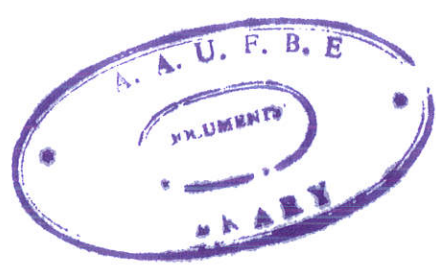


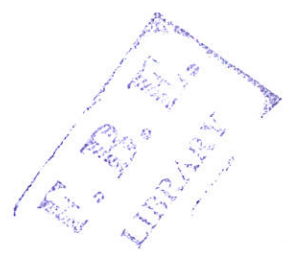
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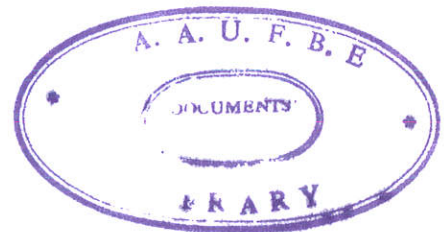
**THE IMPACTS OF WOMEN'S EDUCATION ON ELEMENTS OF**  
***REPRODUCTIVE HEALTH AND GOVERNANCE***



DANIEL ASSEFA  
MAY 2000

THE IMPACTS OF WOMEN'S EDUCATION ON THE ELEMENTS OF  
*REPRODUCTIVE HEALTH AND GOVERNANCE*

A Thesis Presented to the School of Graduate Studies  
Addis Ababa University  
in Partial Fulfilment of a Master of Science degree  
in Human Resource Economics



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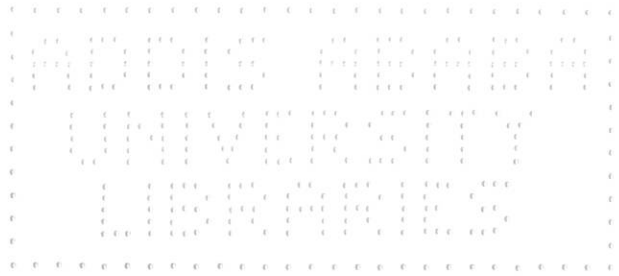
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## ABSTRACT

*The driving argument for conducting this study has come out of the belief that there are multifaceted benefits to investments in education other than the conventional private returns calculation earning differentials. Among a wide range of variables that education can presumably exert effects upon, two elements of reproductive health and one element of governance were considered in this study. More specifically this study has committed itself to the investigation of the impacts of education on fertility, contraceptive use and political participation of women. By making use of a primary data from a survey on 1002 women of reproductive age living in urban sides of Addis Ababa and Debre Berhan estimations were made. The results show that generally education reduced fertility, raised contraception and positively contributed to the political participation of women. It was also proved that as opposed to the conventional wisdom that primary education is enough to exert such influences on fertility and contraception, the findings showed at least a completion of grade eight schooling was required. It was also found out that it was women's education and not husband's education that resulted in significant effects on all the three variables. Lastly, most of education's impact especially on fertility came about through the delaying of age at marriage.*

## **CHAPTER ONE**

### **INTRODUCTION**

#### **1.1 BACKGROUND**

Some authors trace the recognition of the role of education in development to the days of Plato, from his statement on education's role of producing "reasonable men". They continue the trace to Adam Smith, the classical and the neo-classical tradition until Alfred Marshal who emphasised that "the most valuable of all capital is that invested in human beings." Other authors associate the 1960's with the birth of economics of education by referring to the pioneering works of people like Schultz (1961), Denison (1963), Becker (1995) and others.

Individuals /parents, firms and governments invest resources in educational development for one or more reasons. The rationale behind such investments lies in the multifaceted benefits of education. As seen from the direction of where the benefits of education go, we can see internal and external uses of investments in education. The internal uses of education refer to those benefits which are attributed to the individual. The external uses refer to benefits that go to the neighboring and distant beneficiaries from the education of an individual.

Seen from another angle, we can identify three types of uses of education. Firstly, education is a consumption good. As any other consumption good, education gives its buyer a direct utility. This can mean social power, psychic satisfaction, etc. Secondly, education can serve as an investment good by giving access to other opportunities which are difficult to acquire without some level of education. The human capital, the screening or credentialism theories of education have these background core beliefs in their assertions. Education serves as a ladder to step up to social, economic and other benefits. Thirdly, education is a public good. It shares the characteristics of most public goods. For example, knowledge acquired from education shares the non-excludability criteria and the non-rival criteria of a public good.

In most studies the focus of analysis of the impacts of education has been on the rate of return referring to earning differentials associated with different levels of education of individuals. Various studies in that line have shown that in general there are earning differentials as a result of education. It was this rate of return approach that took much of the attention of economists in the 1960's. Later researchers have tried to study the relationship between a country's education level (by way of enrolment ratios and completed years of schooling) and economic growth (income level). In most cases the results show a positive relationship even though the argument on the direction of causation is inconclusive. The problem in such studies has been that the channels in which education affected economic growth was not discussed well.

***There are a number of ways in which education can potentially affect economic growth.*** For instance education can raise both allocative and productive

efficiency of workers through specific or general skills acquired. It can also improve the individual's health and hence work hours. Education can raise contraception use and lower fertility so as to allow women more time for work and improve their health status and even the nutrition and health condition of their children ultimately raising productivity. It can also raise governance both at micro and macro levels ultimately affecting economic growth. **Hence the question as to how education affects economic growth needs to be answered.** One possible way of addressing this issue is to single out and study the impact of education on such intermediate factors in the relationship between education and economic growth as fertility, health, nutrition, governance (can narrowly defined as political participation), etc. It was by giving due consideration to these facts that recent works have been focussing on the external effects of education on an economy. This study is one of such works in the area, and has committed itself to the study of the impacts of women's education on reproductive health and governance variables.

The focus on women's education specifically has its root in the belief that they assume the major biological and social responsibility of children directly at least in the context of developing countries. On the other hand the study on the relationship between women's education and their political participation has its roots in the characterisation of women in the developing world. Even though women constitute a good proportion of the population in LDCs the female enrolment ratios are by far less than the male counterpart. It takes a deliberate focus on women to raise the gross enrolment and hence to raise the overall stock of knowledge in the economy. Second, despite the fact that it has not been given due recognition, women continue to play greater social and economic roles in the developing world. In places where this fact was

noticed and given due consideration formally participating women in economic and political endeavour have found to be fruitful in at least micro level development effort. However the efficiency of such efforts have been said to be minimal due to women's low level of education. Whether education has a role (and how much) in promoting the political participation of women is important in these regards.

## **1.2 OBJECTIVES OF THE STUDY**

The study has four main objectives to meet:

1. To show that education has positive external effects other than raising private returns in terms of earnings;
2. To show the impacts of education on two variables of reproductive health and one variable of governance, specifically on fertility, contraceptive use and political participation.
3. To show the channels in which education affects fertility, contraceptive use and political participation in urban Ethiopia.
4. To show the relative strength of women's education over their male counterparts in affecting the variables of concern.

## **1.3 Scope and limitations of the study**

As it has been mentioned at the outset the scope of this study is limited to an urban setting. Therefore be it for the reproductive health variables or the governance variable, the analysis and conclusions of this study might not apply to women in rural settings. Another point with regard to the scope of this study is bound to a single time horizon. This lack of dynamism will have a stronger effect especially in the governance variable because the type of a regime existing in a country at one time might have an effect on disturbing the determinants of political participation.

## **CHAPTER TWO**

### **RESEARCH METHODOLOGY**

#### **2.1 DATA SOURCE AND SAMPLING PROCEDURE**

##### **Data Source**

The data used in the study is basically a primary one. We have also made use of other secondary resources to complement the primary survey data. Among the major secondary resources used various publications of the Central Statistics Authority (like Fertility Survey of Urban Addis Ababa 1995, Report on the 1998 Health and Nutrition Survey Report, the 1994 Population and Housing Census of Ethiopia result for Addis Ababa Analytical Report ....), publications by The Ministry of Health (Health and Health Related Indicators 1990 and 1991), the publications of the Ministry of Education (Annual Educational Statistics) and the publications of the Ethiopian Women Lawyer Association (EWLA) are the major ones.

##### **The Questionnaire**

A comprehensive women questionnaire was designed incorporating socioeconomic background, knowledge, attitude and practice of reproductive health facilities and the political participation variable. The socioeconomic background

information includes religion, ethnic group, age, marital status, education, occupation, income and wealth proxies (ownership of

consumer durables like vehicle, refrigerator, VCR, make of the house) of the respondent and the husband as appropriate.

The questions on fertility and contraception include number of children ever born to each woman, desired family size, desire for additional child, number of children died, knowledge and use or non use of contraception. Knowledge and use or non use of specific methods and facilities, reasons for non use of contraceptives and intent of use were included as well.

As the major variable of concern in the study is education, to capture the possible effects of level of development of reproductive health facilities on the strength of education's role, two separate sites were considered; i.e. Addis Ababa and Debre Berhan. Even if both sites could be characterized as typical urban settings, the level of development of facilities in Addis Ababa is by and large higher compared to Debre Berhan. A comparative assessment of the socioeconomic behavior of the two sites will be discussed later.

The questionnaire on measuring the level of political participation included questions reflecting various levels of participation including awareness, media audience, participation in meetings and country wide elections, and ever assuming political leadership at any level. A total of 15 questions were included with the relevant possible choices of answers which were weighted according to their degree

of proximity to higher level of participation. The responses given by each woman were then summed up to form index of level of participation proxy.

### **Sampling Procedure**

An a priori decision was made to work on four Woredas in Addis Ababa, which were chosen using systematic random sampling method. Out of the 28 Woredas in Addis, Woredas 4, 11, 18 and 25 were chosen after selecting the number four from the random table and the rest based on a sampling width of seven. Then from each Woreda, four Kebeles were selected using geographic stratified random sampling. Finally a total of 566 women aged 15-49 were selected and interviewed from all the Kebeles. Each Woreda and Kebele sampled with slight proportionate differences in population size. Regarding Debre Berhan out of the total nine Kebeles five were chosen using stratified random sampling method making a sample of 436 women of reproductive age group.

### **Field Work**

After recruiting 12 female enumerators aged 25-35 years who had at least completed high school education, a one day training was given to them and their area supervisors on the objective and nature of the questions so as to help them get acquainted with the questionnaire. Then a test survey was conducted with the above discussed objectives and to check if there were any pitfalls on the question set. The test survey covered 50 women from each site. Based on the feedback collected from the overall process of conducting the test survey slight modifications were made to the question set.

In the process of conducting the field work no major problem was observed. However the side by side occurrence of two other surveys in some cases have forced us to skip some houses and consider the next house because people found it too time consuming and boring to handle more than one or two interviews in few days interval. Another major problem encountered was that sometimes those women who are either widowed or divorced were unable to tell about the schooling level and occupation of their husbands. Otherwise there was no major problem encountered in the field work.

## **The Work Area**

### **Addis Ababa:**

Addis Ababa is the capital city of Ethiopia. It consists of 6 zones and 28 woredas. The rural part of Addis Ababa has 28 farmers associations, while the urban part has 305 Kebeles. According to the 1994 Ethiopian Population and Housing Census, the population size of Addis was 2,112,737. The projected size of population for the year 1999 was 2,424,000 out of which females constitute 51.77 percent. The total fertility rate estimated for the year 1999 was 2.1; however, this figure is expected to rise to 2.14 by the end of 2000. Life expectancy at birth is 56.5 years for males and 60.7 years for females. The dependency ratio is very high for Addis (52.3 percent). The young and the old dependency ratios are 48.3 and 4.0 respectively.

As in many other areas in Ethiopia most of the child bearing occurs within the marriage and family is central to income maintenance, economic status and of social adjustment. With regards to education, 46.6 percent of the Addis Ababa population has already had formal education before the census and were not attending at the time of census, while 36.6 percent were attending school during the census enumeration. Certainly this shows that more than 80 percent of the population have had formal education.

Gross enrolment ratio (age specific enrolment ratio) is defined as a ratio between the number of pupils/student enrolled at a given level of education, regardless of age, and the size of population in the relevant or eligible age group and is expressed in percentages. About 111 students per 100 population aged 7-12 are enrolled in primary school. This ratio was much higher than estimates for Sub Saharan Africa (68.3 percent) and even higher than for developed countries (101.81 for 1990) (UNESCO 1993). This might have been because of the fact that it is common to observe "over aged" students attending primary education. Females participation (113 percent) is relatively higher than males (108 percent) in primary and lower in senior secondary schools (69 percent and 57 percent for boys and girls, respectively).

Net enrolment ratio is defined as the ratio between the number of pupils of eligible age into a particular level by the population of the corresponding age group and is usually presented in percentage. The net enrolment ratio for primary, junior secondary and senior secondary levels are 72.7, 34.5 and 35.5, respectively for the overall Addis. The figures for the urban Addis are 73.6, 34.9 and 35.8 respectively.

Boy's participation (38.3 percent) is relatively higher than girls (33.9 percent) only in senior secondary schools.

With regards to economic activity, the economically active population which comprises all persons aged ten year and over who were employed or unemployed in the reference period, account for 52.8 percent of the total urban population (females account for 41.7 percent). The activity rate, which is defined as the extent of participation of the population in economic activity for all ages, is 52.9 percent in urban Addis Ababa. The unemployed population covers 34.7 percent out of which females take a share of 58.9 percent. The highest proportion of unemployed in Addis are high school complete (36.4 percent) while those beyond grade 12 were very few (6 percent). A small proportion were illiterate (12.2 percent).

### **Debre Berhan**

Debre Berhan is a small town in the Northern Shoa zone of the Amhara Regional State. According to the 1994 Ethiopian Housing and Population Census it has a total projected urban population of 51,022 out of which females cover 50.11 percent. The total fertility rate per woman is 6.54 and life expectancy at birth for males and females are 50.9 and 53.5 years respectively. The infant mortality rate is 109 infants per 1,000 women. Women in the reproductive age group (15-49) constitute 51.78 percent of the total women.

With regards to education the total primary schooling cover for 1992 is 86.6 percent which the secondary one is 92.8 percent.

According to the annual report of Northern Shoa Zone Department of Health, contraception prevalence is 19.4 percent. Other reproductive health, maternal and childcare services are in a similar status like other small towns in the country. For instance Antenatal Mother and Child Care (AMCH) cover is 38.5 percent while the Postnatal Care is 13.2 percent. The town of Debre Berhan has one Zonal hospital, three clinics (for specific public organisation employees) three junior and small level private clinics and two pharmacies.

There are nine Kebeles in the town of Debre Berhan, the majority of the population lives in the urban side while still a significant proportion lives in the rural side. Agriculture, public service, petty trade and casual work constitute the major types of employment in the area.

## **2.2 CONCEPTUAL AND EMPIRICAL FRAMEWORK OF ANALYSIS**

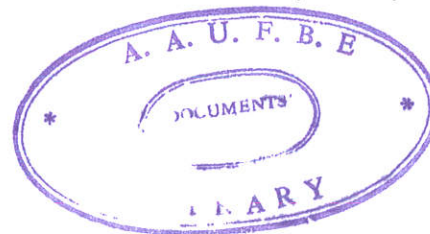
The main task of this study is to see the impacts of women's education on selected variables of reproductive health and governance. Reproductive Health refers to a wide range of health variables like Knowledge, Attitude and Practice of Fertility, Family Planning, HIV/Aids and other Sexually Transmitted Diseases, Maternal and Child Health Care Services.

On the other hand governance refers to "the exercise of political power to manage the affairs of a nation." (Webster New Colligate Dictionary). Ashworth(1996) identifies five levels of governance: the household or family level, the community level (the clan, the neighbours, the work place, association and political parties), the local

government level, the national government level and international or global government level.

The specific variables selected in this study are fertility, contraceptive use and political participation of women. Various approaches have been used in similar studies to meet related objectives. The conceptual and empirical framework for fertility and contraception used in this study is basically the one adopted from the approaches followed by Ainsworth, Beegle, and Andrew (1996). Slight modifications have been made on it making use of other approaches in similar studies as well. The framework for modelling impacts on political participation is by and large a pioneering effort. The following part discusses the conceptual framework and then the techniques used in constructing the empirical framework for the three models separately.

## THE FERTILITY MODEL



Ainsworth et.al (1996) has found four major channels in which women's schooling affects fertility. First, by raising the opportunity cost of women's, time in raising children, schooling raises the "price" of children (who are time intensive) as well as the wage that women can earn in the work force. The wage benefits of schooling may also induce women to get more schooling, thereby delaying the chance of child bearing. Second, women with more schooling may develop higher aspirations for their own children's schooling. These desires may lead them to focus more on the quality than the "quantity" of children. Thirdly, women with more schooling are likely to be more effective in producing healthy children, which lowers child mortality. As the probability of death of a child declines, couples find that they can have fewer children to reach a target

number of surviving children. Schultz (1994) found that fully half of the effect of female schooling in lowering fertility was operating through its effect in lowering child mortality. Fourth, educated women can learn about and use contraception more effectively than uneducated women, reducing the number of unanticipated pregnancies.

Other than the above there are arguments that female schooling can indirectly raise fertility by improving maternal health, reducing pathological sterility, and reducing the duration of breast feeding and its contraceptive benefits. Female education can facilitate fertility decline by increasing the bargaining power of women, allowing greater control over their destiny.

Ruseett et.al (1981) approaches the issue in two ways. The first is the "new home economics." This approach treats the child both as a product (investment) and consumer good. Fertility is the result of rational economic choice within the household. In this view, children are seen as goods both intrinsically and for economic benefits they bring. These benefits occur when children are old enough to begin to work. Since children are "good", the demand for them ought to increase as parents' ability to pay for them increases. Since high income families tend to have better-educated wives the opportunity cost of bearing and caring for children increases with income.

Educated women also tend to marry at older ages; on simple biological grounds, we should expect them to bear fewer children. The model of fertility determinants regresses a measure of cumulative fertility children ever born to each woman on a set of independent socioeconomic and exogenous factors that are assumed to be

exogenous to fertility decisions but that influence either the demand for or supply of children.

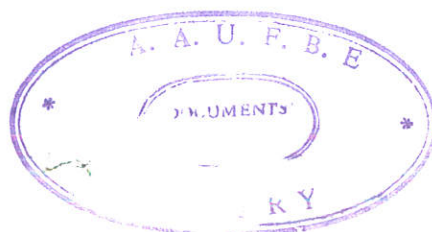
It has been a common experience to consider a sub sample of women with a specific marital status, especially those who are ever married to analyse either determinants of fertility or to see education's impact. This kind of analysis has a serious problem of selectivity bias in that it ignores education's impact of delaying marriage and also considering women with a relatively higher chance or risk of pregnancy. In countries like Ethiopia where it is very common to see child birth predominantly in a wedlock, the bias of such approaches is very high. In contrast, this study has adopted the approach of considering all the sampled women irrespective of their marital status. However, the easier to estimate technique of OLS would not be appropriate for such models in that censorship\* problem would prevail.

The censorship is that a significant proportion of women are never married and hence most probably have never given birth such that a good number of zeros will be observed in the dependent variable. In such a situation the use of OLS will be biased and inconsistent (Green 1997). The common way out of such problems is that adoption of Tobit models. Hence, a standard Tobit Model will be used for estimation. We will also be using separate regressions to the two sub samples of women as appropriate. The variables incorporated in the estimated model are listed below.

$$*FER = f ( CON, AGE, AGE2, REL, ETH, EMP, WLTH, INC, MAR, EDU, EDUH )$$

---

\* "Censored" is different from "truncated" regressions in that in the case of the later both the explanatory and dependent variables will not be observed (Green 1997 and Gujarati 1995)



CONST = Constant

AGE = Age of the woman in completed years

AGE2= Age of the women in quadratic form to capture the effects of biological factors affecting the supply of births

REL = Religious affiliation of the woman

ETH = Ethnic group of the woman

EMP = Employment status of the woman

WLTH = Wealth = Proxied by levels of womnership of consumer durables

INC = Income

MAR = Marital Status

EDU = Education of the woman taken in various specification

EDUH = Education of the husband in completed years of schooling

## THE CONTRACEPTIVE USE MODEL

The Contraception model is basically a binary choice model. A dichotomous variable in which the base or the reference value is taken as non use of contraception.

The functional expression can be stated as follows:

$$\text{CONd} = f(\text{REL}, \text{ETH}, \text{SRVG}, \text{MAR}, \text{EDU}, \text{EDUH}, \text{REGd})$$

SRVG = Number of surviving children

## THE POLITICAL PARTICIPATION MODEL

Various studies which have tried to see the level of participation of women in politics have followed the approach of head counting and characterising those women acting in various levels of political leadership relative to males (in parliaments, political party leadership, councillors...). The limitation of such an approach is its implicit definition of political participation as assuming such specific position. However in this study political participation is categorised in different levels. The first level is the understanding and awareness on a set of widely discussed issues and concepts in politics. The assumption here is that the initial level of participation is to have at least a rudimentary knowledge of the issue, for knowledge is power to take part in developing ideas, making decision and influencing others. The second level is the effort to try to keep one self abreast with current issues by regularly listening to the local news or external broadcasts. The third level is the extent to which one takes a deliberate effort to make frequent informal discussions with friends, relatives, and family members on political issues. The fourth level refers to voluntary participation in various formal discussion, elections, and decision making in general. The fifth level refers to the woman's assuming position in leadership.

A questionnaire was designed incorporating a set of questions that reflect all the above levels of participation. Answers made by each woman were then summed up and weighted to form an index, which serves as a proxy to measure the level of political participation of the woman. The variable taking on such indices is the dependent variable designated by PPI forming the political participation model.

$$PPI = f(\text{REL}, \text{ETH}, \text{AGE}, \text{MAR}, \text{EDU}, \text{EDUH}, \text{WLTH})$$

---

\* The signs under the specific variables show the expected direction of relationship.

## **CHAPTER THREE**

### **LITERATURE REVIEW**

#### **3.1 THEORETICAL LITERATURE**

##### **A. FERTILITY**

Discussing on the multifaceted nature of education Teresa (1994) identifies three key dimensions of education and subsequently exploring their potential implication for fertility behavior. Education as a “source” of knowledge imparts literacy skills, enables people to process a wide range of information and stimulates cognitive changes that shape an individual’s interaction with the surrounding world. Education as “Vehicle” of socioeconomic advancement, opens up economic opportunities and social mobility. Education as “Transformer” of attitudes can, for example, lead to crucial transformations in aspirations and eventually to questioning traditional beliefs and authority structures. Participation in school may bolster a girl’s self-esteem, feeling of effectiveness and sense of control over her destiny, despite a home environment and society that foster compliance with subordinate role. It proceeds to exhibit potential paths of influence of education on women’s reproductive desires and behavior. Schooling increases reliance on scientific explanations to

make sense of the world, inspires wider perspectives, and provides greater awareness of alternative life styles. The school experience not only enhances women's informed fertility choices, but also provides them with greater competence to interact with various complex institutions, maximizing their ability to benefit from a range of services including family planning.

Education is negatively associated with fertility partly because of its linkage to social status and economic success. Education is linked to wealth and hence to the ability to "afford" more children. Higher consumption goals and higher educational aspirations for children usually lead to the decision to have a small family, in order to allocate more resources to each child. Education enhances women's opportunities to pursue wage-earning activities; this is likely to require some tradeoffs concerning domestic and childbearing roles.

The recognition of reproductive behaviors normatively bounded and the increasing awareness of the role of ideational factors in fertility processes have led to a growing interest in examining education as a catalyst of normative change. Education also impacts a sense of trust in science and technology, which is indispensable for the use of modern contraception. Le Vine (1990) has shown that education changes the perceptions of mothers regarding the amount of personal attention required by young children. Thus, by redefining the maternal role as more time intensive, education can act as an important deterrent to high fertility.

Generally schooling as a social institution provides general and practical knowledge, credentials for employment, an expanded social network, and

socialization in modern values. The cognitive, economic and attitudinal assets acquired during the “formative” period will shape women’s reproductive decisions later in their lives. Some linkages are direct and explicit. Literacy, for example, conditions access to information, and thus it is clearly instrumental for informed fertility choices. Also by enhancing the access to a satisfying and financially rewarding job, education, raises the opportunity costs of children. The connection between attitudinal change and fertility is more subtle and requires a more psychological explanations, however, it is equally crucial. A shift away from “fatalistic” acceptance of reproductive outcomes is essential for creating a willingness to plan fertility and a more pedagogical nurturing styles, for placing a limit on the number of children that can be satisfactorily brought up and a more balanced power distribution within the family provides women with true control over choices in reproduction.

Therefore, in summary, according to Teresa(1994), education assets can be grouped as:

- Knowledge
  - exposure to mass media
  - awareness of source of modern contraception
  - Correct understanding of the ovulatory cycle
- Socioeconomic position
  - husband’s education
  - urban/rural residence
  - household appliances

- Attitudes

- degree of "fatalism" measured by reluctance to use contraception when no additional birth is wanted
- degree of "control" over reproductive process, measured by party at first of use of contraception.

In a study to look at the impact of women's education on fertility in India (UN: 1993) four types/groups of variables were hypothesized as to how women's education affected fertility: Supply of births, demand for children, costs of regulation.

The extent of regulation is determined by motivation for fertility regulation defined as the difference between the supply of and the demand for children, and costs of regulation. The costs of regulation include attitudes of others and self method and source awareness, and inter spousal communication.

The supply side factors are mainly biological capability factors, like age at marriage, breast feeding, postpartum amenorhea, postpartum abstinence, birth intervals and child mortality.

The demand side factors conjunctured are preference for sons, support by sons in childhood, support by daughters in childhood, expected support by sons in the future, costs of children, economic self reliance and desired family size.

Costs of regulation include attitude of others and self, method of awareness and inter spousal communication. The fertility regulation variable includes contraceptive prevalence and duration of use.

By making use of the above division three levels of effects were identified. Firstly, effect of education on intervening variables; secondly, effect of intervening variable on fertility, thirdly effect of education on fertility through intervening variable.

An implicit assumption in such conceptualization is the relationship between women's education and their status. For instance the association with current work status and with women's role in domestic decision making is of great importance. In the household, depending on the nature of the society age and education play greater roles in levels of autonomy on decision making. More generally education is related to social, economic status and mass media exposure.

The argument commonly advanced with respect to women's education suggests that it is linked with three major changes in their orientation towards children. First education shifts women's priorities away from large numbers of sons for labor provision as children and economic and residential support as adults towards a concern for higher "quality", that is better educated and more costly children. Secondly, better educated women as more capable of tending for themselves economically, relying on their own savings and income for economic security in emergencies and old age. Thirdly, the need for sons to legitimize a woman's position in her husband's home diminishes, since more educated women can derive prestige from non domestic sources.

## B. CONTRACEPTION

According to Ainsworth, *et.al.*,(1996) contraceptive is directly related to the demand for children. Therefore all factors leading educated women to have fewer children should result in a positive relation between education and contraceptive use. Educated women have information about the availability, correct use, side effects, costs and so on which makes them likely to use contraceptives. In addition the possibility that education can be correlated to income implies that in cases where contraceptives are not available for lower prices, educated women have an advantage of affordability over the non educated one. This is not to say that only the women's education matters in proxying the household income, but assuming that educated women on average marry either educated or better of business owner husbands which implies high income. Educated women can also be assumed to be more effective users of contraceptives than their non educated counterparts.

## C. POLITICAL PARTICIPATION

There are so many factors that affect economic growth directly and that interact with each other making difficult the clear identification of the role of a particular factor. The concern of most studies in the sphere of political and economic development was mainly the correlation between democracy (or any other type of governance) and economic growth.



Joseph Stiglitz, in a speech on Participation and Development, Perspectives from the Comprehensive Development Paradigm in Seoul, Korea (1999) asserted that research has provided considerable insight into some of the ingredients that contribute to successful long-term growth. He argues that broadly defined participatory processes (such as "Voice", Openness, and Transparency) promote truly successful long term development. An understanding of the centrality of open, transparent, participatory processes in sustainable development helps us to design policies, strategies and processes that are more likely to lead to long-term economic growth and that reinforce the strengths of the processes themselves.

What is called **a comprehensive development paradigm contrasts with the dominant paradigm of the past half-century, which focused more narrowly on certain economic or ever more narrowly, allocative issues.** It was argued that if only one could increase the supply of capital and the efficiency of resource allocations, development would occur. However we should continue to argue that a change in mindset is a center of development and attention should be shifted to how to affect such changes in mindset. Such changes cannot be "ordered" or forced from the outside; however well intentioned the outsiders may be, change has to come from within, and this can most effectively be met not when it occurred among a few elite but the society at large.

In this frame participation was taken in the broadest sense, to encompass transparency, openness and voice in both public and corporate settings. There are a variety of institutional arrangements that are consistent with "participation" in this sense. And the term "participatory processes" refers not just to those processes by

which decisions are made in national governments, but also to processes used at local and provincial levels, at the work place and in capital markets. In this comprehensive development paradigm participation does not refer simply to voting. Participatory process must entail open dialogue and broadly active civil management, and it requires that individuals have a role in the decisions that affect them.

### **3.2 EMPIRICAL LITERATURE**

#### **A . FERTILITY**

A study by Ainsworth et.al (1996) based on a household demographic survey conducted in fourteen Sub Saharan African countries first has identified the four channels it posited women's schooling affected fertility as wage effects, higher demand for child schooling, lower child mortality and more effective use of contraception. It suggested that female schooling can indirectly raise fertility by improving maternal health, reducing pathological sterility and reducing the duration of breast feeding and its contraceptive benefits. Female education is also thought to facilitate fertility decline by increasing the bargaining power of women, allowing them greater control over their destiny and improving husband wife communication.

The OLS regression results predicated that the relation between female schooling and fertility was non-linear. When a quadratic specification of female schooling (schooling and schooling squared) was used, it was found out that at low levels of schooling the relation between female schooling and fertility was weak or non

existent, but that with the completion of primary schooling the relation was clearly negative. This makes sense, since it is obvious that full primary schooling could result in basic literacy and numeracy or could substantially alter the opportunity costs of women's time. In the linear specification the number of years of female schooling was significant and negatively related to cumulative fertility. In level of schooling specification lower primary schooling (one to three years) was related to cumulative fertility in twelve countries and has a positive relation in two. In half of the countries women in the samples with four to six years of schooling had from 0.2 to 0.4 female children ever born, compared to women with no schooling, and in the other half there was no relationship. On average controlling for covariates, women in the samples with seven to ten years of schooling had from 0.2 to 0.7 fewer children ever born and women with eleven years of schooling or more had 0.8 to 1.8 fewer children ever born, compared with women with no schooling.

Commenting on the non linear relationship and the absence of any kind of relationship between female schooling and cumulative fertility, the authors gave several reasons. A positive relation would imply that even one year of primary schooling is sufficient to induce a quite large change in behaviours and that indirectly affects fertility. Another explanation was that the small group of women who completed only a few years of schooling are those who become pregnant, whose families wanted them to get married, or who simply could not keep up and therefore stopped their schooling.

The absence of any kind of relationship was explained as a possible effect of exclusion of variables like household income. Because if incomes rise, parents want more children; holding wages and other prices constant, higher incomes should be

associated with higher fertility, If there is a strong association between schooled women and higher incomes, and if income is not properly controlled for, then the schooling coefficient on women's schooling are underestimates of the negative relation with fertility. On the other hand the authors found that there was strong negative association between women's higher secondary schooling and cumulative fertility.

Another study on the impacts of women's education on fertility in India (UN: 1993) developed a model in which education affects fertility directly and through intermediary factors. Fertility was taken as the number of children ever born to every respondent; i.e., the number of live births she has had. Then the relevant socioeconomic, cultural and demographic explanatory variables were taken. To see the direct effect of education on fertility, mean number of children ever born by level of education and age group/cohort was studied. The average woman aged 15 – 49 had 3.1 births. Women with primary education had born about as many children as uneducated women, 3.4 and 3.3 births, respectively. It was only among women with middle school education that a significant down turn in fertility was observed, an effect that becomes more prominent among women who had secondary or higher schooling (2.4 and 1.9 births respectively). And there was a distinct age-specific pattern in the relationship with education. Among young women the relationship was nearly flat, and the differential between uneducated women and those with secondary school education is only 0.6 births. This shifted to a moderate inverse relationship among older women, where the corresponding differential is over one birth.

Based on their hypothesis that female education affects the number of children a woman is capable of having through a variety of inadvertent intervening factors inadvertent in that they are not undertaken for the purpose of controlling fertility, they identified supply side factors. These supply side factors include age at marriage and duration of marriage; the duration of breast feeding, postpartum amenorrhea and abstinence (following the birth of the last child); the duration of natural first and second birth intervals; and the extent of child mortality.

They found that women's education had the most powerful effect on age at marriage for both cohorts. The extent of infant and child mortality and such natural fertility factors as the duration of breast feeding and postpartum amenorrhea and the length of natural birth intervals were less influenced by education. In addition, while its effect through child survival is to reduce fertility intents, through these other natural fertility factors, is to increase fertility. So education was shown to affect the supply of births both positively and negatively. Positively through shorter duration of breast - feeding, postpartum amenorrhea and birth intervals; and negatively through higher age at marriage and better child survival. On balance, however, the fertility enhancing effects of education were not as strong as the fertility reducing.

The family size preference of younger women were somewhat lower than those of older women (3.2 compared to 3.6 children). This is attributable to lower family size desires among young women with no education only a primary school education, rather than a uniform differential at all educational levels.

To summarise, what we get from the empirical literature is that the available evidence for the developing world indicates that the fertility enhancing effects of education are strong in societies that are in the early stages of the fertility transition but that, as the process continues, those effects are gradually overtaken by the fertility reducing effects which are characteristics of modern societies. For example an analysis of the relationship between education and fertility in over 30 developing countries concluded that the more developed of those countries often revealed a negative association, where as the less developed countries were likely to exhibit a curvilinear or positive association (UN: 1987). There is also evidence from India that the pattern of the relationship between education and fertility is dynamic over the course of fertility transition (Jejeebhoy: 1991). Sometimes at an early stage it becomes ambiguous or positive. Due to the involvement of social and economic factors in the relationship, one has to consider the specific socioeconomic and demographic context of an area before making conclusions on the direction and magnitude of relationship that can prevail between education and fertility.

## **(B) CONTRACEPTIVE USE**

Ainsworth et.al (1996) tested for the relationship between education and modern contraceptive use in fourteen Sub Saharan African countries where demographic and health surveys have been conducted. Female schooling was found to greatly raise the likelihood of contraceptive use even among women with primary schooling only. However the relationship was nonlinear. Women with higher levels of schooling were increasingly more likely to use contraceptives. An important finding was that often the marginal relationship between an additional year of female schooling and contraceptive

use is greatest at the primary schooling level. Again, understanding why this was observed in some countries and not others, and the relation of these results to the availability of contraception, could lead to new policy insights.

The relative impact of male and female schooling was also tested. The result was that husband's schooling is associated with higher contraceptive use in only half of the fourteen countries. In cases where men's schooling was statistically significant, it generally exerted a smaller influence than female schooling

Another study reviewed was Susan, et.al (1990), Egyptian case study using the Egyptian Fertility Survey. It used a sample of 10,343 households in first stage and one third of the first sample in the second stage. The age limit was 50 years. They tested for the relationship in urban Egypt, rural Egypt and total Egypt by adding on the relevant specific background socioeconomic variables. The estimation technique they used was basically two-stage least squares. After running the regressions and complementing them with the appropriate descriptive statistics some conclusions were drawn.

A positive income or wealth effect (which can be correlated with education level in urban areas and with land in rural area) represented a positive correlation with fertility. Husband's education emerged as a significant variable in determining his desired family size and should negatively affect in rural areas, whereas in urban Egypt his wife's education was significant and negatively related to his desired family size. The analysis detecting number of contraceptives known suggests that a major channel through which husband education affected fertility was contraceptive knowledge.

The spouse's knowledge of contraception proved to be the most important variable in determining family size. The study suggests that the expansion of IEC (Information, Education and Communication) Program focusing on husbands raises contraceptive use. Discussing on the underpinnings of this knowledge of contraceptives, the authors argue that economic development as reflected by the education of husband and wife, their educational aspirations for their daughters, and wife's age at marriage affect fertility. These factors were particularly important when the number of contraceptive methods known is omitted from the regression equations. Thus economic development (by which they practically meant educational development, because it is the major factor that raises parents aspiration of their children's education, that increases income level, that delays women's age at marriage) was concluded to be essential for reducing family size (fertility) by raising the knowledge of contraceptive use.

Among studies reviewed on the Ethiopian case was Gebreselassie (1996). The data used was drawn from a household sample survey of 55 urban centers in Ethiopia, undertaken by the Ministry of Labour and Social Affairs to study the adolescent fertility and employment status of urban youth in 1990. The urban centers considered were Addis Ababa, Diredawa, Jimma, Bahirdar and Harar. Most of the youth in the survey were reported to have some knowledge of contraceptive use. The most widely (90%) known contraceptive method among sexually active male respondents was condom, while pill was the most widely known (87%) among females. There was a wide discrepancy between knowledge and the actual practice of contraception. The survey revealed that 37% of the employed youth were ever users compared to 24.9% of the unemployed and 17.% of the students. It was also reported that 23% of the users said

that their parents attained high education while 48% said their parents attained low education. Regarding their level of education 4.9%, 13.1% and 82% of the ever users were with no, low and high education, respectively.

The author concludes that the findings of the study suggested knowledge and practice of contraceptives are related to education, directly or through employment status variables. The logit regression analysis gave results that educational level of the respondents show contrasting patterns, in terms of probability of contraceptive use among better educated and less educated youth. Youth with high level of education (54%) are more likely to use contraceptives than those with no education (47%)

The problem with such statistical approaches is that they don't provide us with the sufficient information on the separate effects of the variables involved in determining the use or non use of contraceptives. For instance it was reported that educational level and employment status were among the factors that brought difference between the use and non-use of contraceptives. However the channel in which employment affected the decision was not separated.

Dilnesaw (1995) argues that as a women who doesn't know about contraception is not expected to use any type of contraceptive method, the level of awareness of contraception and the sources of where one can obtain them are essential preconditions for contraceptive use. And in the survey conducted in the town of Nazareth with this idea , it was observed that 93.5 percent of the total women have heard of at least one method. The most widely known method was pill (93 percent) followed by condom (70 percent) and Rhythm Method (72.1 percent). Out of the total women who had knowledge of at least one method of contraception, 53.1

percent had heard from a government health center, followed by friends and the Radio. The majority were able to identify the sources where modern contraceptive method could be obtained.

With regards to self and husband's attitude, 54 percent of the women approved of the use of contraception while 16 percent had unfavorable attitude towards such practice. Less than half of the sampled women reported that their husbands either disapprove of the practice of contraception, or they were not sure about their husband's attitude.

Overall, 32 percent of the women reported that they had communications with their husbands very often, 20.9 percent said sometimes and 46.3 percent said never at all. Among the currently married women of reproductive age interviewed, 44.5 percent reported to have ever used contraceptive method. The remaining 55.5 percent had never used any form of contraception.

The study also tried to look at use and non use of contraceptives against such socioeconomic variables as education, occupation, income, ethnicity, religion, childhood residence, husband's education and husband's occupation. With regards to education, it was observed that among the illiterates 8.1 percent had never used contraceptives.. Among the various education groups, the group with higher proportion of users over the non users was the secondary and tertiary level (79.2 percent). The implication for conclusion is that keeping all others factors aside, the non use of contraceptives declines significantly as one goes from the illiterate group to the primary and to junior secondary and most significantly to the secondary and

tertiary level. This kind of analysis is never reliable, for there is a potential problem of endogeneity. Education can mean anything like social or economic status on the one hand, and development of affirmative action on the other.

Even if the order is the same for husband's education, the size pattern of decline is different for instance. As we go from the illiterate to the primary education level, the size of the non users goes from 81.7 percent to 78.2 percent; from junior to senior and tertiary (57.6 to 33.9); while the case with women's education was 80.1 percent to 55.2 percent and 45.1 percent to 20.8 percent respectively.

On the other hand in the running of a multivariate analysis two sets of variables were used for a logistic estimation. The first group was demographic variables and the second was family planning service accessibility and attitudinal variables.

Among the first group of variables, age and fertility intentions of women (desire for more children) were the two important factors that emerged from the multivariate analysis in affecting contraceptive use. Ever use of contraceptives among women in the middle age group (25-34) was found to be statistically different from the younger age group and the relationship was highly significant. The multivariate estimate showed that women in the middle age group have the odds of contraceptive use that are 2.5 times higher than younger age group, other factors held constant. The estimates of the coefficients for women belonging to the age group of 35 to 49 also shows increased likelihood of contraception among older women. It was also mentioned that the findings of relatively higher ever use of

contraception for middle age women than the younger women may be attributed to the fact that the former have either achieved or are on the verge of achieving their desired family size while the latter group is still in the early stage of their life and has not yet achieved their desired family size. The decreased chance of contraceptive use in the age group 35 - 39 as compared to the middle age group might be because the older women are likely to have traditional outlook towards modern contraceptives and some may feel that they are infucund as a result they will be more reluctant to use contraceptive methods.

There was positive and significant association between women's education and contraceptive use. Education increases knowledge about contraceptive methods, family planning outlets and brings about favorable attitudinal charges towards contraceptive use. Educated women have better exposure to modern ideas and family planning information, are more likely to accept the idea of small family size than illiterate women. With regards to income, no level of income was significant at all. Husband's occupation had statistically significant impact on contraceptive use. Women whose husbands belong to professional and administrative occupation were found to have higher ever use of contraception and the result was statistically significant. Although the relationship was weak husbands engaged in the "sales and service works."

Women's ethnic and religious affiliation were found to be unrelated to their contraceptive behavior. Among the women in different ethnic groups the variation in ever use of contraception was quite small.

Another study was Daniel Sahileyesus (1995) on the determinants of contraceptive non-use and unmet need among married women in urban Ethiopia (Addis Ababa). The data set used in this study is the one for the fertility survey of Addis Ababa 1991. Contraceptives knowledge seems universal among all as well as currently married women 93 percent and 93.6 percent of all and currently married women respectively can name at least a method of families planning either spontaneously or after being probed. In spite of the high level of awareness a very low level of family planning use was observed. Of all the women surveyed 27.3 percent had ever used while only 15.5 percent were current users of contraception. Among the currently married women, 24.2 percent were practicing family planning method. The highest percentage of current users (56.5 percent) belongs to the 25.34 age group.

Most of the currently married current users had primary level of education (53.1 percent) followed by those with junior secondary education (40.1 percent). Among the current users 55 percent were not currently employed.

Regarding intent, among the never users three quarter responded that they have no plan to use family planning in the future. These currently married non-users who did not indicate any intention to use family planning in the future constitute 44 percent of all currently married women.

In terms of educational background, among the illiterate 89.3 percent responded no intention while 75.0 percent were reported among those with primary education. Among the secondary and tertiary level group, 37 percent and 6 percent

responded no intention respectively. The conclusion was that both for ever use and intent to use education played a strong determining role for raising contraception level.

Regarding reasons for non use among never users, 35 percent mentioned fatalist reason followed by other reasons, which can possibly mean infrequent sex and the like (19 percent) and fear of side effects (13.4 percent).

Total unmet need as well as unmet need for limiting and spacing is greater among women with primary level of education.

Thus the implication is unmet need is highest among women with low level of education. Almost three quarters of the unmet need was observed among women with a primary level of education. According to the conclusion unmet need declined as education level of women improved.

To estimate the effects of different demographic and socio economic varieties on a women contraceptive non-use a logistic regression model was used. The model defined looses of contraceptive non-use and unmet need for currently married women along with different demographic and socioeconomic characteristics. The major independent variables included were number of surviving children and preferred family size, age, education, childhood residence, employment status and region. Age was segmented into three broad groups, and the 15-24 group was used as reference group. Similarly for education, the non-educated group was a reference,

rural for childhood residence, not working for employment, or orthodox and protestant Christians combined together for religion.

The logistic regression shows that there is a negative relationship between age and women's contraceptive use. The relation was said slightly significant at 5% level for the 35-49 age group and non significant for 25-34 age group. The odds of a woman's contraceptive non-use in the 35-49 age group is 0.6573 times lower composed to the youngest age group of 15-24. The age of women increased they tend to use contraceptives or contraceptive non-use is relatively higher in the younger age groups.

The number of children surviving has negative relationship with contraceptive nonuse and it is significant at  $P < 0.001$  level. That is an increase of surviving children reduces the lododes of being a contraceptive non-user by a factor 0.1518. Thus as women have more surviving children they tend to switch to the status of contraceptive user. An increase in the family size preference of women increases the odds of contraceptive non-use by 1.0447 times than the odds of contraceptive use. That is women with larger ideal family size want to stay under contraceptive nonusers.

Surprisingly the study did not give any comment on the education variable except displaying the regression result table. However, in the table even if nothing was mentioned about significance, on can see that while primary and tertiary education exhibited a negative relationship, junior secondary schooling was positive. It is plausible to presume nothing was mentioned on this variable because it was not

significant at the give level of significance. The employment dummy as well shows a negative relationship.

In general in the literature there is consensus on the effects education brings on contraceptive use. However there is a gap of knowledge especially on the Addis Ababa case in separately accounting for the factors involved in determining contraceptive use.

### **C) POLITICAL PARTICIPATION**

The literature on the determinants of women's political participation is very limited. Even the ones that are available, focus on measuring the number of women participating in the decision making process in various levels of local and international forms.

Ashworth (1996) argues there are five levels of governance that any discussion on women's role should consider. The household or family, the community (the clan, the neighbours, the work place, association and political parties), the local government, national government and international or global government. The first two are usually associated with civil society and are often assumed to be distinct from the remaining three. However this dichotomy is false from the economic and judicial points of view. The study points out that among the reasons fear, non transferability of experience in community and local politics, restrictive and discriminatory practices in access to education by women, limited social services which might reduce women's leisure, thus reducing the availability of disposable time in which they can take part in political or cultural activities, women's lower wages and limited entitlements to social benefits, coupled with prevalent social expectations that women spend their income on their

families, inhibits expenditure on the uncertainties of a political career, the unequal sharing with husbands and other male family members of responsibilities for household management are the major ones.

A study made by the Ethiopian Women Lawyers Association (EWLA: 1999) defines political participation of women to mean “to make every effort to keep oneself knowledgeable about rights of citizens and the constitution, to develop democratic concepts and to build capacity for assertiveness in arguments and making decision, to be a member of a political party, to make effort to increase awareness of women rights and issues directly or indirectly affecting women, to compete for elections and to build one's capacity for appointment in public offices.” The study indicates that currently there are 23 women in the two Houses of the parliaments, 77 women in local government councils, 4916 in district councils participating. There is also a multifaceted campaign to raise the political participation of women in the country and it is believed that raising the educational level of women can directly raise their political participation. In general a change in the socioeconomic status of women (represented by their employment status, educational status, income level,...) can raise their level of participation. Most of this factors are intermediate factors and usually, education can be their root. However there was no study conducted to empirically show whether (and how) education affects political participation. This is the major reason that gave rise to a study of this kind.

## CHAPTER FOUR

### DESCRIPTIVE STATISTICS

#### 4.1 SOCIOECONOMIC BACKGROUND

##### a. Religion

The four dominant religious groups in the overall sample are Orthodox, Muslim, Protestant and others (Catholic, other Christians, non believers) with percentages 86, 7, 6.2, and 0.5 respectively. In terms of cities, there is only a slight difference in the percentage figures, otherwise the order of dominance is just the same in both Addis and Debre Berhan.

##### b. Ethnic Group

Amhara, Oromo, Guragie, Tigre and the others constitute 70%, 11%, 10%, 5% and 4% of the overall sample. The dominant ethnic groups in Addis Ababa were found to be Amhara (56%), Oromo (16.4%), Guragie (16.3%), Tigrie (6.4%) and others (4.6%). The case in Debre Berhan is that Amhara (85%), Oromo (3.6%), Tigre (3.2%), Guragie (2.5%) and others (2.0%).

c. **Marital Status**

Only four types of marital status groups were considered in this survey; namely, single or never married, currently married, divorced and widowed. The currently married group includes all types of “living together” from the informal to the formal (legal). From the overall sample, singles constituted 49% while currently married, divorced and widowed were 43%, 7% and 1% respectively. The proportion order is quite the same in both Addis and Debre Berhan with the later having a slightly higher percentage of singles over currently married.

d. **Current Age, Age at marriage, Age at first birth**

The effort to collect information on various age variables had helped us minimize the common “age miss reporting and understating” problems usually observed in such surveys.

Using the standard narrow age grouping of 15-24, 25-34, 35-49 we notice that the majority of the women fall in the first bracket (52%), followed by the second (29%) and the third (19%). The same order applies to the two cities except that the Debre Berhan sample has a slightly higher proportion of the younger cohort.

With regards to age at first marriage as taken out of all those ever married, those who got married under 16 age were 29% in all the sample cases. The majority got married between 16-20 years of age in both places (45% for Addis and 49% for

Debre Berhan). Those who got married between the ages 21 and 30 were 25% in Addis and 21% in Debre Berhan.

Out of all the women who have ever had live birth, the majority had their live birth at the age bracket 18-25 (64% for the overall sample, 63.4% for Addis and 66.5% for Debre Berhan) followed by the under 18 age group at first birth (Addis taking 25.9% then Debre Berhan 27.4%). At least Addis has 3% of all the women who have ever given birth at (or even after) the age of 30 years. Those who were between 26-30 at first birth constituted 7.5% in Addis and 6.1% in Debre Berhan.

#### **e. Income and Wealth**

The general assumption that education of the husband and even of the wife and their employment status tell the economic position of the individuals in the society may not work all the time. This depends on the society's view towards education, the size and behavior of the labor market and social structure. As a result we chose to separately see education, income, wealth, and occupation. Among all those currently married in Addis Ababa, husbands in the category of Top Management constituted 9.5%, skilled/professional group were 50%, petty trade 15%, and unskilled job 14%. The case in Debre Berhan is a little different. Husbands with unskilled job were 42.3%, those in the skilled/professional job were 36.6% and those in petty trade were 11%. Therefore in the overall sample skilled/professional, unskilled, and petty trade categories constitute 44%, 26% and 13.6% respectively.

Regarding the employment situation of women out of the overall sample and 48.9% were currently working . This currently working women cover 66.61% in Addis and 66.06% in Debre Berhan of all women of reproductive age group sampled.

Most studies in the area of fertility do not consider income due to the complexity associated with measuring it. There are three possible alternatives to capture a variable of income: firstly, to take the household income, as a whole and apply it to every qualifying woman in household whether she is working or not. Second, to take the incomes of only those working and leave as zero income for the non working ones. Thirdly, take expenditures per woman. The first approach is not plausible in that it overstates the economic status of the unemployed women but living with the employed ones or those living with their husbands and those not. The problem with the second one is that it understates the economic status of the currently unemployed women are practically enjoying. Despite its difficulty, the taking of expenditure is the most plausible alternative.

In this survey we followed an approach which can be identified as an extension of the third alternative. We assumed that income is equal to expenditure and per capita income is equal to per capita expenditure. Therefore in terms of per capita income the majority of the women in Debre Berhan (59.4%) have a per capita income of under Birr100.00 per month, followed by the monthly per capita income bracket of Br.101-300 (25%). In Addis the under Br 101 group is 32.5% followed by 101-300 group (35.1%) and the 301-700 group (20.6%).

Six types of ownership of consumer durable were used to proxy wealth. Ownership of at least car, refrigerator, VCR, TV set, Radio and none of all, taking on values from the highest to the lowest level of proxy respectively.

Religion	THIS SURVEY	1994 CENSUS	1995 FS
Orthodox	86.0	83.8	85.1
Muslim	7.3	10.3	7.4
Protestant	6.2	5.5	6.1
Others	0.5	0.4	1.4
Total	100.00	100.00	100.00
<b>Ethnic group</b>			
Amhara	56.3	53.1	52.8
Oromo	16.4	18.9	18.6
Guragie	16.3	11.4	16.3
Tigrie	6.4	7.9	9.0
Others	4.6	8.7	3.3
Total	100.00	100.00	100.00
<b>Age Group</b>			
15-24	48.1	50.7	49.6
25-34	29.9	27.3	26.9
35-49	22.0	22.0	23.5
Total	100.00	100.00	100.00
<b>Martial Status</b>			
Single	47.9	53.9	52.5
Currently Married	47.2	33.3	31.5
Divorced	4.3	8.7	11.2
Widowed	0.6	4.1	4.8
Total	100.00	100.00	100.00

▪ 1995 FS = 1995 Fertility Survey of Addis Ababa

. All the figures in the table are percentages and they are only for Addis Ababa.

TABLE 4.1 DISTRIBUTION OF THE SAMPLED WOMEN BY VARIOUS CHARACTERISTICS COMPARED TO THE 1994 CENSUS AND THE 1995 FS

In this regard the majority of the sampled observations had Radio (53.6%), then at least VCR (19.4%) down to none (18%). In Addis those having Radio (45%), VCR and others (23%) and none (19%) are the major categories. The case in Debre Berhan is that Radio (64%), none (16.6%), then VCR (14%). To see the quality and representativeness of the data table 4.1 is presented. All the figures in the table are percentages and they are only for Addis Ababa.

#### 4.2 FERTILITY AND EDUCATION

As we can see from the table, among respondents who have never given birth those who completed secondary school constitute the major group (59.7 percent) followed by the junior secondary (15.6) and the primary (13.9 percent). Among the parity of 1-3, the majority fall in senior secondary group (41.9 percent) followed by the primary (28.7 percent).

Education	CHILDREN EVER BORN			
	0	1-3	4-6	Above 7
Never Attended	4.7	6.8	10.2	<b>11.0</b>
Non Formal	2.3	6.5	16.0	<b>39.0</b>
Primary	13.9	28.7	45.8	<b>39.0</b>
Jun. Secondary	15.0	12.6	10.0	4.9
Sen. Secondary	<b>59.7</b>	<b>41.9</b>	<b>17.0</b>	4.9
Tertiary	4.4	3.5	1.0	2.2
<b>Total</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>

**Table 4.2:** Description of levels of fertility by corresponding levels of education

The order changes when we go to the parity 4-6 in that the majority fall in the primary bracket (45.8 percent), then the senior (17.0 percent) and the non formal group. This trend goes to pick in the above 7 children per woman group where we have the highest group of women in the primary and the non formal groups equally (39 per cent). Before rushing to the conclusion that the higher the education level the lower the parity we should further look at the fertility cohort to see if this result in a reflection of a trend that order cohorts have lower education and hence higher fertility because of not the impacts of education but because of life cycle process.

Age	CHILDREN EVER BORN			
	0	1-3	4-6	Above 7
15-24	79.5	28.4	2.5	2.45
25-34	15.9	53.5	33.9	2.45
35-49	4.6	18.1	63.6	95.1
Total	100.00	100.00	100.00	100.00

**Table 4.3 :** Description of children ever born by cohort.

An equal number of women in both the younger and older age group (37.1 per cent) have never attended schools. Among the senior secondary school group the younger cohort constitute the biggest size (66.4 per cent) and the older cohort (5.5 per cent).

Age	EDUCATION					
	Never Attended	Non Formal	Primary	J. Secondary	Secondary	Tertiary
15-24	37.1	14.9	31.8	63.9	66.4	32.4
25-34	25.8	25.4	33.1	23.3	28.1	51.4
35-49	37.1	59.7	35.1	12.8	5.5	16.2
Total	100.00	100.00	100.00	100.00	100.00	100.00

**Table 4.4 : Description of cohorts by level of education.**

## **(B) CONTRACEPTION**

The majority of the women surveyed have heard at least on type of contraception (90.5 percent). Among those who heard about modern contraception those who mentioned that they know pills and others were the dominant followed by condom, injectable and loop.

The prominent source of information was reported to have been government health centers. With the objective of identifying the relative effectiveness between electronic and print media, respondents were asked weather they got the information form electronic media (TV, Radio,...) or print media (pamphlet, posters, magazines and brochures,...). According to the survey results, next to clinics, electronic media was the most powerful source of information on contraception methods in both Addis Ababa and Debre Berhan.

Out of all the women who reported to have known modern contraceptions, 34.5 percent mentioned that they have used at least one type of contraceptions method. The percentage is lower for Addis (30.5 percent) than Debre Berhan (37.1 percent) in the same taken non use is higher in Addis Ababa (69.5 percent).

The major five widely used contraception types were pills (42.5 percent), Injectable (27.9 percent), Condom (19.7 percent), natural method (8.3 percent) and Loop (6.0 percent) for the overall sample. The government health centers as in any other studies has been showed to be the predominant source of supply of contraception (78 percent for overall sample, 73.5 percent for Addis and 84.6 percent for Debre Berhan). The private sources including clinics and pharmacies accounted for 82. Per cent of the total supply whilst the NGO sector accounted for 0.9 percent. The contribution of NGO sources in Debre Berhan is nill while it is 0.9 percent for Addis.

Asked if they are getting it for free or not, 82 percent of all the users said they get it for free. Those who are not getting contraception for free at slightly higher in Addis (21.1 percent) than in Debre Berhan. Those who are getting it for free were further asked if they are willing to pay for the contraception they are currently using and 91.5 percent reported willingness is an important determinant on the use or non use of contraception partner's knowledge, spousal communication and approval or disapproval. Answering to a question of partner's knowledge of the current use of contraception by the woman, 94.6 percent reported that partner knows that the respondent is using contraception and 94.6 percent said partner approved of the use contraception.

On the other hand among those women, who reported non use of contraception, the majority said their reason for non use of contraception was no or infrequent sex (68 percent), followed by "wants children" (10.8 percent), other reasons including "have reached menopause already" (8 percent) and "health concerns" (7.1 percent).

The current non users were asked if they intend to use contraception in the future and 45 percent said they will use in the future, 37.8 percent said they can't intend to use and 17.8 percent said they "can't tell now." Those who have intention of use were further asked when they will start to use the majority said have not decided when (92.6 percent), followed by "when I got married" (37.8 percent). However 6 percent of the women have plans to start to use contraception after to years.

Among the nonusers 85.7 percent reported they never discuss about contraceptives with partners while out of those who discuss about contraceptive with partners, 20.7 percent mentioned partner disapproves the use of contraception.

## **CHAPTER FIVE**

### **DISCUSSION ON REGRESSION RESULTS**

#### **5.1 FERTILITY**

In the fertility tobit regression we have three equations. The first one has the variable education in linear form where each year of the completed schooling is considered. In the second one education has entered the model by level rather than by year. The levels considered are primary, junior secondary, secondary and tertiary. They are all dummies. The third equation has education dummies for each year of schooling completed. The reference category is the “no education” and “non formal schooling” category.

As expected, cumulative fertility, which was defined as the number of children ever born to each woman, was positively and significantly related to age of the woman. This is very obvious in that women who have gone far in terms of their reproductive cycle would on average have higher cumulative fertility. On the other hand the AGE 2 variable which was entered to appreciate the effect of declining biological capacity of the supply of births is significant and negatively related to fertility. Other than this income was found to be very significant in positively affecting

**TOBIT ESTIMATION RESULTS**  
**DEPENDENT VARIABLE: FERTILITY**

	Equation (1)		Equation (2)	
	Coefficient	S.E	Coefficient	S.E
CONST.	-7.756	0.015	-7.899	0.934
AGE	0.352*	0.056	0.347*	0.056
AGE2	-0.002*	0.001	-0.002*	0.001
EDU	-0.133*	0.022		
EDUP			-0.086	0.277
EDUJ			-0.874*	0.346
EDUS			-1.275*	0.282
EDUt			-1.986*	0.555
INC	0.001*	0.000	0.001*	0.000
WLTH	-0.053	0.077	-0.055	0.777
MARc	2.596*	0.213	2.565*	0.213
REGd	-0.021	0.187	0.001	0.213
S.E (1)	2.250	0.076	1.567	0.000
S.E (1)			2.246	0.076
Obs	1,002		1,002	
P>dinz	0.000	0.000		
Loglikehihod	-1.220.350		-1,218.901	

\* Significant at 5%

**Table 5.1 Tobit estimation results for fertility model**

fertility while wealth was not significant at all. Most studies in this area do not include income as explanatory variable partly because current income will be weaker to explain a fertility decision made years back and also at times education can serve as a proxy for income.

An interesting result is that of Marital Status dummy. The dummy takes a value of one if the woman is currently married and zero otherwise (meaning either single or widowed or divorced though the latter two groups have a very small share). Being currently married increases the number of children born to each woman significantly. Not only the high significance and the fairly large coefficient of this variable but also the very fact that the size of women out of wedlock has been growing over the last few years, would lead us into a serious look at the strength of being currently married or not in explaining fertility differentials. In our sample, the mean age of woman at marriage is lower than the mean current age of a single woman. Out of all women who have ever given birth only 3 per cent are in the "never married" category and 9.4 per cent are in the "not currently married" category. In addition the mean parity among the "single" but "ever given birth" category is only 1.9 per cent while if we widen the domain to all single the parity would be a figure roughly equal to zero.

The preceding gives us a grain of truth as to why the dummy has a strong explanatory power on fertility. Social and economic factors dictating decision to get into conjugation can possibly account for the ultimate causes behind the strength of marital status dummy.

The dummy variable REGd is not significant in both the equations, meaning there is no appreciable difference in fertility explanatory variables whether a woman is in Addis or Debre Berhan.

Education in its linear specification is negatively related to fertility. In the second specification, while the dummies for junior secondary, senior secondary and tertiary levels of education have strong significant decreasing impact on fertility; primary school level dummy has not. In the third specification where we introduced dummies for each level of schooling completed, all the schooling level dummies before grade eight were not significant. However the dummies depicting completed level of education beyond grade eight were playing a detrimental decreasing effect on fertility.

It is also interesting to note that the relationship between fertility and contraception is significant and positive in general. However when we restrict the estimation to women with parity of four and above the relationship turns out to be negative and significant. A probable explanation is that it is women who are potentially fecund and at the risk of pregnancy that use contraception. However if the number of children per woman goes beyond four, women tend to use contraception so as to avoid pregnancy. This screens out those women who have never used contraception.

What we can say on the relationship between education and fertility is that education generally leads to a decline in fertility. The channels in which it operates can be learnt from the strong correlation between education and marital status and age at marriage. To see the relative strength of the wife's education over that of the husband, EDUH was included. However the regression showed signs of miss-

specification problem. Not only did it come out insignificant but it also disturbed the other variables.

## 5.2 THE CONTRACEPTIVE USE MODEL

Again three separate equations were estimated. The linear specification included husband's education. As expected the coefficient of SRVG is negative implying that women who have lost children avoid the use of contraception in order to compensate child loss. This result is consistent with the findings in Daniel (1995).

Another significant variable with a positive coefficient is MARc. The positive relationship implies it is currently married women who are exposed to the risk of pregnancy and hence higher probability of contraceptives use.

Regarding education we see that husband's education has no significant impact. But women's education was very significant. In a rural setting it might not be difficult to get results where husband's education would be important in that he can probably bring the idea of use. However in urban settings even the women are exposed to developed facilities hence it is not the knowledge or general understanding about contraception that determines the use, but rather the biological responsibility that dictates the use.

In the second equation the secondary level dummy was significant at 5 percent and the primary and tertiary levels were significant at 10 percent. Passing, it is worthy of note that education was a significant determinant at whatever level (despite the difference in significance level across education levels). However a

**LOGISTIC ESTIMATES**  
**DEPENDENT VARIABLE: CONTRACEPTIVE USE**

VARIABLE	Equation 1		Equation 2	
	COEF	ODDS RATIO	COEF	ODDS RATIO
CONST	-1.114		-0.952	-
REL	0.193	1.213	0.155	1.168
ETH	0.032	1.032	0.024	1.025
SRVG	-0.127*	0.880	-0.117*	0.889
MARc	0.758*	2.135	0.883*	2.418
EDU	0.089*	1.093		
EDUh	0.018	1.018		
EDUp			0.472**	1.603
EDUs			1.019*	2.770
EDUt			1.121**	3.069
REGd	-0.163	0.849	-0.271	0.763
No. of obs.	427		459	
Prob > chiz=	0.0000		0.0000	
Log likelihood	-273.646		-296.394	

\*Significant at 5% level of significance \*\* Significant at 10% level of significance

**Table 5.2 Logistic estimation results of contraceptive use model**

further scrutinizing is required as to what brought the difference in the strength of the effect. It may be because a significant proportion of the currently married women, especially the older cohort is in primary schools that they may not use contraception.

With regards to the tertiary level a possible explanation is that due to long years spent in schooling, women in that group get married so late and hence they have gone far in their reproductive cycle. Therefore the strength of the likelihood of their contraceptive use is lower compared to the secondary schoolers

In the third specification (annexed), where we used dummies for each year of schooling completed by the woman, grade one, grade four, grade six, grade nine, grade ten and grade twelve were the significant. The most significant of all was grade twelve. A significant number of the sampled women were twelve complete, and grade twelve is customarily the major exit point for schooling and an entry to conjugal commitments. Large number of women reported that their source of information of contraception were schools and it is mainly at this level that the curricula include lessons on reproduction.

### **5.3. MODEL OF POLITICAL PARTICIPATION**

The political participation index (PPI) is estimated using three equations. According to the first equation, almost all of the variables of the estimated model were significant. The major categories of religion tested were Orthodox, Moslem, Protestant and others. We have introduced dummies for each group and the base was "others". However, of all the dummies, the protestant dummy was significant. Holding other things constant on average affiliation to the protestant Christian religion

(as opposed to the non-protestant group) decreases a woman's participation in politics. One reason is that political involvement might not be considered friendly to the teachings and traditions of the religion.

### OLS Estimation Results

Dependent Variable – Political Participation Index (PPI)

	Equation (1)		Equation (2)	
	Coefficient	P>(t)	Coefficient	P>(t)
Cons	2.597	0.015	1.093	
RELP	-1.883	0.013	-2.284	
ETHt	3.831	0.000	4.980	
AGE	0.152	0.000	1.567	0.000
MARe	-1.074	0.000	-	
EDU	0.796	0.000	0.733	0.000
EDUH	-	-	0.021	0.786
WLTH	0.244	0.108	0.403	0.076
No. Of Obs.	566	-	294	-
Adj. R. Squared	0.33	-	0.349	-

\*All the estimation is in a two-tailed test at 95%

Table 5.3 OLS estimation results of the political participation model

One of the strongest relationship noticed was that of Ethnic group. The major ethnic groups considered were Amhara, Oromo, Guragie, Tigrie and "others". Like the religious affiliation dummy, a dummy was assigned to each ethnic group. On average being a Tigrie (as opposed to not) raised the political participation of a woman by 3.83 levels. A word of caution should be put in here. According to our sample, and the 1994 census, Tigrians account no more than 10 per cent of the total women. In such a situation where the group accounts for only such a small proportion one should not fully rely on estimation results for conclusions. We should rather look for other supportive results. In light of this we have tried to look into some supportive evidence.

One was the fact that the largest representation of women in the recent countrywide election was in Tigray region of all the other regions in the country. Second, of all the women asked if they had ever assumed political leadership the largest percentage, with a positive response was that of Tigrians. (19.4 percent) followed by Amhara (9.0 percent). A third evidence is that out of all the current women in leadership at zone, woreda or Kebele administration the largest percentage of women comes from the same. We can therefore trust the estimation result.

Marital status is again strongly significantly and negatively related to PPI. This is one of the interesting results we observe in the study. The highest level of PPI was observed in the never married group (16.24 percent). The majority of the women in the ever married group were concentrated between the PPI level of 1-10 (41.35 percent) while the majority of the never married were between indices 11-15

(30.99 percent) and with slight difference 16-20 (27.67 percent). Even if our data is silent on the indication of the factors accounting for such a relationship between PPI and marital status, a plausible conjecture would be the family responsibility would not allow them much time for such involvement. Another significant determinant of PPI was age. Accordingly, an additional year of age of a woman will result in a 0.152 increment in the level of PPI.

## **CHAPTER SIX**

### **SUMMARY, CONCLUSIONS AND RECOMMENDATION**

#### **6.1 SUMMARY AND CONCLUSION**

The major two areas considered in this study are Reproductive Health and Governance. As reproductive health and governance are very wide areas by themselves, we chose to study the relationship between education and selected elements of the two. Among reproductive health elements, fertility and contraceptive use are considered. The choice of these two variables is made based on the expectation that these are the variables on which one of the strong effects of education is evident. On the other hand among the range of variables that make up governance, we have specifically focused on women's political participation.

In this study, fertility is defined as number of children ever born to each women of reproductive age (15-49 years). Education was posited to affect fertility directly and through a wide and efficient use of contraceptives. We identified demographic and socioeconomic proximate determinants of fertility and contraceptive use.

A survey of the literature on the impact of education on fertility by and large showed that education negatively affects fertility in most cases. However, the relationship is highly volatile in that availability of family planning facilities, cultural make up and demographic composition frequently intervene.

Using the primary data collected for the purpose of this study in urban Addis and Debre Berhan education was shown to have affected fertility directly and through intermediary factors. The direct effects were tested for the linear, for the level and for each year of completed schooling specifications. The linear specification has generally shown a significant effect while in the level specification it was secondary and above secondary education which exhibited a significant decline in fertility. Similarly it took a completion of at least grade eight schooling to bring in a decline in fertility.

With regards to the indirect effect, education was observed affecting fertility indirectly by raising contraceptive use and delaying age at marriage. Passing, we should also note that whether a woman is currently married or not has the strongest impact on fertility. This is explained more by cultural forces in that most of the fertility decisions are made in the wedlock. Even then education's role of delaying the decision to get married is also important.

On the other hand, the element of governance; that is, political participation of women was considered in this study because it was one of the variables that contributes to the prevalence of good governance in a nation and its contribution towards realization of women's rights in countries like Ethiopia. According to the

estimation results education in general brings about a significant positive impact on raising the political participation of women. However, it was also noticed that other intervening variables might also play a role in minimizing the strength of the role of education. The two major variables in this line are ethnicity dummy, specifically being a Tigrie, and affiliation to the protestant Christian religion.

In all the models it was noticed that the women's education was significant, not of the husband in determining the respective variables.

## 6.2 RECOMMENDATIONS

### **With respect to reproductive health variables;**

**First:** As education in general proved to be an important determinant of fertility and contraceptive use, government decision on education investments should in general consider these benefit of education as well into account in addition to its other benefits. This should continue to be an important policy objective even in the long run as long as rapid population growth continues to be a challenge in economic growth.

**Second :** Despite the belief that led to the growing emphasis of governments education policy in favor of primary schooling, secondary education has been found to have the dominant impact upon contraceptive use over primary education.

One of the factors operating behind is that secondary schooling is the major source of knowledge of contraception and physiology to a large proportion of women.

Hence there has to be a widespread family planning program for women only with primary schooling or a policy that encourages women to continue high school study.

**Third:** As currently married women were found to be higher users of contraception and having higher fertility, marital status continues to be a major source of fertility. Therefore studies should be put in place so as to investigate the social and economic factors working behind this variable other than education which was shown to have an effect of delaying marriage in this study.

**Fourth:** The relative importance of women's education over that of husband's in determining fertility and contraceptive use calls for an affirmative action towards favoring female's education over male's for its strong effect of reducing fertility and improving health status.

**With regards to political participation of women:**

**First:** Education of women in general raised political participation. Hence as the increase of political participation is expected to contribute towards the existence of good governance starting from the grass root level, this calls for attention to this additional external benefit from education while making educational investment decisions.

**Second:** At higher level of education, the relationship between education and political participation declines and almost vanishes. This calls for a further investigation as to why the elite "avoid" political participation.

**Third:** As in the case of the reproductive health study, women's education was found to play a significant role in their political participation rather than their husband's education. This again calls for an affirmative action towards raising education of women.

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## ANNEXE ONE

Ethnic Group			
▪ Oromo	11%	16.4	3.6
▪ Amhara	70%	56.4	88.5
▪ Tigre	5%	6.4	3.2
▪ Guragie	10%	16.3	2.5
▪ Others	4%	4.6	2.0
Age			
▪ 15-24	52%	48%	56%
▪ 25-34	29%	29.9%	28%
▪ 35-49	19%	22%	15.6%
Education			
▪ Never attended	6%	7%	5%
▪ Non formal	6.7%	10%	2.3%
▪ 1-6	23%	15.6%	33%
▪ 7-8	13%	10.4%	17%
▪ 9-12	47%	51%	41.3%
▪ Above 12	37%	5.3%	1.6%
Occupation			
▪ Employed	66.37%	66.61%	66.06%
▪ Unemployed	33.63%	33.39%	33.94%
Income			
▪ Under 101	44.2%	32.5%	59.4%
▪ 101-300	30.9%	5%	25%
▪ 301-700	17.3%	20.6%	12.8%
▪ 701-1500	5.7%	8%	2.5%
▪ Above 1500	1.9%	3.2%	0.2%
Ownership of durables			

▪ Vehicle	3.5%	6.4%	-
▪ Refrigerator	4.6%	7%	1.6%
▪ VCR+	19.4%	23%	14%
▪ TV Set+	0.6%	0.9%	0.2%
▪ Radio	53.6%	45%	64%
▪ None	18%	19%	16.6%

## II) FERTILITY: PRACTICE AND ATTITUDE

	TOTAL	DEBRE BEREHAN	ADDIS ABABA
<b>Children ever born alive</b>			
▪ 1-2	51%	49.3%	54.2%
▪ 3-4	26.6%	27.6%	25%
▪ 5-7	16.6%	17.2%	15.6%
▪ Above 7	5.5%	5.8%	5%
<b>Wants additional Children</b>			
▪ None	68.6%	65.8%	73.1%
▪ 1-3	26%	27.9%	23%
▪ Above 3	4%	4.5%	3.3%
<b>Already have at least 4 but wants additional children</b>			
▪ None	68.6%	65.8%	73.1%
▪ Wants more	26%	27.9%	23%
	4%	4.5%	3.3%
<b>Desired Family Size (Ideal)</b>			
▪ None	-	-	-

▪ 1-3	6.8%	6.9%	6.7%
▪ 4-6	4.9%	5.5%	3.9%
▪ Above 6	27.7%	23%	35%

(III) FAMILY PLANNING

	Overall	Addis	D.B
Modern Cont.	8.9	9.5	7.8
Knows	91	90.5	92.2
<u>Types</u>			
▪ Pill	97	90.6	98.0
▪ Loop	41.6	40.3	39.8
▪ Injectable	66.7	51.1	82.1
▪ Diaphragm	109	18.2	9.7
▪ Condom	70.0	64.3	71.9
▪ Female Ster.	7.5	4.8	10.5
▪ Male Ster.	3.5	2.0	8.0
▪ Breast Fed.	4.5	5.2	63.2
▪ Natural	0.5	17.7	6.5
▪ Others	9.5	16.9	6.7
<b>Never given birth</b>	53.2%	48.8	58.9
<b>Ever given birth</b>	47%	51	41
<b>Age at first birth</b>			
▪ Under 18	26.4%	25.9	27.4
▪ 18-25	64.6%	63.4	66.5
▪ 25-30	7.0%	7.5	6.1
▪ Above 30	3%	3	-

<b>Use</b>	34.5	30.5	37.1
Methods used			
▪ Pill	42.5	45.8	38.9
▪ Loop	6.0	6.0	6.0
▪ Injectable	27.9	21.7	33.6
▪ Diaphragm	-	-	-
▪ Condom	19.7	9.6	30.9
▪ Female Ster.	2.0	3.6	-
▪ Male Ster.	-	-	-
▪ Breast Feed	1.0	1.8	1
▪ Natural	8.3	14.5	17.5
▪ Others	2.	1.0	18.1
<b>Source Used</b>			
▪ Gov't Center	78.7	73.5	84.6
▪ Private (ind. Phar)	8.2	9.0	7.3
▪ NGO	0.9	0.9	-
Getting the for free	82.0	78.9	85.9
Not getting the for free	17.7	21.1	14.1
Willing to pay if not free	91.5	86.0	96.8
Not willing to pay	8.5	13.7	3.0

<b>partner</b>			
▪ Knows I am using	93.3	95.9	94.6
▪ Doesn't know I am using	6	2	4
▪ Approves of the use	93.9	95.3	94.6
▪ Doesn't approve of the use	4.2	4	4
<b>Reasons for non use</b>			
▪ Wants children	6.3	16.9	10.8
▪ Lack of knowledge	0.28	1.6	0.8
▪ Partner opposes	0.57	1.2	0.8
▪ Cost is too high	-	0.4	0.16
▪ Self disapproved	1.4	1.6	1.5
▪ Fear of side effects	1.4	1.2	1.3
▪ Health Concerns	6.6	7.9	7.1
▪ Infertility	2.3	2.4	2.3
▪ Religious disapproved	0.86	2.4	1.5
▪ Infrequent Sex	73	61.6	68
▪ Others	9	6.3	8
<b>Intention</b>			
▪ Intends to use	49.4	37	45
▪ In this year	4	1	3
▪ Next year	3.9	4	4
▪ After two years	6	6	6.3
▪ Have not decided	84.2	64	92.6
▪ When I get married	1.2	23.4	
▪ Does not intend to use	35	39	37.8
▪ Do not know	14.7	22	17.8

## ANNEX TWO

RESULTS OF TOBIT ESTIMATION  
DEPENDENT VARIABLE: FERTILITY

VARIABLE	COEFFICIENT	STANDARD ERROR
AGE	.365	.057
AGE2	-.003	.001
EDU1	.020	.538
EDU2	-.340	.414
EDU3	-.142	.553
EDU4	-.003	.441
EDU5	.385	.455
EDU6	-.284	.411
EDU7	-.406	.547
EDU8	-1.023	.377
EDU9	-.912	.394
EDU10	-.843	.442
EDU11	-1.556	.443
EDU12	-1.470	.324
EDU13	-1.672	.972
EDU14	-1.990	.808
EDU15	-3.773	1.337
EDU16	-.993	1.244
INC	.001	.000
WLTH	-.059	.078
MARc	2.544	.217
REGd	-.027	.199
CONS	-8.201	.938
No.Obs	1002	
Log likelihood	-1214.748	
p> chi <sup>2</sup>	.0000	

RESULTS OF LOGIT ESTIMATION  
DEPENDENT VARIABLE: CONTRACEPTION USE

VARIABLE	COEFFICIENT	STANDARD ERROR
REL	.209	.183
ETH	.042	.116
SRVG	-.100	.054
MARc	.907	.270
EDU1	1.784	.635
EDU2	.180	.460
EDU3	.184	.572
EDU4	1.019	.457
EDU5	.849	.480
EDU6	1.181	.434
EDU7	1.387	.713
EDU8	.729	.409
EDU9	1.410	.456
EDU10	1.651	.555
EDU11	.709	.503
EDU12	1.535	.372
EDU14	.450	.956
EDU15	.034	1.523
REGd	-.278	.227
CONS	-1.477	.480
No.Obs	454	
Log likelihood	-283.882	
p> chi <sup>2</sup>	0.000	

## RESULTS OF OLS ESTIMATION

DEPENDENT VARIABLE: PPI

VARIABLE	COEFFICIENT	STANDARD ERROR
RELp	-1.641	.755
ETHt	3.399	.913
AGE	.158	.032
MARe	-1.162	.446
EDU1	3.321	2.615
EDU2	2.292	1.995
EDU3	2.332	1.562
EDU4	7.051	1.213
EDU5	3.917	1.282
EDU6	7.935	1.148
EDU7	5.388	1.505
EDU8	6.918	.948
EDU9	7.203	.934
EDU10	8.436	1.018
EDU11	9.741	1.013
EDU12	9.678	.750
EDU13	10.160	2.022
EDU14	13.627	1.602
EDU15	9.807	2.169
EDU16	11.192	2.347
WLTH	.239	.153
CONS	3.238	1.218
No.Obs	566	
R <sup>2</sup>	3.369	

## ANNEX THREE

### FEMALE QUESTIONNAIRE

#### I. IDENTIFICATION

Instructions: Please complete a separate questionnaire for each woman of reproductive age (15-49) in the household.

A question can have more than one response, **Circle** all appropriate answers that apply for each question. If the answer for any question is not known, write "DK" (Don't Know) in the space provided.

101 Questionnaire Identification: \_\_\_\_\_

102 Address: Region: \_\_\_\_\_

Zone: \_\_\_\_\_

Woreda: \_\_\_\_\_

Kebele: \_\_\_\_\_

103 Name of interviewer: \_\_\_\_\_

Date \_\_\_\_\_ / \_\_\_\_\_ 1992 Signature \_\_\_\_\_

104 Name of supervisor: \_\_\_\_\_

Date \_\_\_\_\_ / \_\_\_\_\_ 1992 Signature \_\_\_\_\_

#### II. PROFILE OF THE RESPONDENT

105 How old are you? . Age in completed years \_\_\_\_\_

106 What is your marital status?

1. Never married => **go to 107**

2. Currently married

3. Divorced

4. Widowed

106.1 At what age did you get married for the first time?

1. Age \_\_\_\_\_ years
2. Can't remember

106.2 What was the age of your husband at your marriage?

1. Age \_\_\_\_\_ years
2. Can't remember

106.3 What is the age of your husband?

1. Age \_\_\_\_\_ years
2. DK

106.4 What is the highest level of education attained by your husband?

1. \_\_\_\_\_

106.5 What is your husband's religion?

1. Orthodox
2. Catholic
3. Islam
4. Protestant
5. Non believer
6. Other, Specify \_\_\_\_\_

106.6 What is your husband's ethnic group?

1. Oromo
2. Amhara
3. Tigrie
4. Guragie
5. Harari \*
6. Afar
7. Somali
8. Kambata
9. Hadiya
10. Wolayta
11. Dorze
12. Other \*Specify \_\_\_\_\_

106.7 What is your husband's employment status?

1. Civil servant
2. Petty trading
3. Government Employee
4. Farming/Livestock
5. Domestic Worker

6. Pensioner

7. Other (specify) \_\_\_\_\_

107. Could you tell me the reason why you are not yet married?

1. Has not found the right person
2. Economic reasons
3. Does not want to
4. Has other priorities
5. Other reasons \*Specify \_\_\_\_\_

108. What is the highest level of schooling you have attained in completed years?

1. Never
2. Informal education
3. Formal education \_\_\_\_\_ grade (highest grade completed)

109. What is your present occupation? \_\_\_\_\_

- |                        |                          |
|------------------------|--------------------------|
| 1. House wife          | 5. Domestic Worker       |
| 2. Petty trading       | 6. Pensioner             |
| 3. Government Employee | 7. Other (specify) _____ |
| 4. Farming/Livestock   |                          |

110. What is the average gross monthly income of your household?  
Birr \_\_\_\_\_

111. Does your household receive transfers? **If no, go to 114**

1. Yes \_\_\_\_\_ 2. No \_\_\_\_\_

112. How much on average has your household received as transfer in the last six months? Birr \_\_\_\_\_

113. What is the country of origin of the transfer?

1. North America
2. Middle East
3. Europe
4. Asia
5. Other \* Specify \_\_\_\_\_

114. What is the make of your house?

1. Mud
2. Galvanized Iron
3. Cement Block
4. Clay Block
5. Stone

115. Does your household own any of the following items?

1. Car
2. VCR
3. TV set
4. Refrigerator
5. Radio

### III. KNOWLEDGE, ATTITUDE AND PRACTICE

#### A: FERTILITY, ANTENATAL/POSTNATAL CARE, EPI

110. Have you ever given birth to any live born child?

1. Yes
2. No => Go to Q.116

111. How old were you the first time you gave birth/had a child?

1. Age at birth of first child \_\_\_\_\_ years
2. Don't remember

112. How many children have been born alive to you?

Total Number \_\_\_\_\_

113. Are all your sons and daughters born alive surviving?

1. Yes
2. No

114. How many of your children died?

Male \_\_\_\_\_ Female \_\_\_\_\_

115 If you would go back to the time you did not have any children and could choose exactly the number of children to have in your whole life, how many would that be?

Total \_\_\_\_\_ Male \_\_\_\_\_ Female \_\_\_\_\_

1. Can't give exact number
2. As my husband/partner wishes
3. Up to God
4. Other

116 Have you ever heard of ANC/PNC(Antenatal care/postnatal care -mother and child health care) services in this area?

1. Yes
2. No=>go to Q 119

117 If yes, from where did you get information about the service of ANC/PNC (Antenatal care/postnatal care-mother and child health care services)?

1. Government health service
2. CBD Agents
3. Community meeting
4. Church
5. Public media(radio,printedmaterial, etc.)
6. Other(specify) \_\_\_\_\_

118 What are the information/ education you got/had?

1. \_\_\_\_\_
2. \_\_\_\_\_

119. Have you ever been pregnant during the last twelve months?

- 1 Yes
2. No-Skip to Q.122

120. Was the pregnancy wanted or unwanted?

1. Wanted
2. Unwanted

121. Is the child alive?  
 1. Yes                      2. No
122. Have you attended an antenatal clinic during the pregnancy?  
 1. Yes                      2. No
123. Where was the child delivered?  
 1. At home    2. At a health service delivery point(HSDP)
124. Who assisted you during the delivery of the child (ren)?  
 1. UTBA(Untrained Traditional Birth Attendant)  
 2. TTBA(Trained Traditional Birth Attendant)  
 3. Health personnel  
 4. Myself  
 5. Family members  
 6. Other (specify)\_\_\_\_\_
125. Have you received advice on postnatal care after your delivery?  
 1. Yes                      2. No
126. From where/whom did you get the advice from?  
 1. Gov't health worker  
 2. CBD agent  
 3. Friend/relative  
 4. Other (specify)\_\_\_\_\_
127. Have you ever been to postnatal care giving clinic after the recent birth you have given to?  
 1. Yes                      2. No
128. Are you currently pregnant?  
 1. Yes    2. No    3. Not sure                      **If No or Not sure skip to Q.**

**133**

- 129 For how many months are you pregnant now?
1. One to three months
  2. Three to six months
  3. Over six months
  4. Don't Know
130. Have you received advice/ education on this pregnancy?
1. Yes
  2. No
- 131 If you received advice/education, from whom did you get the information/who advised you?
1. Gov't health worker
  2. CBD agent.
  3. Partner
  4. Friend
  - 5 Other(specify)\_\_\_\_\_
- 132 Did you attend or are you intending to visit clinic during this pregnancy?
1. yes
  2. No=>**Skip to Q.135**
133. How many visits have you made so far?
1. One
  2. Two
  3. Three
  4. More than three
134. If you have not attended ANC clinic in the time of pregnancy, what is the main reason for not seeking the service?
1. There is no such services (clinic)in my PA/UDAs
  2. There is no such services (cl8inic) in the nearby PA/UDAs
  3. I am not aware of that such services are available around
  4. I don't want to use such services (specify reasons)
- \_\_\_\_\_
- \_\_\_\_\_
5. Other(specify)\_\_\_\_\_
135. Have you got child(ren)(at present) under five
1. Yes
  2. No-Skip to Q.136

136 Have any of your child(ren) under five received any of immunisation services?

137. Which type of immunisation and other services were rendered to your child(ren)? Immunisation against:

1. Measles
2. Polio
3. BCG(TB)
4. DPT (Diphtheria/Pertussis/Tetanus)
5. Provision of Vitamin A
6. Other(specify) \_\_\_\_\_

138. Have you received immunisation services given to reproductive age women at the time of your visit to mother and child health care service clinic?

1. Yes
2. No

If yes what type of Immunisation \_\_\_\_\_

## B FAMILY PLANNING

139. Have you ever heard about any modern method of avoiding pregnancy?

1. Yes
2. No

140. Which of the modern methods of avoiding pregnancy have you ever heard about?

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_
4. \_\_\_\_\_

141. Are you currently using any modern FP Method?

- 1, Yes
2. No-Skip to Q.146

142 What modern family planning method are you/your partner currently using?

1. pills

2. Condom
3. Foam tablets
4. Injectables
5. Norplant
6. Other(specify)\_\_\_\_\_

143. Who informed you about the family planning method you are currently using ?

1. Clinic health worker
2. CBD agents
3. Friend/relative
4. Media
5. Other(specify)\_\_\_\_\_

144. Did you have difficulties in obtaining your \_\_\_\_\_ contraceptives(s)?

1. Yes
2. No-Skip to Q.144

145. What difficulties did you encounter?

Comment(s)\_\_\_\_\_

146. Does your husband/ partner know that you are currently using FP Method?

1. Yes
2. No

147. Does he approve?

1. Yes
2. No

148. Do you/your partner intend to use any modern family planning method at any time in the future?

1. Yes
2. No
3. Don't know

### C HIV/AIDS

149. Have you ever heard of a disease called AIDS?

1. Yes
2. No-Skip to Q.201

150. From where did you get information/education about the disease AIDS and its prevention?

1. Gov't/health system(specify)\_\_\_\_\_
2. NGO clinic(specify)\_\_\_\_\_
3. CBD agents
4. Other(specify)\_\_\_\_\_

151. How is AIDS transmitted?

*[Interviewer: Don't read list but prompt by asking "any other way" and circle all that apply]*

1. Sexual intercourse
2. Shaving/razors
3. Injections
4. Circumcision, tatoos
5. Mother to child
6. Transfusion of infected blood
7. Other(specify)\_\_\_\_\_
8. Don't know

152 How can people protect themselves from getting AIDS? *[Interviewer: Don't read list but prompt by asking "any other way?" and circle all that apply]*

1. Do not have sex at all
2. Limit sexual relation to one partner(husband to wife and vice versa)
3. Use condoms during sex
4. Sterilise blades/syringes/needles
5. Avoid\* MPSC (Multiple partner sexual contact)
6. Other(specify)\_\_\_\_\_
7. Don't know .

153 Have you/your partner ever used a method of preventing AIDS and its transmission?

1. yes
2. No =>Go to Q.201

## Questions for Measuring Political Participation of Women

1. Who is the president of this country?
  - a. Meles Zenawi
  - b. Negaso Gidada
  - c. Others
  - d. D.K.
2. How many regions are there in Ethiopia?
  - a. Fourteen
  - b. Two
  - c. Nine
  - d. D.K.
  - e. Others
3. How many parliaments (councils) are there in the federal government of Ethiopia?
  - a. Fourteen
  - b. Two
  - c. One
  - d. Others
  - e. D.K.
4. What is the name of the ruling party in Ethiopia?
  - a. EPRDF
  - b. Others
  - c. D.K
5. What is the major event in the coming May 2000?
  - a. Election
  - b. Other
  - c. D.K
6. How frequently do you attend the local government media?
  - a. Never at all
  - b. At least once a day
  - c. At least once a week
  - d. Whenever there are hot issues
7. How frequently do you attend the private press?
  - a. Never at all
  - b. At least once a day
  - c. At least once a week
  - d. Whenever there are hot issues
8. How frequently do you attend the foreign media? (VOA, BBC,...)
  - a. Never at all
  - b. At least once a day
  - c. At least once a week
  - d. Whenever there are hot issues
9. Have you ever read the constitution of the country?
  - a. Never at all
  - b. Partly
  - c. All in All
10. How frequently do you discuss political issues like election, development, women's rights issues with friends or family?
  - a. Never at all
  - b. At least once a day
  - c. At least once a week
  - d. Whenever there are hot issues
11. How frequently do you participate in kebele or work place meetings?
  - a. Never at all
  - b. Sometimes
  - c. Mostly
  - d. Regularly
12. What is your reason to participate in such meetings?
  - a. I believe I have a role to play
  - b. Fearing the consequences if I don't go
  - c. Just to do what my colleagues do

d. Others

13. Did you participate in voting in the elections?

a. Yes      b. No

14. Are you going to participate in the coming elections?

a. Yes      b. No

15. Have you ever assumed leadership by appointment or by election?

a. Yes      b. No

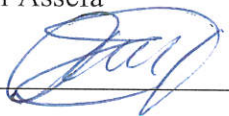
16. Do you believe women should participate in politics?

a. Yes      b. No      c. Have no idea

## DECLARATION

I, the undersigned, declare that this thesis is my own original work and has not been presented in any University. All sources of materials for this thesis have been fully acknowledged.

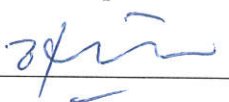
Name: Daniel Assefa

Signature:  \_\_\_\_\_

Date: 22 June 2000

And I, the advisor confirms this.

Name: Getachew Yoseph

Signature:  \_\_\_\_\_

Date: \_\_\_\_\_