

## **Fertility Analysis of the Amhara National Regional State: Analytical Report\***

### **Abstract**

*This report provides an overview of current fertility in the Amhara Region of Ethiopia based on data from the 2000 Ethiopia Demographic Health Survey (DHS). Fertility remains high in the Amhara Region with a total fertility rate (TFR) of 5.94 children per woman, but shows signs of decline, especially in urban areas where the TFR is 3.25. In addition to the large gap in rural-urban fertility, differences in fertility among educational and religious groups are also significant.*

### **Background**

The Amhara National Regional State is one of the Federal Regional States of Ethiopia. It consists of ten zones and the special zone Bahir Dar, the regional capital city. The region has 106 weredas (districts) and 208 towns. The rural areas of the region are divided into 4,980 farmers associations (the lowest administrative unit in the countryside), and the urban areas are divided into 337 kebeles (the lowest administrative unit in urban areas). The current estimated population of the Amhara region is 17,015,000 [4]. About 91 percent of the population lives in rural areas and 9 percent in urban areas [1]. Amharas are the largest ethnic group in the region (91.2%), and Orthodox Christianity is the dominant faith (81.4%) followed by Islam (18.4%) [1].

The region is experiencing high population growth and a relatively low standard of living with major socioeconomic problems such as low adult literacy, high infant and child mortality, high unmet need for contraceptive services (41%), and the widespread practice of female genital cutting (80%) and early marriage [2].

### **Data Source and Analysis**

The 2000 Ethiopia Demographic and Health Survey provides detailed data on births and reproductive health that is representative at the regional and national level. The national sample contains information for 15,367 women of whom 1,909 or 12 percent were interviewed in the Amhara region. The results presented in this report are based on weighted data using sample weights provided with the DHS data set.

Fertility levels are described using measures of current and lifetime fertility. Measures of current fertility include age-specific fertility rates (ASFRs)<sup>1</sup>, total fertility rate (TFR), and the general fertility rate (GFR). The ASFRs indicate the number of live births per woman during a given age. Age-specific fertility rates may be calculated using births in the last 12 months, the last three years, or the last five years. In this report we use births in the last five years so that our measures of current fertility are less sensitive to temporary fluctuations in fertility that sometimes occur in

response to specific political, economic, or climatic events. The TFR is the sum of the age-specific fertility rates across the ages 15-49. It indicates the number of live births that a woman would have if she experienced the current age-specific fertility rates across her reproductive years. The GFR is defined as the annual number of births per 1,000 women age 15-49.

The TFR for the region is 5.90 children per woman, which is lower than the adjusted TFR of 6.67 reported by the 1994 Population and Housing Census [4].

Table 1.

Age	Woman-years lived 5 years before survey	Births in the last 5 years	ASFR
15-19	8,350	1,258	0.15
20-24	7,052	1,772	0.25
25-29	5,679	1,471	0.26
30-34	5,023	1,227	0.24
35-39	4,568	762	0.16
40-44	3,804	398	0.10
45-49	1,782	22	0.01
TFR = 5.90			
GFR = 191			

**Lifetime Fertility**

The level of lifetime fertility is based on information about the total number of children ever born. The mean number of children ever born (CEB) for women in a given age group measures the cumulative fertility experience of a cohort of

women. Table 2 presents the observed distribution of children ever born for five-year age groups and the mean CEB.

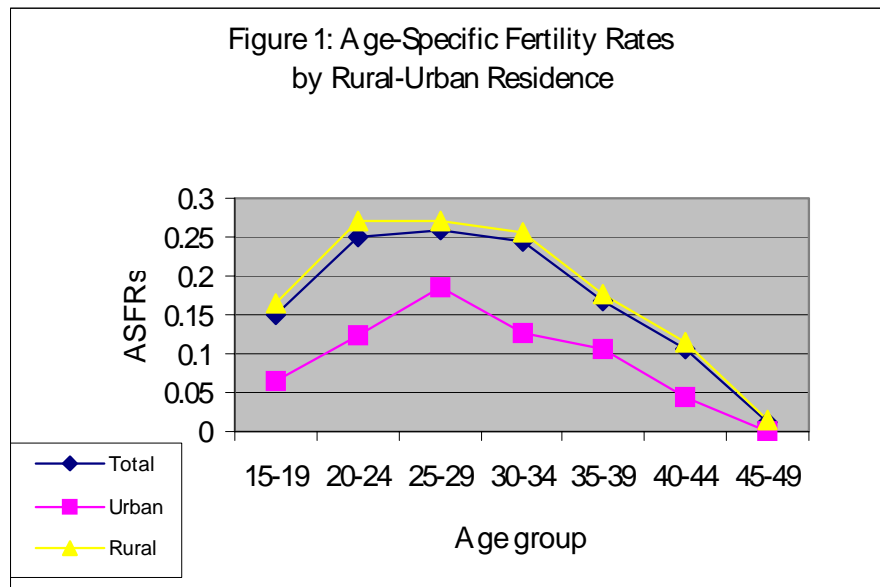
Women age 20-24 in the Amhara region have an average of 1.47 children, and women age 25-29 have an average of close to three. The mean numbers of children ever born for women age 40-44 and 45-49 are 6.82 and 7.03 respectively, which are both significantly higher than the TFR of 5.90. This significant difference in fertility measures indicates that the current fertility rates are lower than the fertility rates experienced by the older cohorts of women during their lifetimes.

**Fertility Rates in Rural-Urban Areas**

Fertility levels differ significantly in the Amhara region by place of residence and background characteristics. Figure 1 presents age-specific fertility rates for women in rural and urban areas. At young ages (15-24), women living in urban areas have substantially lower fertility than women living in rural areas. This difference is primarily due to the later age at marriage of women in urban areas, which is discussed later in the report. Urban fertility rates come closest to rural rates at age 25-29 when many women are married; however, they still remain significantly lower than rural rates. At age 30-34 the difference between rural and urban fertility is again substantial. Whereas the fertility of women in rural areas shows no signs of decline as women enter into their 30s, the fertility of women in urban areas declines sharply. This decline is consistent with the use of contraceptives in urban areas to limit births.

Table 2. Percent Distribution of Women by Number of Children Ever Born, and Mean Number of Children Ever Born by Five-year Age Groups, Amhara Region, 2000.

Age	Number of Children Ever born									Mean CEB
	0	1	2	3	4	5	6	7+	100.0	
15-19	78.6	17.2	3.7	0.5	0.0	0.0	0.0	0.0	100.0	0.26
20-24	25.1	27.8	27.3	15.3	4.2	0.0	0.3	0.0	100.0	1.47
25-29	7.5	10.8	19.6	27.6	18.5	9.8	4.0	2.2	100.0	2.96
30-34	4.1	4.5	8.4	11.4	15.0	18.4	17.0	21.2	100.0	4.68
35-39	5.8	3.0	5.0	8.0	7.6	14.6	19.4	36.6	100.0	5.52
40-44	2.3	2.9	1.7	4.0	5.5	12.7	10.7	60.2	100.0	6.82
45-49	3.2	3.2	4.8	2.7	4.0	8.6	10.2	63.3	100.0	7.03
<b>Total</b>	<b>24.0</b>	<b>11.7</b>	<b>11.0</b>	<b>10.4</b>	<b>7.6</b>	<b>7.9</b>	<b>7.4</b>	<b>20.0</b>	<b>100.0</b>	



The significant rural-urban differences in age-specific fertility rates produce large differences in total fertility. The urban TFR is 3.25 children per woman compared to 6.33 in rural areas (see Table 3). The difference in lifetime fertility between women living in urban and rural places, however, is more modest. Women age 45-49 living in urban places have a mean of 5.88 children ever born compared to 7.21 for women living in rural places.

The much greater difference between the current and lifetime fertility of women in urban areas compared to women living in rural areas suggests that fertility is declining much more in urban areas than in rural areas. It is important to note that the mean number of children ever born for women living in urban areas reflects the rural fertility experience of rural-urban migrant women and therefore is an inflated measure of lifetime urban fertility.

Table 3. Total Fertility Rate and Mean Number of Children Ever Born by Place of Residence, Education, Religion, and Current Work Status, Amhara Region, 2000

Background Characteristics	TFR	Mean CEB, Women 45-49
<b>Residence</b>		
Urban	3.25	5.88
Rural	6.33	7.21
<b>Education</b>		
No education	6.20	7.04
At least Primary	3.98	5.00
<b>Religion</b>		
Orthodox Christian	6.03	7.26
Muslim	5.60	6.16
<b>Current Work Status</b>		
Not Working	5.72	6.81
Working	6.07	7.13
<b>Total</b>	<b>5.94</b>	<b>7.03</b>

**Education, Religion, and Fertility**

One of the most consistent findings in fertility studies is an inverse relationship between education and fertility. Fertility in the Amhara region is consistent with this pattern. The TFR of women with no education is 2.22 children greater than that for women with at least some primary schooling, and the mean number of children ever born is greater by two children.

Religious differences in fertility are also significant, but not as large as educational differences. Current and lifetime fertility is higher among Orthodox Christian women than among Muslim women. The TFR for Orthodox women is 6.03 compared to 5.60 for Muslim women, and the mean number of children ever born is 7.26 compared to 6.16. These differences in fertility reflect differences in cultural practices as well as socioeconomic differences.

**Work Status and Fertility**

In general, studies find that employment is associated with lower fertility; however, among women in the Amhara region this relationship does not appear to hold true. Women who currently work do not have lower current fertility or lifetime fertility. This finding is likely related to the predominantly rural composition of the Amhara population and the weak association between work and fertility in rural areas.

**Age at Marriage and Fertility**

Age at marriage and first birth are important determinants of the number of children that women will have. Early marriage and the onset of childbearing at young ages are strongly associated with high completed fertility. Table 4 presents the mean age at first marriage and first birth for women in the Amhara region by place of residence and level of education. Because entry into marriage traditionally marks the start of sexual activity among women in Ethiopia, age at marriage is closely associated with age at first birth. Rural women in the Amhara region on average marry at very young ages. The mean age at marriage is 14.0. Women in urban areas on average marry later than women in rural areas. However, the mean age at marriage of 15.4 is still very young. A first birth on average comes 3-4 years after entry into marriage. Mean age at first birth is 18.8 in urban areas and 18.1 in rural areas. The means are based only on women who have married (88.0%) or had a first birth (76.0%) by the time of the survey. Women who have not experienced these events are not included, and therefore the means are biased downwards. The bias, however, is likely to be small given that the large majority of women had married or had a first birth by the time of the survey.

As expected, women with no education marry and have a first birth at younger ages than women with some education, although the difference in mean age at first birth are relatively small. The mean age at marriage for women with no education is 14.0 compared to 15.2 for women with some education, and the mean age at first birth is 18.2 compared to 18.6.

Table 4. Mean Age at First Marriage and First Birth, Amhara Region, 2000

Background Characteristics	First Marriage	First Birth
<b>Residence</b>		
Urban	15.41	18.80
Rural	14.04	18.13
<b>Education</b>		
No education	14.04	18.15
At least Primary	15.19	18.59
<b>Total</b>	<b>14.17</b>	<b>18.20</b>

Note: Means are calculated for women who have experienced each event, 88.0 percent of women who have ever married, and 76.0 percent of women who have had a first birth.

**Summary**

The fertility information from the DHS for the Amhara Regional State shows the persistence of high fertility, but with evidence of decline. Fertility differentials are greatest between rural and urban places. Education is also important, but the effects of education on fertility appear to occur at older ages when women are stopping fertility. The mean age at first birth for women with no education and women with at least some primary education is not substantially different.

**References**

1. Central Statistical Authority of Ethiopia (1999). *The 1994 Population and Housing Census of Ethiopia: Results at Country level; Vol. II, Analytical report.*
2. Central Statistical Authority of Ethiopia (2000). *Ethiopian Demographic and Health Survey.* Addis Ababa
3. Ethiopian Federal Democratic Republic Government (1997c) *Health and Health Related Indicators.* Ministry of Health, Planning and Project Department, Addis Ababa.
4. Central Statistical Authority of Ethiopia (1999). *The 1994 Population and Housing Census of Ethiopia: Results for Amhara Region; Vol. II, Analytical report.*

**Footnotes**

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<sup>1</sup> The numerators of ASFRs are calculated by adding the number of live births that occurred in the period 1-60 months preceding the survey (determined by the date of interview and the date of birth of the child) and classifying them by five-year age groups of the mother at the time of birth (determined by the mother's birth date). The denominators of the rates are the number of woman-years lived in each of the five-year age groups during the 1-60 months preceding the survey.

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The *Partnership in Improving Reproductive Health Background Reports* present findings from work in progress on the dimensions and determinants of fertility and reproductive health in Ethiopia. This work is being conducted by faculty and advanced graduate students at the following institutions:

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