%) are from the older cohort. The quicker transition might be the result of an attempt to compensate for the time spent at school. In terms of the effect of religion on the timing and transition to first births, urban Muslim women have slightly longer transition to first birth relative to Orthodox Christians. Although the direction of the relation is similar to that of urban women, for rural women the magnitude is lower. There is also significant difference in the timing of first births with respect to ethnic origin of women. Compared to *Amharas*, *Oromos* show shorter transition time and by implication higher risk of first births. This pattern applies to both urban and rural settings. The difference in the timing of first births between those who belong to other ethnic groups and *Amharas* is not significant in urban settings.

Table 5.6 also highlights the results from the models that controls for unobserved heterogeneity and the models without it for the timing of first births. Comparing Model 2 and Model 3 some differences are noticeable. The age cohort covariate changed in the theoretically expected direction in the unobserved heterogeneity models. That is, the intermediate cohort in urban areas and the younger cohort in rural areas showed a relatively longer transition time to first birth compared to women from the old cohort. The transition time is slightly longer for the urban model.

The magnitude of the impact of the type of union on the timing of first births has slightly reduced in the unobserved heterogeneity models for both urban and rural areas. However, the direction of the effect of union status has remained the same for Model 2 and

Model 3. In addition, the unobserved heterogeneity model showed that there is a significant difference in the timing of first births between the never married, the formerly married and those in monogamous union for urban areas. In the case of rural areas, besides the never married and the formerly married, a significant difference is observed between those in polygynous unions and those in monogamous unions in terms of the timing of first births.

The effect of contraceptive use and age at first marriage became stronger on the timing of first births in the unobserved heterogeneity models. The effect is stronger for the urban model compared to the rural. Although no substantial change is observed in the magnitude, education lost its significance for the urban model. For the rural model, women with primary education show faster transition to first births compared to those in the “no education” category. The effect of religion persisted in Model with unobserved heterogeneity. The effect of ethnicity on the timing of the first birth becomes prominent in the rural model that controlled for unobserved heterogeneity compared to the model without the term. This is according to expectation since rural women manifest more diverse ethnic background than urban women.

#### **5.9.4.2 Second birth**

Table 5.7 presents the results from the multivariate analyses on the effects of selected theoretically relevant covariates on the timing of second births. Based on the negative log likelihood values from each model, it is evident that the overall model is significant. Model 1 controls for age cohort, union status, contraceptive use, age at first marriage, age at first birth and the survival status of the first child. The full model includes covariates from Model one and additional socio-cultural variables.

**Table 5.7: Time ratios of having second births by various covariates and urban-rural, Ethiopia, 2000**

	Time Ratios					
	Model 1	Urban Model 2	Model 3	Model 1	Rural Model 2	Model 3
<b>Age Cohort</b>						
35 years and above <sup>R</sup>	1.00	1.00	1.00	1.00	1.00	1.00
25 – 34 years	1.17 (0.04)***	1.20 (0.05)***	1.24 (0.04)***	0.97 (0.014)*	0.98 (0.01)*	0.99 (0.01)
15 - 24 years	1.29 (0.08)***	1.35 (0.08)***	1.35 (0.07)***	1.01 (0.02)*	1.01 (0.02)	1.01 (0.02)
<b>Type of Union</b>						
Monogamous <sup>R</sup>	1.00	1.00	1.00	1.00	1.00	1.00
Polygynous	1.17 (0.10)*	1.24 (0.10)**	1.21 (0.08)**	1.03(0.02)*	1.07 (0.02)***	1.04 (0.02)**
Formerly married	1.32 (0.05)***	1.30 (0.05)***	1.11(0.04)**	1.15 (0.02)***	1.14 (0.02)***	1.08 (0.02)***
Never Married	3.16 (0.44)***	2.92 (0.42)***	2.07 (0.26)***	1.60 (0.28)**	1.53 (0.27)**	1.49 (0.22)**
<b>CP use before 2nd child</b>						
No <sup>R</sup>	1.00	1.00	1.00	1.00	1.00	1.00
Yes	1.45 (0.07)***	1.37 (0.06)***	1.33 (0.05)***	1.39 (0.06)***	1.33 (0.06)***	1.22 (0.05)***
<b>Age @ first Marriage</b>						
16 years & under <sup>R</sup>	1.00	1.00	1.00	1.00	1.00	1.00
17 years and over	1.04 (0.04)	1.05 (0.05)	1.06 (0.04)	0.95 (0.01)**	1.00 (0.01)	1.01 (0.01)
<b>Age @ first birth</b>						
18 years & under <sup>R</sup>	1.00	1.00	1.00	1.00	1.00	1.00
19 years and over	1.03 (0.05)	1.04 (0.04)	1.02 (0.04)	1.03 (0.01)**	1.02 (0.02)**	1.01 (0.01)
<b>Survival stat. of 1st child</b>						
1= alive <sup>R</sup>	1.00	1.00	1.00	1.00	1.00	1.00
2= dead	0.87 (0.04)**	0.89 (0.04)**	0.84 (0.03)***	0.78 (0.01)***	0.78 (0.01)***	0.75 (0.00)***
<b>Education</b>						
No education		1.00	1.00	1.00	1.00	1.00
Primary		0.95 (0.04)	0.98 (0.04)		1.04 (0.02)**	1.05 (0.01)**
Secondary & higher		1.04 (0.04)	1.00 (0.04)		1.00 (0.02)	1.01 (0.02)

Cont'd Table 5.7		Time Ratios				
	Model 1	Urban Model 2	Model 3	Model 1	Model 2	Rural Model 3
<b>Religion</b>						
Orthodox Christian <sup>R</sup>		1.00	1.00		1.00	1.00
Protestant		0.97 (0.07)	1.00 (0.06)		1.08 (0.03)**	1.06 (0.02)**
Muslim		0.81 (0.04)***	0.87 (0.03)***		0.95 (0.02)**	0.94 (0.01)***
Traditional & others		-	-		1.07 (0.03)**	1.04 (0.03)
<b>Ethnicity</b>						
Amhara <sup>R</sup>		1.00	1.00		1.00	1.00
Oromo		0.90 (0.04)**	0.92 (0.06)**		0.83 (0.02)***	0.84 (0.01)***
Tigrawi		0.95 (0.06)	1.04 (0.03)		0.97 (0.02)	1.00 (0.02)
Guragie		0.96 (0.07)	1.02 (0.06)		0.86 (0.03)***	0.89 (0.03)**
Somalie		0.69 (0.07)***	0.76 (0.06)***		0.72 (0.02)***	0.75 (0.02)***
Affar		-	-		0.93 (0.03)**	0.94 (0.03)**
Others		0.81 (0.06)**	0.87 (0.05)**		0.87 (0.02)***	0.89 (0.00)***
SIGMA			0.504 (0.01)			0.392 (0.00)
THETA=0			0.783 (0.06)			0.409 (0.02)
Sample size	2321	2321	2321	7822	7822	7822
Number of failures	1681	1675	1675	6627	6627	6627
Negative log likelihood	2371.65	2330.17	2171.90	5871.48	5740.29	5319.29
Likelihood ratio Chi-square	222.21	286.76	252.79	448.82	711.21	862.24
DF	9	18	18	9	20	20
Prob > chi sq	0.000	0.000	0.000	0.000	0.000	0.000
THETA=0 chi sq			316.54			841.99

Notes: R = Reference Category; Standard errors in brackets; Significance levels \*\*\*= 0.00; \*\*=0.05; \*=0.10



In Model 1, significant differences in the timing of second births for urban and rural residents are observed according to age cohort, type of union, contraceptive use, and the survival status of the previous child. Of the remaining demographic and proximate variables in Model 1, significant differences in the timing of second births for rural residents are observed with respect to age at first marriage and age at first birth.

Unlike the previous model of first births, the age cohort variable shows a significant relationship in the expected direction with the timing of second births. In both rural and urban areas young women show a significantly longer duration to second births compared to women aged 35 and above. However, this duration is by far longer for urban women compared to rural women. Also, the estimated time ratios suggest that women in urban areas who are in polygynous union, the formerly married and those never married have a significantly longer transition to second births which implies later timing. The results also show that, although rural women exhibit the same pattern, the magnitude of the transition time is lower compared to urban women. For instance, compared to women in monogamous unions, in rural areas those in polygynous unions have three percent longer transition time to the second birth relative to 17 percent for urban women. Similarly, compared to those in monogamous unions, the never married women from rural areas show a 60 percent longer transition to the second birth while in urban areas never married women show three times longer transition.

The transition to second birth is quicker by five percent for rural women who married after age 17, compared to those who married when they were 16 years and younger. Compared to those who had their first birth when they were age 18 and below the transition time to second birth is longer by three percent for rural women who had

their first birth by age 19 and after. As expected, the transition time to the second birth is longer for contraceptive users compared to non users. However, urban women have longer transition and hence lower risk to second birth compared to women from rural areas. Compared to women whose first child survived, the transition to second birth is faster by about 13 percent for urban and by 22 percent for rural women who lost their first child.

Model 2 improves considerably on Model 1. Just like the first birth, in the urban models, education is found not to have significant effect on the transition to second births. However, in rural areas women with primary education show a slightly longer transition to second births compared to those in the reference category. In both urban and rural areas the timing of the transition to second births is significantly quicker for Muslim women compared to Orthodox Christians. However, it is even faster for urban than rural women. Rural women who follow Protestantism have longer transition time to second births compared to their Orthodox counterparts. With regard to ethnicity, its effect on the transition to second births is significant in both urban and rural areas. Compared to *Amharas*, *Oromo* women from urban and rural areas are 10 and 17 percent faster to make the transition to the second birth. *Guraghie* women from rural areas have 14 percent quicker transition to second birth compared to women of *Amhara* ethnic origin. Women who belong to the *Somalie* ethnic group have a 31 and 28 percent quicker transition, in urban and rural areas respectively, to the second birth compared to women from the *Amhara* ethnic group. While *Affar* women from rural areas have shorter transition time to second births, women who belong to the “other” category make a faster transition in both urban and rural areas.

Turning to Model 3, the null hypothesis  $\theta=0$  is significant suggesting unobserved heterogeneity has an effect on the timing of second births. Overall, the effects of the covariates on the timing of second births are in the theoretically expected direction. However, when the unobserved heterogeneity term is introduced the effect of some of them has weakened while the effect of some others became stronger. For instance, age at first birth lost its significance in the rural model and the age cohort covariate is also not significant. On the other hand, for the urban model the coefficients of age cohort remains stable and significant indicating that this covariate has its influence in urban than rural areas. Education continues to have its effect on the timing of second births in rural areas. The effect of the type of union persists in the model for unobserved heterogeneity though the magnitude is reduced slightly. The formerly married, those in polygynous unions and the never married are observed to have later timing of second births compared to women in monogamous union. The magnitude of the effect of the survival status of the previous child has become stronger in the unobserved heterogeneity models for both urban and rural areas. This can be observed in the time ratio changes for the rural model from 0.78 to 0.75 and for the urban model from 0.89 to 0.84.

#### **5.9.4.4 Third birth**

The time ratios from the parametric hazard models that estimated the effects of substantively related covariates are presented in Table 5.8. Different from the first and second births, the models that apply to the third birth exclude the contraceptive use variable due to insufficient number of cases. The likelihood ratio tests suggest that both Model 1, Model 2 and Model 3 are significant.

Table 5.8: Time ratios of having third births by various covariates and urban-rural, Ethiopia, 2000

	Time Ratios					
	Urban			Rural		
	Model 1	Model 2	Model 3	Model 1	Model 2	Model 3
<b>Age Cohort</b>						
Above 35 years <sup>R</sup>	1.00	1.00	1.00	1.00	1.00	1.00
25-34 years	1.19 (0.06)***	1.25 (0.06)***	1.21 (0.05)***	0.99 (0.01)	0.99 (0.01)	1.00 (0.01)
15-24 years	1.59 (0.19)**	1.77 (0.20)***	1.61 (0.13)***	1.06 (0.03)**	1.06 (0.02)**	1.07 (0.02)**
<b>Type of Union</b>						
Monogamous Marriage <sup>R</sup>	1.00	1.00	1.00	1.00	1.00	1.00
Polygynous Marriage	1.07 (0.11)	1.22 (0.12)*	1.24 (0.10)**	1.04 (0.02)*	1.08 (0.02)***	1.03 (0.02)*
Formerly married	1.41 (0.07)***	1.39 (0.07)***	1.11 (0.05)**	1.12 (0.02)***	1.11 (0.02)***	1.04 (0.02)**
<b>Age @ first Marriage</b>						
16 years & under <sup>R</sup>	1.00	1.00	1.00	1.00	1.00	1.00
17 years and over	1.02 (0.06)	1.06 (0.06)	1.02 (0.05)	0.98 (0.01)	1.02 (0.02)	1.02 (0.02)
<b>Age @ first birth</b>						
18 years & under <sup>R</sup>	1.00	1.00	1.00	1.00	1.00	1.00
19 years and over	1.08 (0.06)	1.09 (0.06)	1.09 (0.05)*	0.99 (0.01)	0.98 (0.02)	0.98 (0.01)
<b>Survival stat of prev. children</b>						
both alive <sup>R</sup>	1.00	1.00	1.00	1.00	1.00	1.00
1 alive 1 dead	0.81 (0.04)***	0.82 (0.04)**	0.84 (0.03)***	0.91 (0.01)***	0.91 (0.01)***	0.89 (0.01)***
all dead	0.81 (0.06)**	0.84 (0.08)*	0.77 (0.06)**	0.77 (0.02)***	0.77 (0.02)***	0.74 (0.01)***
<b>Education</b>						
No education		1.00	1.00		1.00	1.00
Primary		1.00 (0.06)	0.96 (0.05)		1.02 (0.02)	1.02 (0.02)
Secondary & higher		1.02 (0.05)	0.97 (0.05)		0.99 (0.02)	1.01 (0.02)

Cont'd Table 5.8						
	Urban			Rural		
	Model 1	Model 2	Model 3	Model 1	Model 2	Model 3
<b>Religion</b>						
Orthodox Christian <sup>R</sup>		1.00	1.00		1.00	1.00
Protestant		0.86 (0.08)*	0.92 (0.07)		1.01 (0.02)	1.03 (0.02)
Muslim		0.80 (0.05)***	0.87 (0.04)**		0.93 (0.02) ***	0.94 (0.01)**
Traditional & others		-	-		1.07 (0.06)*	1.07 (0.03)**
<b>Ethnicity</b>						
Amhara <sup>R</sup>		1.00	1.00		1.00	1.00
Oromo		0.87 (0.05)**	0.95 (0.04)		0.88 (0.02)***	0.88 (0.02)***
Tigrawi		0.86 (0.06)*	0.97 (0.06)		0.98 (0.03)	1.02 (0.02)
Guragie		0.74 (0.06)**	0.84 (0.06)**		0.91 (0.03)**	0.94 (0.04)
Somalie		0.60 (0.07)***	0.72 (0.05)***		0.74 (0.02)***	0.76 (0.02)***
Affar		-	-		0.94 (0.03)*	0.92 (0.03)**
Others		0.84 (0.08)**	0.90 (0.06)		0.89 (0.02)***	0.91 (0.02)***
Sample size	1684	1684	1684	6603	6603	6603
Number of failures	1204	1204	1204	5491	5491	5494
Negative log likelihood	1811.36	1765.51	1636.36	5130.94	5044.97	4645.46
Likelihood ratio Chi-square	82.05	163.00	116.66	164.81	336.74	471.17
DF	8	17	17	8	19	19
Prob > Chi-sq	0.000	0.000	0.000	0.000	0.000	0.000
SIGMA			0.486 (0.02)			0.396 (0.005)
THETA			1.02 (0.09)			0.454 (0.022)
THETA Chi-sq			258.3			799.04
Prob > Chi-sq			0.000			0.000

Notes: R = Reference Category; Standard errors in brackets; Significance levels \*\*\*= 0.00; \*\*=0.05; \*=0.10

In Model 1, there is no apparent difference in the transition to the third birth between those who marry early and late. In the same manner, there is no significant difference in the transition to the third birth between those who had their first birth when they were 18 and younger and those ages 19 and older. These patterns hold for women from urban and rural areas. As expected, women from the young and middle cohorts have longer transition times to third births. However, the difference is significant and more pronounced for urban women. For example, compared to older women the young cohort from urban centers show a 59 percent longer transition time compared to 6 percent for rural women.

A look at the type of union suggests that compared to women in monogamous marriages, those in polygynous unions from rural areas have a 4 percent longer transition time to the third birth. Although, the direction of the effect is similar for urban areas it is not significant. Rural formerly married women in both rural and urban areas show longer transition time to third birth compared to those in monogamous unions. Women who experienced the death of one or both of their previous children have a significantly faster transition to third births in both urban and rural areas, which is according to expectation. In Model 1, urban women who lost a child or children make a slightly faster transition to the third birth compared to rural.

Model 2 significantly improves on Model 1. Except age at first marriage (for both urban and rural areas) and age at first birth (only for rural areas) all covariates show significant effect on the transition to third births. Compared to Model 1, in the urban Model 2 the effect of the age cohort variable becomes stronger while it maintains a similar level of influence in rural areas. That is, the coefficient for the urban model

changed from 1.59 in Model 1 to 1.77 in Model 2 and for the rural model this coefficient is 1.06 for both models. The inclusion of socio-cultural variables has made the effect of age cohort even stronger for the urban model.

Turning to the type of union, the coefficients of this covariate has changed considerably from Model 1 to Model 2 and this change is more pronounced for the urban model. In the case of urban areas, compared to women in monogamous unions, the formerly married show 39 percent longer transition to the third birth while rural women have a 11 percent longer transition time. Also, urban women in polygynous unions take a 22 percent longer transition time to the third birth compared to those in monogamous unions. In contrast, rural women in polygynous unions have an 8 percent longer transition to third birth compared with women from the reference category.

A look at the effect of the survival status of previous children reveals that rural women whose previous two children had died make a 23 percent quicker transition to the third birth compared to those whose children have survived. In urban settings those who lost one of their two children are 17 percent faster to have a third birth compared to those who did not lose any child.

For religion, using Orthodox Christians as the reference category, Muslims continue to have shorter transition time and hence higher risk of third births in both urban and rural areas. However, the magnitude is more noticeable in urban areas. Women who belong to the Protestant religion have shorter timing in urban settings. Turning to ethnicity, there is a significant difference in the transition to third birth between Amhara and the other ethnic groups. *Oromo* women have 15 and 12 percent quicker timing to third births in urban and rural areas respectively compared to *Amharas*. Similarly,

compared to *Amharas*, *Guraghie* women have 25 and 9 percent faster transition times to third birth in urban and rural areas respectively. The quickest transition to the third birth is observed for *Somalie* women in both urban (41 %) and rural (26 %) areas in comparison to women from the *Amhara* ethnic group.

Model 3 of Table 5.8 presents time ratios for the model with unobserved heterogeneity. As in the case of first and second births, the unobserved heterogeneity model provides better fit for the timing of the third birth. Here again, for both urban and rural areas, the direction of the effect of the covariates are in agreement with the suggestions from the literature.

In both urban and rural areas, the type of union is significantly associated with the timing of the third birth. However, the magnitude of the effect has weakened from the model without unobserved heterogeneity to the model that introduced frailty. Those in polygynous unions and the formerly married are significantly different from those in monogamous unions and this difference is highly visible in the case of urban areas compared to rural.

Like the second birth, the survival status of the previous children continues to affect the timing of third births and the magnitude has pronounced in the unobserved heterogeneity models compared to those without and for rural areas. With respect to religion, significant difference between Muslims and Orthodox Christians is observed in both urban and rural models and the direction and degree of this effect is similar to that in the other models. Muslims from urban areas continue to have quicker transition to the third birth. However, the effect is lower in the model with unobserved heterogeneity than models without. The significant difference in the timing of third births between *Oromos*



and *Amharas*, *Tigrawis* and *Amharas* observed in the models without unobserved heterogeneity in urban settings, disappears in the unobserved heterogeneity model. But the difference continues to show in the rural model. In the case of urban areas, the change in the significance from Model 2 to Model 3 could imply that these estimates are exaggerated due to some unmeasured factors. The “true” effect is revealed once the unobserved heterogeneity term is introduced in the third model.

#### **5.9.4.5 Fourth birth**

Table 5.9 presents the results of the effects of the covariates on the transition to fourth birth. Like the models from first to third births, the negative log likelihood and the related likelihood ratios indicate the overall models as significant.

Taking those ages 35 and above as the reference category, women from the next younger cohort have a 28 percent and 4 percent longer transition times to the fourth birth in urban and rural areas respectively. The effect of the type of union persisted in the transition to the fourth birth. Compared with women in monogamous unions, the formerly married have a 27 percent longer transition to the fourth birth in urban areas and 12 percent longer transition time in rural areas.

Table 5.9: Time ratios of having fourth births by various covariates and urban-rural, Ethiopia, 2000

	Time Ratios					
	Urban			Rural		
	Model 1	Model 2	Model 3	Model 1	Model 2	Model 3
<b>Age Cohort</b>						
Above 35 years <sup>R</sup>	1.00	1.00	1.00	1.00	1.00	1.00
25 - 34 years	1.28 (0.07)***	1.37 (0.07)***	1.32 (0.6)***	1.04 (0.02)**	1.05 (0.02)**	1.06 (0.01)***
15 – 24 years	1.11 (0.22)	1.28 (0.24)	1.22 (0.18)	1.15 (0.05)**	1.17 (0.06)**	1.14 (0.05)**
<b>Type of Marital Union</b>						
Monogamous Marriage <sup>R</sup>	1.00	1.00	1.00	1.00	1.00	1.00
Polygynous Marriage	1.02 (0.11)	1.10 (0.12)	0.98 (0.09)	1.00 (0.01)	1.04 (0.02)*	1.02 (0.02)
Formerly married	1.27 (0.07)***	1.27 (0.07)***	1.12 (0.05)**	1.12 (0.03)***	1.12 (0.03)***	1.05 (0.02)**
<b>Age @ first Marriage</b>						
16 years & under <sup>R</sup>	1.00	1.00	1.00	1.00	1.00	1.00
17 years and over	1.04 (0.07)	1.08 (0.07)	1.08 (0.06)	0.98 (0.02)	1.02 (0.02)	1.04 (0.02)**
<b>Age @ first birth</b>						
18 years & under <sup>R</sup>	1.00	1.00	1.00	1.00	1.00	1.00
19 years and over	0.99 (0.06)	1.02 (0.06)	0.99 (0.05)	1.00 (0.02)	1.01 (0.02)	0.98 (0.01)
<b>Surv. Sta. of prev. children</b>						
all alive	1.00	1.00	1.00	1.00	1.00	1.00
2 alive 1 dead	0.84 (0.05)**	0.84 (0.05)**	0.85 (0.04)**	0.94 (0.02)***	0.93 (0.02)***	0.92 (0.01)***
1 alive 2 dead	0.84 (0.07)**	0.85 (0.07)*	0.81 (0.06)**	0.87 (0.02)***	0.87 (0.02)***	0.85 (0.02)***
all dead	0.62 (0.10)**	0.66 (0.11)**	0.68 (0.09)**	0.73 (0.02)***	0.74 (0.03)***	0.72 (0.02)***
<b>Education</b>						
No education		1.00	1.00		1.00	1.00
Primary		0.99 (0.06)	0.95 (0.05)		1.06 (0.02)**	1.05 (0.02)**
Secondary & higher		1.04 (0.06)	0.96 (0.05)		0.95 (0.02)**	0.95 (0.02)**

Cont'd Table 5.9		Time Ratios				
	Model 1	Urban Model 2	Model 3	Model 1	Rural Model 2	Model 3
<b>Religion</b>						
Orthodox Christian <sup>R</sup>		1.00	1.00		1.00	1.00
Protestant		1.27 (0.13)**	1.13 (0.09)		1.04 (0.03)	1.03 (0.03)
Muslim		0.85 (0.06)**	0.91 (0.05)*		0.94 (0.02)**	0.94 (0.02)**
Traditional & others		-	-		1.07 (0.04)*	1.04 (0.04)
<b>Ethnicity</b>						
Amhara <sup>R</sup>		1.00	1.00		1.00	1.00
Oromo		0.88 (0.05)*	0.98 (0.05)		0.85 (0.02)***	0.86 (0.02)***
Tigrawi		1.06 (0.09)	1.12 (0.08)		1.01 (0.03)	1.04 (0.03)
Guragie		0.88 (0.08)	0.95 (0.08)		1.00 (0.05)	1.05 (0.04)
Somalie		0.63 (0.08)***	0.73 (0.06)**		0.76 (0.02)***	0.77 (0.02)***
Affar		-	-		0.89 (0.04)**	0.91 (0.03)**
Others		0.68 (0.07)***	0.74 (0.06)***		0.93 (0.03)**	0.93 (0.02)**
Sample size	1224	1224	1224	5491	5491	5491
Number of failures	875	873	873	4526	4526	4526
Negative log likelihood	1313.02	1282.82	1180.26	4275.73	4187.42	3909.08
Likelihood ratio Chi-square	45.66	101.98	101.27	134.64	311.27	405.14
DF	9	18	18	9	20	20
Prob > ch sq	0.000	0.000	0.000	0.000	0.000	0.000
SIGMA			0.4606 (0.02)			0.405 (0.01)
THETA			1.10 (0.01)			0.431 (0.02)
THETA chi-sq			205.11			556.66
Prob > ch sq			0.000			0.000

Notes: R = Reference Category; Standard errors in brackets; Significance levels \*\*\*= 0.00; \*\*=0.05; \*=0.10

There is a significant difference between those who have child death experience and those who have not in the transition to the fourth birth. For instance, in urban areas as compared to those whose three previous children survived, those with no surviving children have 38 percent faster transition time to the fourth birth (Model 1). In rural areas women who lost all their previous children have a 27 percent quicker timing to the fourth birth.

As evidenced by the negative log likelihood and the likelihood ratio tests, Model 2 has greatly improved on Model 1. For instance for the urban model, the magnitude of the difference between the intermediate and older cohorts has changed from 1.28 in Model 1 to 1.37 in Model 2. In terms of the effect of the survival status of previous children, the coefficients have changed slightly more for the urban model than the rural model.

Coming to the socio-cultural covariates, the effect of education on the timing of fourth births is observed for the rural model and it is significant. With respect to religion, there is a significant difference between Orthodox Christians and Protestants, between Muslims and Orthodox Christians in both urban and rural areas. Muslims continue to have shorter transition times to the fourth birth compared to Orthodox Christians and the magnitude is slightly higher for urban areas than rural. Protestants from urban areas show a 27 percent longer transition to the fourth birth. Although their rural counterparts show a similar trend the effect is not significant. Like the previous models *Oromos* in rural areas have shorter transition to the fourth birth compared to *Amharas*. The same pattern is observed in urban areas although the effect is not significant.

Lastly, Model 3 which includes unobserved heterogeneity, indicates that the directions of the effects of the covariates in the timing of fourth births are consistent with the results observed in the timing of first to third births (Table 5.9). Age at first marriage has significant effect on the timing of fourth births for rural areas. In rural settings, the timing of the fourth birth is longer for those with primary level of education and shorter for those with high school or above level of education. For the urban models, this relationship is not significant. In terms of religion, Muslims continue to show faster transition to the fourth birth in both urban and rural areas. Women from rural areas who practice “traditional” religious beliefs have longer duration to the fourth birth in Model 2. This relationship is no more significant in Model 3. Protestant religion lost its significance from Model 2 to the Model that includes unobserved heterogeneity in the case of urban areas.

#### **5.9.4.6 Models for the whole country**

Finally, we have examined the effects of the various covariates on the timing of births at the national level. Three separate models were estimated to examine the transition to successive births nationally. In the national model, place of residence is added as a covariate to the rest of the demographic, proximate and socio-cultural factors that were controlled in the previous models. The estimated time ratios for the national models are presented in Appendix G.1 to G.4.

The results based on the country-level data show that the effects of most of the variables are in line with the theoretical expectations and earlier results. For instance, for all transitions the intermediate and young cohorts have longer transition than older

cohorts; and the length of the transitions by these cohorts increase from first to fourth births. The never married and the formerly married show longer transition than those women in monogamous unions. Regarding the timing of the second and third births, those in polygamous unions show later transition. Similar to the urban and rural models, survival status of previous children considerably affects the timing of the transition to next births. That is, women with child death experiences make faster transitions to subsequent births. Except with the first birth, Muslim women show faster transition to subsequent births. In terms of ethnic differential, among the large ethnic groups in the country, *Oromos* consistently show quicker transition to subsequent births.

The place of residence variable, which is included in the national models as a covariate shows some unexpected results. In the bivariate analysis and in Model 1 and Model 2 of the multivariate analysis (except with the timing of first births), it is observed that the timing of births are faster for women in rural relative to urban areas. However, in Model 3 which includes unobserved heterogeneity, the timings of second births of rural women show a slightly later timing compared to urban women. Although the magnitude of this effect is not large, the direction and its significance make explanation less straightforward. One hypothesis could be that this is related to the length of postpartum amenorrhea, which is attributable to the practice and frequency of breastfeeding and other natural fertility factors such as women's health. Breastfeeding was not controlled in our models due to data limitation. However, it is known that in Ethiopia rural women breastfeed their children for longer duration than their urban counterparts (CSA & ORC Macro, 2001). The intensity of breastfeeding is also higher in rural areas. In a situation where breastfeeding is practiced widely, it would be reasonable to expect a delayed

transition to subsequent births by women. In this respect, the present finding is in agreement with an earlier study by Hassen and colleagues (1994) who found that in Ethiopia postpartum amenorrhea, as measured by the duration of breastfeeding, is the most important proximate factor in suppressing fertility. Similarly, a delay in first births could be due to poorer nutrition and health in rural areas. The fact that this longer time for rural areas appears after controlling for unobserved heterogeneity adds credibility to this hypothesis. It is also noteworthy that the shorter transitions in rural areas to third and fourth parities disappear after controlling for unobserved heterogeneity.

### **5.10 Discussion**

The life table analysis suggested that about half of women had their first births by age 20. For all parities, other than the first, the median ages of urban women are higher by over a year and half compared to rural women. Similarly, results from the life table analysis indicated that rural women on average had 4 months shorter transition time to the next birth compared to urban women across all parities. For urban women, median durations between births are above 35 months for all transitions. These results clearly indicate that urban women are having longer transition times to the next birth which also implies lower risk of births. This is in accordance with theoretical expectations.

The effects of theoretically relevant covariates in the timing of subsequent births are also assessed using parametric hazard models. The bivariate analysis results show that there are significant variations in the timing of subsequent births by demographic, proximate, and socio-cultural attributes of respondents. In the bivariate analyses, except

for age at first birth and in the case of third and fourth births, the remaining covariates are significantly associated to the timing of births.

In the multivariate analyses the models that controlled for unobserved heterogeneity showed much improvement over the models that controlled only for measured factors. Most of the covariates are found to have significant influence on the timing of subsequent births. The results also suggested that the effects of these covariates are in accordance with the suggestions from the literature.

The results showed that age cohort has significant effect on the timing of successive births. Women from the younger and intermediate cohorts take longer transition time to the next birth compared to those from the old cohort. For this younger and intermediate cohort this transition time also increases from the first to the second and third births relative to older cohort and particularly for urban women. This can be interpreted in terms of the opportunity and the motivation to use contraceptives, a relatively improved access to information through the media, and the chance to attend formal education, which in turn allows the young cohort to delay marriage or space births. This was confirmed by the results showing that the effect is much stronger in urban settings where more opportunities are available. In the urban environment, young people tend to have longer transition times to successive births. The time they take out of their reproductive life span might be invested in developing their human capital or preparing themselves to shoulder the responsibility of parenting. The societal norm in terms of pressuring young people to marry and have kids at an early age, as it was during the times of the older cohorts, have begun to change and young people are now relatively free to decide for themselves. This point has also been underpinned repeatedly by the



respondents of the qualitative interview. These factors are thought to be behind the later timing of subsequent births for women from young cohort compared to the old.

The timing of births is significantly associated with the type of union. As expected, the formerly married and the never married spend longer time to move into the next birth compared to those in monogamous union. Also this effect is stronger for urban areas. This is according to the theoretical expectation that most births occur within marriage. Polygyny is also found to extend the length of time to the next birth. This might be due to the reduced frequency of sexual intercourse as explained by some researchers (LeGrand et al., 2003).

The role of contraception in fertility change has been well established. In this study contraceptive use is directly controlled only for the first and second birth transition processes. As expected, those who used contraceptives before the birth of their first child and those who used in between the first and second birth intervals have a significantly longer transition to first and second births respectively compared to those who have not used contraception. Also the effect is stronger in urban areas. This may not be surprising since contraceptives are better accessed in the urban environment. Also, net of other factors, late age at first marriage is related to later transition to first births.

The impact of child survivorship on subsequent fertility behavior has been the subject of much previous research by demographers (for example Preston, 1978; Cleland and Wilson, 1987; Defo, 1998; Gyimah, 2001). The findings from this study confirm that women with child loss experience have faster transition to the next birth. The pace of this transition accelerates with the number of child deaths women have experienced. For instance, compared to women whose three previous children are alive, those with no

surviving children have a much accelerated transition to the fourth birth. In urban settings, those who lost their first born have a 16 percent faster timing to the second birth, whereas rural women with similar experience have a 25 percent quicker transition relative to those whose first born survived. In the case of the models that assessed the timing of second births, the mechanism through which a child death affects subsequent birth might be through early discontinuation of breastfeeding. Physiologically, prolonged breastfeeding is known to delay ovulation and the resumption of menstruation. Infant death leads to the discontinuation of breastfeeding which in turn accelerates the return of ovulation and the risk of conceiving the next child. The faster transition to higher order births observed among those who lost one or more of their previous child(ren) can also be attributed to intentional replacement of dead children. Based on census data, Kinfu (2001) noted that in Addis Ababa completed fertility is higher among women who experienced the death of two or more children than those who lost only one or none. Overall, the effect of child loss on the timing of subsequent births is more pronounced in rural areas in the case of second and third births and this pattern changes when it comes to the fourth birth. That is the effect is slightly higher in urban areas compared to rural.

Turning to socio-cultural covariates, fertility studies consistently show that parental education, particularly that of maternal education, as the most important determinant of reproductive behavior (Cochrane, 1983, Cleland & Rodriguez, 1988). In this study, primary education and the timing of births are observed to be inversely associated for the second and fourth births and for rural areas. These findings suggest that the more a woman is educated the longer she delays her transition to subsequent births. However, the effect of education is not significant for the urban models suggesting that

there are no significant differences between women with some level of education and others with No formal education. This result may be a function of the focus on timing, where urban women with more education may have their children more quickly, but have fewer total children.

Religion and ethnicity are significantly associated with the timing of subsequent births. With respect to religion, with the exception of the first birth, Muslims are observed to have shorter birth intervals across all transitions compared to Orthodox Christians. On the other hand, Protestants are found to have later transition and hence lower risk to subsequent births compared to Orthodox Christians. These findings are corroborated by the findings from an earlier study (Kinfu, 2001). However, the same study found that this difference disappears once other socioeconomic variables are controlled. The present study did not control for socioeconomic factors, other than education, to test for a similar hypothesis. Perhaps, the differential in the timing of subsequent births between Protestants and Orthodox Christians can be explained by the values and attitudes these two groups hold. Orthodox Christians, in general, uphold conservative views and ideas regarding many different aspects of life including reproductive matters. Conversely, Protestantism entered the country much later and it was introduced by foreign missionaries who brought with them different ideas and views. For instance, some protestant churches embrace contraceptive use and the supply of contraceptives is included in their development programs. In comparison, the Orthodox Church does not support contraception.

With respect to ethnicity, *Oromos* are observed to have shorter birth intervals across all transitions compared to *Amharas*. No significant difference is observed in the

timing of successive births between *Tigrawi* and *Amharas*. These two ethnic groups trace their roots to the Semitic stock and largely followers of Orthodox Christianity. On the other hand the *Oromo* belong to a different stock and compared to the *Amhara* and *Tigrawai* most follow Islam. These similarities and differences perhaps partly explain the difference in the timing of births between ethnic groups. The cultural practices these ethnic groups follow might also explain the differences. The *Oromo* have a long established system of adoption which is widely practiced by their members. It is not uncommon among the *Oromo* to give children for adoption as well as to adopt from others including from non-*Oromos*. This practice may provide the motivation for the *Oromo* women to make faster transition to the next births.

In general, the comparison of the results of models with and without unobserved heterogeneity reveals that the effects of the covariates as indicated in the estimated time ratios show instability. In most cases, the models with observed heterogeneity resulted in relatively higher time ratios which in some cases show instability when the frailty term is introduced. This might indicate the presence of some unmeasured factors that are responsible for the variation in the timing of births. Some important variables such as breast feeding and the length of postpartum amenorrhea were not measured for births that occurred more than five years before the survey. Other unmeasured factors such as famine, economic upheavals, and spousal separation due to conscription (Lindstrom & Berhanu, 1999) may have also impacted the timing of births. The inclusion of the frailty unveils the “true” effects of observed covariates by producing more reliable time ratio estimates. In the models that introduced urban/rural residence as a covariate, rural residence is no longer associated with shorter durations, once unobserved heterogeneity is

introduced. This would imply that the other covariates are explaining the urban/rural fertility differential. The longer durations in rural areas after the frailty factor has been introduced could imply that this factor is capturing natural fertility conditions, especially length of breastfeeding, and women's health and nutrition. Controlling for the other factors in the model, it would appear that natural fertility conditions would make for longer durations in rural areas.

## **CHAPTER SIX**

### **SUMMARY AND CONCLUSIONS**

#### **6.1 Introduction**

Like most sub-Saharan Africa countries, Ethiopia has only recently joined the global fertility transition. The country adopted a national population policy in 1993 that aims to reduce the total fertility rate from its 1990 level of 6.4 to 4.0 by 2015. Seven years after this policy was in place, the 2000 ETDHS reported that the TFR was 5.9 children per woman, a modest but limited decline. However, the extent of the decline, and hence the level of fertility varies markedly between urban and rural areas; urban areas have a remarkably low fertility compared to rural areas. Urban fertility is also low in comparison to socio-economic indicators; for instance about 34 percent of the urban population has an elementary or higher level of education, and 28 percent of married women in urban areas are currently using modern methods of contraception.

Although fertility differences between urban and rural areas have invariably been observed across populations of the world, there are three issues that motivated this study of Ethiopia. First, there is a difference of three children per woman between urban and rural areas, which is a substantial difference compared to that of other countries. Second, some urban areas have even achieved a below replacement level fertility. Third, although urban areas are better served with economic progress and social services, the overall social and economic development of these centers does not parallel the level that is normally seen in the literature as necessary to achieve this kind of fertility decline.

Past studies on reproductive changes in Ethiopia emphasized the determinants and differentials on the basis of quantitative data. The gap between urban and rural fertility has also focused on the capital city, Addis Ababa (for example Kinfu, 1999, 2001; Sibanda et. al, 2003). Less attention has been given to extending the investigation to other urban centers of the country. In addition, there are few previous analyses of the impact of proximate, demographic, socioeconomic and cultural variables on birth transitions . In this context, this dissertation raised the following key questions: What are the possible explanations for the faster decline of urban compared to rural fertility? How did the country's urban centers, with little evidence of widespread use of contraception, limited advancement in education, and other development indicators, achieve such a remarkably low level of fertility? What demographic, proximate and socio-cultural variables were responsible for the differences in fertility levels between urban and rural areas?

Dumont (cited in Spengler, 1979), writing on the fertility transition of France, which is the earliest known transition, suggested that the “social capillarity” principle explained the process. He observed that in an environment where people see the opportunity for self advancement and where the competition is fierce to succeed in the social ladder, as the case in urban centers, they may resort to control their fertility as a strategy to achieve social mobility. The idea that childbearing may hinder the realization of achievable goals during good times, or it may cause the reversal of earlier achievements during periods of economic deceleration, is an important determinant of reproductive change (Casterline, 2001). The role of improved child survival in affecting fertility has also been extensively discussed by the earliest as well as contemporary studies of demographic transition (Notestein, 1945; Davis, 1963; Cleland, 2001).

This study sought to contribute to the understanding of the decline of fertility levels in urban areas by employing both qualitative and quantitative research approaches. In particular, the qualitative approach aimed at identifying the ideas and motivations of people in reproductive decision making and related issues. In addition, it aimed at shedding light on institutional and contextual factors that may have contributed to urban fertility decline.

The qualitative data used for this dissertation were collected by the author through fieldwork during the months of May to August of 2004. The data collection strategies included in-depth individual interviews and focus group discussions. A total of 97 individuals from five major urban centers voluntarily participated in the study. All interviews and focus group discussions were tape recorded and then translated into English and transcribed. The qualitative software package NVivo was used to organize the data and analyze the patterns.

In addition to the qualitative approach, the thesis undertook a quantitative analysis of birth history information from the 2000 Ethiopian Demographic and Health Survey (ETDHS). Data are obtained from women in the reproductive ages of 15-49. Age 10 was used as the point of origin for the first birth while the previous birth was used as the origin point for the second, third and fourth births. The focus of the quantitative analysis is to examine the relationship between a set of theoretically relevant covariates and the timing of births for urban and rural areas. The study used two techniques of event history analysis: life table analysis and parametric hazard model analyses.

The life table techniques were employed to obtain unbiased estimates of the timing of transitions to subsequent births. In order to obtain the net effects of the various



theoretically relevant covariates on the timing of births, a multivariate analysis was undertaken using parametric hazard models. Graphic representation of life table hazard rate estimates aided to identify the baseline hazard distribution to be specified for the parametric models. Accordingly, the log-normal distribution was specified and time ratios were estimated. Three separate models were estimated for each transition. The first model controlled only for demographic and proximate variables, the second model added socioeconomic and cultural variables. Since not all theoretically relevant factors were included in the analysis, Model 3 included a term for unobserved heterogeneity to help account for omitted and unobservable factors. Controlling for unobserved heterogeneity reduces the bias in the parameter estimates.

The contribution of this dissertation research is mainly substantive. The dissertation provides detailed narratives on how urban residents view reproduction, on the rationales given for reproductive decision making, and on the views of urban residents regarding the nature and change in urban areas. In addition, the qualitative research included information from both men and women, given the widespread consensus that men are an important component of the fertility process. The use of parametric hazard models which have not been much used in the analysis of fertility in Ethiopia, has proven useful for explaining the differences between urban and rural fertility.

## 6.2 Summary of the study

Before addressing the specific questions on urban fertility decline, it is useful to first summarize the main results of the qualitative and quantitative analyses. The results from the qualitative study showed that people referred to certain key values, when they talk about the reasons for having children. Both men and women focus groups discussion participants and those who took part in the in-depth interviews observed that children provide economic benefits and other instrumental assistance. In addition, respondents suggested that having children rewards psychological benefits to parents and interacting with children is also a source of happiness and warm relationship between couples.

Respondents have argued that parents draw financial and emotional support from children especially during old age. Continuing the family line, having heirs and fulfilling God's will are all important dimensions related to having children. Children are seen as especially important to take care of parents during old age, including during the final hours of life and even beyond this life. Having children help to make sure that parents are well taken care of while alive, and they can die knowing that their funeral and related ceremonies would be properly handled. Ethiopian culture attaches great values to both birth and death. As a result, both events are highly celebrated. As parents are delighted to have children who provide them self-fulfillment and status in the community, they also like to have the peace of mind of having surviving children who would take care of their funeral ceremony and who will carry their name. Having heirs and continuing the family line are more important to men, just as cementing love within the couple and improving their acceptability in the husband's family, are important for women. Many participants especially stated that the presence of children within marriage prevents divorce. This

study shows that, for men, the instrumental aspects of the expected benefits from having children are more important. For women the rewarding interaction in the form of being happy and creating a warm relationship within marriage are the most important elements. Psychological rewards such as *to see one's eyes with one's own eyes* or *living via one's offspring* are important motives to have children for men and women.

While the attitudes toward childbearing are very positive, there are also constraints. These are especially visible through attitudes on family size preferences. A family of six or more children is defined as large by the majority of participants of the qualitative research and about three-quarters disapproved of large family sizes. On the other hand, a family of two children is considered small. Rural residents, the less privileged, those with less education and contraception non-users are seen as having large families. The significantly shorter transition time between births observed for rural women in the quantitative analysis, further confirmed the results from the qualitative analysis. Conversely, those who settle for small family sizes are seen as better educated, having higher standard of living, and wanting to pave the way for the success of their children by sending them to the best schools and investing more in children.

It is observed that the average ideal number of children for focus groups and in-depth interview participants is slightly above three. This number is justified in various ways, but primarily to ensure that enough resources are available for the proper care and education of young children. The other justifications for the ideal family size are to achieve desired sex composition of children and to take into account the uncertain child survivorship conditions. For instance, it was observed that having one child is risky, as portrayed in the saying that *one child is for one day*. Since there is always a chance that

the only child may not survive, respondents felt that there should be additional children. The effect of child survivorship on the timing of births was also clearly observed in the quantitative analysis. Across all transitions, women who experienced child loss have faster transitions and hence higher likelihood of a subsequent birth. The transition time to the next birth is faster for those who experienced a recurrence of child deaths. This finding implies that improving child survivorship is an important area for moderating high fertility conditions, particularly in rural areas.

In the qualitative study, large families were also attributed to persons who adhere to strict religious values, particularly Muslims. The results of the quantitative analysis also show a similar pattern. Muslims consistently had faster transition to subsequent births and hence higher likelihood of births compared to women who belong to other religions. In the qualitative interviews respondents repeatedly mentioned that Muslims take procreation as a serious religious duty and that the teachings of Islam encourage making sure that their religion is passed on to the next generation and that the tradition continues. Other than the teachings of Islam, Muslims have higher likelihood of births due to their practice of polygyny as some respondents in the qualitative study suggested. However, the results from the quantitative analysis contradict this particular finding. Overall, across all transitions, women in polygynous unions have longer transition times to the next birth. These findings from the quantitative analysis favor the hypothesis that relates polygyny to lower fertility at the individual level (Garenne & Van De Walle, 1989; Lardoux & Van De Walle, 2003), often working through frequency of coital relationship, duration of post-partum abstinence, and husband's age.

Studying the family size preferences of respondents, this thesis also looked into people's view towards not having any children at all. Childlessness is considered by almost all participants as an unfortunate situation. The burden of remaining childless is also harder on women due to cultural and traditional attitudes of the society. At the same time, participants of this study did not favor having too many children without making sure that they are supported adequately and one's self advancement is guaranteed. In this regard, the study found that urban residents have a strong view on the importance of risk and uncertainty reduction. While childbearing is accorded high value in the culture, making sure that enough resources are available per child is seen as part of the reproductive decision making. If the likelihood of the child's sound upbringing is uncertain, and parental self fulfillment is jeopardized, respondents mostly proposed a "wait and see" strategy.

Another important factor in fertility decline is the use of modern contraception and the practice of induced abortion. The overwhelming majority of respondents of the qualitative interviews approve the use of contraceptives and about half of them were using them at the time of the study. The level of contraceptive use in a society undoubtedly reduces fertility. Urban residents felt that the acceptability and accessibility of contraception is higher in urban areas. In the first birth process, the timing of first birth is found to be longer for contraceptive users compared to non-users. This pattern holds for both rural and urban areas, but the magnitude of the effect is larger for the latter.

With respect to the role of induced abortion in the fertility decline process, about four out of five respondents and almost all focus group participants suggested that induced abortion in urban areas is quite common. Although the practice is illegal in

Ethiopia, respondents confirmed that induced abortion is common and some even reported that they had had abortions. In an attempt to avoid embarrassment, or being ostracized by family and community members, unmarried women in particular will resort to induced abortion for handling an unplanned pregnancy. This suggests that the role of abortion in regulating fertility for urban areas cannot be discounted. However, the true extent of the induced abortion in the society remains unknown, and quantitative information is lacking.

Among socio-cultural factors, ethnicity and the type of union were the most important in determining the timing of births. The study revealed that the *Oromos* and *Somalies* are observed to have shorter transition times across all transitions compared to *Amharas*. The adoption of *Gudifetcha* tradition which is widely associated with the *Oromo* culture might explain the higher risk of births among this ethnic group.

In explaining the urban fertility decline, it is useful to start with the views of urban residents themselves. In general, the participants of the qualitative study stressed that the reproductive behavior of urban residents has changed and they suggested various reasons which may have led to the fertility transition in urban areas. Changing economic values and costs of children are suggested as factors that contributed to this change. Most underlined that the cost of living in urban areas has increased whereas their income has not. As the result, urban residents are experiencing economic hardships, which in turn are depicted as the motivating factor to alter their reproductive behavior. The expected economic benefits that parents can draw from children in urban settings have also declined. In comparison, in rural Ethiopia the contribution of children to the family production and domestic chores is seen as remaining significant. Compared to parents

from urban areas, rural parents expect much from their children in terms of care during old ages. In the views of respondents from urban areas, these factors partly explain the high fertility attitudes still prevailing among rural people.

The other justification for the low fertility situation in urban areas, according to participants, is because urban residents are better informed, educated and exposed to new ideas. The expansion of education, better mass media coverage and other services in urban areas contribute to the diffusion and adoption of new ideas and practices including family size limitation. Rising aspirations by parents and would-be-parents, to benefit from the best products and services for themselves and their children, also bring them to consider small family size as the best option. Most urban residents aspire to provide the best education, health and other essential services to their children so that they can succeed in life. The study showed that the role of rising aspirations is affecting marriage and family building decisions of individuals. To this effect, new forms of behavior are surfacing in urban areas and residents are embracing them even if these are sometimes against the views that existed for long in the society. In this respect, individuals in urban areas are *willing* (Lesthaeghe, 2001; also Coale's second tenet) to adopt new forms of behavior, which they think are advantageous to them. Urban residents are attaching much emphasis on their own human capital development and they have become individualistic in their mate selection and love life. Unlike earlier times, they are now free to choose their own future spouse and they consider different factors to be important to family formation including having a secured job, personal happiness and drawing maximum satisfaction from the relationship. Thus, before making their final decision on marriage and family they take their time to make sure that these issues are somehow addressed. As

a result, age at marriage and age at first birth has increased in urban relative to rural areas as the qualitative study showed. Urban women marry a year and half later (CSA & ORC Macro, 2001) and, as the life table analysis of this study shows, they have their first births two and half years later than rural women. Rural residents might also be *ready* (Lesthaeghe, 2001; Coale's, 1973 first precondition) to change their reproductive behavior due to the deteriorating economic conditions. However, the findings in this study imply that rural residents might lack the same level of *willingness*, to modify and legitimize new forms of reproductive behavior, as their urban counterparts.

Examining people's views on issues related to family size can also shed some light on the future course of fertility in urban areas. In terms of attitudinal differences, the evidence showed that most respondents disapprove of large families. Many of the urban respondents defined small family sizes the same way as their ideal and expected family sizes. The evidence presented in this study indicated that urban residents prefer smaller family sizes. This is to a large extent related to household economic hardships, and to make use of services that enhance child quality (especially better schooling). People consider allocating higher per capita resource per child as a strategy towards preparing their children in the competitive urban environment. The proper education of children has become important for urban residents, to enhance the future success of their children. This is seen as easier to realize with a small family size. Emphasis is placed on helping one's children to excel in life. In environments where social mobility is seen to be possible but not assured, the "social capillarity" principle identified by Dumont (1890, 1979) would apply in motivating individuals to limit the size of their family. In effect, the findings from in-depth interviews and the focus group sessions support this "social



capillarity” explanation. In order not to compromise their children’s future and to maintain a decent standard of living, individuals emphasize balancing their family size and available resources. Contraception and sometimes induced abortion would be used as means to achieve these objectives.

To use the term from Watkins (2000), it can be concluded that a common “culture of reproduction,” different from the one that has existed a generation ago, is surfacing in urban areas. Respondents explained that they have observed a difference compared to the number of children people used to have in the time of their own parents and grand parents. Their own generation is mentioned as having smaller numbers of children compared to the earlier times. From the views of the majority of respondents, the reproduction model of the previous generation was based on the principle of “a child can grow in its own destiny.” Accordingly, large family sizes were promoted through the norms and the cultural ideals of the society. In terms of uncertainties and risks, this view is mostly concerned with child mortality. For rural residents, this model of reproduction may still be dominant.

On the other hand, urban residents are adopting a new model of reproduction that is justified in achieving a higher standard of living and enhancing the social mobility of their children. At the same time, for the vast majority, children continued to have an immeasurable value. The basis of this alternative model is the principle of having children but making sure social mobility is achievable for both children and parents. The ideal behind this model is “not too many nor too few children,” as evidenced by the average ideal and expected numbers of children which are 3.1 and 3.0 respectively for the in-depth interview participants of this study. Especially when it comes to getting married,

there is the common view that one should be able to support a family, and ensure that children have the necessary means for success. Respondents often express a "bottom line" that they want their children to do as well as the parents, and preferably better than the parents. Controlling the number of children is a means of achieving these goals.

Economic hardships alone, despite their importance, may not motivate people to alter their childbearing behavior. At the same time, people are under pressure from societal norms and cultural values with regard to their reproductive decisions. Urban residents are well aware of fundamental economic, social and institutional changes that have taken place in the society. People's aspirations have changed due to education and the perception of the possibility of positioning themselves in a better place in the society. In addition, the revolutionary experience of the country brought changes in the way people view everyday life (Kinfu, 2004). Women are encouraged to join and stay in schools, improving their position in the household. An individual's own effort is seen as guarantor for success, and knowledge of family planning services has increased. All these factors have contributed to the modification of people's value systems.

These explanations for the lower urban fertility are supported by the findings from the quantitative analysis of the timing of transitions to the first four parities. In particular, these transitions are more delayed in urban areas, as is the age at first marriage. The various fertility differentials are typically stronger in urban areas. In particular, contraceptive usage is higher and it has a stronger effect on the transitions to first and second births. There is also a stronger differential between younger and older cohorts in the urban sample. The depressive effect of being never married, and to a lesser extent of being in a polygynous union, is stronger in urban areas. This also applies to the

differentials by religion, with longer transition times for Protestants at least for the second and fourth parities. By ethnicity, faster transition times are observed for *Oromos* (the largest ethnic group in the country) and *Somalies*. In effect, once all variables plus unobserved heterogeneity are controlled, the transition times are shorter in urban areas. The longer durations in rural areas once all variables are in the model implies that the unobserved heterogeneity factor is introducing a control for natural fertility characteristics, especially the longer period of breastfeeding and the poorer health and nutrition in rural areas. The one factor that acts counter to expectations is the education variable, since it is showing that persons with some primary education have faster transitions to first births, and persons with post-secondary education have faster transitions to fourth parity. The transitions may be faster as women have their children closer together, but these more educated women will still have fewer births.

### **6.3 Limitations and directions for future research**

Although this dissertation has contributed to explaining the decline in urban fertility in Ethiopia, and it has shed some light on the gap between rural and urban fertility, there are limits to the present analysis.

First, the qualitative analysis lacks a rural sample. The information collected from urban residents provided valuable insights, as demonstrated by the findings of the study, into the reproductive changes in urban areas. However, the absence of similar information from rural areas limits our ability to make a proper comparative assessment of the reproductive situation in urban and rural areas. Future research needs to include qualitative information from rural areas.

A related limitation of the qualitative study is that sample selection was based on convenience. Taking into account different criteria such as geographic location, demographic and socioeconomic characteristics, the sample was purposive. In terms of geographic location the urban centers included in this study are located in the west, east, central and northwest parts of the country. Thus, urban areas from the south, north and north east parts of the country are omitted due to time and budgetary constraints.

Second, in the qualitative analysis, focus group discussions and in-depth interviews mostly raised similar questions to participants. Although this approach allows data coming from the two sources to reinforce each other, it also limited our ability to benefit from the strength of the different features of the two approaches. The advantages that could have been gained from focus groups, in terms of extracting general perceptions and attitudes, have not been fully exploited. In this research the information gathered through in-depth interviews is far richer and informative. Given some ethical and logistical limitations, it was harder to organize and conduct focus groups. Thus, in terms of data richness and efficiency, this study benefited more from individual interviews.

Third, in the quantitative analysis, the study did not undertake a separate analysis of marital and non-marital fertility. Non-marital fertility is substantial, as seen especially in the first births. Therefore future research in Ethiopian demography would benefit from conducting separate analyses of marital and non-marital fertility. This can be accomplished through the analysis of the ETDHS used in this study. In particular, there is need for further analysis of the role of marriage delay in non-marital fertility and of the differential use of contraception and abortion in the non-married population.

Fourth, Ethiopia is one of the countries in sub-Saharan Africa that is worst hit by the AIDS epidemic. What is the role of the HIV/AIDS epidemic in the reproductive regime of urban areas? The few studies that examined this issue in the past have focused on Addis Ababa. For example Mekonnen (2003) observed that the AIDS epidemic has the potential to cause negative natural increase in the city of Addis Ababa even with the HIV prevalence of under 30%. Investigating the health, behavioral and mortality impacts of the epidemic in relation to reproductive behavior is an important area for future research. Although this study has included some questions on this particular topic, these were not comprehensive and the responses were not sufficient to be analyzed. Therefore, the inclusion of detailed questions in the qualitative study to measure and learn the role of the epidemic in reproductive change would be an important area of focus for future research.

#### **6.4 Policy issues**

As this study shows, fertility differentials are stronger in urban areas compared to rural. We may ask what the implication of these findings is for those rural residents who may wish to follow the same path as their urban counterparts. In this respect, it is crucial to expand opportunities and choices in rural areas, which in turn requires political willingness and resource commitment. The expansion of education is particularly important. Introducing schools, and adopting models that would accommodate the needs of sub-populations in some rural places, is particularly important. For instance, in places where rural people's livelihood depend on cattle and they need to roam from one place to another, tailoring the school season according to their schedule and/or introducing mobile

schools is a possible option. In the past, this has been tried by some non-profit groups and government policy makers can learn lessons from the experiences of these efforts.

The 1994 International Conference on Population and Development in Cairo has also placed much emphasis on access to education especially for girls and the need to encourage them to take advantage of such opportunities. Girls' education in general is also seen as a factor that contributes to the improved status of women in society. In the qualitative study, some women are observed to depend on child bearing to win the favor of the husband's family and gain status in the community. It is also reported in the 2000 ETDHS that less educated women were highly likely to justify wife beating (a proxy measure for women status) for any reason. Thus, the role of education in addressing gender inequality which has its implication in reproductive decision making and related issues is an area that deserves the attention of policy makers.

Similarly, following the recommendations of Cairo, addressing reproductive health issues is an important area of policy concern. In this regard, adequate access to contraception, particularly for the rural population, is fundamental. The present study showed that contraceptive users have longer birth interval which has positive implication for maternal and child health. Again, policy makers can work to strengthen efforts pioneered by non profit groups to expand family planning services to rural areas through community based reproductive health services.

This study also showed that induced abortion in urban areas may have some role in fertility decline. This calls for further investigation on the extent of induced abortion in urban areas, and its implications for women's reproductive health. For attitudinal change to occur, it is important that accurate information be available and that the public be

educated on the social, health and emotional implications of induced abortion. An organized effort in this respect will help women (particularly unmarried women) from being unfairly treated in the community in the event of unplanned pregnancy.

The strong relationship between child survivorship and fertility shown in this study implies the need to design an integrated program that addresses both fertility and mortality. In the first instance, it is crucial to design programs with the objective of increasing child survival. The current child immunization programs and selected nutrition programs need to be further strengthened in scope and geographic coverage. This is crucial and it needs to be linked to programs on improving safe and accessible contraceptive methods.

**APPENDIX A: Composition of Focus Group Discussions (FGDs)**

Code	Urban Center	Description of Focus Groups	No. of Participants	Gender
FGD-1	Nazareth	Most with high school education and singles, 20-35	6	Male
FGD-2	Addis Ababa	Most with high school education, singles, employed, age 18-40	6	Male
FGD-3	Addis Ababa	Most with high school education, half of them married & half singles, age 24-35	6	Female
FGD-4	Bahir Dar	Most with elementary education, singles, Orthodox Christians, sex workers & maidservants, age 15-24	6	Female
FGD-5	Harar	All Muslims, most of them married, under grade 8 education, age 18-40	6	Female
FGD-6	Jimma	Most with elementary education, commercial sex workers, age 19-50	7	Female

**APPENDIX B: Description of In-Depth Interview participants (IDIs)**

Code	Urban Center	Gender
IDI-01 to IDI-06	Addis Ababa	Female
IDI-07 to IDI-13	Addis Ababa	Male
IDI-14 to IDI-18 & IDI-22	Bahir Dar	Female
IDI-19 to IDI-21 & IDI-23 to IDI-25	Bahir Dar	Male
IDI-26 to IDI-31	Harar	Female
IDI-32 to IDI-37	Harar	Male
IDI-38 to IDI-43	Jimma	Female
IDI-44 to IDI-49	Jimma	Male
IDI-50 to IDI-54	Nazareth	Female
IDI-55 to IDI-60	Nazareth	Male



## APPENDIX C.1

### Note to participants

First of all we would like to thank you for being willing to participate in this study. This study is looking for explanations concerning the recent changes in the number of children born in urban areas. It will also attempt to compare the situation with rural areas. In the process, the study is expected to generate information on couple's fertility preferences, reproductive health issues, the role of men and women in reproductive and other household decision making, which can be used to inform policy makers on possible interventions that would enhance reproductive health.

The information collected here will only be used for the above explained purposes and it will be handled with utmost care. Throughout the study your name will not be mentioned in any way and no one is able to identify you based on the information you provided, thus ensuring your anonymity. PADET and the collaborating researcher will also respect your right to discontinue the interview/discussion if you would prefer to do so for any reason at any time during the process.

Professional Alliance for Development in Ethiopia will use the information for planning purposes for its development interventions in the study areas. Mr Daniel Sahleyesus is a Ph.D. candidate at the University of Western Ontario, London, Canada. The information will also be used as an input for the study he is undertaking as part of his academic requirement. Besides producing a thesis, he will also seek to communicate the main findings of the study through locally available forums to participants and the wider public. For further inquiries here is our address:

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Once again thank you very much for your time and interest.

## APPENDIX C.2: In-depth interview Guidelines: discussion on child bearing, marriage and divorce experiences of selected men and women in 5 urban centers in Ethiopia

### INTRODUCTION

- Introduce yourself
- Explain the objectives of the study
  - read note to participants
- Ask for permission to tape record conversation “do you mind if I tape record the interview? Its only purpose is to enable me to listen to the tape in order to get a more complete record of your responses. Your name would not appear on the tape and the tapes will be destroyed after the information has been taken from them. I could also shut off the recorder at any time if you so desire. Is this OK with you?”

### GENERAL/BACKGROUND

- How old are you?
- For how long have you lived here in -----(urban center name)? where have you lived before?
- What is your level of education? ( in completed grades)
- Do you have any source of income? 1. yes. 2. No
- If yes, probe. What is that source (employment, other family income like renting a room etc)
- If No, ask how do you support yourself/ your family?
- What is your religion? (if Christian probe which one, Orthodox, Protestant, Catholic)
- To which ethnic group you belong?

### CHILDBEARING

1. my first question to you is that why do people have children? (probe only if necessary: to have old age support, children makes one happy... etc)
2. in your own case why do you have children?
  - **If respondent have children:** tell me a little bit about them. How many boys? Girls?
  - How old is the oldest child? How old is the youngest child?
3. do you expect to have more children? How many?(boys-----, girls-----)
4. what is the main reason for this number to be considered as your expected family size?
  - **if respondent does not have children:** do you think that you will ever have children?
  - If so, how many? Why not more? Why not less?
5. what do you think of people that have large family?
6. in your view who have large family?
7. do you see any advantages and/or the disadvantages of having a large family size?
8. what do you think of people that have small family?
9. in your view who have small family?
10. do you see any advantages and/or the disadvantages of having small family?
11. in your own case, what is the ideal number of children you want to have? (how many girls and how many boys? )
12. why would this be ideal?
13. a/ (if the interviewee is a woman) according to the 2000 Ethiopian Demographic and Health Survey (ETDHS) the average ideal number of children most women want to have is 5 and above. Why do you think this is ideal? Why not more? Why not less?  
 b/ (if the interviewee is a man) according to the 2000 Ethiopian Demographic and Health Survey (ETDHS) the average ideal number of children most men want to have is 6 and above. Why do you think this is ideal? Why not more? Why not less?

14. What do you think of the opinion of the community/society on couples who doesn't have any children at all?
  - In your view what are the advantages and/or the disadvantages of not having children at all?
  - Do you think any reason why some couples do not have children?
15. Have you ever discussed about the number and sex composition of children you want to have with your spouse? If so, how often? If not, why not? Have you ever discussed this matter with others? If so, with who?
16. I want to know your opinion on the following. Suppose one partner wants more children than the other one does. What should they do?
  - Is it different if the woman wants to have more or less number of children than if the man wants more or less?
  - How should this be resolved? Who should have more say (the man or the woman)?
17. What do you think of the minimum legal age at marriage? Of late some groups are working hard to change the minimum age at marriage from 15 to 18? What do you think of that?
18. If I ask you to remember the number of children your own parents have including yourself, how many children they gave birth to?
  - **if respondent is yet to complete child bearing:** Compared to the number your parents had, when you complete your childbearing experience, do you think you will have more or less number of children? Why more? Why less?
  - **If respondent claimed to have already completed their child bearing experience:** if respondent have more or less, what do you think the reasons might be for the numbers to vary? Is this a good or bad trend? Why?
19. We have talked about why people have children, and how many they want to have. Now, I want to talk to you about how children change the lives of their parents. First of all, how do you think the lives of women are changed by having children? In your own case how your life has changed?
20. What do you think the advantages of having children are? What is good about having children? What makes children valuable?
  - Among these which one would you see as the major advantage of having children?
21. Now, tell me what you see as the disadvantages of having children.
  - In your view, which of these is the major disadvantage?
  - Are any of these reasons strong enough not to have children?
22. Now, I want to ask you about the best time for women to have their first child.
  - What is the best age? Is there any age that is too young? Too old? Is there an age by which you think most women should have their first child?
  - Why? What is it about this age that makes it best/ideal?
23. What is the best time for men to have their first child.
  - What is the best age? Is there any age that is too young? Too old? Is there an age by which you think most men should have their first child?
  - Why? What is it about this age that makes it best/ideal?
24. Sometimes couples feel pressure from others to have children. Have you ever felt pressured to have children? If so, from who?
25. In your opinion, are there any conditions under which people should not have children? (probe: financial reasons, not married, unstable relationship, too young, too old?)

## MARRIAGE

26. Next, I wonder if you could tell me about your own marital experience. Are you married now? Is this your first marriage? Have you ever been married? When was that?
27. are you currently in a serious, long-term relationship, but not living together? If so how long have you been together? (NOTE TO THE INTERVIEWER: probe meanings and expectations of relationship. Where do you see this relationship heading?)
28. now, let me ask you what may seem a fairly difficult question. We know that marriage is very highly valued. We make a big deal about weddings, people throw big wedding parties and we observe competitions in this respect. But we don't really understand very well what marriage means. My question is this: what do you think it means to be married? What is the purpose of marriage?
  - a. Think of a couple you know who have what you consider to be a really good marriage. Can you think of such a couple? What is it about their marriage that you think makes it particularly strong?
  - b. When two people are married to each other, what do you think they can expect from each other? (are the expectations husbands have of their wives different than the expectations that wives have of their husbands?)

Now, let us talk about the decision making process and timing of getting married.

29. who should you think be involved in the decision making process of two people getting married?
  - a. **If ever married:** in your own case, who had the greatest role in the decision making on your entering to a marriage relationship?
  - b. How this decision of yours is influenced by people other than you and your spouse? (through choosing your spouse, through putting pressure on you to get married, through covering expenses related to the marriage)
  - c. Are there some factors that should influence the timing of the decision to get married? (probe: Education, Steady job, Stable relationship, Financial circumstances...etc)
    - Age? What is the best age to get married for the first time for a woman?  
For a man?
    1. **If you are not married** now: if it is possible for you to choose the age to get married for yourself what would that be?
    2. **If you are married** and have children or plan to have children: if it is possible for you to choose the age to get married for your children what would that be? And why?
  - d. Think of the decision to get married and the timing as told by your own parents, do you see any changes compared to your own experience as discussed earlier? (probe: did your parents at the time they got married lived in rural or urban area? how did your parents got married? Whose decision was that? At what age did they got married? In all these do you see changes now? )
  - e. If you think there are changes now, what do you think the reasons might be?
  - f. Who do you think getting married early these days? Why?
  - g. Who do you think getting married late these days? Why?

## MARITAL SATISFACTION AND DIVORCE

Now, let us move to issues related to people's satisfaction with marriage and divorce.

30. Can you think of examples of successful marriages (your own or that of others you know)? What makes these marriages successful in your view? What do you think the number one reason for most marriages to stay together and be successful? (probe if only necessary: social pressure, love to each other, financial reasons, keep family together)
31. In the case of unsuccessful marriages, what do you think is the number one reason that some marriages end in divorce? What other reasons?
32. Is divorce a common thing? In your view what kind of marriages are vulnerable to divorce? What is the attitude of the community, friends, relatives etc towards a divorcee man? Towards a divorcee woman? Do you think there are changes in this regard compared to earlier times?
33. lately, there are groups such as EWLA that are fighting to change some aspects of the family law such as making divorce relatively easier. What do you make of this movement?

Now let us talk about contraceptive use

34. What do you think of family planning programs and contraceptive use? Do you think it is a good or bad? Why?
35. what do you think of the idea of making available family planning services to unmarried individuals?
36. what is your view regarding male forms of contraceptives, such as male sterilization?
37. have you heard any rumors regarding family planning methods/any of the contraceptive methods? If so what are these?
38. in your own case, have you ever used any form of contraceptive? If so, which type? Are you currently using a method? If so which type? If not, what is your reason to discontinue? If you have never used contraceptives at all why is that?
39. Have you ever discussed about the use of contraceptives with someone? If so with who? Are they supportive of your adopting a method? If not why?
40. What is the role of your religion in this regard? Does your religion approve contraception? What kind of information (if any) have you received from religious leaders in this regard?
  - a. Lately, what is the role of the HIV/AIDS pandemic on the decision and timing of marriage?
  - b. What do you think of pre-marital pregnancy? Thinking about someone you know (or heard of) who had the experience of pre-marital pregnancy, how did they deal with it? What are the alternatives? Do you think induced abortion is common? Do you know someone or have you heard of someone who practiced induced abortion? What do you think the reason/s for this might be (for them to opt for abortion)? Do you think abortion should be legal? If so, why? If not, why not?

47. the 2000 DHS showed that TFR in urban Ethiopia has dropped compared to rural areas. Do you think this is reliable? Why is urban fertility so low?

47. What have I missed that you think is important in order to understand your perspective on marriage and children?

**Thank you very much. Your answers have been very interesting and helpful.**

## **APPENDIX D : Check-list of discussion points for focus groups**

### **Childbearing**

- Why do people have children?
- What do you think of people that have large families?
- What types of persons have large family?
- Do you see any advantages and/or disadvantages of having a large family size?
- Do you think people had so many children in the past? If so, what do think the reasons might be?
- What do you think of people that have small family?
- What types of persons have small family?
- Do you see any advantages and/or disadvantages of having a small family size?
- What do you think an ideal number of children should be for a family? (how many girls and how many boys? )
- Why would this be ideal?
- How about couples who doesn't have any children at all? Is it a good or a bad thing? Why?
- I want to know your opinion on the following. Suppose one partner wants more children than the other one does. What should they do?
- Some people say if a woman is working outside it is bad for the family. Others say this is good for the family? Which idea you tend to support and why?
- What is the best/ideal age for women to have their first child? Is there any age that is too young? Too old? Is there an age by which you think most women should have their first child? Why?
- What is the best/ideal age for men to have their first child? Is there any age that is too young? Too old? Why?
- In your opinion, are there any conditions under which people should not have children? If so what are these conditions?

### **Marriage**

- In your opinion what is the ideal age of marriage for a man? For a woman?
- Of late some groups are working hard to change the minimum legal age at marriage from 15 to 18? What do you think of that?
- Who should you think be involved in the decision making process of two people getting married?
- Are there some factors that should influence the timing of the decision to get married?

- Think of the decision (for couples) to get married and the timing in the past (as told by your own parents), do you observe any changes compared to present day? If you think there are changes now, what do you think the reasons might be?
- Who do you think getting married early these days? Why?
- Who do you think getting married late these days? Why?
- What do you think the number one reason for most marriages to stay together and be successful?
- In the case of unsuccessful marriages, what do you think is the number one reason that some marriages end in divorce? What other reasons?
- Lately, there are groups such as EWLA that are fighting to change some aspects of the family law such as making divorce relatively easier. What do you make of this movement?

#### **Family Planning/Reproductive Health**

- What do you think of family planning programs and contraceptive use? Do you think it is a good idea or a bad idea? Why?
- What do you think of the idea of making available family planning services to unmarried individuals?
- Have you heard any rumors regarding family planning methods/any of the contraceptive methods? If so what are these?
- Lately, what is the role of the HIV/AIDS pandemic on the decision and timing of marriage?
- What do you think of pre-marital pregnancy? How do people/families handle pre-marital pregnancy?
- Do you think induced abortion is common? Is it common to hear that someone has or had practiced induced abortion?
- What do you think the reason/s for this might be (for them to opt for abortion)? Do you think abortion should be legal? If so, why? If not, why not?
- Lately some groups are trying to make abortion services legal. What do think of this movement?

THANK YOU

APPENDIX E: Sampling errors: National, Urban and Rural samples, Ethiopia 2000

	National			Urban			Rural		
	Value (R)	Standard Error (SE)	Relative error (SE/R)	Value (R)	Standard Error (SE)	Relative error (SE/R)	Value (R)	Standard Error (SE)	Relative error (SE/R)
Urban residence	0.182	0.010	0.054	-	-	-	-	-	-
No education	0.752	0.009	0.012	0.358	0.023	0.065	0.839	0.009	0.010
Secondary. edu.& higher	0.091	0.005	0.057	0.408	0.023	0.056	0.020	0.002	0.012
Never married	0.240	0.007	0.029	-	-	-	0.205	0.006	0.027
Currently Married	0.637	0.007	0.011	-	-	-	0.684	0.006	0.009
Children ever born	3.091	0.036	0.012	-	-	-	3.348	0.032	0.010
Children surviving	2.393	0.027	0.011	1.586	0.60	0.038	2.572	0.026	0.010
Currently using method	0.081	0.005	0.057	0.356	0.018	0.052	0.043	0.004	0.092
Total fertility rate	5.864	0.105	0.018	3.300	0.222	0.067	6.385	0.096	0.015
Child mortality rate	166.131	5.486	0.033	148.581	11.895	0.080	192.500	5.314	0.028

Source: CSA & ORC Macro, 2001. Extracted from Tables B.2, B.3 & B.4 of Ethiopia Demographic and Health Survey report.

- Not given

R The value of the statistic



APPENDIX F: Log Likelihood tests for discriminating between parametric Models,  
Ethiopia, 2000

	Age 10 & 1 <sup>st</sup> birth	1 <sup>st</sup> birth & 2 <sup>nd</sup> birth	2nd birth & 3 <sup>rd</sup> birth	3rd birth & 4 <sup>th</sup> birth
Log-Likelihood				
Urban				
Exponential	-4276	-2857	-2139	-1533
Weibull	-3525	-2830	-2126	-1518
Log-Logistic	- 3324	-2468	-1867	-1342
Log-normal	- 3310	-2483	-1876	-1345
Rural				
Exponential	-10,994	- 8690	-7363	-6118
Weibull	-7293	-7703	-6557	-5363
Log-Logistic	-6216	-5857	-4999	-4188
Log-normal	-6363	-6096	-5220	-4345
National				
Exponential	-15,485	-11,694	-9621	-7222
Weibull	-11,308	-10,960	-9033	-7126
Log- logistic	-9999	-8612	-7114	-5695
Log-normal	-10,118	-8925	-7383	-5885

## APPENDIX G.1: Time ratios of having first births by various covariates, Ethiopia, 2000

	Time Ratios		
	Model 1	Model 2	Model 3
<b>Age Cohort</b>			
35 Years & above <sup>R</sup>	1.00	1.00	1.00
25- 34 years	0.99 (0.00)	0.99 (0.01)	1.02 (0.00)**
15-24 years	0.99 (0.01)	0.98 (0.01)	1.02 (0.01)**
<b>Type of Union</b>			
Monogamous <sup>R</sup>	1.00	1.00	1.00
Polygynous	1.02 (0.01)**	1.01 (0.01)	1.01 (0.01)
Formerly married	1.08 (0.01)***	1.08 (0.01)***	1.06 (0.01)***
Never Married	3.18 (0.06)***	3.21 (0.06)***	3.02 (0.05)***
<b>Age @ first Marriage</b>			
16 years & under <sup>R</sup>	1.00	1.00	1.00
17 years and above	1.52 (0.01)***	1.54 (0.01)***	1.58 (0.01)***
<b>CP initiated before 1<sup>st</sup> child</b>			
No <sup>R</sup>	1.00	1.00	1.00
Yes	1.26 (0.02)***	1.27 (0.02)***	1.24 (0.02)***
<b>Place of residence</b>			
Urban <sup>R</sup>	1.00	1.00	1.00
Rural	1.02 (0.01)**	1.01 (0.01)	1.03 (0.01)**
<b>Education</b>			
No education		1.00	1.00
Primary		0.98 (0.01)**	0.98 (0.01)*
Secondary & higher		0.98 (0.01)**	0.99 (0.01)
<b>Religion</b>			
Orthodox Christian <sup>R</sup>		1.00	1.00
Protestant		0.99 (0.01)	0.99 (0.01)
Muslim		1.03 (0.01)**	1.03 (0.01)**
Traditional & Others		1.06 (0.02)**	1.04 (0.02)*
<b>Ethnicity</b>			
Amhara <sup>R</sup>		1.00	1.00
Oromo		0.96 (0.01)***	0.98 (0.01)
Tigrawi		1.03 (0.03)**	1.04 (0.01)***
Guragie		1.00 (0.02)	1.02 (0.02)
Somalie		0.96 (0.01)*	0.99 (0.02)
Affar		1.13 (0.02)***	1.13 (0.02)***
Others		1.00 (0.01)	1.02 (0.01)
<b>SIGMA</b>			0.329 (0.003)
<b>THETA</b>			0.262 (0.014)
Sample size	15364	15364	15364
Number of failures	10139	10139	10139
Negative log likelihood	6299.27	6237.99	5978.34
Likelihood ratio Chi-square	7638.31	7760.88	8061.31
DF	8	19	19
Prob . Chi sq	0.000	0.000	0.000
<b>THETA=0</b>			
Theta Chi-sq			519.3
Prob			0.000

Notes: R = Reference Category; Standard errors in brackets; Significance levels \*\*\*= 0.00; \*\*=0.01; \*=0.10

## APPENDIX G.2: Time ratios of having second births by various covariates, Ethiopia, 2000

	Model 1	Time Ratios Model 2	Model 3
<b>Age Cohort</b>			
35 Years & above <sup>R</sup>	1.00	1.00	1.00
25- 34 years	1.02 (0.010)	1.02 (0.01)	1.03 (0.01)**
15-24 years	1.06 (0.02)**	1.06 (0.02)**	1.07 (0.02)***
<b>Type of Union</b>			
Monogamous <sup>R</sup>	1.00	1.00	1.00
Polygynous	1.05 (0.02)**	1.09 (0.02)***	1.05 (0.02)**
Formerly married	1.20 (0.02)***	1.19 (0.02)***	1.09 (0.02)***
Never Married	2.46 (0.23)***	2.38 (0.21)***	1.95 (0.16)***
<b>Age @ first Marriage</b>			
16 years & under <sup>R</sup>	1.00	1.00	1.00
17 years and above	0.97 (0.01)*	1.01 (0.01)	1.00 (0.01)
<b>Age @ first birth</b>			
18 years & under <sup>R</sup>	1.00	1.00	1.00
19 years and above	1.03 (0.01)*	1.02 (0.01)	1.01 (0.01)
<b>CP initiated before 2nd child</b>			
No <sup>R</sup>	1.00	1.00	1.00
Yes	1.44 (0.04)***	1.38 (0.04)***	1.324 (0.03)***
<b>Place of residence</b>			
Urban <sup>R</sup>	1.00	1.00	1.00
Rural	0.91 (0.01)***	0.94 (0.02)**	1.03 (0.01)**
<b>Survival status of previous child</b>			
Alive <sup>R</sup>	1.00	1.00	1.00
Dead	0.79 (0.01)***	0.79 (0.01)***	0.76 (0.01)***
<b>Education</b>			
No education		1.00	1.00
Primary		1.02 (0.02)	1.03 (0.01)*
Secondary & higher		1.02 (0.02)	1.00 (0.01)
<b>Religion</b>			
Orthodox Christian <sup>R</sup>		1.00	1.00
Protestant		1.05 (0.021)**	1.04 (0.02)**
Muslim		0.91 (0.01)***	0.92 (0.01)***
Traditional & Others		1.06 (0.04)	1.04 (0.02)
<b>Ethnicity</b>			
Amhara <sup>R</sup>		1.00	1.00
Oromo		0.85 (0.01)***	0.86 (0.01)***
Tigrawi		0.97 (0.02)	1.01 (0.01)
Guragie		0.90 (0.02)**	0.94 (0.03)**
Somalie		0.73 (0.02)***	0.77 (0.02)***
Affar		0.95 (0.03)	0.97 (0.03)
Others		0.87 (0.02)***	0.91 (0.02)***
SIGMA			0.417 (0.005)
THETA			0.508 (0.02)
Sample size	10139	10139	10139
Number of failures	8311	8311	8311
Negative log likelihood	8502.89	8364.18	7745.10
Likelihood ratio Chi-square	841.65	1119.08	1052.62
DF	10	21	21
Prob . Chi sq	0.000	0.000	0.000
Theta Chi-sq			1238.16
Prob			0.000

Notes: R = Reference Category; Standard errors in brackets; Significance levels \*\*\*= 0.00; \*\*=0.05; \*=0.10

## APPENDIX G.3: Time ratios of having third births by various covariates, Ethiopia, 2000

	Model 1	Time Ratios Model 2	Model 3
<b>Age Cohort</b>			
35 Years & above <sup>R</sup>	1.00	1.00	1.00
25- 34 years	1.02 (0.010)*	1.03 (0.01)**	1.04 (0.01)**
15-24 years	1.13 (0.02)***	1.15 (0.03)***	1.14 (0.02)***
<b>Type of Union</b>			
Monogamous <sup>R</sup>	1.00	1.00	1.00
Polygynous	1.05 (0.02)**	1.10 (0.02)***	1.05 (0.02)**
Formerly married	1.19 (0.02)***	1.18 (0.02)***	1.06 (0.02)**
<b>Age @ first Marriage</b>			
16 years & under <sup>R</sup>	1.00	1.00	1.00
17 years and above	0.98 (0.02)	1.03 (0.02)*	1.03 (0.01)*
<b>Age @ first birth</b>			
18 years & under <sup>R</sup>	1.00	1.00	1.00
19 years and above	1.00 (0.01)	1.00 (0.01)	1.00 (0.01)
<b>Place of residence</b>			
Urban <sup>R</sup>	1.00	1.00	1.00
Rural	0.83 (0.01)***	0.87 (0.02)***	1.01 (0.01)
<b>Surv. stat. of prv. 2 Child.</b>			
both alive <sup>R</sup>	1.00	1.00	1.00
1 alive 1 dead	0.90 (0.01)***	0.89 (0.01)***	0.88 (0.01)***
both dead	0.77 (0.02)***	0.77 (0.02)***	0.74 (0.01)***
<b>Education</b>			
No education		1.00	1.00
Primary		1.01 (0.02)	1.01 (0.01)
Secondary & higher		1.00 (0.02)	0.99 (0.01)
<b>Religion</b>			
Orthodox Christian <sup>R</sup>		1.00	1.00
Protestant		0.98 (0.02)**	1.01 (0.02)
Muslim		0.90 (0.01)***	0.92 (0.01)***
Traditional & Others		1.04 (0.04)	1.05 (0.02)
<b>Ethnicity</b>			
Amhara <sup>R</sup>		1.00	1.00
Oromo		0.87 (0.01)***	0.89 (0.01)***
Tigrawi		0.94 (0.02)**	1.01 (0.01)***
Guragie		0.84 (0.03)***	0.91 (0.03)**
Somalie		0.71 (0.02)***	0.75 (0.02)***
Affar		0.94 (0.03)	0.93 (0.03)**
Others		0.88 (0.02)***	0.91 (0.02)***
SIGMA			0.415 (0.005)
THETA			0.583 (0.02)
Sample size	8378	8378	8378
Number of failures	6703	6703	6703
Negative log likelihood	7185.87	7066.46	6510.45
Likelihood ratio Chi-square	393.60	632.43	556.27
DF	10	21	21
Prob . Chi sq	0.000	0.000	0.000
Theta Chi-sq			1112.01
Prob			0.000

Notes: R = Reference Category; Standard errors in brackets; Significance levels \*\*\*= 0.00; \*\*=0.05; \*=0.10

## APPENDIX G.4: Time ratios of having fourth births by various covariates, Ethiopia, 2000

	Model 1	Time Ratios Model 2	Model 3
<b>Age Cohort</b>			
35 Years & above <sup>R</sup>	1.00	1.00	1.00
25- 34 years	1.07 (0.01)***	1.09 (0.02)***	1.09 (0.01)***
15-24 years	1.17 (0.02)**	1.19 (0.06)***	1.15 (0.02)**
<b>Type of Union</b>			
Monogamous <sup>R</sup>	1.00	1.00	1.00
Polygynous	1.00 (0.02)**	1.05 (0.02)**	1.03 (0.02)
Formerly married	1.16 (0.02)***	1.15 (0.02)***	1.07 (0.02)**
<b>Age @ first Marriage</b>			
16 years & under <sup>R</sup>	1.00	1.00	1.00
17 years and above	0.99 (0.02)	1.03 (0.02)	1.04 (0.01)**
<b>Age @ first birth</b>			
18 years & under <sup>R</sup>	1.00	1.00	1.00
19 years and above	1.01 (0.01)	1.01 (0.01)	0.99 (0.02)
<b>Place of residence</b>			
Urban <sup>R</sup>	1.00	1.00	1.00
Rural	0.85 (0.01)***	0.88 (0.02)***	1.02 (0.02)
<b>Surv. stat. of prv. 2 Child.</b>			
all alive <sup>R</sup>	1.00	1.00	1.00
2 alive 1 dead	0.92 (0.02)***	0.92 (0.02)***	0.91 (0.01)***
1 alive 2 dead	0.87 (0.02)***	0.87 (0.02)***	0.84 (0.02)***
all dead	0.72 (0.03)***	0.73 (0.03)***	0.72 (0.02)***
<b>Education</b>			
No education		1.00	1.00
Primary		1.05 (0.02)**	1.03 (0.02)
Secondary & higher		0.97 (0.02)	0.95 (0.02)**
<b>Religion</b>			
Orthodox Christian <sup>R</sup>		1.00	1.00
Protestant		1.06 (0.03)**	1.03 (0.02)
Muslim		0.92 (0.02)***	0.92 (0.01)***
Traditional & Others		1.08 (0.05)*	1.05 (0.04)
<b>Ethnicity</b>			
Amhara <sup>R</sup>		1.00	1.00
Oromo		0.86 (0.02)***	0.89 (0.01)***
Tigrawi		1.02 (0.02)	1.05 (0.02)**
Guragie		0.96 (0.04)	1.02 (0.04)**
Somalie		0.75 (0.02)***	0.77 (0.02)***
Affar		0.91 (0.03)**	0.93 (0.03)**
Others		0.89 (0.02)***	0.92 (0.02)***
<b>SIGMA</b>			0.417 (0.006)
<b>THETA</b>			0.556 (0.02)
Sample size	6782	6782	6782
Number of failures	5401	5401	5401
Negative log likelihood	5738.87	5637.79	5236.83
Likelihood ratio Chi-square	254.11	456.27	461.85
DF	10	21	21
Prob . Chi sq	0.000	0.000	0.000
Theta Chi-sq			801.93
Prob			0.000

Notes: R = Reference Category; Standard errors in brackets; Significance levels \*\*\*= 0.00; \*\*=0.05; \*=0.10

## **APPENDIX H.1: Example, Interview on child bearing, marriage and divorce experiences**

Urban center- Jimma

Gender of Interviewee- Male

### **Part I : General**

Q- How old are you ?

A- I am 38 years of age.

Q- For how many years have you lived in Jimma? Where were you living before that?  
For how long?

A- I lived in Jimma for 20 years and earlier I lived in Gojjam for 18 years.

Q- What is your educational back ground?

A-Reading and writing

Q- What do you do for a living? Do you have an income?

A- I am a day laborer

Q- What is your religion?

A- Orthodox Christian

Q-What is your Nationality?

A- Amhara

### **Part II : On Reproduction**

Q- Why do people want to have children (if necessary probe: to get support in old age; to fulfill God's command: Because children give happiness.... etc.)

A- To see ones own offspring. To have a descendant, during old ages children also will take care of you. To have a successor. I will also have someone who will take care of my funeral, to be my name sake.

Q- Regarding your self (if you have children) why did you want to have children? To how many children have you given birth? Male \_\_\_\_\_ female \_\_\_\_\_.

A- I am a father to six children (2 boys and 4 girls).

Q- How old is your first born child (He/She) and the last one?

A- The first born ( a son) is 16 and the last born (a daughter) is 4 years.

Q- Do you have an intention to have additional children? How many male, how many female?

A- If God gives me why not? Why interfere in his providence. Let him give me whatever he wishes to give me. I do not limit the number, there is no harm if God gives me five or six children.

Q- Can you tell me the reason why you want to have 6 children as mentioned above?

A- It is only some of them that is going to be blessed. If one of them becomes better off and secures a high position both of us (my wife and I) will have someone to take care of us when we retire. But all of them won't be blessed. I wish God to bless me with whatever number of children he wishes to bless me. They will grow according to their destiny and fate. I will not complain if God bestows with dozen children.

Q- What kind of people have many children?

A- People who have many children are those who are blessed by God and their womb is also blessed. Those who are allowed to propagate their seed.

Q- what is the number of children you consider many?

A- Children are not to be counted. There is no limit for children. It is interference in God's work.

Q- What do you think is the benefit that people with many children get? Do you also believe it is disadvantageous? if so what is the disadvantage?

A- The benefit that families of many children get is that from many children few will succeed to secure better life. Hence, the parents will get someone to take care of them in their retirement and also in their death bed. There is no harm or disadvantage. No.

Q- In your opinion what kind of people/ families are those who have small number of children?

A- People with few children are those whom God had denied and their seed is not blessed.

Q- In your assumption what is the number of children that you consider small?

A- Those with three or four children you can not say they have rally given birth.

Q- for yourself, what is the number of children you consider ideal? How many male? How many female?

A- minimum number of children should be ten or twelve.

Q- Why do you believe this number is ideal?

A- God has commanded us to reproduce. One who seers many will not go hungry for a night besides at the end of the day he will have someone to take care of him in his retirement.

Q- In your opinion what is the advantage of having no children? Is there any disadvantage?

A- There is no benefit one gets by not having children. It is becoming barren, not able to see ones offspring is touchy.

Q- What do you suspect the reason why some individuals/ families do not have children?

A- Some individuals or families do not have children because God has denied providence to their seed.

Q- Have you ever discussed with your spouse about the number of children and gender composition? If you do not discuss can you tell me the reason?

A- How come? It is a sin to interfere in God's work.

Q- Do you discuss about this issue with other people? If you have discussed with whom? Can you tell me the reason?

A- No I have never discussed this with anyone.

Q- What is your opinion in the following points? Suppose either the husband or the wife want more number of children (if they disagree on deciding the number of children) what do you think they should do?

A- I do not think anything. Let God bless whatever children he offered me. Even if I want more son, I do not say anything. If I can I will try to have many more.

Q- Some people think it is not good for the family if women work outside home? Others believe it is good? Which one do you support? Why?

A- A woman's place is in the kitchen. If she goes out she flirts, it is not good.

Q- When you reflect on the number of children your parents have and considering the number of children your peers have around urban areas including yourself? In comparison do you think there is any change? In what respect? How? Why do you think this happened?

A- Yes there is change. There is no problem in rural areas because there is plenty of food. On the other hand in urban areas everything should be bought and it is expensive. And the majority of the people also might have gone to health center to seek birth control methods.

Q- What do you think is the ideal age for women to give birth to their first child?

A- 15 is a good age. 13 is early 20 is late.

Q- Which age group is ideal or more agreeable for men to give birth to their first child? Why? Which age do you suppose is early for men to have children? And the late age?

A- Men can get married from age 18 on. Because he has to be strong and with young blood he can seer many children as the Amharic proverb says "have children while you are young". 30 years of age is late for a man to get married.

Q- Sometimes a husband and a wife are forced /pushed by others to have children (or give birth) have you ever encountered similar situation? If yes, by whom and in what way?

A- Yes, I was pushed by my parents to have children. My father wanted to become a grandfather. They wanted me to have a child while I am still young.

Q- You, yourself have you ever pushed others to have children? If yes, who? Why?

A- Yes I have encouraged others to have kids. There is no harm in it. I have pressured my brother and friends.

Q- In your opinion are there conditions why individuals or families choose not to have a child? If yes, please explain which condition they are?

A- no



Q- Please explain about your marriage condition? Are you married now? Is this your first marriage? If not, how many times have you married before?

A- This is my second marriage.

Q- What do married people expect from marriage? What does the man expect? And the women?

A- Married people expect to have children and kiss their own child.

Q- When you think of families with successful marriage? What do you think is the reason for their marriage to be solid and envied?

A- A couple's marriage is successful when they accept whatever God has given them and shares it with their children. And leave with peace and love. Tolerance is the key to their success.

Q- Do you think divorce is common in our community or in urban areas? What kind of marriage are exposed to divorce? What is the attitude of the community towards divorced man? Good or bad? For divorced women? Do you think the community has a negative attitude for man and women regarding divorce? why? Are there any changed condition regarding divorce than the former years? In what respect?

A- Yes divorce is common in urban areas. Marriage that is exposed to divorce is one that the man and woman do not know each other thoroughly. The society's attitude towards a divorced individual is negative. Now we see more divorces compared to earlier times. When married couples lack commitment they will become disinterested in the marriage.

Q- Regarding your marriage who made final decision?

A- I consummated my marriage with the decision of my parents. My father has contributed a lot on the marriage decision. He used to nag me often saying I want to be a grandpa. His philosophy was get a child while you are young.

Q- Do you believe that there are conditions that influence marriage time and decision? if yes which are they (for example completing decent companion ...etc).

A- Yes, there are conditions that determine the onset and time of marriage. One condition is fear of parental disapproval. Even if you say you are too young to get married, your father will say you are old enough to be a father.

Q- Which age is best suited for a woman to get married? For men? Why?

A- The ideal age for a woman to get married is between 18 and 20.

Q- Suppose you are not married and if you are given a chance to choose your marriage age what age will it be?

A- I prefer to get married at the age of 16.

Q- If you are given a chance to choose the marriage age for your children, at what age do you want your son to get married? And your daughter? Why?

A- If I have given to choose the marriage age for my children I want my son to get married at the age of 18 and my daughter at the age of 15 (before she start flirting).

Q- In your opinion what must men fulfill as precondition before they settle to marriage? And the women?

A- For a man before he needs to have a daily income. For the woman it is enough if she is adept/skilled at domestic chores or house keeping.

Q- If your parents have told you how they were married and you remember it do you think there is a different from what is seen today in urban areas? In what way?

A- Yes my parents have told me how they were married. My mother was not even 10 years old when she got married and my father was 15. There is a big difference when you compare it with what you encounter in urban areas now a day.

Q- Do you think there is change in this respect? what do you think is the cause of the change?

A- Yes there is a change in the marriage condition. Formerly life was cheaper. There was no problem but now a day everything is expensive and population is increasing.

Q- At present which social group do you think is getting married early? What is the reason? And those that marry late?

A- Earlier it was rural people that used to get married early. This is because they live according to the tradition. Those that get married late are those that live in urban areas and literate people because they spend most of their time attending school. Thereafter he waits until he gets job and starts proper life.

Q- What is your opinion about family planning? Is it to be supported or discouraged? Why?

A- I do not support family planning. It is meddling in God's work. It is blasphemy.

Q- Is providing family planning service for unmarried people? Good or bad? Why?

A- Whether married or not is not intended to make him barren. Is it not meddling in God's work?

Q- Regarding men birth control some people support and others oppose it? What do you think of men's birth control method?

A- This is even more sinful.

Q- Are you family planning service user at present? If you are which method?if not why not?

A- I am not a user. Why do I kill my seed? I do not want to be in bad terms with my God.

Q- Does your faith/religion support family planning? In this regard is there information and education provided by leaders of your religion.

A- My faith doesn't support family planning. In the bible it says reproduce and fill the earth.

Today many are dying of HIV/AIDS. On top of this preaching family planning is extermination and is bringing poverty.

Q- In recent years HIV/AIDS has caused great damage in our country? Do you think the disease has influence on people's decision to get married? If so how?

A- It is said HIV/AIDS was also prevalent in earlier times. These days no one will get married without thinking HIV/AIDS. Some others want to get married on trust. Because of this despair many people did not get married.

Q- What is your opinion about sexual relation before marriage? What is the attitude of the society on individuals that get pregnant before marriage? Good or bad? Why?

A- There is no problem for men to have sexual relationship before marriage. The problem is for the woman. If she gets pregnant before marriage she will be a loser. It is bad.

Q- Is abortion common in urban areas? Do you personally know or heard people engaged in induced abortion? In your opinion why does some people involve in such kind of activity.

A- Yes, abortion is common in urban areas. It is better to be careful not to get pregnant. Once it happened to get rid of the fetus is sinful

Q- Lately some groups are trying to make abortion services legal. What do think of this movement? Do you support this idea? why? If you oppose what are the reason for the opposition? If there is any thing you would like to say?

A- I do not support abortion. A woman has to be careful before it happens. Once she gets pregnant, meddling with Gods work is a horrible sin.

Q- In a study done in 2000 [DHS] it is indicated that people who live in urban areas have smaller number of children compared to rural areas. Do you think today's urban families have less number of children than their rural counterparts? If so what do you think the reasons might be?

A- Yes. Urban dwellers have smaller number of children due to the following reasons.

- . they spend half their age in school
- . the spend their golden ages toiling for money and trying to settle down
- . they squander their (his) time in search of a mate
- . both women and men made sarcastic remarks on prospective candidate. Later, when they finally settle down they probably give birth to one or two.

Thank you

## APPENDIX H.2: Example, Focus Group Discussion

Place: Bahir Dar town  
July 24, 2004 (Saturday)

### Background

The discussion took place in a training hall of a non-profit organization. Participants are all women. No. 6's son was also with us making little noises during the discussion. The Socio-demographic data of the discussants is as follows:

No	Age	Occup.	Education	Religion	Ethnicity	Marital Status	Lived in B.Dar	No of children
1	15	CSW*	4 <sup>th</sup> grade	Orthodox	Amhara	Single	1 year	-
2	24	Janitor	12+1	Protestant	Amhara	Single	2mth	-
3	19	CSW*	Illiterate	Orthodox	Amhara	Single	4 years	2
4	17	MS**	1 <sup>st</sup> grade	Orthodox	Amhara	Single	5 years	-
5	17	MS**	1 <sup>st</sup> grade	Orthodox	Amhara	Single	7 years	-
6	20	House wife	Illiterate	Orthodox	Amhar	Married	8 years	1

\* CSW – commercial sex worker

\*\* MS - Maidservant

Discussants No. 3,4,5 and 6 lived in small rural towns before they came to B.Dar. Discussant No. 2 was in Debre Markos before moving to B. Dar. No. 1 didn't tell us where she was.

*Q. Why do people want to have children?*

No. 3 If the couples don't have children, they won't have warm marriage. The husband may divorce his wife if she does not give birth to a child.

No. 2 children are gifts from God.

No. 6 To see one's own eye. If the lady does not give birth the husband's relatives would disturb her peace.

*Q. What kind of people tend to have more children?*

No. 2 Those who are not educated and are living in rural areas. In towns those who have more children are who say the religion doesn't allow us to have children.

*Q. How many children are referred as "Many"?*

No. 1 (6)

No. 2 (More than 4)

No. 3 (12)

No. 4 (More than 4)

No. 5 (More than 4)

No. 6 (More than 4)

- Q. What benefits do parents with "Many" children get? Does it have any disadvantages? If it has any, in what way?*  
 No. 3 It has harm. They can't educate their children and the parents send their children to towns to work as maids in people's houses. They are also exposed to prostitution.
- Q. What kind of people/families do have small number of people?*  
 No. 4 Those who are educated and who use family planning methods.
- Q. What do you consider the number of children that is small?*  
 No. 1 (2)  
 No. 2 (1 )  
 No. 3 (4)  
 No. 4 (2)  
 No. 5 (1 )  
 No. 6 (1)
- Q. What is the ideal number of children to have for your self? How many boys? How many girls?*  
 No. 2 One boy and one girl (2 children) Not to say I wish I had a girl / or I wish I had a boy, If I have either of the two.  
 No. 3 I have already 2. I don't want to have more children according to my working situation. (Bar lady) If I get a good opportunity, I would have added two boys.  
 No.6 Now I have 1 boy I would love to have one girl.
- Q. What is the advantage of not having children? What about its disadvantages?*  
 No. 4 Not having children is difficult. When husband and wife sit together they need to have a child to make the house full of life.  
 No.3 If there is no family in the house who is going to inherit the wealth they have in the future?  
 No.6 If you have child you spend a lot of time with the child and you won't get exposed by going out, from your home, to different things. So having a child is advantageous.  
 No.2 The other important reason is that people who don't have children may give up on different issues of their lives, but if they have children, they would do anything for the sake of their children.
- Q. Why do you think that, some families have no children at all?*  
 No.3 Because they are infertile naturally (either of the two)  
 No.2 If they don't have peace between the couple then they don't want to have each other's child.
- Q. If couples do not agree on the number of children they want to have, what do you think they should do?*  
 No.6 Usually the idea of the husband will be accepted.  
 No. 5 If I don't agree on the number, I will divorce him.

No. 3 They should consult each other and convince each other if they really want their marriage.

No. 2 I believe in going to health professional to counsel and to give them education.

*Q. Some people believe that, if the mother works outside her home, it is not good for the family others do not believe that. What is your opinion in this respect?*

No.2 Raising a child is not only the responsibility of the woman. The guy also has a responsibility. They can share what they have after work. She can assist the family by bringing additional income. They should also know about equality.

No. 3 If she goes out to work, then the children will have no one to look after them; they might be late for school. They don't know one to control them. Etc...

No. 5 I support women's working outside of home. If they have money to raise the child up, there is no way the child is going to suffer. It is being poor that makes suffer. When the parents don't spend the whole day with them children will miss their parents, so they will have more love. So when the parents are working they will earn love and money.

*Q. Which age, do you think, is the ideal age for a women to give birth? Do you think there is an early age for a woman to give birth? How old? What is the late age? Why?*

No	Ideal age	Early age	Late age	Why late?
4	18	17	> 20	She is getting old and she can't have child
3*	> 15	< 14	22	She can't raise the child if the body gets old
2	15 – 20	< 15	> 35	It might be risky for the child's health. It also has problem in labor. The mother might encounter fistula problem
6	16	15, 16	20 – 22	If she gets older than 22, the child may not have some one to look after him/her.
5	When her life gets in line & does have enough to live by	If she is less than appropriate	35	She can't care for her children if she is more than 35

\* No. 3 shared her experience about her giving birth to her child on the age of 14 and she had encountered a big problem while having her labor. She was saved from death. Her body was not fully developed and she had to labor for 5 days. The people around her were giving her a local beer (Tella) and Chat's fluid to facilitate her labor, which were all dangerous.

*Q. Which age, do you think, is the appropriate age for a man to have a child? Do you think there is an early age for a man to have a child? How old? What is the late age?*

No	Appropriate age	Early age	Late age	Reason for late age
5	28	<20	38	It will be better to have a child while he is capable of working
4	20	17,18	30 – 40	Same as no.5
3	22	<20	28	Other wise he will divorce his wife.
2	25	< 25	> 50	It is a matter of capacity
1	30	<30	40	If he is more than 40 he might retire. And will be short of money

*Q. Do you think there are instances in which parents do not choose to have children? What are the instances?*

No. 2 Those who are on the street and commercial sex workers are not advised to have children.

No .3 supported the above idea with the reason of economic capacity and the child also might have a problem when it is born.

No. 5 All those who don't have the capacity to raise a child are not advised to give birth.

No.6 If the woman is healthy, she could have a child she will feed it any thing.

*Q. When you think of successful marriages, what do you think is the reason for the strength of their marriage?*

No. 4 Those who agree and those who have a full house, house utensils and enough income.

No.2 Those who have God in between. Wealth comes later. The main thing is God's love.

No. 3 If both are civil servants and a full house.

*Q. Do you think that there are circumstances which have an impact on marriage decision and the time to get married? Eg. Finishing school, getting employed, a good partner etc...*

No. 3 They should make a blood test for HIV.

No. 2 In addition they should have capital to start the marriage with.

*Q. Which age, do you think, is, the best for a woman to start a family/to get married?*

No. 2 If she is more than 25 years old, she could be able to mature.

No. 3 More than 20, When she gets matured.

*Q. What is your position towards the use of family planning services? Do you support it or not? Why?*

No. 5 I support it for the health and economy's sake.

No. 4 If you use family planning services you won't be exposed to trouble. To raise your child

No. 2 To have a healthy and happy child

*Q. Does your religion support family planning services?*

No. 4 No it does not support. They say it is “Kunene” [sin] There is no education, but people just use it

No. 3 The church does not support family planning services. They encourage people to have children

No. 2 I have not heard any thing from the church. As far as my knowledge is concerned, the bad thing is abortion not protecting ahead, the sin part is just giving birth and letting them suffer in life.

No. 6 The church does not support. But we just use the service.

*Q. It is known that these days, the HIV epidemic is causing enormous problems in our country. Do you think that this disease will have an impact on the decisions of couples who want to get married? If so, how?*

No. 2 it has many impact. After decided to marry, one of the couple may be positive, then all the preparation will be useless. Most of the time it has encouraged couples to marry early.

No. 3 Now I am a commercial sex worker,. And if some one wants to marry me, he doubts me about my HIV status. So it has a major impact. (It has hindered me from getting married soon).

*Q. Do you have any remarks on sex before marriage? How does the society see those people who get pregnant before marriage? Why?*

No. 2 Sex before marriage is not recommended. They might have a child unwontedly. They might be drunk or might forget to take care like using condom.

No. 1 The society does not approve those who get pregnant before marriage.

No. 3 The society calls the child a bastard (example of my own daughter, As a commercial sex worker, a customer just made sex with out a condom and my daughter is born. The neighborhood calls her a bastard, she who does not know her father. I really feel sorry when I here that. So it is not necessary.

No. 6 If one is going to have sex, one must use a condom. As for the pregnancy, she is going to bother her parents. Others also don't see her in good eyes.

*Q. Is abortion common in the urban settings? Do you personally know or heard any one who performed abortion? Why do you think people get in such kind of situation?*

No. 5 No I've not heard in urban settings.

No. 3 Around commercial sex workers it is common, it is also common with students because they want to continue their education and being afraid of their parents.

No. 2 I hear that [an NGO] is involved in providing abortion services. I'm really surprised; it means that the government views abortion as good. I think people turn to abortion because the pregnancy is not wanted. There are also cases where women want to terminate their pregnancy because they got pregnant as a result of rape.



*Q. Some activists are lobbying to make abortion legal. Do you support this idea? If you don't support this idea, why?*

No.6 I don't support abortion to be legal. A woman should use protection primarily. If she happens to give birth she should raise it.

No.2 If the government is truly committed to help its people instead of making abortion legal, I would rather recommend scaling up education and contraceptive services in the rural areas. Otherwise the youth will be exposed to HIV/AIDS by having unprotected sex.

NO. 3 I say abortion is not good for the woman. She might not be able to have a child in the future. In my case I happened to get pregnant again. I thought of having an abortion at the time. But I didn't have money to do so .The cost was about 80 birr. So I tried other methods like taking Ampicillene and drinking Quat [chat] water. But it didn't work.

*Q. At last, the demographic health survey reveals that in 1992 (EC) the number of children in a family in towns are less than the rural community. In your thought what are the main reasons for the difference?*

No. 4 In the urban setting the people are educated but the rural people are not educated that is the difference.

No.5 In rural area there is no education on Family planning. But in the urban towns, even the teachers include it in their lessons.

No.6 In the rural area they say if the child is born he will grow up even by licking his "NIFT", as a result of their being uneducated.

No.3 In the rural areas they don't know how to balance their life, concerning children. They just give birth and send them to towns then the children are hired in as maids in peoples houses and later on when they couldn't keep on the get exposed to prostitution in urban towns. The rural parents think that in urban areas good fortune is waiting for their children and want to send them to urban towns and want to get money.

Thank you

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