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MIGRANT -- NON-MIGRANT FERTILITY DIFFERENTIALS: THE CASE OF ADDIS ABABA

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MIGRANT -- NON-MIGRANT FERTILITY DIFFERENTIALS: THE CASE OF ADDIS ABABA

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DEDICATION

This piece of work is dedicated to my beloved friend W/t Tsige Demeke.

K. Idris

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Kederalah Idris Beshir

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ABSTRACT

In the study of population not only is the size important but also the rate of growth and the dynamics of its change. This is more so in developing countries with their high population growth rate and the much higher urban and primate city growth. Addis Ababa has been reported to be growing at around 5 per cent per year and the facilities, amenities, infrastructures, etc. have not been able to accommodate this growth. Planners and policy makers have been concerned about this and demographers have a role to play in distinguishing the factors behind this high growth.

Using a multi-stage stratified sampling procedure a total of 1000 households were selected from 50 *Kebeles* in Addis Ababa and a total of 1133 respondents were interviewed for the present study. In each of the households selected into the sample, each eligible respondent (both migrant and non-migrant ever married women aged 15-49) was asked a range of questions covering her marital, pre and post migration history as well as on related socio-economic status history.

The analysis indicated that, at macro level there is not much difference in the fertility performance of migrants and non-migrants in Addis Ababa. This pattern continued even when we categorized them into different socio-economic and demographic variables; like economic activity status, ethnicity, education, age at first marriage, breastfeeding durations and contraceptive use.

The micro level analysis attempted to identify the specific mechanisms through which the said socio-economic variables affected fertility, by controlling for age at marriage, breastfeeding duration and contraceptive use. Whereas the migrant - non-migrant differential was virtually not in the expected direction, controlling for the proximate determinants, the higher migrant than non-migrant fertility was observed. Among the former, fertility was apparently higher among those of rural origin than their urban counterparts. In the area of mortality also, we observed that, migration tends to affect positively the survival of the children of migrants.

CHAPTER ONE

INTRODUCTION

Until recent decades in most developing countries little attention has been given to population redistribution and its related problems, particularly those related to the patterns of settlement, increasing rate of rural-urban migration, and the concentration of population in few urban areas of these countries. On the other hand, rural-urban migration apparently shows little sign of abating in many of these countries. Cities and towns are expanding faster and the exodus from rural areas is larger than is warranted by the growth of economic opportunities. As studies indicate, in most of the present developing countries "rate of rural-urban migration continues to exceed rate of urban job creation and surpass greatly the capacity of both industry and urban social services to absorb this labour effectively" (Todaro, 1976).

In developing countries urbanization is a very recent phenomena, in that, it reached its significant level only after the second world war. Because of the lag of urbanization process a small fraction of the population of these countries is urban (30.0% by 1985). However, owing to their considerably higher share of world's population, less developed countries today have more urban population than the developed countries and this is expected to increase substantially in the decade to come (UN, 1989).

Internal migration and natural increase have played an important role in the growth of cities in the present less developed countries. And most studies indicate that both net-in migration and natural increase are the major components of urban growth in these countries. According to these studies, urbanization in these countries is characterized by distinct rural-urban differentials in fertility and mortality levels and patterns of decline, and by a massive net transfer of population from rural to urban areas through internal migration.

Similar situations are also observed in Ethiopia. Like most other countries of Africa and particularly Eastern Africa, both the level of urbanization, and the rate of increase in the proportion of urban population over time is slow in Ethiopia. At the same time given the large absolute size of the rural sector compared with the urban sector, even a low rate of urbanization often produces very large absolute increase in urban population, this will also result in all the familiar social problems associated with rapid urbanization.

As evidence indicates, for the total country the population living in urban areas constituted 10.2 percent of the country's total population. On the other hand, the urban areas with the population of 10,000 or more account for 75.6 percent of the total urban population and 7.8 percent of the national population (OPHCE, 1984). The urban population living in cities with a size-class category of more than 100,000 or more population is 1,687,929. This is also accounted by the population of two cities which constitutes for 38.7

percent of the total urban and 4 percent of the country's population (OPHCE, 1984). Thus, these evidences indicate that as in most developing countries there is the problem of rapid population concentration in the primate city in Ethiopia.

Studies indicate that this rapid rate of urbanization in Ethiopia particularly in the capital city is partly the product of rural-urban and urban-urban migration, with rural-urban being the most predominant pattern of migration. The account of migration to urban growth in Ethiopia around 1978 ranges from 30 to 90 percent of the total urban population growth (Hailu, 1983).

Rapid increase of urban population, particularly as a result of massive in-migration could result in a high urban growth rate and this can also lead to the development of slums, housing shortage, inadequate water supply, etc.. As studies indicate, towns in Ethiopia, by and large, lack almost completely the infrastructures of water, sewage and roads. And many of these towns have already reached or are bound to reach a critical size where the crowding together of large number of people without the benefits of any urban facilities will give rise to serious health and social problems (Hadgu, 1988).

Today, there is an increasing awareness of the problems of rapid population growth. And there is also an increasing desire among policy makers to integrate population and development in the national development planning process. This also requires a substantive study that could serve as a frame for social policy formulations. As urbanization is one of the factors

affecting social and economic development in the developing countries, studying the differential contribution to the rate of natural increase by the fertility and mortality levels of migrants and non-migrants; and its relationship to urban growth becomes an important research area.

1.1 Statement of the Problem

Literatures indicate that as a result of the relatively constant level of fertility and declining mortality, the developing countries are experiencing rapid rate of population growth. Associated with this, the rapid rate of growth of the urban population is becoming a serious problem in these countries. According to a UN study (1980), developing countries have become the place of residence for more than 50 percent of the world's urban population since 1975, and it is estimated that by year 2000 this figure will rise to 69.5 percent.

In most developing countries, rate of growth of the urban population is roughly more than double the growth rate of the national population. This unprecedented rapid process of urbanization exceeding the growth of resources required for its accommodation, has become a matter of increasing concern among most of these countries. The high financial burden it puts on the governments, by debilitating their ability to cope with the increasing demand for housing, improved transportation and other facilities, has caused these countries to run short of capital.

One essential feature of the process of urbanization in these developing countries is its spatial distribution. Urbanization in these countries is characterized by increased tendency towards primacy, i.e., concentration of urban population growth in one, or only a few urban places. Such a concentration of urban population not only produces enormous problems for the primate city, urban primacy also tends to perpetuate the regional disparities in social and economic opportunities of which it is a reflection, and it is widely viewed as a major obstacle to development [UN, 1983].

As one of the developing countries, the situation does not differ much in Ethiopia. The population in the country has been increasing rapidly. Around 1984 it was growing at a rate of 2.9 percent and it is estimated that by 1994 the figure will rise to 3 percent (CSA, 1989). Between 1968 and 1978 the urban population (defined as that living in cities or towns with at least 2000 inhabitants) grew at an annual rate of 6.6 percent. The urban population which accounted about 8.5 percent of the total in 1976, has increased to 10.20 percent by 1984 and is estimated to rise to 10.92 percent in 1990, and 11.52 percent in 1995 (CSO, 1967/68; OPHCE, 1984).

The growth of the capital city, Addis Ababa, has also been very rapid. While in 1967 it was the place of residence of 644,190 persons, by 1984 it accommodated 1,423,111 persons making it the largest city in Eastern Africa, followed by Nairobi in Kenya.

As the primate city in Ethiopia, functioning as the administrative, economic, financial and cultural centre of the country and attracting disproportionate shares of investments, Addis Ababa will be an obvious destination for most migrants. A recent study on the interrelationship between city-size classes and rate of growth indicate that such primate cities in developing countries tend to outgrow the remaining cities in the country very rapidly (UN, 1983b). This will also tend to exacerbate the already imbalanced urban structure in the country.

This rapid rate of urban population growth in Ethiopia, particularly in major towns is reported to have intensified problems of overcrowding, inadequate housing, unemployment, insanitary conditions and general decline in the quality of life in the cities (Hadgu, 1988). Such unguided urbanization also fails to produce structures favourable to development efforts. Thus, mechanisms may have to be devised to intervene in the process of urbanization in ways that will support National and Regional Planning goals.

The growing intensity of population problems in developing countries has recently aroused among planners and policy makers the desire to integrate population variables into development planning process. The realization of this task, among other things, requires clear understanding of the interrelationships between demographic, social and economic factors. That will provide conceptual framework upon which an appropriate population policy can be devised.

Although the process of urbanization is powerful and deep, and its momentum ordinarily exceeds a government's capacity to reverse or stop, it is possible to direct it's development in a healthy way. And any effort aimed at intervening in the country's system of urbanization must also begin with an assessment of those existing factors involved in the process. It is to this effect that the evaluation of the prevailing migration-fertility association becomes necessary.

Knowledge of the manner in which city growth actually takes place is an obvious prerequisite for adequate planning. Demographers argue that internal migration and natural increase are important components of urban population growth. However, there is no conclusive evidence as to whether net-migration or natural increase contributes the greatest proportion of urban population growth in developing countries.

The findings of earlier studies in this area indicate net-migration as the major source of urban population growth (Bogue and Hauser, 1965; Davis, 1965). Other studies, however, increasingly point to a shift in relative contribution of natural increase and migration in favour of the former (Arriaga, 1966; UN 1980). This was also supported by the findings of UN study during 1960-1970 period. According to this study on the average about 60 percent of urban population growth in developing countries was contributed by natural increase, with net migration and reclassification of boundaries accounting for the remaining 40 percent (UN, 1983b).

There are two schools of thought at variance on this issue. One school led by UN (1980) and Davis (1965) argue that the rapid growth or expansion of city population in the less developed countries is primarily due to natural increase rather than rural-urban migration. The other school led by Todaro (1979) and others argue that high natural increase is in fact the direct result of locational choice and high fertility of migrants. Hence, based on the available data reviewing these concepts and theories becomes an essential step in understanding the process of urban population growth.

Studies indicate that migration is the out weighing component of urban growth in Ethiopia. In-migration accounts for more than 50 percent and in some cases up to 80 percent of the total growth of major towns around 1978 (Hailu, 1983). As the 1984 Census results indicate, in Addis Ababa alone it accounts for 47.5 percent of the total population (CSO., 1987).

At the same time, the rate of natural increase in urban areas in Ethiopia is also too high. Most towns including the capital have CBR comparable to the national level. As recent estimate indicates the TFR of 6.3 and CBR of 40 per 1000 population of the city reveal a constant level of fertility since 1974 in Addis Ababa (Abdulahi and Chandhury, 1988).

As the foregoing analysis indicates, the immediate demographic sources of rapid rate of growth of the urban population in Ethiopia are the large migratory flow and high rate of natural increase. Recent explanations contend

that as a component of urban growth migration influences urban population growth in two ways: directly and indirectly.

The direct contribution of migration to urban growth through primary and follow up migrants appears fairly clear. The other area, which is not yet clear is its indirect contribution. This refers to the relative contribution of migrants, i.e., the differential contribution to the rate of natural increase by the fertility and mortality of migrants and non-migrants, and among the former, by those of rural and urban origin. As review of available literature in this area indicates, this has been the most overlooked area in demographic literature (Weller et.al., 1971; Martine, 1972; Ekanem, 1982).

A recent UN study also indicates that, inspite of the growing empirical information about the relative contribution of natural increase and migration to urban population growth, little is known about the relationships between the components in the course of urbanization and the demographic transition. According to this study, in any study of component of urban growth, it is important to learn about ways in which fertility and migration affect one another (UN, 1983).

Such a comparative study on one hand will indicate the relative contribution of migrants and non-migrants to the rate of natural increase in the city. On the other hand, it will also show whether the differentials between migrants and non-migrants reflect differences in socio-economic and cultural background between the two. Because the fertility of urban women has

generally been found to be lower than that of rural women, strong interest is also directed as to whether urbanization and rural-urban migration per se will promote a decline in fertility (Sidney and Alice Goldstein, 1983).

Thus, in order to have a solid foundation for future urban population policies, component studies should attempt to analyze how individual characteristics, and urban-rural "place" factors interact to influence fertility and mortality in urban areas. And such studies should also emphasize the frame work of the way person-and place related factors combine to determine a woman's perception of her way of life, as well as how changes in these circumstances may affect child bearing decisions.

A better understanding of the relative contribution of migrants to urban growth in terms of their fertility and mortality differentials could lead to appropriate policy formulation in the area of fertility regulation. The present study is thus proposed with the view to determine the differentials in the fertility and mortality performances between migrants and non-migrants in Addis Ababa. It is hoped that the finding of this study may have a modest contribution to make for policy formulation in this area.

Having indicated the main importance of component study in the formulation of population policy, the main factor that inspired the present research is the lack of any systematic study necessary for the design of appropriate policies that would help to direct the present rapid rate of urbanization in a healthy way. Thus, keeping in view the non-existence of any

relevant study and hence enormous gaps in the literature, an attempt will be made to make a brief review of the empirical relationships established else where in this area.

1.2 Review of Related Literature

Considerable research has been carried out on the association between fertility and migration status. In the theoretical orientations which have guided much of the research in this area, it has been regarded that fertility tends to be systematically higher in rural than in urban areas, and that urban in-migrants have higher fertility than non-migrants (Myers, 1972; Mario and Rath, 1965; Martine, 1973; Ekanem, 1982).

Based on this, it is expected that fertility will vary by migration status to the extent that migrants are incompletely assimilated into the culture and hence into the fertility pattern of the city. In this regard, it is expected that insertion and assimilation into city life would tend to bring about changes in the normative valuation of reproduction and family size and in the ability to plan. These changes in turn are assumed to affect modification in the migrant's fertility behaviour towards a closer approximation of the pattern which prevail in the native-born population.

Another explanation of migrant assimilation emphasizes underlying differentials in the socio-economic characteristics between migrants and non-migrants which could give rise to the observed fertility differences between the

two groups. According to this reasoning, migrants differ importantly from non-migrants in such crucial fertility determining characteristics as education, labour force status, and socio-economic status. Controlling for these characteristics would bring forward the true migrant - non-migrant fertility differences.

Martine (1972) argues that, whatever its value, the above explanation should be seen as being complementary rather than alternative to the first, since one is concerned more with establishing the existence of differentials, while the other addresses itself to explaining why differentials exist. As recorded by Golini [1968], in addition to the high fertility norm that they bring to urban areas, psychological factors caused by their minority status in their new place of residence are also the main factors affecting the high level of fertility of migrants.

Emerging from the above theoretical orientation it is also thought that differential in fertility exists between recent and long-term migrants. Recent migrants, with limited exposure to urban way of life, are expected to reflect some social and cultural patterns of their place of origin. Long-term migrants, on the other hand, most of whom have been exposed to urban way of life for a relatively longer period are expected to show urban tendencies unlike recent migrants. Particularly, those who were very young when they came to the city and grew up in the city are expected to acquire more diverse tendencies than they have in their origin (Card, 1978).

Previous studies in this area indicate that although urban residence influences change in the fertility pattern of migrants, the process is longitudinal. On the other hand, Goldscheider (1982) argues that, the effect of urban characteristics on social and demographic behaviour is more conspicuous when size-density-heterogeneity of place are consequences of a particular mix of demographic and modernization process. According to him, it is not the characteristics of city per se that result directly in the change process associated with modernization, rather urban place effect social change differentially depending on the determinants of change in urban place. Thus, he contends that three distinct effects of migration process in modernization context are separated analytically; the selective effect, the place effect and the effect of uprooting and reorganization of social activities that are associated with some types of migration.

The various studies conducted in this area usually focus exclusively on migration and migration-fertility interrelationship and fail to investigate the other interrelated demographic variable-mortality. To date, very few studies attempted to integrate both fertility and mortality in migration studies (Ekanem and Adepoju, 1974; 1977; Ekanem, 1982).

In the theoretical orientation of migration-mortality association it is generally assumed that with greater access to health services, clean water, improved sanitation, etc., mortality is lower in urban areas than in rural areas. Based on this it is also known that life expectancy at birth is lower in rural areas than in urban areas. Thus, it is argued that migrants affect the natural

increase of urban areas not only through their differential fertility, but also through their increased survival as a result of the improved health conditions in urban areas.

The main interest in this process is to identify whether the urban environment would influence positively on the mortality of migrants. By assuming that migrants have higher mortality in pre-migration than in post-migration, it is argued that insertion into the urban environment would exert some favourable and positive influences on the survival of migrants and their children. Improvements in the expectation of life of migrants is thus assumed to be attributable to the better influence of the new urban environment.

Ekanem [1982] on the other hand argues that, although the urban environment does exert favourable influence on the survival of migrants, it is also equally logical to reason that the difficulties which migrants have in adjustment, as well as the poor living conditions, usually expose them to greater mortality risks. Thus, he argues that the post migration period should be analyzed in terms of the duration of residence of migrants. Recent migrants (under 1 year) due to problems of adjustment in the city could experience higher mortality risks. With longer urban residence and better adjustments, however, the urban environment can positively influence the survival of migrants.

On the other hand, although shorter duration of residence associated with problems of adjustment to city life can affect negatively the survival of

migrants, it has a differential effect on adult and child migrants. For the child migrant, adjustment factor may not be that important for there is a trade off between adjustment effect and environmental effects.

Studies conducted on migration have shown the existence of fertility and mortality differentials between migrants and non-migrants, despite short comings. Such findings can help the formulation of meaningful urban development policies. Thus, studying the process of urbanization-migration interrelationship becomes an essential research area in Ethiopia too.

1.3 Objectives of the Study

With a total population of 42 million in 1984, Ethiopia is the second most populous country in sub-Saharan Africa following Nigeria which has the largest population. Growing at a rate of 2.9 percent per year, the country's population is expected to double in 24 years. Associated with the rapid population growth, Ethiopia is also experiencing very rapid rate of urbanization. As available evidence indicates, this has also negatively affected national development objectives (World Bank, 1987).

Consequent upon these conditions, presently there is a growing awareness among planners and policy makers in Ethiopia to integrate population variables into development planning process. Planners and policy makers in Ethiopia also agree that in the absence of effective measures to guide urbanization through government policies, the rapid urbanization process will

have serious socio-economic implications. On the other hand, translating this recognition of the problem into reality requires, among other things, assessment of those existing forces involved in the process, which would provide a more complete conceptual framework for the formulation of an appropriate population policy. Thus, in order to formulate an appropriate urban policy, an understanding of the components of urban growth become an important research area.

In the present study we recognize the need for a review of the indirect contribution of migrants to urban growth in the light of new data and evidence from Addis Ababa. In this context the main purpose of this study would be to ascertain the relative contribution made by migrants to population growth in the primate city in Ethiopia, Addis Ababa. The findings could provide useful guide to population policy formulation for Addis Ababa. This is particularly likely because Addis Ababa accounted for 30 percent of the total urban population of the country in 1984 (CSO, 1984).

The importance of fertility and mortality in demographic analysis has been widely recognized. Nonetheless, the analysis of these phenomena by migration status remains among the least studied area in demographic literature. As recent studies indicate disaggregating fertility and mortality by migration status has important policy implications. Thus, the main objective of this study is to investigate fertility/mortality differentials between non-migrants and migrants as an exercise in the study of migrant assimilation in to city life. In this regard the following general questions will be addressed:

1) The more dissimilar the origins of migrants in contrast with the urban environment, the greater the fertility differences between migrants and non-migrants;

2) Migrants differ substantially from non-migrants in such crucial fertility determining characteristics as education and labour force status, controlling for these characteristics will modulate the migrant - non-migrant fertility differences;

3) The earlier the age at arrival in Addis Ababa, the more complete the migrants' assimilation process and hence greater similarity between migrant and non-migrant fertility patterns; and

4) As length of residence in the city increases the greater the influence of the urban "melieu" and thus the less the fertility differences between migrants and non-migrants.

In the area of mortality we will attempt to analyze what effects, if any, migration has on child mortality. Specially we wish to validate the view that the urban environment does exert some favourable and positive influence on child survival among the migrants.

Based on this, the present study has the following specific objectives:

1) To measure the relative contribution of migration in terms of its indirect influences to urban growth;

2) To assess the fertility differentials between migrants and non-migrants. and to seek explanations, if any, to these differences; and to measure the influence of urban environment on child survival among migrants;

3) As this study is a policy oriented research, we will indicate the policy implications of our findings and hence recommendations.

1.4 Sources of Data and Survey Design

1.4.1 Sources of Data

Lack of statistical information of reliable quality and adequate coverage has been one of the fundamental problems in the contemporary developing countries, and Ethiopia is no exception. The country maintains no registration system capable of producing complete demographic (and socio-economic) statistics at national level. Regarding data from censuses, the country conducted its first National Population and Housing Census in May 1984. By 1990 only part of this census data was released. So, whatever information is available indicating the demographic conditions of the country is predominantly based on surveys carried out before 1984.

Besides these weakness in the availability of demographic data, the usefulness of data obtained from National Surveys and Censuses in the study of differential fertility and mortality analysis is usually questionable. As demographic sample surveys and censuses usually contain only limited number of questions explicitly pertaining to the relation between migration, fertility and mortality, they provide very limited cross tabulations and information regarding the social and demographic characteristics of migrants and non-migrants. They are usually regarded as inadequate sources of data for such studies. Thus given the inadequacy of the available data and complex data requirements, the data base for this study consists of a survey that was conducted by the present writer in Addis Ababa.

1.4.2 Survey Methodology, Sample Selection and Problems Encountered

The residential patterns in most Ethiopian towns are similar in the form of overlapping residential zones. Varying proportions of migrants and non-migrants live scattered throughout the different parts of the towns. Similar conditions were observed in Addis Ababa. The ecological arrangement within the city, does not facilitate delineation of separate and mutually exclusive strata based on migration status. Therefore, in the present survey attempt was made to use the existing administrative structure of the city, and the boundaries of Highers (*Kefetegna)* and *Kebeles* were taken as the bases for the delineation of the strata.

Studies conducted by the Central Statistical Authority (CSA) indicate that there are some variations in the proportions of migrant population residing in each *Kefetegna* and *Kebele*. However, there is no substantive evidence indicating the exact situation between each *Kefetegna* and *Kebele* in-terms of its migrant population. Therefore, we had no sufficient ground to exclude certain *Kefetegna* or *Kebeles* or to assign a varying sampling fraction for each *Kefetegna* and *Kebele*. Therefore all *Kefetegna* were represented in the study.

A multi-stage stratified sampling procedure was employed in selecting the required sample size. Operationally the sampling strategy was to delineate 25 strata using the boundaries of the then existing 25 *Kefetegnas* of the city. Each *kefetegna* was subsequently divided into sub-strata, which were the *kebeles*. These were again subdivided into Enumeration Areas (EA's). In this case the EA's delineated during the First National Population and Housing Census of May 1984 were used.

A sample of two *Kebeles* were selected by simple random sampling method without considering the population size, from the list of *kebeles* in each respective strata.

In the selected *kebeles* all the EA's were listed and it was found out that the number of households in each EA varies significantly. EA's on the average have 200 households. The minimum number of households in EA's

was 3. As some of the EA's are non-residential, they have very small number of households. Thus, giving each EA an equal chance of appearing into our sample was believed would lead to less precision.

Using the number of Household in the EA's obtained from the 1984 Population and Housing Census for Addis Ababa as a criterion and employing the method of probability proportional to size (P.P.S.), EA's were ranked and cumulated. EA's were selected by random number. Where that particular household number falls, that EA was included in the sample and a total of 50 EA's from the sample *Kebeles* were selected.

Based on the sampling frame of households in each EA obtained from the above source, 20 households were selected from each EA by systematic simple random sampling method to obtain a total of 1000 households and 1133 respondents were interviewed from these selected households.

In each of the households interviewed, two questionnaires were administered. First the household questionnaire was used to solicit information from the head of the household. Second, a fertility questionnaire was administered in respect of each eligible female in the household. For the purpose of the survey, an eligible female was defined as ever married woman in the household (at the time of the survey) and aged 15-49 years. Such eligible females (both migrants and non-migrant) were deduced from the household questionnaire. Each of them was asked a range of questions covering her

marital, pre and post migration fertility history, as well as on related socio-economic status variables (eg. age, education, occupation, etc.).

The fertility questionnaire used in this study was a modified version of the standard questionnaire for the World Fertility Survey (WFS). Each eligible woman was asked whether she had ever had a live born child. All women who answered positively to this question were then asked how many of their children of each sex were currently living in the house, living away, and had died. Then the complete pregnancy history of the woman was taken starting with the most recent pregnancy.

The same questionnaire was used to solicit information from both migrants and non-migrants. A migrant was thus defined as an ever married woman aged 15-49 whose current usual place of residence (in this case Addis Ababa) is other than her place of birth. And the minimum duration of residence qualifying a woman as a bona fide migrant was taken to be one year or more. Such woman must also indicate that she has the intention to stay in this city permanently.

The survey employed 8 female interviewers all of them were Addis Ababa University students who completed 3 years of study and three supervisors who had educational background of first degree. All of them received additional training on techniques of data collection and participated in the pilot study that was conducted in *Kefetegna* 13 *Kebele* 03 in Addis Ababa.

The survey was planned to be conducted during the summer of 1989. After the questionnaires were duplicated and were made ready for the field work, training of the field supervisors and enumerators was carried out and a pilot study was conducted at the end of July 1989. Finally at the beginning of August the actual field work started. However, various problems that appeared during the process hindered and interrupted the progress of the survey.

The main problem was the delay in receiving the already committed fund for the field research from UNDP. Whereas the first group of enumerators completed their field work in september 1989, payment was not made until February 1990. Therefore, with only 75 percent of the Survey completed, the remaining work had to be interrupted until the salary of the enumerators who were involved in the survey was paid.

Another problem that hindered the process of the Survey was lack of transportation facility. Because of this, enumerators and supervisors had to use public transportation to reach the sample areas. As most of the sample areas were not accessible to public transportation, the enumerators were also forced to make 20 - 30 minutes walk to reach their sample area every day. In addition to this, the questionnaire also had to be taken to the sample areas by public transportation. As the survey was started during the rainy season, this and the existing shortage of public transportation seriously affected the progress of the survey.

With the completion of the remaining part of the Survey, the data was office edited and coded for computer entry in May 1990. The eight editors and coders involved in this process were given specific training. All of them had a university degree.

The data entry, i.e., converting of the data into a machine readable form, was undertaken in June and July. Prior to tabulation and data retrieval, "cleaning" of the data was completed in September. During this process several kinds of errors, such as mis-punching, column shifting and skipping of entries were observed and the necessary corrections were made. The processing of the data and producing the tables was completed in October 1990.

1.5 Data Limitations and Method of Analysis

In any study of fertility, the age of the respondent is of primary importance. Age of women in this survey was collected by asking each woman in the household, her age in completed years. However, as some of the respondents did not know their age, indirect methods such as the historical calendar, family history and hierarchy in the family were used to help estimate their age.

As can be seen from Table 1, the age structure of the sample population shows a higher concentration of women particularly in age groups above 25-29. Women in the younger age groups (i.e., 15-19 and 20-24) account only for

12 percent of the total respondents. In the present survey as ever-married women were the only eligible respondents, this distribution of the sample population appears to be plausible. Data from the 1984 census for Addis Ababa indicates the proportion ever-married women increases as age increases (See Table 1.1).

Another problem related to the data is the relatively smaller representation of non-migrant women. In the present study these women account for about 23 percent where as migrant women account for about 77 percent. Table 2 indicates that migrants constitute 3/4th of the sample population, and the non-migrant population size is not big enough for cross classification. This has also affected the comparison of the sample population by classifying into desirable as well as meaningful categories.

Another problem that was noticed in the present study is that in coding bivariate binomial distributions the use of numbers 1 and 2 leads to errors if care is not taken to write these numbers very legibly. As the coders write these numbers there is the possibility that they may look alike and as a result this created confusion to the key punch operators as they enter the data into the computer. This was detected earlier before it affected the data and they were coded again.

Similar problems were noticed in Sudan Census of 1973 by Ramachandran (1982). Coders whose mother tongue was Arabic, wrote number 1 almost similar to 2, accordingly punched many 1's as 2.

A similar error was observed by Ohadike (1983) in his survey of infant mortality in Zambia. But before it affected the data he detected it and coded them as M and F (for Sex) or 1 and 3 for all binomial characteristics.

The present study generally involve a comparative analysis of fertility and mortality differentials by migration status in terms of migrants and non-migrants, and among the former, as urban-born and rural-born. The main fertility measure used in this analysis is the mean number of children ever born. Thus, in addition to making comparative evaluation of fertility differentials between migrants and non-migrants, separate evaluation of migrants by duration of residence in current residence and differential origin (rural-born and urban-born) is made.

Because of the influence of various demographic and socio-economic variables on the level and pattern of fertility among migrants, it is impossible to conclude that changes measured after migration are due solely to migration. In order to see the exact relationship between migration and fertility, it will be necessary to control those social and demographic variables that will have an influence on the relationship. In the entire process attempt is made to see the relationships given the influence of some standard demographic and socio-economic variables such as current age, age at marriage, labour force participation of women, level of education of women, etc. are controlled by using direct standardization technique.

The mortality-migration analysis is based on the reported total number of live-born children of migrant women as well as the number surviving out of these, by sex and for two points in time, before they moved and there after. The estimation technique developed by Brass was used to convert such information into indirect estimates of child and adult mortality for the migrant population and for the two points in time. However, since the estimation procedure of child mortality using this kind of data is more robust than that for adult mortality, we used the former here especially as our interest is primarily concerned with ascertaining the probable impact of migration on the mortality of the movers (children). And the computational procedure used essentially consists of the various steps indicated for estimating child mortality from children ever born and those surviving data in Manual X of the United Nations (1983a). Apart from the above method of analysis relevant direct and indirect techniques are used on the bases of data collected.

1.6 Organization of the Thesis

This thesis has been organized into five chapters. Chapter 1 is the introduction which also covers the problems, literature review, objectives, sources of data and their limitations and methods of analysis. Chapter 2 describes the demographic, social and economic characteristics of the sample population. Chapter 3 mainly discusses the migrant - non-migrant fertility differentials and seeks to explain why these differentials, if any, exist. It also tries to see what effects, if any, age at arrival and duration of residence has on the fertility of migrants. Chapter 4 deals with identifying the specific

mechanisms through which the socio-economic correlates are likely to influence fertility of migrants and non-migrants; and also seeks to see the influence of migration on the survival of child migrants. Finally, Chapter 5 is a summary of findings and some of their implications for policy. The implication of this study for further research will also be discussed in this Chapter.

CHAPTER TWO

CHARACTERISTICS OF THE SAMPLE POPULATION

2.1 Age Distribution and Migration Status

The distribution of the sample population by age in the present study is shown in Table 1. A total of 1133 women were enumerated in the selected households and this yields an average of approximately 1.1 women per household. As 9 women did not report their current age, analysis is based on 1124 women only. As can be seen from the table, the age composition of the population, except for the last two age groups is such that, as age increases the number of women increases. It indicates the concentration of women in the three middle age groups, i.e., 25-29, 30-34 and 35-39. Women in these age groups constitute about 64.8 percent of the sample population. The population above age 40 account for the 24.7 percent, whereas the younger age groups (15-19 and 20-24), account only for 11.6 percent of the total. The median age for the sample population was 34.3.

A break-down of the total sample population into migrant and non-migrant categories shows that 77.6 percent of the sample population are migrants. The non-migrants on the other hand account for only 22.4 percent. Of the migrants those born in rural areas comprise the largest percentage. Rural born migrants account for 74 percent of the total migrant population while migrants born in urban areas account for 26 percent (see Table 2).

TABLE 1

Age Structure of Sample Population

Age	Number	Percent
15 - 19	31	3
20 - 24	99	9
25 - 29	236	21
30 - 34	229	20
35 - 39	263	23
40 - 44	133	12
45 - 49	133	12
Total	1124	100
Median Age	34.3	

TABLE 1.1

Percent Distribution of Ever married Women by Current Age, Addis Ababa, 1984

	Ever married		Never married	
Age	No.	%	No.	%
10 - 14	2779	2.5	10432	97.5
15 - 19	11025	10.9	90217	89.1
20 - 24	29516	47.4	32793	52.6
25 - 29	44932	81.4	10288	18.6
30 - 34	54070	92.7	4237	7.3
35 - 39	42906	97.1	1268	2.9
40 - 44	22601	98.0	473	2.0
45 - 49	16814	98.3	292	1.7

Source: O.P.H.C.E. (1987) Population and Housing Census of Ethiopia: *Analytical Report on Results for Addis Ababa,* p.p. 17, Table 19.

T A B L E 2

Percent Distribution of Women by Age and Migration Status

Current Age	Migration Status							
	Non-Migrant		Migrants					
			Total		Rural Born		Urban Born	
	No	%	No	%	No	%	No	%
15 - 19	19	1.7	12	1.1	9	1.0	3	0.3
20 - 24	38	3.4	61	5.4	40	4.6	21	2.4
25 - 29	77	6.9	156	13.9	110	12.7	46	5.3
30 - 34	50	4.4	178	15.8	137	15.8	41	4.7
35 - 39	40	3.6	221	19.3	167	19.3	54	6.2
40 - 44	12	1.1	121	10.8	94	10.9	27	3.1
45 - 49	16	1.4	117	10.4	84	9.7	33	3.8
Total	252	22.4	866	77.6	641	74.0	225	26.0
Median Age	29.5		35.6		35.7		35.1	

With regard to age, among migrants, women with 25 years of age and above account the highest percentage. The very young age groups (i.e. 15-19 and 20-24) constitute only 8.4 percent of the total migrants included in the sample. Migrants with age above 25 comprise 91.6 percent of the total migrants in the sample indicating the concentration of relatively older migrants in the Sample. The median ages for the non-migrants and migrants were 29.5 and 35.6 respectively. Among migrants, the median ages were 37.7 and 35.1 for rural and urban born migrants respectively.

2.2 Education and Labourforce Participation

The sample population comprises of women of varying levels of educational attainment ranging from women with no schooling to those with university level of education. In the present study attempt has been made to classify the study population in the varying levels of education. Because of the small number of women with post secondary level of education, these have been lumped together with the secondary and above level. Table 3 shows the percentage distribution of the sample population by education using five educational levels.

Of the total study population, those who have not completed primary school account for the highest percentage followed by those who read and write only. These two groups account for 29.8 and 24.6 percent of the study population, respectively. Those who have no schooling (Illiterates) comprise 9.4 percent, and those with secondary and above level of education account for 19.8 percent.

TABLE 3

Percentage Distribution of Women by Age and Educational Attainment

Current Age	Educational Attainment									
	Illiterate		Read & Write only		Primary Not Completed		Primary Completed		Secondary & Above	
	No	%	No	%	No	%	No	%	No	%
15 - 19	2	0.2	3	0.3	6	0.5	11	1.0	9	0.8
20 - 24	8	0.7	10	0.9	22	2.0	27	2.4	32	2.8
25 - 29	22	2.0	30	2.7	69	6.1	44	3.9	71	6.3
30 - 34	14	1.2	51	4.5	84	7.5	40	3.6	40	3.6
35 - 39	23	2.0	74	6.6	95	8.5	36	3.2	35	3.1
40 - 45	18	1.6	45	4.0	33	2.9	15	1.3	22	2.0
45 - 49	19	1.7	64	5.7	26	2.3	10	0.9	14	1.2
Total	106	9.4	277	24.6	335	29.8	183	16.3	223	19.8
Median Age	36.8		38.0		34.2		31.2		30.0	

From the Table it can be seen that women with formal education (women with primary or above primary level of education) account for the highest percentage (66%). Those who read and write only, accounting for 24.6 percent are mainly those who have attended the adult literacy programme that has been ongoing in the country.

The distribution of the sample population by level of education and migration status as shown in Table 4 indicates that migrants who have attained education below primary level account for the highest percentage. In the case of migrants, percent educated decreases as the level of education increase. On the other hand, among the non-migrants, although it shows certain ups and downs, the general trend is that as level of education increases the percent educated increases. Migrants born in rural areas have the highest percentage of women with below primary level of education. The same is true for urban born migrants.

Table 5 shows the percentage distribution of sample population by labour force participation. Questions regarding whether the respondent was working at the time of the interview, whether she was not working then but had worked at some time since married, or whether she had not worked at all since marriage were asked.

T A B L E 4

Percent Distribution of Women by Level of Education and Migration Status

Level of Education	Migration Status							
	Non-Migrant		Migrants					
			Total		Rural Born		Urbon Bofn	
	No	%	No	%	No	%	No	%
Illiterates	12	11.32	94	88.68	84	84.36	10	10.64
Read & Write	25	9.06	251	90.94	200	79.68	51	20.32
Primary Not Completed	55	16.57	277	83.43	217	78.34	60	21.66
Primary Completed	61	33.52	121	66.48	79	65.29	42	34.71
Secondary & Above	99	44.6	123	55.40	61	49.59	62	50.41
Total	252	22.5	866	77.5	641	74.02	225	25.98

The attempt to break down each of these categories according to whether or not the respondent had not worked before marriage was unsuccessful because the respective number of women who had not worked before marriage were too small for analysis in virtually all cases.

Relatively large differences were also observed between those who are currently working and those who are not currently working but had worked at some time since first married. In many cases it was also necessary to collapse the work history variable in to a simple "currently working" "not currently working" dichotomy in order to provide groups which are large enough for comparison.

Of the total sample population 17.9 percent reported that they are currently working. Number of persons currently not working increases as age advances until it reaches age 39 where it gradually starts to decline. The median age for women who reported as working and not working were 31.9 and 34.7 respectively.

Among those who reported their current employment status, about 46.8% were housewives followed by those who were wage employees (22.4%) and those who are self employed (10.6%). None of the respondents reported that they were employers. The unemployed women comprise 17.2% of the sample population (see Table 5.1). The median age was 31.4, 37.1, 32.6, and 36.5 for the unemployed, self employed, wage employees and housewives respectively.

TABLE 5

Percent Distribution of Women by Age and Work Status

Current Age	Work Status			
	Working		Not Working	
	No	%	No	%
15 - 19	13	1.2	18	1.6
20 - 24	28	2.5	71	6.4
25 - 29	45	4.0	188	16.8
30 - 34	36	3.2	192	17.2
35 - 39	41	3.7	220	19.7
40 - 44	20	1.8	133	10.1
45 - 49	17	1.5	116	10.4
Total	200	17.9	918	82.1
Median Age	31.9		34.7	

TABLE 5.1

Percent Distribution of Women by Age and Employment Status

Current Age	Employment Status									
	Unemployed		Selfemployed		Wage Emp.		Housewives		Others	
	No	%	No	%	No	%	No	%	No	%
15 - 19	13	1.2	2	0.2	4	0.4	8	0.7	4	0.4
20 - 24	28	2.5	8	0.7	14	1.2	42	3.7	7	0.6
25 - 29	45	4.0	12	1.2	72	6.4	96	8.7	8	0.7
30 - 34	36	3.2	17	1.5	68	6.1	107	9.5	-	-
35 - 39	39	3.5	47	4.2	47	4.3	122	11.0	6	0.5
40 - 44	16	1.4	15	1.3	28	2.5	69	6.1	5	0.5
45 - 49	15	1.3	18	1.6	18	1.6	78	7.0	4	0.4
Total	192	17.2	119	10.6	251	22.5	522	46.71	34	3.0
Median Age	31.4		37.1		32.6		36.5		28.8	

2.3 Marital Status, Ethnicity and Religion

Table 6 shows the distribution of women according to their marital status. In the study population, women who are currently married account the highest percentage. The percentage increases as age increases and after age 40 it starts declining gradually, which might be due to high incidence of divorce and death of marital partner.

According to the present data, divorce contributes the highest percentage for marital disruption than death of marital partner. For younger ages it is divorce that seem to be more important factor of marital disruption, but as age increases it is widowhood that plays an important role.

The dominant ethnic group in the present study as shown in Table 7 is Amhara accounting for 55.8 percent of the population. Only four ethnic groups (Amhara, Oromo, Gurage and Tigre) are reasonably large in terms of number (see Table). The other ethnic groups, (Dorze, Somali, Adere and Wolaita) taken together constitute for 3.3 percent of the population.

The study population is also composed of females that belong to different religious groups. Followers of Orthodox and Muslim religions account the highest percentage of the study population (96.9%), of which the Orthodox comprise 85 percent. Other Christians (Protestant and Catholic), comprise only 1.8 percent of the total sample population. Followers of other religious groups account for 1.3 percent of the population (see Table 8).

TABLE 6

Percent Distribution of Women by Age and Marital Status

Current Age	Marital Status							
	Married		Widowed		Divorced		Others	
	No	%	No	%	No	%	No	%
15 - 19	15	1.3	1	0.1	4	0.4	11	1.0
20 - 24	63	5.6	1	0.1	19	1.7	16	1.4
25 - 29	148	13.2	12	1.1	54	4.8	19	1.7
30 - 34	158	14.1	11	1.0	50	4.5	9	0.8
35 - 39	182	16.3	34	3.0	39	3.5	6	0.5
40 - 44	87	7.8	23	2.1	21	1.9	2	0.2
45 - 49	89	8.0	23	2.1	14	1.3	7	0.6
Total	742	66.4	105	9.4	201	18.0	70	6.3
Median Age	34.6		39.0		32.4		27.1	

T A B L E 7

Percent Distribution of Women by Age and Ethnicity

Current Age	ETHNIC GROUP									
	Amara		Oromo		Gurage		Tigre		Others	
	No	%	No	%	No	%	No	%	No	%
15 - 19	23	2.0	4	0.4	2	0.2	1	0.1	1	0.1
20 - 24	54	4.8	18	1.6	16	1.4	7	0.6	4	0.4
25 - 29	126	11.2	47	4.2	32	2.8	25	2.2	6	0.5
30 - 34	119	10.6	42	3.7	31	2.8	28	2.5	9	0.8
35 - 39	145	12.9	38	3.4	40	3.6	32	2.9	8	0.7
40 - 44	80	7.1	19	1.7	15	1.3	14	1.2	5	0.4
45 - 49	80	7.1	18	1.6	22	2.0	9	0.8	4	0.4
Total	627	55.8	186	16.5	158	14.1	116	10.3	37	3.3
Median Age	34.6		32.9		34.7		34.5		34.3	

T A B L E 8

Percent Distribution of Women by Age and Rclegion

Current Age	Relegion							
	Orthodox		Other Christian		Muslim		Others	
	No	%	No	%	No	%	No	%
15 - 19	29	2.6			1	0.1	1	0.1
20 - 24	79	7.0	1	0.1	17	1.5	2	0.2
25 - 29	199	17.7	5	0.4	31	2.8	1	0.1
30 - 34	193	17.2	4	0.4	30	2.7	2	0.2
35 - 39	227	20.2	6	0.5	27	2.4	3	0.3
40 - 44	115	10.2	2	0.2	12	1.1	4	0.4
45 - 49	113	10.1	2	0.2	16	1.4	2	0.1
Total	955	85.0	20	1.8	134	11.9	15	1.3
Median age	34.4		35.0		33.0		36.7	

2.4 Age at First Marriage, Contraceptive Knowledge and Use and Breastfeeding Characteristics

The percentage distribution of women by current age and age at first marriage is shown on Table 9. For purposes of analysis the study population is split into three groups of age at first marriage, namely those who married before age 15, between ages 15-19 and ages 20 and over. These groups account for 30.2, 46.5 and 19.4 percent of the study population respectively. On the other hand, 3.9 percent of the women in the study did not respond their age at first marriage.

The largest percentage of the population married between ages 15-19. This shows us that first marriage generally takes place early in life of women, which is in line with the situation in many countries in Africa and Asia. About three fourth of the sample population (76.7%) married before their 19th birth day indicating the higher incidence of early marriage.

Of those women who, at the time of the survey, were under 25 years of age, (i.e., 111 women), about 19.8 percent married at ages below 15, 67.6 percent between 15-19 and about 12.6 percent at ages 20 and above. On the other hand, of the women who were 40 and above at the time of the survey, about 38.4 percent married at ages below 15, 46.8 percent between 15-19 and 14.8 percent at ages 20 and above.

T A B L E 9

Percent Distribution of Women by Age and Age at First Marriage

Current Age	Age at First Marriage					
	Under 15		15 - 19		20 and Over	
	No	%	No	%	No	%
15 - 19	7	.6	15	1.3	3	.3
20 - 24	15	1.3	60	5.3	11	1.0
25 - 29	61	5.4	100	8.9	62	5.5
30 - 34	74	6.6	100	8.9	49	4.4
35 - 39	81	7.2	125	11.1	54	4.8
40 - 44	54	4.8	56	5.0	22	2.0
45 - 49	47	4.2	67	6.0	17	1.5
Total	339	30.2	523	46.5	218	19.4
Median Age	30.8		34.3		33.4	

Of those who were between ages 25 to 40 at the time of the survey, about 30.6 percent married under age 15, about 46.0 percent between ages 15-19 and 23.4 percent at ages 20 and above. The median ages for the three age at first marriage groups, i.e. under 15, 15-19 and 20 and above were 30.8, 34.3 and 33.4 respectively.

The percentage distribution of women by current age and knowledge and use of contraception is shown in Table 10. Various types of contraceptive methods were listed in the questionnaire. Based on available literature these contraceptive methods were also grouped into the following three categories (Campbell and Berelson, 1971).

Folk Methods

1. Coitus interruptus
2. Douche
3. Prolonged lactation
4. By abstaining from sex

Traditional Methods

5. Condom
6. Diaphragm
7. Spermicide
8. Rhythm

Modern Methods

9. Oral contraception
10. IUD
11. Monthly (or longer) injections

TABLE 10

Percent Distribution of Women by Age, Knowledge and Use of Contraception

Current Age	KNOWLEDGE						Use of Contraception			
	Have Knowledge		Know Modern		Know Others		Used		Never Used	
	No	%	No	%	No	%	No	%	No	%
15 - 19	28	2.5	4	0.4	24	2.1	15	1.5	13	1.3
20 - 24	90	8.1	13	1.2	77	6.9	45	4.5	45	4.5
25 - 29	219	19.6	35	3.1	184	16.5	138	13.7	81	8.1
30 - 34	205	18.3	35	3.1	170	15.2	119	11.8	86	8.6
35 - 39	229	20.5	47	4.2	182	16.3	118	11.7	111	11.0
40 - 44	115	10.3	19	1.7	96	8.6	49	4.9	66	6.6
45 - 49	119	10.6	9	0.8	110	9.8	38	3.8	81	8.1
Total	1005	89.9	162	14.5	843	75.4	522	51.9	483	48.1
Median Age	34.0		34.1		34.0		32.6		35.7	

Permanent Methods

12. Sterilization of males
13. Sterilization of females

Current Methods

14. Abortion

Regarding knowledge of contraceptives the study population was grouped into three categories. These were those who have no knowledge of contraceptives, those who know modern methods and those who know methods other than the modern ones.

As indicated in Table 10, of the total sample population who responded to this question, 113 women or 10.1 percent reported that they have no knowledge of contraceptives, 89.9 percent of the respondents reported that they know at least one method (and of these, 14.5 percent and 74.5 percent reported that they know modern methods and methods other than the modern ones, respectively). The median ages for women byknowledge group is 34.0, 34.1 and 34.0 years, for those who have knowledge, know modern and know methods other than modern ones.

With regard to use of contraceptives, about 52% reported that they have ever used either one or more methods of contraceptives, and about 48% reported that they have never used any method. The median ages are 32.6

and 35.7 for users and non-users respectively. This indicates that younger mothers use contraceptives more than older ones.

The percentage distribution among the respondents by length of time they breastfed their penultimate child is shown in Table 11. In order to obtain information on duration of breastfeeding respondents were asked for how long (in months) they breastfed their last child. The responses to these questions have also been grouped into three categories: those who breastfed for less than 12 months, for 12-24 months and for more than 24 months.

Of the total respondents those who breastfed their last child for less than 24 months (i.e., less than two years) account for about 80 percent of the sample population. Those who breastfed for less than one year were about 39.7 percent, whereas those who reported that they breastfed their child for a period of one to two years were 40.1 percent. About 20 percent of the women also reported that they breastfed their child for a period of two years or over. The median age for women by duration of breastfeeding are 32.8, 33.5 and 39.3 years for under 12, 12-24 and above 24 months, indicating that duration of breastfeeding increases as age increases.

2.5 Current (BLY) and Retrospective (CEB) Fertility Patterns and Levels

Fertility information from the present survey was based on two questions: the number of live born children during the 12 months preceding the survey

date (BLY), and the number of children ever born (CEB) to ever married women aged 15-49 years by sex. For purposes of simplicity to respondents, this question was divided into three parts: total number of children living at home at the time of the survey, total number of children living elsewhere and total number of children born alive but have died up to the time of the survey.

Of the total number of women interviewed 175 reported that they had a live born child in the 12 months preceding the survey date. The distribution of these births by age of women is shown in column 3 of table 12. Column 4 shows the computed age specific fertility rate (ASFR), i.e., number of births in each age group divided by the number of women in the corresponding age group.

Based on this information various fertility measures have been computed and presented in the Table. In the computation of these measures for each age group of respondents, the direct standardization method has been used. Use of this method helps to avoid the effects the age distribution of the study population would have on the fertility measures computed. It serves to control the effects the age distribution of the population would have and allows comparison between groups.

TABLE 11

Percent Distribution of Women by Age and Duration of Breastfeeding

Current Age	Duration of Breastfeeding (in Months)					
	Under 12		12 - 24		Above 24	
	No	%	No	%	No	%
15 - 19	21	1.9	8	0.7	2	0.2
20 - 24	54	4.8	41	3.7	4	0.4
25 - 29	97	8.7	101	9.0	35	3.1
30 - 34	85	7.2	107	9.6	40	3.6
35 - 39	109	9.7	85	7.6	67	6.0
40 - 44	44	3.9	51	4.6	38	3.4
45 - 49	38	3.4	55	4.9	40	3.6
Total	444	39.7	448	40.1	226	20.2
Median Age	32.8		33.5		39.3	

The ever married women aged 15-49 obtained from the 1984 Census result in Addis Ababa is taken as the standard population, and the following fertility measures have been computed. Crude Birth Rate obtained by dividing the total number of children born in a year by the total sample population. The total number of births in a year divided by the total number of women in the reproductive age gives the General Fertility Rate (GFR). Total Fertility Rate (TFR) shows the number of children a woman would have, if she experienced the set of current age specific fertility rates of each age group as she passed through her child bearing ages, and it is assumed that she survives the whole of her reproductive period.

The Crude Birth Rate (adjusted) from the present survey data was 22 per 1000 population of the city. Other studies also showed similar results. According to the 1984 study carried out by the Addis Ababa master plan project office [1986] the CBR for the city was 20.1/1000. The 1984 census analytical report for Addis Ababa [1987] also indicated a CBR of 23.2/1000 for the city.

The General Fertility Rate was 82 per 1000 women. Controlling for age differences the age standardized GFR increased to 174 per 1000 women between ages 15-49. The Total Fertility Rate (adjusted) which is the sum of the Age Specific Fertility Rates (ASFR) multiplied by 5 gives a value of 6.3.

T A B L E 12

Standardized Age Specific
Fertility Rate of Sample Women

Current Age (1)	No. of Women (2)	BLY (3)	ASFR (4)	Standard Popn. * (5)	Expected Birth (6) (4) (5)
15 - 19	31	12	0.387	11,025	4,267
20 - 24	99	29	0.293	29,516	8,648
25 - 29	233	48	0.206	44,932	9,256
30 - 34	228	35	0.154	54,070	8,327
35 - 39	261	43	0.165	42,906	7,080
40 - 44	133	2	0.015	22,601	339
45 - 49	133	6	0.045	16,814	757
Total	1118	175	1.265	221,864	38,674

Age Standardized GFR = $\frac{38,674}{221,864} \times 1000 = \underline{\underline{174}}$

" " TFR = 6.325

*Standard Population is the Ever married female Population of Addis Ababa, 1984.

The percentage distribution of ASFR obtained from data on current fertility (BLY) is presented in Table 13. It has been known that, unless the data has been affected by reporting errors, the age specific fertility rates will fall rapidly as age advances. The distribution of the age specific birth rates as shown in the Table is not in the expected direction, particularly above age 30 the data shows certain fluctuations.

This inconsistency might throw light that the data on current fertility might have been under reported particularly by respondents in the older age groups. Thus, indicating that fertility measures obtained from this data must be taken with caution.

Attempt has also been made to analyze the quality of data on current births by comparing the age specific birth rates with the UN standard weights (Shryock and Siegel, 1973). The UN standard method is based on weights that represent a set of standard age specific birth rates (for ages 15-44) expressed in rounded whole numbers. As determined by a review of birth rates by age of mothers for various countries, this standard set of weights is roughly proportional to the typical relative fertility rates of the various age groups of women at child bearing ages.

Comparison of the relative contribution of age specific birth rates expressed in rounded whole numbers with the UN standard weights (see Table 14) indicates that the former shows significant variation from the latter in most of the age groups. The computed values differ much more from the

UN standard weights. This also indicates that the data on current fertility are defective.

In addition to the very small number of births (175) reported from a population of 5295, the inconsistencies indicated above also force us to question the quality of the data on current fertility. Since we do not know differential reporting by the various socio-economic and demographic categories, and since it will affect our finding, we have not analyzed the data on births last year (BLY).

The distribution of Mean number of Children Ever Born (CEB) is shown in Table 15. Normally parity rises with rising age and reaches its peak at age of 45-49 and thereafter, it remains constant. Data deviating from this general condition is supposed to be affected by recall lapse. That is, women at older age group tend to forget to report their children who were born and died or who have left home a long time ago.

The data from the current survey portrays that except for age groups 45-49 parity increase as age increases. Thus, data on retrospective fertility are more reliable than data on current fertility. The decline in parity beyond age 45 indicates under reporting of births, which might have been due to recall lapse by older women. The Mean number of Children Ever Born (MCEB) as shown in column 4 of the Table (standardized) is 3.456.

T A B L E 13

Percentage Distribution of Age Specific Birth Rates(ASBR)

Current Age	Percent Women	5(ASBR)	Percent ASBR
15-19	2.8	1.935	30.6
20-24	8.9	1.465	23.2
25-29	20.8	1.030	16.3
30-34	20.4	0.770	12.2
35-39	23.3	0.820	13.0
40-44	11.9	0.075	1.2
45-49	11.9	0.225	3.6
Total	100.0	6.32	100.1

T A B L E 14

Comparison of the Relative Contribution of the ASBR with UN Standard Weights

Current Age (1)	ASBR (2)	Relative Contribution (2)/1.146 26 (3)	UN Standard Weights* (4)
15 - 19	0.387	8.78 ___9	1
20 - 24	0.293	6.65 ___7	7
25 - 29	0.206	4.67 ___5	7
30 - 34	0.154	3.47 ___4	6
35 - 39	0.165	3.74 ___4	4
40 - 44	0.015	0.34___0	1
45 - 49	0.045	1.02 ___1	–
Total	1.265		

* Source ; Shyrock and Siegel, (1973), The Methods and Materials of Demography, p. 483.

TABLE 15

Mean Children Ever Born (CEB) Standardized for Age

Current Age (1)	No. of Women (2)	CEB (3)	MCEB (4)	Standard Population* (5)	(4)x(5) (6)
15 - 19	31	59	1.903	11,025	20,981
20 - 24	99	159	1.606	29,516	47,403
25 - 29	233	578	2.481	44,932	111,476
30 - 34	228	822	3.605	54,070	194,922
35 - 39	261	1,178	4.513	42,906	193,635
40 - 44	133	704	5.293	22,601	119,627
45 - 49	133	662	4.677	16,814	78,639
	1,118	4,162	3.723	221,864	766,683

Age Standardized MCEB $= \frac{766,683}{221,864} = \underline{\underline{3.456}}$

*Standard Population is the Ever married Female Population of Addis Ababa, 1984.

CHAPTER THREE

ANALYSIS OF MIGRANT-NON-MIGRANT FERTILITY DIFFERENTIAL

3.1 Introduction

The main issue addressed in this chapter is the examination of fertility differential between migrant and non-migrant fecund, non-pregnant and ever married women in the city. The purpose of the chapter is twofold: First we will attempt to ascertain the relative contribution made by migrant women to the population growth in Addis Ababa. Secondly, we will be concerned with investigating fertility differentials between non-migrants and migrants (among the latter, by those of rural and urban born), into the city as an exercise in the study of migrant assimilation into city life and the association between migration and fertility. As migrants and natives may differ importantly in various socio-economic and demographic characteristics, which may give rise to fertility differences between the two, the analysis focuses on three socio-economic variables (education, ethnicity and female labour force participation), and proximate determinants of fertility (age at first marriage, duration of breast feeding and contraception). The primary aim in doing so is to identify the extent of variation between the two groups of women as far as the above characteristics are concerned. In the second part of this chapter, separate evaluation of fertility differentials of migrants by duration of residence, age at arrival and differential origin (rural-born and urban-born) is also made.

3.1.1 Migration, Fertility and Urban Growth

The two main components of urban population growth are natural increase and net migration. Various studies have attempted to establish the relative contribution of these factors to recent rapid urban population growth especially in developing countries (Martine, 1972; Ekanem, 1982). Historical evidences from the contemporary developed nations indicate that fertility rates have been lower in urban than in rural areas. This also underlies the general assumption that Rural-Urban migration is the principal cause of this urban population growth. However, to date there is no conclusive evidence as to whether net-migration or natural increase contributes the greatest proportion of urban population growth.

From various Latin American studies, it has been hypothesized that in-migration accounts for nearly 50% of urban population growth (Arriaga, 1966). However, these studies failed to recognize that, in terms of the question at issue, enough importance should be given to the fact that urban natural increase is the weighted sum of the natural increase of migrants and non-migrants. In this section, attempt will be made to shed light on the latter connection.

An analysis of the data on CEB (see Table 16) indicate that non-migrant women accounted for about one fifth of the total births that occurred in the city. In other words, about 80% of the births (CEB) were attributable to in-migrants. However, as shown in the previous chapter (See Table 2), non-migrant women account for only 22.4

percent of the study population, and therefore, at this level it looks as if there is not much fertility differentials between the two groups.

The unstandardized information in Table 16 on mean number of children ever born by age of women tends to suggest that, except in age group 40-44, non-migrant women are more fertile than migrants. The overall mean CEB values for the two groups, on the other hand, indicate migrant women as more important contributors to the natural growth of the city's population. The mean CEB values were 3.4 and 3.9 for non-migrant and migrant women respectively. The data also indicates that generally migrants from rural areas have higher fertility than those from urban areas. Thus, the evidence from the present study generally validates the higher fertility of migrants than non-migrants and among the former the higher fertility of migrants from rural areas than those from urban areas.

As the above index is affected by the age structure of the study population, attempt is also made to use an index parity taking account of the fact that the age distribution of the different groups may not be similar. This is achieved by the direct standardization technique in this case using the total sample population as standard.

The standardized average parity in Table 16 suggest that non-migrant women are more fertile than migrants. The standardized parity values were 4.03 and 3.79 for non-migrant and migrant women, respectively. The data also indicates that generally, migrants from rural areas have higher fertility than those from urban areas. It seems that, the present study does not validate our hypothesis that migrants may have higher

fertility than non-migrants. Hence, in the following part, attempt will be made to see the relationship given the influence of certain important socio-economic and demographic variables are controlled.

TABLE 16

Unstandardized and
Standardized Mean Number of CEB by Current age
and Migration status

Current Age	Migration Status			
	Non-Migrant	Migrants		
		Total	Urban	Rural
15 - 19	2.221	1.700	1.571	2.000
20 - 24	1.694	1.661	1.821	1.350
25 - 29	2.592	2.474	2.454	2.522
30 - 34	3.837	3.602	3.659	3.415
35 - 39	4.975	4.596	4.704	4.278
40 - 44	4.909	5.417	5.484	5.185
45 - 49	6.313	4.921	4.951	4.844
a*	3.409	3.924	4.021	3.655
b*	4.03	3.79	3.80	3.59

a* Unstandardized values

b* Age standardized values

3.1.2 Female Labour Force Participation and Fertility

It has been hypothesized that participation of women in the labour force has a negative effect on fertility. Thus, with increased participation of women in the labour force, it is expected that fertility will decline. Role conflict theory is often advanced as the basis for the difference in the fertility of women who are in the work force and those who are not. Women engaged in non-domestic enterprises have a conflict between work and reproduction. They find the care of children more difficult than those not working and hence tend to reproduce less than the latter group. Employment opportunities of women outside the family is expected to reduce the number of years a woman is dominated by the demand of pregnancy, child birth and child rearing.

Mason and Palan's (1981) explanation of the role incompatibility hypothesis (the role of being a mother or a worker) is the basic explanation of employment-fertility relationship in demographic literature. Labour force participation, in certain circumstances is thought to compete with child-bearing and rearing activities of mothers in sharing their time. The hypothesis postulates a negative relationship between women's work and fertility only when the role of worker and mother conflict. Such conditions, according to authors, would force women to make a trade-off between their participation in the labour force and the number of children they have.

Recent evidence indicate that, the relationship between labour force participation and fertility appears to be strongest in countries at higher level of socio-economic development (UN, 1986; 1987). These findings suggest that both the type of job a

woman performs and the setting on which she performs it may have some impact on the extent to which work affects child bearing. Further evidence of this link is shown by the fact that the relationship between work and fertility is strongest where women's status is relatively high as measured by educational attainment, age at marriage, and where strong family planning programmes operate (UN, 1987). It was also indicated that where work is more an option for women than a necessity, there is a more direct trade-off between employment and child bearing.

This correlation does not appear to be so strong in developing nations. It is argued that in such societies women are largely prevented by custom and it is also very difficult for them to attain self-respect and self-fulfillment other than by child bearing (UN, 1987). According to Osawa (1988), increased participation of women in the labour force and time cost leads to decline in fertility only for women who are working in the paid sector outside the home. Thus, increased participation of women outside the home, by making the combination of work and child care incompatible, leads to create the condition under which rising time cost leads to a decline in fertility. The availability of reliable parental substitutes (older children, grand parents or other relatives) in the family with almost zero opportunity cost is also regarded as the factor for the role-conflict theory stated above not to operate as in the developed countries.

It is also indicated that, among other factors, unless accompanied by other traditional fertility inhibiting practices, labour force participation of women by reducing the duration of breast feeding and hence shortening the birth interval, would increase

fertility (W.F.S., 1984). A closely spaced birth and decline in durations of breast-feeding is also reported to adversely affect the survival chance of children.

The data derived from the present survey is based on the question whether the respondent is working or not working. The former comprises women who are self employed and wage employed. The not working group includes those who are unemployed and the housewives.

As shown in Table 17, among non-migrants, the standardized values were, as expected, lower for the working category (3.64) than for the not working (4.06) group of women, but slightly reduced in percent of differences. Similar pattern is also observed among the migrants. Working women among them have fewer number of children (3.23) compared with those who do not work (3.82) but with increased percent differential. Work status by place of birth of migrants also indicates that, both for rural and urban born migrants, fertility was higher among those who are not working than the working women in the respective category. Significant differences, however, are not observed between rural and urban born working women.

Data on employment status of the sample population was also examined. This has been classified into five categories, namely, unemployed, self employed, wage employed, housewives and others. Only the first four groups are reasonably large in terms of numbers. The last category (that comprises the unpaid family workers, employers and the pensioned) is excluded from the analysis because taken together, they only constitute about 3.04% of the population under study,

The data in Table 18 indicates that among the non-migrants the housewives have the highest fertility (4.47) followed by unemployed (3.48) and wage employed women. The standardized mean parity values were the lowest for the self employed group of women. Similarly, among migrants, fertility is higher for housewives (4.07) followed by the unemployed (3.42) and self employed (3.25) group of women. The data by place of birth of migrants also indicated that, among the rural born migrants the standardized mean parity values were the highest for the housewives (4.10). The lowest was for the wage employed women (3.07). Among migrants of urban origin also housewives have the highest fertility (3.95), while the wage employed group of women have the lowest (2.51).

The data by employment status generally indicates the high fertility of housewives. This is also true both among migrants and non-migrants. However, we do not know whether this is a cause or a consequence, i.e., whether the housewives status was a cause for the high fertility, or that the high fertility interfered with her working and hence she was a housewife. This was not inquired into in the study. But it is generally assumed that not working in the formal sector or outside the home is the cause for high fertility.

On the other hand, although clear pattern has thus far emerged from the data examined here regarding fertility and labour force participation of women, the evidence does not generally validate our hypotheses about the higher migrant fertility relative to non-migrants. Both data on work and employment status of the sample population indicate higher fertility for non-migrants than migrants.

TABLE 17

Age Standardized Mean CEB by Current Age Work and Migration Status

Migration Status/Age		Work Status	
		Working	Not Working
Non-Migrant	15-19	2.200	2.214
	20-24	1.625	1.600
	25-29	2.000	2.956
	30-34	3.095	4.241
	35-39	4.950	5.000
	40-44	6.000	3.429
	45-49	4.333	6.769
	a*	3.138	3.671
	b*	3.637	4.064
Migrants (Rural)	15-19	-	1.571
	20-24	1.615	1.852
	25-29	2.278	2.473
	30-34	2.882	3.845
	35-39	4.600	4.441
	40-44	3.765	5.792
	45-49	4.857	4.829
	a*	3.31	4.10
	b*	3.31	3.81
(Urban)	15-19	2.000	-
	20-24	0.750	1.412
	25-29	2.278	2.679
	30-34	2.444	4.174
	35-39	3.875	4.447
	40-44	4.800	5.412
	45-49	3.700	5.130
	a*	3.05	3.93
	b*	3.01	3.83
Total Migrants	15-19	1.200	1.571
	20-24	1.412	1.682
	25-29	2.278	2.529
	30-34	2.731	3.905
	35-39	4.393	4.442
	40-44	4.148	5.723
	45-49	4.375	4.903
	a*	3.22	4.06
	b*	3.23	3.94

a* = Unstandardized Values

TABLE 18

Age Standardized Mean CEB by Current Age, Migration and Employment Status

Migration Status	Age	Employment Status			
		unemployed	Self-employed	Wage employed	Housewife
Non-Migrant	15-19	1.200	1.000	3.500	4.200
	20-24	1.462	1.333	1.300	1.800
	25-29	2.312	3.000	2.107	3.067
	30-34	4.400	2.750	3.091	4.643
	35-39	4.750	4.222	4.857	5.273
	40-44	1.000	7.500	3.750	4.600
	45-49	6.000	-	4.000	7.000
	a*	2.57	3.57	3.05	3.99
	b*	3.48	3.21	3.34	4.47
Migrants (Rural)	15-79	1.667	-	-	1.667
	20-24	1.727	2.000	1.333	1.882
	25-29	2.409	2.444	2.192	2.592
	30-34	3.571	2.909	2.871	4.027
	35-39	3.517	4.485	4.400	4.852
	40-44	4.182	4.231	3.000	6.623
	45-49	6.167	3.700	4.385	5.078
	a*	3.27	3.73	3.10	4.47
	b*	3.48	3.27	3.07	4.10
(Urban)	15-19	-	-	1.000	-
	20-24	1.250	1.000	0.667	1.600
	25-29	1.857	4.000	1.944	3.235
	30-34	5.400	1.000	2.333	4.000
	35-39	5.167	5.200	4.077	4.033
	40-44	3.000	-	4.818	6.091
	45-49	4.286	4.250	1.500	5.500
	a*	3.58	3.94	2.86	4.11
	b*	3.67	2.85	2.51	3.95
Total Migrants	15-19	1.667	-	1.000	1.667
	20-24	1.600	1.800	1.111	1.778
	25-29	2.276	2.600	2.091	2.758
	30-34	3.923	2.615	2.695	4.022
	35-39	3.800	4.579	4.273	4.631
	40-44	3.867	4.231	3.833	6.531
	45-49	5.154	3.944	4.000	5.179
	a*	3.35	3.77	3.01	4.38
	b*	3.42	3.25	3.04	4.07

a* = Unstandardized Values
b* = Age Standardized Values
- = No Value

Analysis of the data by activity status also indicates that, migrants have higher proportion of not working women (73%) than non-migrants (63%). Similarly, the percent housewives among the former is also very high. They comprise about 50 percent of the respondents among migrants, as against only 34 percent among non-migrants.

3.1.3 Education and Fertility

Educational attainment has generally been regarded as a major determinant of individual demographic behaviour. Increase in education have often been cited as one of the major venues through which reductions in fertility levels could be achieved. The interpretation of the role on education of fertility varies from one study to another (Holsinger and Kasarda, 1976; Caldwell, 1980; Cho, et.al., 1980; Ware, 1981). However, it has been indicated that education affects fertility in two ways: directly, by influencing attitudes and by reducing preference for traditional life styles (which include large family size) and by opening up ways to achieve it, and indirectly, through certain channels, such as delaying marriage, providing opportunities to get employment outside the home and potentials for acquiring knowledge and means of modern family planning (Anker and Knowles, 1982; UN, 1986).

As review of available evidence in this area indicate, the degree and pattern of this effect is not simple and well understood. Caldwell (1979) argues that the relationship between women's education and fertility is complex and does not hold often with the same strength cross sectionally and across countries. Where as some investigators have

found no association, or no consistent association, others have noted a positive relationship between the two.

Empirical evidences from WFS (1984) indicate that although an inverse relationship was observed in countries with little or no fertility decline, the effect of education was greater in countries where substantial decline has already occurred. According to this study the difference between the lowest and the highest education groups in expected lifetime fertility is largest in the Americas and the Middle East, usually 4 to 5 children; it is smaller in Africa, the Caribbean and Asia ranging from 1 to 2 children in most cases.

Among women with little education (e.g. read and write only and those below primary level of education), a reverse in the pattern of declining fertility was also observed in some countries (several African countries, Indonesia, Pakistan and Philippines) (UN, 1986; WFS, 1984). In these countries, those women who had primary level of education had higher fertility than those who had no education (WFS, 1984).

These reversals in the effect of education on fertility, according to studies (WFS, 1984; UN, 1986; 1987), suggest that small increases in female education may not be sufficient to cause fertility decline. Women with low level of education in the present developing countries tend to have higher fertility than those with none (UN, 1986). On the other hand, in countries where other social and economic changes have been

achieved, it is noted that improvements in education may not even be necessary for fertility decline.

The impact of rising level of education in several developing countries has been to increase the level of fertility. In these countries a modest exposure to formal education is associated with an erosion of traditional restraints on fertility; (UN, 1987). By curtailing the adherence to such traditional behaviors as prolonged period of sexual abstinence after child birth and long duration of breastfeeding, the traditions which helped to ensure the lengthy spacing between births, few years of education tends to increase fertility.

It is also argued that by improving their fecundability that might have been affected by widespread disease, improvements in female education tend to increase fertility (Caldwell, 1981). Studies also indicate that women with little education have better knowledge about nutrition, environment, sanitation, hygiene, etc. than their illiterate counterparts. Thus, the resulting improvements in health of women with some education is also regarded as the case for the increase in fertility among these women. This has also been shown to be true in India (UN, 1961).

Questions regarding the highest number of school years completed was included in the questionnaire for the present survey. As indicated earlier, the responses to this question were categorized into five educational groups, namely; the illiterates, the read and write only, the primary not completed, the primary completed and those with

secondary and above level of education. For each level of education, the unstandardized and standardized values were computed.

As the age standardized mean parity in Table 19 indicates, no clear pattern can be observed between fertility and education among non-migrants. Fertility was the lowest among the primary not completed (3.23) and the highest among the read and write only (4.37). Among migrants, the values indicate that, generally, female education is negatively associated with fertility, except among the primary completed. Those with secondary and above level of education have the lowest fertility (3.02), while the primary completed and the read and write only have the highest fertility, with values 3.82 and 3.81 respectively.

It is also observed that for all educational groups (except primary not completed), rural born migrants have higher fertility than their urban born counterparts. In both cases fertility was lower among women with higher level of education. Except certain fluctuations, the general trend is that, as level of education increases fertility decreases. Where as illiterates and primary not completed migrant women have higher fertility, for the remaining educational groups non-migrants show higher fertility.

In the analysis of the association of fertility and education by migration status, the read and write only group consist of women who became literate as a result of the ongoing adult literacy campaign in the country. The programme covered mostly older people, therefore, for those illiterate women who married at earlier age, literacy after age 30 may not have had any influence in fertility or the influence it had could have

TABLE 19
Age Standardized Mean CEB by Current Age
Level of Education and Migration Status

Migration Status / Age		Level of Education				
		Illiterate	Read and Write only	Primary not comp.	Primary completed	Secondary and above
Non-Migrant	15-19	-	9.00	1.33	2.00	1.86
	20-24	1.00	-	1.57	1.56	1.67
	25-29	2.67	3.60	3.00	2.88	2.06
	30-34	5.00	3.67	3.50	4.62	3.18
	35-39	-	6.20	5.77	4.66	3.82
	40-44	7.00	2.67	7.00	5.00	4.40
	45-49	7.00	7.20	4.75	7.00	6.00
	a*	4.00	4.96	3.69	3.46	2.59
	b*	3.33	4.37	3.23	4.24	3.84
Migrants (Rural)	15-19	0.50	-	1.50	1.50	2.00
	20-24	1.83	1.14	2.00	2.00	1.60
	25-29	2.47	2.55	2.22	2.44	2.64
	30-34	4.80	3.57	3.34	4.06	3.42
	35-39	4.09	4.87	4.62	4.35	3.27
	40-44	4.07	6.12	5.82	5.80	3.25
	45-49	4.00	5.40	4.00	5.00	4.20
	a*	3.62	4.57	3.76	3.66	3.05
	b*	3.58	3.87	3.61	3.86	3.09
(Hrban)	15-19	-	4.00	1.00	1.00	-
	20-24	1.00	1.00	1.25	1.14	1.67
	25-29	1.00	1.50	3.50	3.11	1.91
	30-34	5.00	2.60	4.60	4.00	2.20
	35-39	-	3.93	4.27	4.50	4.67
	40-44	4.00	6.00	5.60	5.00	4.56
	45-49	1.75	5.58	6.67	4.60	3.00
	a*	2.70	4.12	9.27	3.50	2.82
	b*	1.91	3.34	4.26	3.79	2.98
(all migrants	15-19	0.50	2.00	1.33	1.33	2.00
	20-24	1.75	1.10	1.80	1.67	1.64
	25-29	2.38	2.46	2.51	2.67	2.19
	30-34	4.83	3.36	3.51	4.04	2.86
	35-39	4.09	4.67	4.53	4.40	3.79
	40-44	4.06	6.10	5.78	5.62	3.94
	45-49	3.47	5.44	4.73	4.75	3.55
	a*	3.52	4.48	3.86	3.60	2.94
	b*	3.50	3.81	3.75	3.82	3.02

a* = Unstandardized values

b* = Age Standardized values

- = No value

been insignificant. In addition to this, as they have had very little education, if any, the concept of literacy for these group of women cannot be taken in the Western sense.

As the evidence from the present study indicate, the decrease in fertility with increase in level of education is true both for migrants and non-migrants. However, the effect is stronger among migrants with lower mean parity in all the formal education groups. The primary completed women (both migrants and non-migrants), however, tend to have higher fertility than their illiterate counterparts perhaps because a small increases in female eduction tend to reverse the expected effect of education on fertility (see for example WFS, 1984; UN, 1986; 1987). The inverse relationship for both migrants and non-migrants, however, is stronger only at higher educational levels.

3.1.4 Ethnicity and Fertility

According to literature, like the various socio-economic and demographic factors, ethnic origin (tribal affiliation) affects reproductive behaviour (see for example, Mitchell, 1971; Caldwell, 1977; Kazeze, 1982). The 1984 Population and Housing Census analytical report for Addis Ababa indicated differential in fertility among women of different ethnic group in the city. Of the total women between ages 15-49 the Dorze had the highest fertility rate followed by the Adere, Wolaita and Gurage respectively. The Amara had the lowest fertility rate.

Table 20 presents ethnic differentials in Addis Ababa as obtained by the present survey. Out of the eight ethnic groups in the sample population, only four (Amara, Oromo, Gurage and Tigre) are included in the analysis. The other ethnic groups (Dorze, Somali, Adere and Wolaita), are excluded from the analysis because taken together they constitute only 3.3 percent of the population under study.

At the macro scale we find that non-migrants of Amara and Oromo ethnic group have higher fertility than their migrant counterparts. But the opposite is true for Tigre and Gurage. Migrant Gurage and Tigre women show higher fertility than non-migrants. Thus the latter two ethnic groups are in line with our hypothesis that migrants have higher fertility than non-migrants, but the two others (Amara and Oromo) indicate an opposite pattern. Amara and Oromo comprise the largest proportion in the sample population (about 72%). This might be the factor that led to the observed unexpected relationship between fertility and migration status.

3.1.5 Duration of Breastfeeding and Fertility

The impact on fertility of breastfeeding is well documented in demographic literature (see for example, Jain and Bongaarts, 1981; Gray, 1981; Caldwell, 1981). According to these studies, the mechanisms through which breastfeeding affects fertility is physiological. Shorter duration of breastfeeding unless compensated by contraceptive use, by compressing the postpartum nonsusceptible period, will lead to earlier exposure to pregnancy.

TABLE 20

Age Standardized Mean CEB By Current Age, Ethnicity and Migration Status

Migration Status	Age	Ethinic Group			
		Amara	Oromo	Gurage	Tigre
Native Non-Migrant	15-19	2.53	1.00	1.00	-
	20-24	1.60	1.57	1.63	2.00
	25-29	2.55	2.47	2.88	2.25
	30-34	3.74	4.33	4.00	5.00
	35-39	4.35	6.11	6.40	5.50
	40-44	4.27	7.00	-	-
	45-49	5.75	7.33	7.00	6.00
	a*	3.22	3.72	3.59	3.73
	b*	3.71	4.70	3.91	3.66
Migrants (Rural)	15-19	1.17	1.00	-	2.00
	20-24	1.60	2.50	1.71	3.00
	25-29	2.32	2.35	2.61	2.63
	30-34	3.16	3.57	4.52	4.25
	35-39	4.19	4.45	5.53	4.44
	40-44	4.70	7.62	5.33	6.13
	45-49	4.33	4.50	6.86	5.50
	a*	3.56	3.96	4.72	4.33
	b*	3.35	3.95	4.36	4.15
(Urban)	15-19	1.00	-	-	-
	20-24	1.11	1.20	2.00	1.25
	25-29	2.94	2.44	3.40	2.00
	30-34	3.75	3.67	3.50	3.27
	35-39	4.13	3.89	7.00	3.64
	40-44	5.81	3.20	-	5.17
	45-49	3.82	4.67	6.00	5.60
	a*	3.76	3.11	5.01	3.33
	b*	3.61	3.20	3.95	3.33
(all migrants	15-19	1.13	1.00	-	2.00
	20-24	1.47	1.91	1.75	1.60
	25-29	2.46	2.38	2.78	2.24
	30-34	3.28	3.58	4.44	3.70
	35-39	4.18	4.28	5.74	4.07
	40-44	4.96	6.39	5.33	5.71
	45-49	4.21	4.53	6.63	5.57
	a*	3.60	3.74	4.77	3.79
	b*	3.41	3.72	3.59	3.71

a* = Unstandardized Values
b* = Age Standardized Values
- = No Value

In the absence of significant use of contraception, breastfeeding is regarded as an important determinant of fertility. By delaying ovulation, breastfeeding increases the birth interval and results in lower completed fertility. In cultures where postpartum sexual abstinence is practiced, this may also further lengthen the period between births.

According to a recent study (WFS, 1984), the effect of breastfeeding on fertility depends on the length, frequency, intensity and exclusiveness of breastfeeding of infants. Increased introduction of supplemental feeding of infants tends to reduce the 'contraceptive' effect of lactation against early pregnancy.

As Lestheghe and Page (1980) and Gray (1981) suggested, the effect of breastfeeding on fertility through amenorrhea curtailment would operate if the child survived and breastfed in the range between 7-24 months. Poor maternal health resulting from poor and inadequate nutrition is also thought to prolong the duration of amenorrhea.

Child-spacing in Tropical Africa has traditionally been achieved mainly through prolonged breastfeeding that extends the period of postpartum anovulation and amenorrhea, and through prolonged postpartum sexual abstinence (Lesthaeghe, et.al., 1981). According to WFS Study (1984) the prevalence and duration of breastfeeding do vary within different demographic and socio-economic groups, and particularly in developing countries it shows a declining trend. It also adds that the length decreases steadily with increases in education. Illiterate mothers breastfeed their infants for longer duration than do their literate counterparts.

The data from this survey is grouped into three breastfeeding durations of less than 12 months, 12-24 months and above 24 months. Observation of the age standardized mean parity in Table 21 among the non-migrants indicate a pattern opposite to what was expected, i.e., the values generally were the lowest among those who breastfed for less than 12 months. It was the highest among those who breastfed for more than 24 months, followed by breastfeeding duration group of 12 to 24 months.

Among migrants, however, the pattern was not clear, i.e., the standardized parity were the lowest among those who breastfed for less than 12 months, highest among those who breastfed for between 12 to 24 months and then declined again among those who breastfed for more than 24 months. Mean parity were the highest among migrants than non-migrants only for duration group of 12 to 24 months. Further analysis of the data, however, indicates that although there are higher proportion of migrants than non-migrants in all the three breastfeeding duration groups, it was more significant in the duration group of 12 to 24 months, i.e. 77.5 and 22.5 percent for migrants and non-migrants respectively. This might be the factor affecting the relationship. For the other two duration groups, non-migrants have higher fertility. Generally, fertility was the lowest among women who breastfed for shortest duration.

Increase in fertility with increase in breastfeeding duration is more or less observed among rural born migrants. The standardized Mean parity were the highest among those who breastfed between 12 to 24 months, and was not much different from the group with duration 24 and above months. This was true for both rural and urban

born migrants. Rural born migrants generally tend to have higher fertility than their urban counterpart in all the three duration groups.

This apparent inconsistency may be due to several factors. As Lestheghe and Page (1980) and Gray (1981) suggested, the relationship between amenorrhea and length of breastfeeding is not at all simple. The effect of breastfeeding decreases with time and is also influenced by frequency and intensity of lactation and other supplementary feedings. As the child is given supplemental food and the frequency of lactation is reduced, the effect of breastfeeding on post partum sterility is also reduced, even if the mother continues nursing her child over a longer period. Thus, it is not only the duration, but it is also the frequency and intensity that increase the 'contraceptive' role of breastfeeding.

Most studies indicate that in many countries (including Ethiopia) the period of breastfeeding is shorter, i.e., about 12 months (Canterelle, 1978). Given the short average duration of breastfeeding in these countries, it appears that full breastfeeding and intensive suckling are practiced during the first 12 months. After that it seems that the child's food is supplemented and hence the frequency of breastfeeding reduced, which also reduces the contraceptive role of breastfeeding. As confirmed in our study also, most women are in the first breastfeeding duration category, i.e., less than 12 months.

TABLE 21

Age Standardized Mean CEB By Migration Status, Current Age and Duration of Breastfeeding

Migration Status / Age		Duration of Breastfeeding(months)		
		upto 12	12 - 24	25+
Non-migrant	15-19	2.00	3.25	1.00
	20-24	1.46	1.92	1.50
	25-29	2.38	2.85	2.89
	30-34	3.36	3.33	4.88
	35-39	5.32	4.25	4.57
	40-44	4.29	4.25	7.00
	45-49	5.14	6.40	8.25
	a*	3.13	3.32	4.41
	b*	3.73	3.79	4.64
Migrants (Rural)	15-19	1.13	-	2.00
	20-24	1.69	1.75	3.00
	25-29	2.38	2.41	2.53
	30-34	3.45	3.67	3.85
	35-39	4.24	4.83	4.67
	40-44	5.91	6.14	4.33
	45-49	3.76	5.53	5.03
	a*	3.56	4.18	4.25
	b*	3.52	3.93	3.84
(Urban)	15-19	1.00	4.00	-
	20-24	1.26	1.50	-
	25-29	3.00	1.75	1.67
	30-34	3.39	3.83	2.67
	35-39	4.25	4.54	4.12
	40-44	4.41	6.83	6.00
	45-49	2.60	5.82	7.43
	a*	3.44	4.32	4.22
	b*	3.37	3.96	3.45
all migrants	15-19	1.10	4.00	2.00
	20-24	1.51	1.71	3.00
	25-29	2.59	2.29	2.23
	30-34	3.43	3.70	3.63
	35-39	4.25	4.77	4.52
	40-44	5.39	6.26	4.51
	45-49	3.39	5.61	5.50
	a*	3.44	4.22	4.22
	b*	3.44	4.02	3.77

a* = Unstandardized values
b* = Age Standardized values
- = No value

Although a correspondence between the length of breastfeeding and amenorrhoea has been observed in many studies (see for example, WHO, 1983; Acsadi and Johnson Acsadi, 1984), as recent studies indicate (WFS, 1986), this does not mean that the duration of the former strictly determines the lengths of the latter. According to this study, while on one hand women who do not breastfeed may remain amenorrhoeic for months, on the other hand, an increasing proportion of women begin menstruating while still breast-feeding. In some population, even after a six months period of breastfeeding, about one half of them remain unprotected against pregnancy. Therefore, the degree of contraceptive protection provided by breastfeeding varies greatly from country to country, and probably among individuals.

It is also indicated in demographic literature that child spacing in non-contracepting populations is governed mainly by customs relevant to breastfeeding and post- partum abstinence. Decline in the observance of the latter even with longer duration of breastfeeding may not reduce the risk of pregnancy. According to studies, abstinence has a supplementary contribution to the 'contraceptive' effect of longer duration of breastfeeding.

The possibility of recall lapse of duration of breastfeeding by older women and those whose penultimate child was born some years ago could also be considered as a possible cause of this apparent inconsistency. In non-numeric traditional societies with very low level of education, accurate responses on duration of breastfeeding may not be obtained. In addition to this, as the present study is based on reported number of CEB, differential under reporting of the number of CEB by the duration groups

could also affect the finding. Malnourished and sick women may have shorter duration of breastfeeding, and they are also known to have lower fertility as well. The lower fertility of women with shorter breastfeeding duration may be caused by the nutrition and health of the women in that group.

These reasons perhaps explain the apparent inconsistent finding in the present study in which the effect of breastfeeding on post-partum amenorrhoea and hence fertility was found to be strongest among women who breastfed for shorter duration (for less than 12 months).

3.1.6 Age at First Marriage and Fertility

Coale and Tye (1961) and UN (1982) argue that in societies where sexual relationship out of wedlock is prohibited and contraception is not generally practiced, age at marriage plays an important role in affecting fertility as well as population growth. As it marks the beginning of the period of exposure to the risk of pregnancy of the women, generally, early marriage is assumed to have a positive relationship with fertility. On the other hand, late and delayed marriage may result in a reduction in cumulative fertility (McDonald et.al., 1980).

Women who marry at younger age, may be subjected to the dictate of their husband and more so of the female relatives of the husband and hence have very little control over their sexual life. Fertility is determined by external factors and the husbands female relatives. Therefore, this and the lack of access to the outside world

makes it difficult for the woman to resist pronatalist pressures. Moreover, early marriage increases their period of exposure to the risk of pregnancy in the absence of opportunities to regulate their fertility.

Bogue (1969) has shown that marriage in most developing countries are in early or child marriage categories, having an average median age at first marriage of nineteen years or lower. According to Davis (1956) the lowest age at first marriage is generally found in countries with peasant agricultural economy. Recent evidences from WFS data also indicate that rural and illiterate or poorly educated women tend to marry earlier (McCarthy, 1982). It was also found that the average median age at first marriage for most of these countries was 18.8 years or lower (UN, 1986).

Studies indicate that educational attainment of women is an important variable affecting age at first marriage. Studies have shown an inverse relationship between education and age at first marriage (UN, 1986). One way in which an increase in educational level may lower fertility is by women delaying their marriage because of the longer period they must spend in school. Delayed marriage shortens the period of exposure to the risk of conception and may further reduce their completed fertility. Further evidences can also be found in Bogue (1969), Conchrane (1979), Caldwell (1980).

The data from the present study is categorized into three age at first marriage groups, namely, those who married before age 15, between ages 15-19 and ages 20 and

above. As indicated earlier (see Chapter Two), the picture observed from our data is that the largest percentage of the women married before their 19th birth day.

Table 22 displays mean parity by age at first marriage, current age and migration status. In all age at first marriage groups among the non-migrants, the unstandardized values indicate that, as expected, fertility decreases as age at marriage increases. Fertility is higher among those who married at ages below 15 (5.14) and reduced by 22% for those who married between ages 15-19, and a further 8% for those who married above age 20.

No consistent and systematic pattern is observed among migrants. Although women who married at ages below 15 have higher mean parity than those who married above age 20, as the unstandardized values indicate, those who married at ages between 15 to 19 fertility was the highest. Except for those who married between ages 15 to 19, for all age at first marriage groups, non-migrant women have higher fertility than migrants.

Whereas fertility decreased somewhat with increase in age at first marriage among the urban born migrants, with regard to rural born migrants, no consistent pattern is observed. Fertility of the rural born migrants was higher than the urban born for age at marriage group of above 15 years, but lower for those who married below age 15.

Both among migrants and non-migrants, fertility is the lowest among those who married at ages above 20. This was also true for both rural and urban born migrants.

Thus, the expected inverse relationship between fertility and age at first marriage for both migrants and non-migrants is stronger at higher age at first marriage groups (above 20). This is also in line with the recent findings of the WFS surveys (1984).

According to WFS study (1984), in many countries fertility was lower for women who married above the age of 20 than below, and the effect on fertility was even stronger among those who married above age of 25. The lower fertility at a very younger age at marriage was also observed in many Asian countries. This lower fertility, according to this study, is explained by the risk of complications and miscarriages from early pregnancies, sometimes resulting in fecundity impairment. Children who are exposed to sexual experience at a very younger age have what is known as adolescent sterility which tends to reduce fertility.

Other studies also suggest that the influence of age at marriage on fertility should be viewed from the aspect of fecundability of women. According to this study (UN, 1986) fecundability (i.e. the probability of conception during a menstrual cycle without using contraception), varies among populations. Rising very slowly from zero at the beginning of adolescence, fecundability becomes steeper somewhere around the beginning of young adult age where it reaches it's peak and remains high at first and begins to decline slowly.

Based on this, the study suggested that mean parity is relatively low to women who married younger than age 15, usually increasing with rising age at first marriage up to a certain age which, again, differs from country to country. From the age at which the

TABLE 22
Age Standardized Mean CEB By Migration Atatus, Current Age and Age at First Marriage

Migration Status / Age		Age at First Marriage		
		upto 15	15-19	20+
Non-migrant	15-19	1.33	2.78	6.00
	20-24	2.00	1.68	1.00
	25-29	2.33	3.29	1.66
	30-34	5.13	3.83	3.06
	35-39	5.75	4.96	4.40
	40-44	7.00	3.50	6.33
	45-49	8.50	6.00	5.50
	a*	4.58	3.53	2.87
	b*	5.14	3.98	3.60
Migrants (Rural)	15-19	1.00	1.75	-
	20-24	1.46	2.04	1.00
	25-29	2.37	2.79	1.65
	30-34	3.40	4.41	2.55
	35-39	4.25	4.93	3.88
	40-44	5.22	6.10	3.56
	45-49	3.73	5.64	4.50
	a*	3.29	4.45	2.99
	b*	3.40	4.26	2.82
(Urban)	15-19	-	1.00	4.00
	20-24	1.00	1.60	0.75
	25-29	3.14	3.05	1.75
	30-34	4.75	3.18	3.00
	35-39	3.63	5.39	2.75
	40-44	6.00	5.22	4.64
	45-49	4.31	5.50	2.75
	a*	4.06	4.02	2.83
	b*	3.81	3.99	2.68
all migrants	15-19	1.00	1.50	2.00
	20-24	1.36	1.91	86
	25-29	2.48	2.87	1.69
	30-34	3.56	4.05	2.69
	35-39	4.12	5.05	3.57
	40-44	5.32	5.93	4.15
	45-49	3.91	5.60	3.92
	a*	3.75	4.33	2.93
	b*	3.45	4.19	2.73

a* = Unstandardized values
b* = Age Standardized values
- = No value

mean reaches the maximum, the number of CEB decreases with rising age at marriage. According to the study (UN, 1986) no matter how much earlier a marriage is contracted than the commencement of fecundity, it has no bearing on the length of exposure to conception and hence fertility. Empirical evidences also indicate that women who marry below the age of 15 and therefore exposed to sexual activities are susceptible to adolescent sterility caused by early and premature sexual relationship. This may also damage the reproductive function of the woman temporarily or permanently.

3.1.7 Contraceptive Use and Fertility

It has generally been known that increased use of contraception leads to a decline in fertility. Recent evidences in this area also show a close association between contraceptive use and fertility decline in developing countries (WFS, 1984). According to this study, countries with higher levels of contraceptive use consistently had lower crude birth rate than those with lower levels. On the other hand, according to Dow and Werner (1981) use of contraceptive often "complements or maintains, rather than change and reduce fertility aspirations".

The data obtained from the ever married fecund and non-pregnant women in the present survey was categorized into two: contraceptive users, and non-users. Table 23 shows, among non-migrants fertility is higher among users (4.14) than non-users (3.80). Migrants also show the higher fertility of users (3.92) than non-users (3.49). Contraceptive user non-migrant women (4.14) also have higher fertility than migrant users

(3.93). Similarly, the data in Table 23, as expected, indicates the higher fertility of rural born migrants than those who were born in urban areas, but the differences are not large.

This inconsistency, i.e., users having higher fertility than non-users can be attributed to several factors. As indicated in Chapter 2, of the total sample population about 90 percent reported as knowing at least one method but only about half of the population reported as having ever used either one or more methods of contraception. Such low prevalence of use of any method, therefore, can not be due to lack of awareness of a method, but such factors as lack of motivation to regulate fertility, and the possibility that the information and means of fertility regulation are not accessible or, if available, they are not acceptable.

Ever use of contraceptive also gives only generalized pattern. Women who are using contraception may be persons who have high fertility, or those who wanted to increase the spacing between births than control their fertility. The selectivity of women in terms of their knowledge and quality of reporting may also affect the relationship. One should also keep in mind that only half of those reporting knowledge, ever used a method. Ever use, as indicated above, is a kind of cumulative proportion and includes heterogeneous type of population. Therefore, the use as reported may not pertain to current use, consistent use, correct use and scientific method of use. Non-users may also belong to low socio-economic conditions and hence have poor health and have low fertility.

TABLE 23

Age Standardized Mean CEB By Migration Status,
Current Age Contraceptive Use

Migration Status / Age		Contraceptive Use	
		Used	Never Used
Non Migrant	15–19	2.44	2.00
	20–24	1.52	1.71
	25–29	2.15	3.40
	30–34	3.96	3.54
	35–39	4.98	5.24
	40–44	6.29	2.00
	45–49	6.86	5.89
	a*	3.25	3.47
	b*	4.14	3.80
Migrants (Rural)	15–19	1.50	1.00
	20–24	1.53	1.92
	25–29	2.64	2.17
	30–34	3.85	3.36
	35–39	5.11	4.02
	40–44	4.61	4.02
	45–49	5.78	4.58
	a*	3.98	3.86
	b*	3.95	3.51
(Urban)	15–19	2.50	1.00
	20–24	2.33	1.25
	25–29	2.23	3.06
	30–34	3.28	3.63
	35–39	4.73	3.86
	40–44	5.64	4.69
	45–49	6.23	3.70
	a*	3.77	3.45
	b*	3.84	3.42
(All Migrants)	15–19	1.83	1.00
	20–24	1.46	1.70
	25–29	2.50	2.37
	30–34	3.70	3.41
	35–39	5.01	3.98
	40–44	4.95	5.60
	45–49	5.97	4.37
	a*	3.91	3.67
	b*	3.92	3.49

a* = Unstandardized values
b* = Age Standardized Values
– = No Value

From the analysis in Chapter 2 we also see that of the total sample population who reported as knowing one or more method of contraception, about 75.4 percent reported that they know methods other than the modern ones. As recent studies indicate (UN, 1986), this is an evidence for weak or non-existent programmes of family planning. As traditional methods of contraception are not effective, the large use of these methods would not lead to fertility decline. Although individuals may want to space or regulate births, lack of provision of information, service and supplies of effective methods is not allowing them to do so.

3.2 Duration of Residence, Age at Arrival and Fertility of Migrants

In the analysis of fertility differentials between migrants (rural and urban born), it is generally expected that such differentials also exist between those of recent and long term migrants. Recent migrants, with limited exposure to urban way of life, are expected to reflect some social and cultural patterns of their place of origin. On the other hand, long term migrants, most of whom have been exposed to urban way of life for a relatively longer period are expected to show urban tendencies unlike the former ones.

With regard to the influence exerted by age at arrival on the assimilation of migrants into urban life and thereby on the fertility differentials, several of the studies we referred to earlier have also argued that, the earlier the age at arrival and thus the

greater the amount of time spent in the city, the greater the migrants acquire more diverse tendencies than they have in their origin.

As can be seen from Table 24, for all duration of residence groups, women who arrived as young teenagers show significantly lower fertility than those who arrived when aged 20 and above. This relationship also generally holds true for both rural and urban in-migrants. Generally, mean parity increased with increase in age at arrival of migrants, i.e., those who migrated into the city at a later age showed higher fertility. Among the recent migrants (1 to 9 years), migrants of urban origin show higher fertility for all age at arrival groups. As duration of residence increases, however, rural migrants show higher fertility for all age at arrival groups.

The age standardized values for each duration group generally show parabolic pattern of relationship. This also hold true both for rural and urban born migrants. Fertility was higher among women who resided in Addis Ababa for a durtion of 10-19 years. The data also indicates that, for both rural and urban born migrants, fertility tends to decline among women with duration above 20 years, indicating the importance of significant number of years of residence in the city for fertility decline to take place.

In sum, the data does not lend evidence to the view that origin of migrants (in terms of rural and urban born) have significant influence on fertility. However, pattern has thus far emerged between age at arrival of migrants and fertility. Both among rural and urban born migrants, women who arrived into the city at early than later age generally show lower fertility. The data by duration of residence also indicated that,

for significant reductions in fertility to take place, substantial number of years of residence in the city is essential. Generally, both urban and rural born migrants who stayed in the city for more than 20 years showed lower fertility.

Table 24
Mean CEB of Migrants by Duration of Residence in Addis Ababa and Age at Arrival

Duration of Residence	Age at Arrival	Place of Birth	
		Rural	Urban
1 - 9	Below 19	1.93	1.94
	19 - 24	2.03	3.50
	25 - 29	2.33	3.83
	30 and above	4.00	4.17
	Age standardized	4.00	3.98
10 - 19	Below 19	3.32	2.92
	19 - 24	4.21	3.61
	25 - 29	4.95	3.83
	30 and above	4.43	6.50
	Age standardized	4.40	5.59
20+	Below 19	4.88	4.21
	19 - 24	4.50	4.75
	25 - 29	5.00	2.00
	30 and above	3.80	-
	Age standardized	4.14	0.95

CHAPTER FOUR

MIGRANT -- NON-MIGRANT FERTILITY, SOCIO-ECONOMIC CORRELATES AND PROXIMATE DETERMINANTS

4.1 Introduction

Kingsly Davis and Judith Blake argued that human reproduction can be analyzed in terms of environmental factors and social and economic structure impinging on fertility via a series of intermediate variables (Davis and Blake, 1956). Based on this, they listed 11 critical variables in the reproductive process, which they then divided into three groups as intercourse, conception and gestation variables. By arguing that the data necessary to quantify the intermediate frame work are rarely available John Bongaarts (1978) showed that most of the observed variations in fertility between populations is accounted for by four of these variables; marriage, contraception, lactation and induced abortion.

As in the previous section, the main issue addressed in this Chapter is to examine the fertility differentials between migrant and non-migrant women in Addis Ababa. In this regard, attempt is made to identify the specific mechanisms through which the socio-economic correlates are likely to influence fertility. This is done by computing mean parity for each sub-group of socio-economic correlates (female labour force participation, education and ethnicity) controlling for the proximate determinants (age at first marriage, duration of breastfeeding and contraception). In the second part of

this section attempt is also made to see what effects, if any, migration has on the survival of the children of migrants who were born before migration and thereafter, and who are currently living in the city.

4.1.1 Education, The Proximate Determinants and Fertility

In demographic literature education is known to reduce fertility in two ways: directly and indirectly. The direct effect of eduction on fertility is by influencing attitudes and preferences with respect to smaller family size and by opening up ways to achieve it. Indirectly, education exerts an influence on fertility through certain channels, such as raising the age at marriage, providing opportunities to obtain employment outside the home and increasing the knowledge and use of contraception. On the other hand, unless compensated for modern contraceptives, education is also known to have an initial upward pressure upon fertility by diminishing the frequency and length of breastfeeding.

Controlling for age at first marriage (see Table 25), for all educational groups, it is noted that only the primary not completed and primary completed women among non-migrants showed decline in fertility as age at marriage increased. The other educational groups did not show any consistent pattern. Among migrants, as we move from age at first marriage group of below 15 years to age at marriage group of 20 and above, on the whole a parabolic pattern of relationship is observed, except among the primary completed who showed consistent decline in fertility.

The value in the same Table also indicates that, among women who married at ages below 15, non-migrant women generally have higher fertility than migrants, except for the secondary and above women. However, observation of the sample population in the respective age at first marriage groups indicated that only 3 percent of non-migrants as against 27.3 percent of migrants are included in this duration group. The unexpected finding indicated above may also be due to this factor. Among women who married at age 15 and above, however, as expected, migrants generally have higher fertility. The expected negative association between fertility and education, both among migrants and non-migrants, was also observed among women who married at later age.

The situation by place of birth of migrants also indicates that, among those of rural origin, the primary completed and secondary and above women showed decrease in fertility as age at marriage increased. The rest educational groups generally showed parabolic pattern of relationship. Except the illiterates, women of all educational groups who married above age 20 showed substantial reductions in fertility. Among the urban born migrants also, as we move from younger to older age at marriage groups, fertility decreased for women with primary level of education. For the remaining educational groups, however, a parabolic type of relationship is observed.

In the age at marriage group of below 15 years, migrants of rural origin generally have higher fertility. Among women who married between ages 15 to 19, however, urban born migrants generally show higher fertility. Significant decline in fertility was observed among rural born migrant women who married at 20 and above.

TABLE 25

Mean Number of CEB by Migration Status, Education, Labourforce Participation and Ethnicity, Controlling for Age at First Marriage

Migration Status / Level of Education		Age at First Marriage (months)		
		Upto 15	15-19	20 and above
Non-migrant	Illiterate	4.00	4.80	3.67
	Read and Write	5.20	5.60	2.80
	Prim. not Comp.	5.50	3.27	3.22
	Primary Comp.	5.71	3.37	3.28
	Sec. and above	2.25	3.00	2.50
Migrants (Rural)	Illiterate	3.23	3.90	4.91
	Read and Write	4.22	5.24	2.86
	Prim. not Com.	3.25	4.43	3.13
	Prim. Comp.	4.38	3.51	2.21
	Sec. and above	3.38	3.30	2.74
(Urban)	Illiterate	2.00	4.00	2.50
	Read and Write	4.06	4.37	3.71
	Prim. not Comp.	4.95	4.21	3.60
	Primary Comp.	5.14	3.67	2.58
	Sec. and above	1.50	3.75	2.39
(All Migrants)	Illiterate	3.09	3.91	3.85
	Read and Write	4.19	5.06	3.07
	Prim. not Comp.	3.57	4.38	3.24
	Primary Comp.	4.53	3.57	2.38
	Sec. and above	2.86	3.56	2.57

Con'td

Migration Status / Work Status		Age at First Marriage (months)		
		Upto 15	15-19	20 and above
Non-migrant	Working	3.56	3.68	2.71
	Not Working	4.96	3.46	3.03
Migrants (Rural)	Working	3.25	3.83	2.33
	Not Working	3.88	4.61	3.25
(Urban)	Working	3.81	2.91	3.09
	Not Working	3.89	4.61	3.06
Migration Status /	Employment Status			
Non-migrant	Unemployed	3.88	2.38	3.18
	Self Emp.	4.50	3.25	4.25
	Wage Emp.	3.57	3.42	2.60
	House Wives	5.85	4.00	2.75
Migrants (Rural)	Unemployed	3.00	3.69	3.16
	Self Emp.	3.50	4.94	4.67
	Wage Emp.	3.46	3.33	2.25
	House Wives	4.39	4.84	3.26
(Urban)	Unemployed	4.28	4.50	2.50
	Self Emp.	4.20	5.00	2.50
	Wage Emp.	3.46	2.54	3.25
	House Wives	4.48	4.51	2.57
(All Migrants)	Unemployed	3.19	3.89	2.96
	Self Emp.	2.71	4.95	3.33
	Wage Emp.	3.46	3.00	2.71
	House Wives	4.41	4.75	3.03

Con'td.

Migration / Status /	Ethnic Group	Age at First Marriage (months)		
		Upto 15	15-19	20 and above
Non-migrants	Amara	4.50	3.37	2.83
	Oromo	4.33	4.10	3.46
	Gurage	6.25	3.47	2.67
	Tigre	4.00	4.67	2.33
Migrants (Rural)	Amara	3.23	4.25	2.76
	Oromo	4.18	4.23	2.50
	Gurage	5.17	4.89	3.58
	Tigre	4.74	4.20	4.13
(Urban)	Amara	4.25	3.86	3.25
	Oromo	4.33	3.20	2.56
	Gurage	5.00	5.92	2.50
	Tigre	2.83	4.00	2.81
(All migrants)	Amara	3.40	4.16	2.89
	Oromo	4.21	3.94	2.52
	Gurage	5.16	5.05	3.39
	Tigre	4.00	4.09	3.25

A hypen (-) indicates that there is no value.

Controlling for duration of breastfeeding, fertility among non-migrants was lower for women who breastfed for shorter duration (i.e., less than 12 months). Among the primary completed and secondary and above native women parabolic type of relationship is observed, for the remaining educational groups, generally as breastfeeding duration increased fertility also increased.

Similarly, among migrants, lower fertility was observed for women of all educational groups who breastfed for shorter duration (less than 12 months). The primary completed and not completed women showed increase in fertility as duration of breastfeeding increased. The remaining educational groups showed parabolic type of relationship.

Among women who breastfed for durations less than 24 months, migrant women generally tend to have higher fertility than non-migrants. In the breastfeeding duration of 25 months and above, however, non-migrant women showed higher fertility. In all duration groups, lowest fertility was observed among women with secondary and above level of education. Women with few years of education generally tend to have higher fertility. This was also true both for migrants and non-migrants.

Rural and urban born women who breastfed for duration of less than 12 months also showed lower fertility. Women who breastfed between 13 to 24 months showed higher fertility than women who breastfed for less duration. This was also true both for rural and urban born migrants of all educational groups. Generally, rural born migrants who breastfed for less than 24 months showed higher fertility, while urban

born migrants showed high fertility in the 25 and above months of breastfeeding duration.

Controlling for contraceptive use, however, no clear cut and consistent pattern of influence on fertility was observed among migrant and non-migrant women of differing educational groups, and if anything, contraceptive use seem to have increased the fertility of some categories. Similar increase in fertility of users than non-users was observed among rural and urban born migrants.

4.1.2 Female Labour Force Participation, The Proximate Determinants and Fertility

Female labour force participation may have a depressing influence upon fertility through delaying marriage among women who work before they marry. The influence is stronger among women who were involved in kinds of work that are not compatible with childbearing and child care. Women who work for non-familial employers have the lowest fertility. It is also argued that the differential in fertility of women of differing work and employment status is partially caused by differential use of contraception. Women working in modern sectors tend to use contraception more so than those working in traditional and informal sector. On the other hand, increased participation of women in the labour force, by decreassing the frequency, and length of breastfeeding, and unless compensated by increased use of contraception, may even increase the level of fertility.

The data by work status among migrants and natives indicates that, controlling for age at first marriage, working women generally have lower fertility than not working ones. For both working and not working women, fertility was the lowest among those who married above age 20.

For all age at marriage groups, working migrant women have lower fertility than non-migrants in the same category. Among those who are not working and who married above age 15, migrant women have higher fertility than non-migrants. For age at marriage group of 20 and above, as expected, fertility significantly decreased both for migrants and non-migrants, but it was more so among migrants.

The data by place of birth of migrants also indicates that on the whole working women of both rural and urban origin have lower fertility. Except among those who married between ages 15 to 19, working rural born migrants have lower fertility than urban born ones. Generally working and not working women of urban and rural origin showed parabolic pattern of relationship.

The data by employment status among non-migrants showed that mean parity of wage employed and housewives was in the expected direction, i.e., fertility decreased with increase in age at marriage. Among the unemployed and self employed non-migrants women, however, a parabolic relationship between fertility and employment status was observed. This was also true for migrant women of all employment status groups, except among the wage employed where fertility decreased with increase in age at marriage.

TABLE 26

Mean Number of CEB by Migration Status, Education, Labourforce Participation and Ethnicity, Controlling for Duration of Breastfeeding

Migration / Status /	Level of Education	Duration of Breastfeeding (months)		
		Upto 12	13-24	25 and above
Non-Migrant	Illiterate	3.75	4.50	-
	Read and Write	3.82	4.91	9.33
	Prim. not Comp.	3.48	3.56	4.50
	Primary Comp.	3.69	2.91	4.15
	Sec. and above	2.59	1.92	3.25
Migrants (Rural)	Illiterate	3.28	4.19	3.50
	Read and Write	4.18	5.02	4.68
	Prim. not Comp.	3.50	3.64	4.31
	Prim. Comp.	3.40	3.96	4.13
	Sec. and above	2.88	3.82	2.89
(Urban)	Illiterate	2.00	4.33	-
	Read and Write	3.48	4.75	4.50
	Prim. Not Comp.	3.75	4.88	4.56
	Primary Comp.	3.19	3.67	4.43
	Sec. and above	2.78	3.44	2.38
(All Migrants)	Illiterate	3.07	4.21	3.50
	Read and Write	4.03	4.96	4.65
	Prim. not Comp.	3.56	3.87	4.37
	Primary Comp.	3.32	3.89	4.27
	Sec. and above	2.83	3.65	2.65

Con'td

Migration/ Status /	Work Status	Duration of Breastfeeding (months)		
		below 12	12-24	25 and above
Non-Migrants	Working	3.15	2.75	4.00
	Not Working	3.11	3.58	4.54
Migrants (Rural)	Working	3.12	3.16	3.92
	Not Working	3.73	4.43	4.35
(Urban)	Working	2.62	4.33	2.38
	Not Working	3.49	4.38	4.51
(All Migrants)	Working	2.93	3.58	3.64
	Not Working	3.67	4.42	4.39
Migration / Status /	Employment Status			
Non-Migrants	Unemployed	2.38	2.71	3.13
	Self Emp.	3.54	3.60	3.60
	Wage Emp.	2.98	2.71	4.67
	House Wives	3.60	3.93	5.75
Migrants (Rural)	Unemployed	3.07	3.07	4.05
	Self Emp.	3.77	4.00	3.38
	Wage Emp.	3.00	3.10	3.35
	House Wives	3.99	4.81	4.82
(Urban)	Unemployed	3.26	2.75	5.67
	Self Emp.	3.50	6.50	2.60
	Wage Emp.	2.65	3.62	2.75
	House Wives	3.48	5.16	4.50
(All Migrants)	Unemployed	3.12	3.00	4.41
	Self Emp.	3.72	4.00	3.23
	Wage Emp.	2.85	3.25	3.19
	House Wives	3.85	4.87	4.75

Con'td

Migration / Status /	Ethnic Group	Duration of Breastfeeding (months)		
		Upto 12	13-24	25 and above
Non-Migrants	Amara	2.90	3.53	4.47
	Oromo	3.34	2.40	5.00
	Gurage	3.61	3.75	2.50
	Tigre	4.00	2.00	4.50
Migrants (Rural)	Amara	3.19	3.97	3.88
	Oromo	3.88	3.44	4.82
	Gurage	4.59	4.65	5.12
	Tigre	4.05	5.00	3.92
(Urban)	Amara	3.15	5.00	4.32
	Oromo	2.81	3.27	4.00
	Gurage	5.10	5.00	5.00
	Tigre	2.75	4.25	3.92
(All Migrants)	Amara	3.18	4.15	3.96
	Oromo	3.59	3.40	4.67
	Gurage	4.71	4.64	5.10
	Tigre	3.25	4.68	3.92

A hypen (-) indicates that there is no value.

In the age at marriage group of below 15 years, non-migrants showed higher fertility than migrants. Among women who married above age 15, as expected, generally migrants have higher fertility than non-migrants.

On the whole, parabolic pattern of relationship is observed both among urban and rural born migrants. The expected relationship was observed only among wage employed rural born migrants. Generally fertility was lower among women who married at ages above 20 and this was true both for migrants of urban and rural origin, but it was more so among the latter. In the first two age at marriage groups, however, migrants of urban origin generally have higher fertility than their rural counterparts.

It can be said, therefore, that controlling for age at marriage, the data by work status provides clear pattern regarding the association between work status and fertility of women. Both among migrants and non-migrants, working women have lower fertility than not working ones, and this was more so among women who married at age 20 and above. The data by employment status of women (both migrants and non-migrants) revealed that fertility was higher among women who married earlier (i.e., below age 19), and was lower among those who married above age 20, and was more so among the wage employed women. Both data by work and employment status also generally support the higher migrant fertility than non-migrants.

Controlling for duration of breastfeeding, the data by work status among non-migrants working women indicated parabolic type of relationship. Not working ones

showed increase in fertility with increase in breastfeeding durations and generally have higher fertility than their working counterparts.

Among migrants, fertility of working women was not in the expected direction. Mean parity increased with increase in breastfeeding durations. Generally, similar pattern is also observed among not working migrant women (See Table 26).

Except among non-migrant women who breastfed for 12 to 24 months, where lower fertility is observed, generally, both for migrants and non-migrants fertility was lower among women who breastfed for less than 12 months, it was more so among migrants. At breastfeeding duration of 25 months and above, fertility increased for both working and not working migrant and non-migrant women, it was significant among non-migrant women.

Mean parity among working rural born migrants was not in the expected direction. Urban born working women, however, showed parabolic pattern of relationship. Except at breastfeeding duration group of 12 to 24 months where higher fertility is observed, working urban born migrants, as expected, have lower fertility than their rural born counterparts. Both for migrants of rural and urban origin, not working women showed higher fertility.

The analysis by employment status among non-migrants indicated that, generally for all employment status groups, the association was not in the expected direction. Mean parity showed significant increase with increase in breastfeeding durations. In

all the three breastfeeding durations, housewives showed higher fertility than the remaining employment status groups. This was also true among migrants as well.

For both migrants and non-migrants fertility was lower among women of all employment status groups who breastfed for shorter durations (i.e., for less than 12 months). In the first two breastfeeding duration groups, as expected, migrant women generally have higher fertility than non-migrants. In the breastfeeding duration groups of 25 months and above, however, non-migrant women showed higher fertility than migrants.

The pattern of relationship between fertility and employment status of women was not in the expected direction among rural born migrants. Similar pattern is observed among urban born migrants. In the breastfeeding duration group of 12 to 24 months, urban migrants showed higher fertility. In the 25 months and above duration group, however, rural born migrants generally have higher fertility than their urban counterparts.

It may be inferred that, as the data by work status indicates, for both migrants and non-migrants, fertility is lower among women who breastfed for shorter duration (less than 12 months), followed by those who breastfed between 12 to 24 months, and this was more so among working women. The data by employment status also supports the lower fertility of women who breastfed for shorter duration. This was also true for rural and urban born migrants. On the other hand, controlling for breastfeeding durations, both data on employment and work status generally supported the expected

high fertility of migrants than non-migrants. With regard to rural and urban born migrants, the data indicated, as expected, the higher fertility of migrants of rural origin.

Controlling for contraceptive use, however, no clear cut and consistent pattern of influence on fertility of migrant and non-migrant women of different work and employment status was observed. While contraceptive use increased the fertility of working group of non-migrant women, it did otherwise among the not working ones. This is also true among migrants. The analysis by employment status also showed that among non-migrants, except for the unemployed and housewives, users have higher fertility than non-users. Among migrants also, except for housewives, all users have higher fertility than non-users. According to the present data, use of contraceptive seems to have an upward pressure on fertility both among migrants and non-migrants. It may therefore be said that contraception was not a critical variable influencing fertility of migrant and non-migrant women of different work and employment status.

4.1.3 Ethnicity, Proximate Determinants and fertility

Controlling for age at marriage, the fertility of non-migrant women of all ethnic groups (except Tigre) decreased with increase in age at marriage. Among the Tigre the relationship was parabolic type. Generally fertility was lower among women who married at age 20 and above (See Table 27).

Except the significant increase observed among Amara women who married between ages 15 to 19, as expected, fertility decreased with increase in age at marriage among migrants. It was the lowest among women who married at age 20 and above.

The Gurage and Tigre among natives, and the Oromo and Amara among migrants showed the lowest fertility in the age at marriage group of 20 and above. In the age at first marriage groups of under 15 and 15-19 years, migrants have generally higher fertility, whereas in the age at first marriage group of 20 years and above, they have lower fertility.

Mean parity of rural born migrants of all ethnic group (except the Amara who married between 15 to 19 years), as expected, decreased with increase in age at marriage. Similarly, among the urban born migrants, except the Gurage and Tigre women, fertility of the remaining ethnic groups decreased with increase in age at marriage. Generally fertility is lower among women who married above age 20, it was more so among the urban born migrants.

It can be said therefore, that controlling for age at marriage, regardless of ethnic differences, fertility is higher among those who married earlier than later. This was also true both for migrants and non-migrants. The Gurage among the non-migrants and the Oromo among the migrants (both rural and urban origin), showed lower fertility in the age at marriage group of 20 and above.

TABLE 27

Mean Number of CEB by Migration Status, Education Labourforce Participation and Ethnicity, Controlling for Contraceptive Use

Migration/ Status /	Level of Education	Contraceptive Use	
		Used	Never Used
Non-Migrant	Illiterate	3.83	4.17
	Read and Write	4.00	5.14
	Prim. not Comp.	3.88	3.55
	Primary Comp.	3.62	3.21
	Sec. and above	2.77	2.04
Migrants (Rural)	Illiterate	4.52	3.28
	Read and Write	4.62	4.55
	Prim. not Comp.	3.74	3.74
	Prim. Comp.	4.08	3.25
	Sec. and above	3.03	3.09
(Urban)	Illiterate	3.00	2.63
	Read and Write	4.74	3.75
	Prim. not Comp.	4.41	4.13
	Primary Comp.	3.69	3.19
	Sec. and above	3.00	2.42
(All Migrants)	Illiterate	4.40	3.20
	Read and Write	4.65	4.39
	Prim. not Comp.	3.90	3.82
	Primary Comp.	3.92	3.23
	Sec. and above	3.01	2.78

.../

Con'td

Migration/ Status	Work Status	Contraceptive Use	
		Used	Never Used
Non-Migrant	Working	3.21	2.96
	Not Working	3.28	3.65
Migrants (Rural)	Working	3.62	3.01
	Not Working	4.13	4.08
(Urban)	Working	2.90	3.31
	Not Working	4.60	3.51
All Migrants	Working	3.34	3.09
	Not Working	4.20	3.97
Migration/ Status	Employment Status		
Non-Migrant	Unemployed	2.41	2.74
	Self Emp.	4.50	3.00
	Wage Emp.	3.07	3.00
	House Wives	3.80	4.23
Migrants (Rural)	Unemployed	4.21	2.58
	Self Emp.	4.54	3.30
	Wage Emp.	3.36	2.77
	House Wives	4.14	4.65
(Urban)	Unemployed	3.14	3.90
	Self Emp.	4.50	3.44
	Wage Emp.	2.80	3.00
	House Wives	4.78	3.47
(All Migrants)	Unemployed	4.21	2.58
	Self Emp.	4.54	3.30
	Wage Emp.	3.36	2.77
	House Wives	4.14	4.65

Con'td

Migration Status / Ethnic Group		Contraceptive Use	
		Used	Never used
Non-Migrant	Amara	3.19	3.27
	Oromo	3.30	4.44
	Gurage	3.08	3.95
	Tigre	4.11	2.00
Migrants (Rural)	Amara	3.90	3.32
	Oromo	3.65	4.20
	Gurage	4.69	4.73
	Tigre	4.14	4.50
(Urban)	Amara	4.21	3.42
	Oromo	3.47	2.72
	Gurage	4.11	6.00
	Tigre	3.50	2.94
(All migrants)	Amara	3.97	3.34
	Oromo	3.60	3.86
	Gurage	4.58	4.88
	Tigre	3.73	3.88

A hypen (-) indicates that there is no value.

Controlling for breastfeeding durations, the analysis showed that among non-migrants the fertility of all ethnic groups was not in the expected directions. This was also true for migrants as well. Among migrants, whereas the fertility of Amara and Tigre increased in the breastfeeding duration group of 12 to 24 months, the fertility of Oromo and Gurage increased in the breastfeeding duration group of 25 months and above.

Generally, both among migrants and natives fertility was lower among women who breastfed for shorter durations (less than 12 months), and this was more so among non-migrants. In the breastfeeding duration group of 12 to 24 months also non-migrant women have lower fertility than migrants. Only in the breastfeeding duration group of 25 months and above migrant women showed lower fertility.

The data also indicated that, the relationship between fertility and ethnicity is not in the expected direction for both migrants of rural and urban origin. The level of fertility showed fluctuations with increase in breastfeeding durations. Generally fertility was lower among women who breastfed for less than 12 months, and it was more so among urban born migrants.

It may be said therefore, that for both migrants and non-migrants, controlling for breastfeeding durations fertility was lower among women who breastfed for shorter durations (i.e., less than 12 months). This was more so among non-migrants women. The Amara showed the lowest fertility among both migrants and natives in this duration group. Similarly among rural and urban born migrants fertility was lower for

women who breastfed for shorter durations (less than 12 months) and this was more so among urban born migrants.

Controlling for contraceptive use, fertility decreased for users than non-users for all ethnic groups among non-migrants (except among the Tigre). Similarly among migrants, except the Amara, all rest ethnic groups showed, as expected, higher fertility of non-users than users; however, the difference in fertility of users and non-users of all ethnic groups among migrants was not substantial.

Among rural born migrants, although substantial difference in fertility was not observed, user women of all ethnic groups (except Amara) showed lower fertility than non-users. Among the urban born migrants, however, no clear-cut pattern of influence is observed. It was observed that generally users tend to have higher fertility than non-users.

It may be said therefore, that women of all ethnic groups (except the Tigre among non-migrants and the Amara among migrants) who have used contraception tend to have lower fertility compared to those who have not used. However, the difference in fertility between users and non-users is not substantial. Similar conditions are observed among rural and urban born migrants. Hence it can be argued that contraception was not a critical variable influencing ethnic differentials in fertility among the population under study.

4.2 Child Mortality and Migration

Various studies conducted to investigate the association between migration and urban population growth rates usually focus. Exclusively on migration - fertility interrelationship (Myers, 1972; Mario and Rath, 1965; Martine, 1973). Recent studies in this area, however, indicate that insertion and assimilation of migrants into city life tends to affect positively the survival of migrants and their children and hence contribute to the rate of growth of the city's population. Generally, it is assumed that, with greater access to health services, clean water, improved sanitation, etc., urban areas tend to have lower mortality than rural areas, and children of migrants get the benefits of these.

Unlike fertility, the probable effect of migration on the mortality of the movers and their children is much harder to ascertain. The procedure adopted here is indirect. The ever married women whose fertility we analyzed earlier, in this section were required to provide information on both the total number of liveborn children that they have as well as the number surviving out of these by sex and for two points in time--before they moved and thereafter.

The estimation technique developed by Brass (the Trussel variant) can be used to convert such information into indirect estimates of child and adult mortality for the migrant population, and for the two points in time. However, since the estimation procedure of child mortality using this kind of data is more robust than that for adult mortality, we used the former (i.e., estimation of child mortality) here especially as our

interest is primarily concerned with ascertaining the probable impact of migration on the mortality of the movers and their children rather than estimation of the level of mortality as such. The computational procedure used essentially consists of the various steps indicated for estimating child mortality from children everborn and those surviving data in Manual X of the United Nations (1983a). Due to smaller sample size and very few number of deaths reported, analysis will be based on total number of deaths (for both sexes) by age of mothers.

We hypothesize that if the estimated probability of dying before migration is higher than the corresponding estimate thereafter, the inference can be made that probably the improvement in life expectancy at birth is attributable to the better influence of the new urban environment.

Eventhough it is technically possible to compute values of probability of dying (qx) for all age groups of mothers, due to better sample size, better reporting and less omission of children born and surviving, our discussion will be based only on the three age groups 20-24, 25-29 and 30-34. The age group 15-19 is a volatile group with very small number of women eligible for reporting and also the moments of events, i.e., births and deaths. This small sample, will bring in a lot of fluctuations. The 35 and above age group is also more affected by problems of memory lapse. Because of this, the three indices that will be used for the analysis will be q_2, q_3 and q_5 based on women aged 20-24, 25-29 and 30-34. For each index, the level from model life table is computed and the corresponding values are also shown in Table 28 and 29. An

arithmetic average of these values is used as an index in order to eliminate some of the fluctuations due to age reporting and other errors.

From the data in Table 28 and 29 we observe that there is significant difference in the mortality pattern of children of migrants born before migration and those born in Addis Ababa. The mortality situation experienced by children of migrants before their migration is higher than those for children born in the city. Thus we can argue that, as expected, the new environment tends to exert a positive influence on the child mortality of the migrants in so far as the estimated values in post-migration period are lower than those for the pre-migration period. On the other hand, the difference between migrants who are rural and urban born is not significant. Thus, it seems that, the mortality pattern is not affected by origin of migrants. It is only among children born and dead before migration that we find the urban-rural differential in child mortality. Once the migrants have arrived in Addis Ababa, the origin of the parents does not seem to make much difference to mortality.

Table 28

Probability of Dying and Surviving of Children Everborn by Migrants Before Migration to Addis Ababa

Parameter Estimate	Probability of Dying		Probability of Surviving		Corresponding Lifetable Values*	
	Rural	Urban	Rural	Urban	Rural	Urban
q_2	0.1851	0.1464	0.8149	0.853	611.8	13.8
q^3	0.1512	0.1394	0.8488	0.8606	14.2	14.8
q_5	0.1696	0.1539	0.8304	0.8461	14.9	15.5
Average Lifetable Values					13.6	14.7

*The levels correspond to Coale-Deminy Model West Life Tables.

Table 29

Probability of Dying and Surviving of Children Everborn by Migrants After Migration to Addis Ababa

Parameter Estimate	Probability of Dying		Probability of Surviving		Corresponding Life-table Values*	
	Rural	Urban	Rural	Urban	Rural	Urban
q_2	0.0584	0.0317	0.9416	0.9686	19.5	21.8
q_3	0.0486	0.0461	0.9514	0.9539	20.5	20.7
q_5	0.0701	0.0848	0.9299	0.9152	19.8	18.5
Average Lifetable Values					19.9	20.3

*The Levels correspond to Coale-Deminy Model West Life Tables.

CHAPTER FIVE

SUMMARY AND RECOMMENDATIONS

The importance of the study on the interrelationship between population and development variables is obvious in Ethiopia with an estimated population of about 47 million in 1987 and currently growing at about 3.0 percent per annum, as well as an explicitly stated desire of the government to integrate population variables into development planning. But owing to the small sample size, limited time and finance available, the present study is generally of an exploratory nature rather than diagnostic. Therefore, the author wishes to caution readers and possible users that although the research needed in this country to explore the magnitude and the direction of relationship between the various demographic, social, economic and cultural factors is tremendous, the policy implications that may be drawn from the present study is strictly tentative.

The data in the present study contained information (for both migrant and non-migrant women) on the level of educational attainment of the wife, female labourforce participation, ethnicity, age at first marriage, knowledge and use of contraception and duration of breastfeeding. The analysis in section three indicated that, at macro level, there is not much difference in fertility performance of migrants and non-migrants. This pattern continued even when we categorized them into different socio-economic and demographic variables like labourforce status, ethnicity, level of eduction, age at first marriage, duration of breastfeeding and contraceptive use. Therefore, unlike what

we expected, much difference is not observed between the fertility of migrants and non-migrants. Thus, at this level, the evidence did not validate our hypothesis of higher fertility of migrants relative to non-migrants. This was also true among migrants of rural and urban origin.

On the other hand, the study confirmed that, as expected, working women generally had lower fertility than not working ones, and this was stronger among migrants. The data by employment status also indicated the higher fertility of housewives, which was true both for migrants and non-migrants, and among the former, for those of rural and urban origin.

In the analysis of the association between education and fertility, the expected inverse relationship was generally observed. This was also true both among migrants and non-migrants, but more so among the former. In both cases, the association was stronger at higher level of education (i.e., secondary and above). Regarding ethnicity and fertility, the evidence in this study is that, fertility of the Gurage among migrants, and the Amara among non-migrants was higher than the remaining ethnic groups.

Similarly, women who breastfed for shorter durations generally showed lower fertility, this also holds true both for migrants and non-migrants, the latter showing the highest mean parity. With regard to age at first marriage, the evidence from this study is that, generally fertility is lower among those who married later than early, and this was also true both among migrants and non-migrants. In this study, no clear-cut and

consistent pattern of influence was observed regarding the relationship between fertility and use of contraception. Generally, users tend to have higher fertility than non-users.

With regard to the influence of age at arrival and duration of residence of migrants (in terms of rural and urban born) on fertility, the data generally did not appear to support the hypothesis that rural in-migrants are more fertile than their urban colleagues. On the other hand, age at arrival of migrants appears to influence their fertility. The general picture from the data is that, fertility is apparently higher among those who entered into the city at later age than early. Similarly, the evidence from the present study indicates that, fertility tends to decline significantly only among women with longer duration of residence in the city (e.g. 20 years and above).

As a precaution against the inconsistent finding in the present study regarding the fertility differential between migrants and non-migrants, and to understand the relationship better, it was also considered necessary to isolate the effects of not only socio-economic factors but also the proximate determinants of fertility. The analysis in section four focused on the specific mechanisms through which the said socio-economic variables affected fertility by controlling for age at first marriage, duration of breastfeeding and contraceptive use.

In the analysis of the specific mechanisms through which female labourforce participation influences fertility, the study found that, if age at first marriage is held constant, both for migrants and non-migrants, fertility was lower among women who married later than early, and it was more so among those who married at 20 and

above. The data by employment status also showed similar evidences. Both data by work and employment status, as expected, indicated the higher fertility of migrants than non-migrants. Among the former, those of urban origin are important contributors. When duration of breastfeeding was controlled, fertility was lower among those who breastfed for shorter duration (less than 12 months), and it was more so among working ones. The data by employment status also showed similar evidences. Migrants again showed higher fertility. Controlling for contraceptive use, both data by work and employment status did not show any clear-cut and consistent pattern. Generally, use of contraceptive seem to increase fertility of users, and this was observed among migrants and non-migrants.

Regarding the specific mechanism through which education affects fertility, it was found that controlling for age at first marriage, the expected relationship was observed among women who married at a later age than early, and it was more so among migrants than non-migrants. Among the former, however, those of urban origin are important contributors. Controlling for breastfeeding durations, irrespective of their level of education, fertility of migrants and non-migrants was lower among women who breastfed for shorter durations, it was more so among non-migrants.

Regarding the relationship between ethnicity, the proximate determinants and fertility, it was found that, when age at first marriage was held constant, regardless of ethnic differences, fertility was lower among those who married later (above age 20), and the was true both among migrants and non-migrants, but more so among the former. With duration of breastfeeding controlled, fertility was lower among those who

breastfeed for shorter durations (less than 12 months), and this was more so among non-migrants (particularly among the Amara). Migrants generally tend to be important contributors of population growth in Addis Ababa. When contraceptive use was held constant, it was still not possible to discern a clear-cut pattern of influence.

Whereas the non-migrant-migrant fertility differential was virtually not in the expected direction, controlling for proximate determinants, the higher migrant than non-migrant fertility is observed. Among the former, fertility is apparently higher among those of rural origin than their urban counterparts.

Similarly, in a nutshell, it can be said that, lthough the specific mechanisms through which the three socio-economic variables considered in this study (education, labourforce participation and ethnicity) influence fertility are not known for certain, it appears that age at first marriage is an important determinant of fertility. Contraception, however, was found to be not a critical variable influencing the fertility of the population under study.

The study had generally indicated that migrants have higher fertility than non-migrants, and in general, some of the socio-economic factors seem to operate in the direction expected, however, some of the proximate determinants (like duration of breastfeeding, and contraceptive use), did not show the expected or any consistent pattern.

Regarding the use of contraceptive, unfortunately, the study did not go into whether the use was as a consequence of high fertility. The duration of breastfeeding also did not go into socio-cultural practices and taboos which may have broken down in the urban setting and thus bringing the pattern observed in spite of the known relationship. Regarding age at first marriage, it was not possible to inquire into adolescent sterility and infertility to unravel the apparent inconsistency observed.

The same information on the retrospective fertility of women was used indirectly to make inferences about the probable effect of migration on the mortality of movers and their children. It was found that, the new urban environment tends to exert a positive influence on child mortality of the migrants in so far as the estimated lifetable values in post migration period are higher than those for the pre-migration period. It is also observed that the difference between migrants who are rural and urban origin is not significant. Once the migrants have arrived in Addis Ababa, the origin of the parents does not seem to make much difference to mortality.

Generally, the study indicated that migrants have higher fertility as postulated and they constitute the greatest proportion of the population in Addis Ababa and in this sample. This coupled with the lower mortality of their children implies that their growth rate is very high and thereby contribute significantly to the growth of the city's population.

Since the stated policy of the government in it's recent report to the United Nations at the 6th inquiry is that they would like to reduce the growth rate of the population ofAddis Ababa (the primate city), it is essential that policies and programmes should be put in action to direct migration away from Addis Ababa to small town and satellite settlements.

On the other hand, although the present study has attempted to show the social and economic factors that tend to affect the fertility of women in Addis Ababa, as there are some other intermediate variables that affect fertility, further studies must attempt to determine these variables by taking reasonably large sample that may be able to determine their relative importance on fertility.

BIBLIOGRAPHY

[1] Abdulahi Hassen and R.H. Chaudhury (1986) : "The Estimate of Fertility of Addis Ababa - Revisited". Addis Ababa.

[2] Acsadi; G.I. and G.Johnson - Acsadi (1984): "Demand for Children and Spacing in Sub-Saharan Africa". Background Paper for the World Bank Seminar on Population Strategies for Sub-Saharan Africa, Revised ed., Acsadi Associates, New York.

[3] Anker, R. and J.C. Knowles (1982): "Fertility Differentials in Developing Countries: A Case Study of Kenya". New York, League, ILO.

[4] Arriaga, E. (1966): "Components of City Growth in Selected Latin American Countries". *Milbank Memorial Fund Quarterly,* Vol. 46, No. 2, Part 1.

[5] Bogue, D.J. (1969): *Principles of Demography,* New York, John Wiley and Sons.

[6] Bogue, D.J. and Philip M. Hauser (1965): "Population Distribution, Urbanism and Internal Migration". United Nations World Population Conference, Working Paper No. 473, Belgrade, Yugoslavia.

[7] Bangoarts, H. (1978): "A Framework for Analysing the Proximate Determinants of Fertility". In *Population and Development,* Vol. 4, No. 1.

[8] Caldwell, J.C. (1977):" The Economic Rationality of Demographic Transition Theory: An Investigation Illustrated with Nigerian Survey Data". *Population Studies,* Vol. 31, No. 1.

[9] _____ (1979): "Background to Fertility and Mortality in Africa: An Overview". In *Population Dynamics: Fertility and Mortality in Africa,* Monorovia, UNECA.

[10] _____ (1980): "Mass Education as a Determinant of the Timing of Fertility Decline". *Population and Development Review,* Vol. 6, No. 2.

[11] _____ (1981): "Fertility in Africa". In *Fertility Decline in Less Developed Countries,* ed. N. Eberstadt, Praeger Publisher, New York.

[12] _____ and P. Caldwell (1981): "The Functions of Child-Spacing in Traditional societies and Direction of Change". In H.J. Paga and R. Lesthaeghe, eds., *Child-spacing in Tropical Africa: Traditions and Change,* New York, Academic Press.

[13] Conterelle, P.; B. Ferry and J. Mandot (1978): "Relationship Between Fertility and Mortality in Tropical Africa". In Samuel H. Preston (1978) ed. *The Effects of Infant and Child Mortality on Fertility.* Academic Press Inc. New York.

[14] Campbell, A.A. and B. Berelson (1971): "Contraceptive Specifications: Report on a Workshop". Studies in Family Planning, Vol. 2, No. 1.

[15] Card, J.J. (1978): "The Malleability of Fertility Related Attitudes and Behaviour in a Filipino Migrant Sample". *Demography,* Vol. 15, No. 4.

[16] Cho, Lee-Jay, et.al. (1980): *Determinants of Fertility: A Preliminary Analysis Based on World Fertility Survey Data for Colombia, Indonesia, Japan, Korea and Sri Lanka.* W.F.S. Conference, London.

[17] Coale, A.J. and C. Y. Tye (1961): "The Significant of Age Pattern of Fertility in High Fertility Population". *Milbank Memorial Fund Quarterly,* Vol. 39, No. 4.

[18] Cochrane, S.H. (1979): *Fertility and Eduction: What Do We Really Know?* Baltimore: The John Hopkins University Press.

[19] Central Statistical Office (1968): *Survey of Major Towns in Ethiopia.* Addis Ababa.

[20] OPHCE (1984): *Population and Housing Census Preliminary Report,* Vol. 1, No. 1, Addis Ababa.

[21] _____ (1987): Population and Housing Census of Ethiopia, 1984: Analytical Report on Results for Addis Ababa, Vol. 1, No. 1.

[22] Central Statistical Authority (1989): Statistical Bulletin No. 72, Addis Ababa.

[23] Davis, K. and J. Blake (1956): "Social Structure and Fertility: An Analytical Framework". *Economic Development and Cultural Change,* Vol. 4.

[24] _____ (1965): "Statistical Perspective on Marriage and Divorce". In J.J. Spengler and O.B. Duncan, (eds.), *Demographic Analysis,* Glencoe, The Free Press.

[25] _____ (1965): "The Urbanization of the Human Population". Scientific American No. 213.

[26] Dow, Jr. T.E. and L.H. Werner (1981): "Family Size and Family Planning in kenya: Continuity and Change in metropolitan and Rural Attitudes". *Studies in Family Planning,* 12 (6 and 7).

[27] Ekanem, I.I., and A. Adepoju (1974): "A Survey of Migration into Warri, Bendel State, Nigeria". Mimeographed, University of Ghana.

[28] _____ (1977): "Directing Migration to medium-Sized Cities". *Ekistics,* Vol. 44.

[29] _____ (1982): "The Dynamics of Urban Growth: A Case Study of Medium Sized Towns in Nigeria". In Clarke, J.I. and L.A. Kosinski (ed.) *Redistribution of Population in Africa.*

[30] Findley, S.E. (1982): *Migration Survey Methodologies: A Review of Design Issues.* IUSSP Paper, No. 20. Liege.

[31] Golini, A. (1968): "The Influence of Migration on Fertility", Paper Presented at Working Group on Social Demography Third Meeting. University of Rome, Bressanone.

[32] Gray, R. H. (1981): " Birth Intervals, Post Partum Sexual Abstinence and Child Death". In H.J. Paga and R. Lesthaeghe eds., *Child-spacing in Tropical Africa: Traditions and Change.* New York, Academic Press.

[33] Hadgu Bariagaber (1988): "The Role of Demographic Information in Planning for Urban Growth and Development in Ethiopia". In *Proceedings of the Seminar on Development Planning and Demographic Analysis: The Case of Ethiopia,* Addis Ababa University.

[34] Hailu Belachew (1982): "Understanding of Urban Growth in Ethiopia". *CDC Research Monograph Series,* No. 11, Cairo.

[35] _____ (1983): Patterns of Migration to major Towns in Ethiopia". *CDC Research Monograph Series,* No. 12, Cairo.

[36] Jain, A.K. and J. Bongaarts (1981): "Breastfeeding Patterns, Correlated and fertility Effects: *Studies in Family Planning.* 12/3.

[37] Kazeze, Z.W. (1982): "Review of Some Determinants of Fertility in Some African and asian Countries. *CDC Research Monograph Series,* No. 10, Cairo.

[38] Kish, L. (1965): *Survey Sampling:* John Wiley and Sons Inc. New York.

[39] Lamba, K. (1984): "Nuptiality and Fertility Among Migrants and Non-Migrants in Nairobi, Kenya". *CDC Research Monograph Series,* No. 13, Cairo.

[40] Lee, B.S. (1985): "Migration and reproduction Differences Between Migrants and Non-Migrants in Dar-es-Salam City". *CDC Research Monograph Series,* Vol. 15, Cairo.

[41] Lesthaeghe, R. and H.J. Paga (1980): "The Post partum Non-Susceptible Period: Development and Application of Model Schedules" in *Population Studies,* 34 (1).

[42] _____ et.al.(1981): "Child-Spacing and Fertility in Sub-Saharan Africa: An Overview of Issues". In H.J. Paga and R. Lesthaeghe, eds., *Child-Spacing in Tropical Africa: Traditions and Change.* New York, Academic Press.

[43] Maario, C. and F. Rath (1965): "Preliminary Findings of Comparative Fertility Surveys in Three Latin American Countries:. *Milbank Memorial Fund Quarterly,* Vol. 43.

[44] Martine, George R. (1972): "Migration, Natural Increase and City Growth, the Case of Rio de Janerio". *The International Migration Review,* Special Spring Issue.

[45] _____ (11973): "Migrant Fertility Adjustment and Urban growth in Latin America" IN IUSSP Conference Proceedings, Vol. 1.

[46] Mason, K.O. and V.T. Palan (1981): "Female employment and Fertility in Peninsular Malaysia: The Maternal Role Incompatibility Hypothesis Reconsidered". *Demography,* Vol. 18, No. 4.

[47] McCarthy, J. (1982): "Differentials in Age at First Marriage". World Fertility Surveys. Comparative Studies, No. 19, Voorburg - London.

[48] McDonald, P.F., L.J. Ruzicka and J.C. Caldwell (1981): "Interrelations Between Nuptiality and Fertility: The Evidence from the World Fertility Survey". Record of Proceedings, Vol. 2.

[49] Medemu, C.C. (1985): "Migration and Reproduction Differences Between Migrants and Non-Migrants in Dar-es-Salam City:. *CDC Research Monograph Series,* No. 15, Cairo.

[50] Mitchelle, J.C. (1971): "Cultural Explanations of Fertility Differences". Journal of Biosocial Science, Supplementary, No. 3.

[51] Myers, G. (1972): "Reproductive History and Migratory Experience for Latin American Populations". Paper Presented at the Annual Meeting of the Population Association of America, Toronto, Canada.

[52] Osawa, M. (1988): "Working Mothers: Changing Patterns of Employment and Fertility in Japan". *Economic Development and Cultural Change,* Vol. 36, No. 4.

[53] Rogers, A. and G. Williamson (1982): "Migration, Urbanization and Third World Development". in *Economic Development and Cultural Change,* No. 30.

[54] Sabagn, G. and B. Yims (1980): "The relationship Between Migration and Fertility in a Historical Context: The Case of Morocco in the 1960's". In *International Migration Review,* Winter; 14(12).

[55] Shryock, H.S., I.S. Siegel and Associated (1976): *The Methods and Materials of Demography,* Academic Press, New York.

[56] Sideny and Alice Goldstein (1983): "Migration and Fertility in Peninsular Malaysia: An Analysis Using Life History Data (Sana Monica, Rand).

[57] Todaro, M. (1976): " *Internal Migration in Developing Countries,* A WEP Study, ILO, Geneva.

[58] _____ (1979): "Urbanization in Developing Nations: Trends, Prospects and Policies" . Working Paper No. 50, Population Council, New York.

[59] United Nations (1961): *The Mysore Population Study,* New York.

[60] _____ (1973): *The Determinants and Consequences of Population Trends,* Vol. 1, New York.

[61] _____ (1980): *Patterns of Urban and Rural Population Growth,* New York.

[62] _____ (1982): *World Population Trends and Policies: 1981 Monitoring Report,* Vol. 1, New York.

[63] _____ (1983): *Indirect Technique for Demographic Estimation, Manual X,* New York.

[64] _____ (1983): " Urbanization and Components of Urban and City Population growth". United Nations World Population Conference, Working Paper No. 22, Hammanet, Tunisia.

[65] _____ (1986): *Policy Relevance of the Findings of the World Fertility Survey for Developing Countries,* New York.

[66] _____ (1987): *Population Policies and Programmes: Current Status and Future Directions in ESCAP.* Asian Population Studies Series No. 84.

[67] _____ (1989): *Prospects of World Urbanization: 1988,* New York.

[68] Ware, Helen (1981): *Women, Demography and Development.* Camberra, Australia National University.

[69] World Bank (1987): Ethiopia: *Recent Economic Developments and Prospects for Recovery and Growth,* Report No. 5929-Eth.

[70] World Fertility Survey (1984): *World Fertility Survey Major Findings and Implications,* London.

[71] World Health Organization (1983): "Some Health related Aspects of Fertility". International Conference on Population, 1984. Expert Group Meeting on Fertility and Family Planning (New Delhi, 5-11 Jan., UN Paper (IESA/P/ICP.-1984/EG.I/8).

ANNEX

(QUESTIONNAIRE)

Questionnaire No._____

House hold Schedule: Form A.

A. House hold Address

Zone_____

Higher_____

Kebele_____

House No._____

Household No._____

B. Outcome of interview

Completed_____Refused_____not completed_____

If refused, or not completed, state reason_____

C. Number of women in household eligible for fertility Schedule_____

D. Number of Household members eligible for migration Schedule_____

E. Name of interviewer_____

Date of Interview_____

F. Supervised by_____

Date of Supervision_____

G. Number of Questionnaire_____

Household Record Form

Usual Residents - List all usual Residents of the household

Serial Number	Name of household member 001	Relation to head of household 002	Age 003	Sex 004	Marital Status 005	Religion 006	Place of Birth 007 Name of A. Region	Wereda	Village/Town	Litracy ability to Read & Write 008 Yes	No	Highest lev. of sch. comp. 009	Ethnic group 010	Employment Status 011	Occupation 01
01															
02															
03															
04															
05															
06															
07															
08															
09															
10															
11															
12															
13															
14															

Codes for relationship (Question 002)
1- head
2- spouse of head
3- unmarried child (in order of age)
4- married child
5- spouse of married child
6- grand child
7- father/mother/mother in-law/father in-law
8- Brother/Sister/Brother in-low/Sister in-low other relatives

Codes of marrital status(question 003)
1- Never married
2- Married
3- Widowed
4- Divorced

Codes for religion (Question 006)
1- Orthodox
2- Catholic
3- Protestant
4- Muslim
5- No relegion

Codes for employment Status (question 011)
1- Unemployed
2- Self employed
3- Wage employed
4- Employer
5- Pensioned/too old
6- House wife
7- Unpaid family worker

1. How many people are living in this household?_____

_____

2. Does the household own or rent this house?

   1. Own ☐
   2. Rent ☐
   3. Rent free ☐

3. If rented how much do you pay per month? $_____

4. How many rooms does this house have (including the kitchen)?

   1. 1-2 ☐
   2. 3-4 ☐
   3. 5-6 ☐
   4. 7 and above ☐

5. Is the house you are living in adequate for your family need?

   Yes ☐ No ☐

6. If No, What are your future plans?

   1. Applied for suitable house ☐
   2. Intend to apply for suitable house ☐
   3. Intend to build own house ☐
   4. Other (specify)_____

_____

_____

7. Does this household have

1. Pipe borne water	1. Yes ☐	2. No. ☐
2. Electricity	1. Yes ☐	2. No. ☐
3. Radio	1. Yes ☐	2. No. ☐
4. Tv. Set	1. Yes ☐	2. No. ☐

8. Does the household have or share the following?

1. Bathroom	1. Own ☐	2. Share ☐	3. None in the house ☐
2. Latrine	1. Own ☐	2. Share ☐	3. None in the house ☐

9. What is the annual income of the household (from all sources)?

   $_____

Questionaire No _____

Fertility Schedule: Form B

(Both for migrants and Natives)

A. Household Address

Zone _____

Higher _____

Kebele _____

House No. _____

Household No. _____

B. Outcome of interview

Completed ☐ Refused ☐ Not completed ☐

If refused, or not completed, state reason.

_____

_____

C. Name of interviewer _____

Date of interview _____

D. Supervised by _____

Date of supervision _____

E. Serial No. of the household member in the household Questionnaire _____

F. No. of the household Schedule (Questionnaire) _____

G. No. of Questionnaire

1. Do you live in this compound ?

   1. Yes ☐ 2. No ☐

2. If yes, have you lived in this place since you were born ?

   1. Yes ☐ 2. No ☐

3. If no, what kind of area you were living in ?

   1. Country side ☐
   2. City ☐
   3. Other urban ☐

4. If born outside, at what year did you come to this city ?

   Age ____

5. If born outside, in what year did you come to this city ?

   Year ____

6. How old were you on your last birthday ? _____

7. When (in what year) were you born ?

   Year ____ Month _____

8. How long have you lived in this city ?

   Number of years _____

Work History

(FOR EVER MARRIED WOMEN ONLY)

9. Are you currently working for a wage or salary ?

   1. Yes ☐ 2. No ☐

10. If no, have you ever worked for a wage or salary since the day when you were first married ?

    1. Yes ☐ 2. No. ☐

11. If no, why ? _____

_____

_____

12. I would like to ask some questions about (your present work, the last work you did). What (is, was) your occupation - that is, what kind of work (do, did) you do? (OBTAIN DETAILED DESCRIPTIONS OF MAIN WORK)

_____

_____

_____

13. (Do, did) you work mostly at home or (do, did) you work mostly away from home in that job?

1. Home ☐ 2. Away ☐

3. Other (specify) _____

_____

_____

14. (Are, were) you employed by some member of your family or by someone else ?

1. Family member ☐ 2. Someone else ☐

15. What kind of job (are, were) you doing ?

_____

16. How many days in a week (do, did) you work?

_____

17. How many hours (did, do) you work in a day ? _____

18. What (is, was) your monthly income ? _____

19. If you (have, had) children below age 10, who takes care of them when you go to work ?

1. Domestic Assistant ☐

2. Relative in the house ☐

3. Neighbours/Friends ☐

4. Other (specify) _____

_____

_____

Marriage History

20. Are you now single, married, widowed, divorced or separeted ?

1. Single ☐
2. Married ☐
3. Widowed ☐
4. Divorced ☐
5. Separated ☐

21. Have you been married more than once ?

1. Yes ☐ 2. No ☐

23. If married more than once, for each marriage complete the following form.

No. of marriage	Date of marriage		Age at marriage	Type of marriage		Date marriage ended	Reason marriage ended		
	Month	Year	Completed years	M	P	Year	Wid.	Div.	Sep.
First marriage									
Second marriage									
Third marriage									
Fourth marriage									

24. When were you first married ? _____

25. How old were you on your first marriage ? _____

26. Please, can you tell me if you ever had a live born child in all your life ?

1. Yes ☐ 2. No. ☐

27. Among the children you have given birth to how many live with you ?

_____

27.1 How many of them are sons ? _____

27.2 How many of them are doughters ? _____

28. How many of the children you have given birth to do not live with you ? _____

28.1 How many of them are sons ? _____

28.2 How many of them are doughters? _____

29. What is the age of the children you have given birth to who are living with you:

	Age (years)
1.	_____
2.	_____
3.	_____
4.	_____
5.	_____
6.	_____
7.	_____

30. Do you have children you have given birth to who are not living with you ?

1. Yes ☐ 2. No ☐

31. What is the age of the children you have given birth to who are not living with you ?

1.	_____
2.	_____

3. _____
4. _____
5. _____
6. _____
7. _____

32. Have any of your children died ?

1. Yes ☐ 2. No ☐

33. If yes, how many of your children have died ? _____

1. Boys _____
2. Girls _____
3. Total _____

34. What was the age of these children when they died ?

Boys

1. _____
2. _____
3. _____
4. _____
5. _____

Girls

1. _____
2. _____
3. _____
4. _____
5. _____

35. Did you have a baby in the last 12 months ?

1. Yes ☐ 2. No ☐

36. If yes, is this baby still alive ?

1. Yes ☐ 2. No ☐

37. What is the sex of this child ?

1. Male ☐ 2. Female ☐

38. Are you now pregnant ?

1. Yes ☐ 2. No ☐

39. If yes, would you prefer to have, a boy or a girl ?

1. Boy ☐ 2. Girl ☐

40. How old is your present husband ? _____ (years)

41. What is the occupation of your present husband:

1. Unemployed ☐
2. Selfemployed ☐
3. Wage employed ☐
4. Pension ☐
5. Other (specify) _____

(for question 42-44 ask for migrant female only)

42. When did you arrive in this town ? _____

42.1 Age at arrival _____

43. How many children were born alive by you before you left your place of birth ? _____

43.1 How many of them were sons ? _____

43.2 How many of them were girls ? _____

44. How many of the children born alive by you before you left your place of birth are dead ? _____

44.1 How many of them were sons ? _____

44.2 How many of them were girls ? _____

45. Interval (in months) between

1. marriage and 1st birth _____
2. 1st and 2nd birth _____
3. 2nd and 3rd birth _____
4. 3rd and 4th birth _____
5. 4th and 5th birth _____
6. 5th and 6th birth _____

46. Births at a given duration of marriage

Duration of marriage (years)	No of births
1. Under 1 year	_____
2. 1- 5	_____
3. 10-14	_____
4. 15-19	_____
5. 20-24	_____
6. 25-29	_____
7. 30-34	_____
8. 35+	_____

Contraceptive Knowledge and Use

47. As you may know, there are various methods that women or men can use to delay or avoid pregnancy. Do you know of, or have heard of one of these ways or methods ?

1. Yes ☐ 2. No ☐

48. If yes, which method do you know of, or have heard of ?

I/Folk methods

1. Coitus interruptus ☐
2. Douche ☐
3. Prolonged lactation ☐
4. By abstaining from sex ☐

II/Traditional methods

5. Condom ☐
6. Diaphragm ☐
7. Spermicides ☐
8. Rhythem ☐

III/Modern methods

9. Oral contraceptive ☐
10. IUD ☐
11. Monthly (or longer) injection ☐

IV/ Permanent method

12. Sterilization of male ☐
13. Sterilization of female ☐

V/Current methods

14. Abortion ☐

49. Have you (and your husband) ever used any of these methods?

1. Yes ☐ 2. No ☐

50. If yes to Que.48, which method did you (and your husband) use ?

I/Folk method

1. Coitus interruptus ☐
2. Douche ☐
3. Prolonged lactation ☐
4. By abstaining from sex ☐

II/Traditional methods

5. Condom ☐
6. Diaphragm ☐
7. Spermicides ☐
8. Rhythem ☐

III/Modern methods

9. Oral contraceptive ☐
10. IUD ☐
11. Monthly (or longer) injection ☐

IV/Permanent method

12. Sterilization of male ☐
13. Sterilization of female ☐

V/Current method

14. Abortion ☐

51. If no, to Q. 48 why ?

_____

_____

_____

Birth interval and fertility preferences

52. Last pregnancy ended in

1. Live birth ☐
2. Non-live birth ☐

53. (If answer to question 52 is live birth), did you breast-feed this child ?

1. Yes ☐ 2. No ☐

54. For how many months all together did you breast-feed him (her)

_____ months

1. Still breast feeding ☐

2. Until he (she) died ☐

55. How many months old was the child when you began giving him/her any other food along with breast-feeding:

_____ months

1. No additional food yet ☐

2. Child died before given additional food ☐

56. For how many months after the birth of the child did you go without sexual relation ?

_____ months

1. Not started yet ☐

57. How many months after the birth of the child did your period come back ?

_____ months

1. Period not back yet ☐

58. (Ask only those women whose last pregnancy ended in non-life birth), For how many months after the end of this pregnancy did you go without sexual relation ?

_____ months

1. Not yet started ☐

59. How many months after the end of this pregnancy did your period come back ?

_____ months

1. Period not back yet ☐

60. Are you or your husband currently using a method to keep you from getting pregnant ?

1. Yes ☐ 2. No ☐

61. If yes, what method are you using ?

_____ (method)

_____

62. Since your last birth /pregnancy/, was there any time when your husband was away from home working or looking for work for three months or more ?

1. Yes ☐ 2. No ☐

63. If yes, how long after, the end of your last live birth /pregnancy/ did the first such separation begin ?

_____ years and _____ months

64. Do you or your husband intend to use a method to keep you from getting pregnant in the future ?

1. Yes ☐ 2. No ☐

65. If no, why ? _____

66. How many children should a family like you should have ?

_____

67. Why ? _____

_____

_____

KAI /as

Declaration

This Thesis is my original work and has not been presented for a degree in any other University.

Kederalah Idris Beshir

Declaration

I, the undersigned, declare that this Thesis is my work and that all sources of material used for the Thesis have been duly acknowledged.

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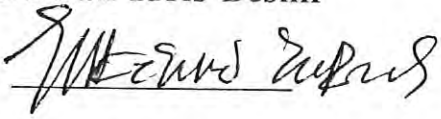
Signature: 

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