Ethiopian Demography

Excerpts from the topics listed in the content page of this online resource

Objectives

This is an online equivalent of a "reader". Single lines to whole paragraphs of text are quoted/copied (with acknowledgement), as needed, to provide a clydescope of materials and view points on Ethiopia's population and health. Much of the analysis is mine however, as are most of the tables, graphs, and all but one of the population density maps. The source codes below graphs and tables refer to the sources of the raw data used. Topics are divided into sections, and are presented as a single file.

I was a young graduate assistant in the Demographic Training and Research Center (DTRC) when this work began - a couple of decades ago. I remember my frustrations as a young aspiring teacher over inability to access data or up-to-date analytical reports on Ethiopian population for the 'Ethiopian population' chapter of AAU's "Introduction to Ethiopian geography" course. I decided to do something about it then and came-up with a summary chapter addition on the population of Ethiopia, and distributed copies to the staff of the geography department.

Twenty years later, I am engaged in the same endeavor but with a 21st century bent. The same subject matter is addressed here with greater detail and a promise of regular changes and constant updates reflecting the latest additions to the knowledge of Ethiopian population - its distribution, composition, and dynamics – and health. Aynalem Adugna.



Total Population, CSA . July 2008 79,221,000

39,691 Males and 39,530 Females

65,996,000 live in rural areas and 13,225,000 (16.7%) live in urban areas **Caution is called-for when interpreting** these numbers, as they are just estimates. The validity of these estimates has been decreasing since the mid-1990s because the numbers above are projections based on the 1994 **Population and Housing Census of** Ethiopia.

It should also be noted that the 1994 census was itself not able to achieve a 100% canvassing of the whole country **Reference:** Central Statistical Agency of Ethiopia, The 2007 National statistics, http://www.csa.gov.et/text_files/2006_national_stati stics.htm

Population Distribution

80% of the country's population inhabits only 37% of the total land area, mostly in the highlands.

Altitude plays a major role

"About 10% of the population lives ... at an altitude of over 2,600 meters above sea level, 39.2% lives between 2,200 meters and 2,600 meters above sea level, 28% between 1,800 meters and 22,200 meters above sea level... The lowlands are very sparsely populated mainly because of malaria and other vector borne diseases."





Much of the Ethiopian population lives in the highlands

Densities are very low in the "Kolla" areas (low elevations below 1500 meters)

Factors responsible for this pattern include, climate, soil, physiography, and history

➢ There has been an ongoing resettlement of highland populations in the lower elevations of western and southwestern Ethiopia.

Population History

Population size at the start of the 20th century was 12 million.

It reached 24 million (double) in 1960.

Accelerated growth from 1960 to present.

It then "....increased by more than two and a half times its 1960 size reaching 63.5 million in 2000".

Now the second largest population in Africa, after Nigeria.

Projected to reach 106 million in 2020.

References: Charles H. Teller., Tesfayi Gebreselassie, and Assefa Hailemariam. The lagging demographic and health transitions in rural Ethiopia: Socio-economic, agroecological and health service factors effecting fertility, mortality and nutrition trends. Paper presented at Session 104, Population growth and poverty linkages in Africa, Fifth African Population Conference, Union of African Population Studies (UAPS), Arusha, Tanzania, 10-14 December, 2007

Helmut Kloos, Assefa Hailemariam and Aynalem Adugna. *Population.* in Yemane Berhane, Damen Hailemar iam and Helmut Kloos. Eds. The Epidemiology and Ecology of Health and Disease in Ethiopia. Shama Books. Addis Ababa. 2006.

Regional distribution

Population size of the 11 Administrative Regions (July 2008)

Tigray	4,565,000	SNNP	15,745,000
Afar	1,499,000	Gambella	259,000
Amhara	20,136,000	Harari	209,000
Oromiya	28,067,000	Addis Ababa	3,147,000
Somali	4,560,000	Dire Dawa	428,000
		Benishang G.	656,000



Percentage Distribution by Region, 2006



Oromiya has the largest population size, and Amhara is second

➢Of the primarily rural regions, Gambella has by far the lowest.

>Of the primarily urban regions, Addis Ababa has the largest population (4% of the country's total)

➢ Even though SNNPR ranks third on total population count population densities here are among the highest in the country exceeding five hundred persons per square kilometers in a number of Weredas (see the density map above).

Age Distribution (2008)

Α	ge group	% Age group %	6	
0-4	15.9	35-39	5.4	
5-9	14.4	40-44	4.3	
10-14	12.4	45-49	3.4	
15-19	10.3	50-54	2.8	
20-24	9.4	55-59	2.2	
25-29	8.1	60-64	1.7	
30-34	6.7	65+	2.8	
	Percen	t below Age 15	=	42.8



Ethiopia has a very young age structure with more than two in five of its citizens below age 15

➤ This points to a huge growth potential down the road, or even an explosive growth if unchecked, due to the built-in momentum.

The momentum is evidenced by the very high percentages of women in the various reproductive age groups, or soon to be in the reproductive age groups.

➢Less than three percent of the population is in the 65+ age category reflecting the very young age structure as well as high fertility and mortality in the past, which now is keeping the age pyramid very wide at the bottom and tapering quickly toward advanced ages.

Demographic Indicators

Total number of births per year: 3,168,840 Crude Birth Rate : 40 Number of births per day: 8682

Total number of deaths per year: 1,188,315 Crude Death Rate: 15

Net population increase per year: 1,980,525

FERTILITY INDICATORS

Demographic and Health Survey 2000, 2005

Reference: Ethiopia Demographic and Health Survey 2005 Central Statistical Agency, Addis Ababa, Ethiopia , RC Macro, Calverton, Maryland, USA, September 2006

Age -specific fertility rate (per 1000 women) by age group

→ Urban → Rural





> Ethiopia's age-specific fertility rate is typical of a third world nation with early onset in reproduction, and a continued high fertility regime all the way to age 40.

> Age specific rates peak at about age 30

➢ There is a sharp contrast between urban and rural agespecific rates with the later showing about half as many births to an individual woman as in rural Ethiopia. The almost two-to-one age-specific fertility gap is very large, and rarely seen in other countries of Sub-Saharan Africa.

➢ It is difficult to generalize, however, that this national picture would be duplicated at regional levels with similarly large gaps in fertility levels between urban and rural populations.

Rural Age-Specific Fertility is Higher				
than Urban Fertility by a Factor of:				
Age Group	Factor			
15-19	3.5			
20-24	2.5			
25-29	2.0			
30-34	2.5			
35-39	3.0			
40-44	3.4			
45-49	2.7			



➢ The age-specific fertility rates in rural Ethiopia are higher by a factor of 2.5 to 3.5 than rural age-specific rates.

➤The highest difference is in the youngest reproductive age group, 15-19

➢ Future surveys will show whether the fertility gap between urban and rural Ethiopia is widening or shrinking, and the reasons behind such changes.

Total Fertility Rate – TFR

Urban:2.4No education6.1Rural:6.0Secondary & above2.0

General Fertility Rate - GFR Urban: 77 Rural: 200

TFR by Region (2005)

Tigray	5.1
Afar	4.9
Amhara	5.1
Oromiya	6.2
Somali	6.0

SNNP	5.6
Gambella	4.0
Harari	3.8
Addis Ababa	1.4
Benisha. G.	5.2
Dire Dawa	3.6



➢ The highest average number of children born to an individual Ethiopian woman was recorded in Oromiya (6.2 births per woman), and the lowest in Addis Ababa (1.4 births per woman)

➢ Given the harsh physical environment, scarce resources, and socio-economic as well as political difficulties, the second place position for the Somali region (6 births per woman) is difficult to understand. More thorough fertility studies can shed light on underlying factors placing an up-ward pressure on fertility in the region.

>Overall, the numbers mark a decline in fertility in Ethiopia in recent years, with the national average TFR (total number of children born to a woman) now estimated to be 5.4

Fertility Trends by age group of women and number of years before the 2005 DHS

→ 0 - 4 Years → 4 - 9 Years → 10 - 14 Years





➢ The gap between the green line and the blue line represent the amount of fertility decline among the five-year age cohort of women in Ethiopia in the 15 years preceding the 2005 Demographic and Health Survey.

➤The good news for those advocating restraints in population growth in Ethiopia (myself included) is that fertility rates are on a decline in ALL age groups from young to old.

➢ It is especially reassuring to note the decline among the beginner cohort (age 15 − 19). It appears that the reproductive engine of the youngest age group of Ethiopian females is not putting out as much power (as measured in terms of numbers of births) as that of the 15-19-year-olds before them. Same goes for the next higher age groups.

Reductions in Fertility in the 20 years preceding the 2005 Demographic and Health Survey (DHS)

The Largest fertility decline took place among women in the 15-19 age group

Reductions in fertility among women in the 15 – 19 age group : 70.6% Reductions in fertility among women in the 20 – 24 age group: 28.5% Reductions in fertility among women in the 25 – 29 age group: 22.0% Reductions in fertility among women in the 30 – 34 age group: 20.1%

"....fertility has fallen by more than one child during the past few decades, from 6.9 children per woman to 5.4. Fertility has declined in both rural and urban areas, in all regions, at all educational levels, and for all wealth quintiles."

Percentage of Women Aged 45-49 in the 2005 DHS, by Number of Children Ever born





Childlessness – whether biological or by choice – is very low in Ethiopia; less than 2% of Ethiopian women who have completed their reproduction or were about to do so at the time of the survey, reported themselves as childless.

➢ Three-quarters of Ethiopian women aged 45-50 at the time of the survey have had 6 or more births, confirming the high fertility history of the country's demographic past.

Almost a quarter of the women have had an astonishingly high double-digit number of births – ten or more.

Since the projected trend (based on current ASFR) suggests a completed TFR of 5.4 for 100% of the women now starting their reproductive life, the current percentage with less than 6 births (only 20%) also shows just how high fertility has been in the past.

Teenage pregnancy and childbirth

Percentage of teenagers, by age, who are already mothers, or about to be mothers





Pregnancy and child-birth starts very early in Ethiopia

➢ Two in five nineteen-year-olds have already given birth to at least one child, or were about to do so at the time of the 2005 Demographic and Health Survey (see reference above)

"Seventeen percent of women age 15-19 have already become mothers or are currently pregnant with their first child...Nearly three times as many teenagers residing in rural areas as in urban areas have begun childbearing. Childbearing among teenagers is lowest in Addis Ababa (4 percent) and highest in the Gambela Region (31 percent). The level of teenage parenthood among teenagers with no education is nearly three times that among teenagers with primary education, while it is nearly ten times that of teenagers with secondary and higher education. The percentage of teenagers who have begun childbearing is three times higher among those in the poorest households (24 percent) compared with those in the wealthiest households (8 percent)."
Family Planning DHS 2005

Knowledge of family planning

Percentage of all women who know any contraceptive method, by specific method, 2005





Injectables and the pill are the most widely used birth control methods in Ethiopia.

➢More than four in five women who used any modern method used these two methods (each)

➢At 46% the condom is the third most widely used method of birth control in the country.

Currently married

men are more than twice as likely to recognize the condom as a method of family planning as currently married women (84 percent versus 41 percent). The mean number of methods known is a rough indicator of the breadth of knowledge of family planning methods. Using this same measure we note that contraceptive knowledge is highest among sexually active unmarried men (5.6 methods) and women (4.7 methods) than married couples.

Overall, knowledge of contraception has remained high in Ethiopia over the past five years. "

Use of Family Planning Services

Percentage of all women, and currently married women who have ever used any contraceptive method, by age group, 2005





➤The low percentage of women in the 45 – 49 age group using any method of contraception reflects the recency of the adoption of the techniques by the 15% or so Ethiopian women who are now using birth control methods.

➤ The picture is somewhat gloomy still, in that the percentages for the youngest adopters – those in the 20 – 24 age group – is not significantly higher, or not higher at all, than that for the next age group. It is not even higher than the percentage for the "oldest" adopters – those in the 40-44 age group.

➤ The low rate in the youngest age group (15-19) is a reflection partly of the lack of need in this age group because most are not married, and therefore, not engaging in sexual activities. It may also be an indication that the unmarried in this age group who are sexually active are not practicing contraception at all, or if they did, they are not telling interviewers about their sexual activities or contraceptive use due to social taboos

"....there are marked differences in the contraceptive prevalence rate among currently married women by background characteristics. Contraceptive use is associated with the number of living children a woman has; it is highest among currently married women with one or two children (17 percent) and lowest among women with no children (12 percent). As expected, contraceptive prevalence is more than four times higher in urban than in rural areas (47 percent versus 11 percent). There is also substantial variation in current use by region. Current use is highest in Addis Ababa (57 percent) and lowest in the Somali Region (3 percent). Urbanized areas like Dire Dawa and Harari also have much higher levels of current use (34 percent each) than the other regions."

Among women, "...use of contraceptive methods tripled in the 15-year period between the 1990 [national family and fertility survey] NFFS and the 2005 EDHS from 5 percent to 15 percent. The increase is especially marked for modern methods in the five years between 2000 and 2005. This increase is attributed primarily to the rapid rise in the use of injectables from 3 percent in 2000 to 10 percent in 2005."

CONTRACEPTIVE USE AMONG MEN

"19 percent of currently married men have used a male method of contraception at some time. Men have been more likely to use a traditional method, particularly rhythm (14 percent), than a modern method. Five percent of currently married men have used a condom at some time. Ever use of any method among currently married men rises from 14 percent among the youngest men to a peak of 23 percent among men 25-29 and then falls steadily to a low of 10 percent among those in the oldest cohort"

Regional Differences in Contraceptive Use

Percentage of women currently practicing contraception (any method) by region and by urban rural residence, 2005





➤ The adoption of family planning in urban Ethiopia has gained momentum in recent years. This is reflected by the 46.7% adoption rate. The rate in rural Ethiopia is a dismal 10% but a significant improvement from the late 1980s when it was one to two percent. .

➢Of they primarily rural regions, Tigray has the highest contraceptive prevalence (16.5%) followed by Amhara (16.1%). Somali has the lowest rate (3.1%).

➢ Given that they are urban places, it seems that the cities of Dire Dawa and Harari are performing far below their potential, and need to step-up the education efforts as well as provide easy access to contraception.





➢ As is the case elsewhere in Africa, Asia, and Latin America, the educational level of the individual Ethiopian woman is the single most important determinant of contraceptive use in Ethiopia. Just completing a primary school provides a two-to-one advantage to an individual woman in terms of wanting to use contraception, seeking information about contraceptives, knowing where to go to access contraceptive services, and eventual use, when compared to a woman with no education.

Completing a high school provides a five-to-one advantage as measure by differences in percentage prevalence.

>Wealth is also a very important determinant. The rate for women in the highest wealth quintile is about seven times as that for women in the lowest wealth quintile.

Contraceptive Discontinuation "...four in ten [women] contraceptive users discontinue using a method within 12 months of starting its use. About 10 percent of users discontinued to become pregnant and 12 percent switched to other methods. Just 1 percent of users stopped as a result of method failure,

suggesting that this is not a major problem in Ethiopia. The discontinuation rate is highest among pill users (61 percent) and lowest among users of injectables (32 percent).

Desire for More Children

Percentage of Women who do not want to have any more Children by Number of Living Children, 2005





➢ Half of the women Ethiopian women who have had <u>4 births</u> want more children. The other half don't.

➢ More than a quarter of Ethiopian women who have had 6 births expressed a desire for more children.

➤A relatively high percentage (for a traditional society) wanted to remain childless – 8.5%

The percentage of currently married men who want to stop childbearing is lower than the percentage among women in all regions except Addis Ababa and Dire Dawa. The male-female difference in the desire to limit childbearing is especially pronounced in Gambela where only 24 percent of currently married men want to stop childbearing compared with 44 percent of women. Women and men living in the Somali **Region are least likely to want to limit** childbearing (10 percent and 4 percent, respectively).

Percentage of Women Who Have <u>4 Living Children</u>, and Still Would Like to Have More Children, by Region , 2005





➢ As indicated above half of Ethiopian women with 4 children want more. The other half don't. However, there is a strong spatial component . The fifty-fifty split (national level) fails to hold at regional levels. For example, over 90% of Somali women who have had 4 births want more – 70% in Tigray, 66.4% in Afar, 61.4% in SNNPR.

➢ Expectedly the lowest proportion (29.6%) of women with 4 children who want no more is in Addis Ababa followed by the other primarily urban region of Dire Dawa (37.5%).

Mean Ideal Number of Children, Women and Men, by Region, 2005



Women Men



To fully understand the unbelievably high numbers of desired children expressed by Afar and Somali women requires a very thorough investigation of the perceived benefits of having 10 or more children. Are they seeking "strength in numbers" to fend off perceived (current or future) enemies? Is it to insure survival of enough number of children given the forbidding nature of the Afar and Somali lands? This would make an excellent topic for a PhD thesis.

"The percentage of currently married women who want no more children decreases from 43 percent among women with no education to 37 percent among women with secondary and higher education. In contrast, the percentage of currently married men who want no more children increases from 33 percent among men with no education to 46 percent among men with secondary and higher education."

Mean Ideal Number of Children, Women and Men, by Urban-Rural Residence, Education and Wealth, 2005

Women Men





Mean ideal numbers of children is higher among males than females in all categories considered.

➢This is not surprising, however.
Men don't give birth.

Proximate Determinants of Fertility Marriage

Percentage of Married Women, and Men, by Age Group, 2005





> A quarter of Ethiopian girls and young women marry before completing their "teen" years.

Close to two-thirds marry before reaching age 25.

➢ Men's proportions in the "married" group do not takes off until the age group 25-29. Most likely, men in this age group are marrying the women in the 20-24 age group, or those in the 15-19 age group (a ten year age gap).

➢ The percentage of women reporting themselves as "married" goes down after the age group 30-34 as divorce and separation rates spike, and some women, especially those married to much older males, become widows

"There has been little change over the past five years in the proportions of **Ethiopian women and men who have** never married, who are married, who are living together, or who are widowed. However, the proportion divorced among both women and men has nearly doubled, and there has been a substantial decline in the proportion separated."

Polygyny

Percentage of Women whose Husbands have at least one other Wife, by Age group and Urban-Rural Residence , 2005





Husbands begin to take second or third wives at appreciable rates when the first wife reaches age 30.

➢ Sociological studies can reveal whether this is done partly at the urging of the first wife, who may have 5 or more children by now, to lessen the crushing burden of child-rearing, carring for the entire family, and farming duties.

There is a significant urban-rural difference in polygyny.

"Polygyny (the practice of having more than one wife) has implications for the frequency of exposure to sexual activity and therefore fertility. ...12 percent of married women in Ethiopia are in polygynous unions. Seven percent say they have only one co-wife, while 5 percent say they have 2 or more co-wives. The percentage of women in polygynous unions tends to increase with age, from 4 percent among women age 15-19 to 17 percent among women age 45-49. Rural women are more likely to be in polygynous unions (13 percent) than urban women (7 percent)."

Polygyny Percentage of Women whose Husbands have at least one other Wife, by **Region**, 2005





More than a quarter of husbands in Gambella have two or more wives; more than a fifth in Afar. The Amhara region is the most monogamous region in Ethiopia. However, given the reported high divorce rates in the region, one is tempted to ask whether or not this is a case of serial monogamy whereby couples marry, divorce or separate, marry another, divorce again...e.t.c

"There is an inverse relationship between education and polygyny. The proportion of currently married women in a polygynous union decreases from 13 percent among women with no education to 3 percent among women with some secondary or higher education. Substantial differences are observed in the prevalence of polygyny among women in different wealth guintiles. Women in the lowest wealth quintile are twice as likely to be in a polygynous union as women in the highest wealth quintile."

Percentage of Women who Married at <u>age 15</u> by Current Age





➤ The age at marriage has been increasing sharply in Ethiopia as shown by the precipitous decline in the percentage of women marrying at age 15 from the older cohorts (40- 44 and 45-49) to the younger cohort (25-29), and even more sharply among the youngest cohorts (20-24 and 15-19)

"In Ethiopia, marriage marks the point in a woman's life when childbearing becomes socially acceptable.... Marriage occurs relatively early in Ethiopia. Among women age 25-49, 66 percent married by age 18 and 79 percent married by age 20. The median age at first marriage among women age 25-49 is 16.1 years."
Infant and Child Mortality

Demographic and Health Survey, DHS 2005

"One of the targets of the millennium development goal is a two-third reduction in infant and child mortality by 2015, to be achieved through upgrading the proportion of births attended by skilled health personnel, increasing immunization against the six vaccine preventable diseases, and upgrading the status of women through education and enhancing their participation in the labour force."

National Trends in Neonatal, Infant, and Under-five Mortality Rates 0-4, 5-9 and 10-14 Years Before the 2005 DHS



"....50 percent of infant deaths in Ethiopia occur during the first month of life. A similar pattern was observed in the 2000 EDHS. The infant mortality rate in the five years preceding the survey is 77 and under-five mortality is 123 deaths per 1,000 live births for the same period. This means that one in every thirteen **Ethiopian children dies before reaching** age one, while one in every eight does not survive to the fifth birthday."

National Childhood Mortality Differentials by Mothers' Education, Wealth, and Urban-Rural Residence, 2005



As expected, mother's education is inversely related to a child's risk of dying. Under-five mortality among children born to mothers with no education (139 per 1,000 live births) is more than twice that of children born to mothers with secondary and higher level of education (54 per 1,000 live hirthe) The honoficial offect of

National Childhood Mortality Differentials by Mothers' Age at Birth, and Birth Order, 2005



'As expected, the relationship between maternal age at birth and childhood mortality is generally U-shaped, being relatively higher among children born to mothers under age 20 and over age 40 than among mothers in the middle age groups. This pattern is especially obvious in the case of infant and under-five mortality. In general, first births and births of order 7 and higher also suffer significantly higher rates of mortality than births of orders 2 through 6."

National Childhood Mortality Differentials by the Child's Sex and Previous Birth Interval (*excluding first-order births*), 2005



Neonatal, Infant, and Under-five Mortality Rates by Region, 2005



"...infant and child survival is influenced by the socioeconomic characteristics of mothers. Mortality in urban areas is consistently lower than in rural areas. The urban-rural difference is even more pronounced in the case of child mortality. Wide regional differentials in infant and under-five mortality are observed. For example, under-five mortality ranges from a low of 72 per 1,000 live births in Addis Ababa to a high of 157 per 1,000 live births in **Benishangul-Gumuz. Under-five mortality is** also relatively higher in Amhara and Gambela."

Percentage of Women who received Antenatal Care from Professional Health Care Services, by Region, 2005



"There are large differences in the use of antenatal care services between urban and rural women. In urban areas, health professionals provide antenatal care for 69 percent of mothers, whereas they provide care for only 24 percent of mothers in rural areas. It is important to note that three in four mothers in rural areas, receive no antenatal care at all. Regional differences in the source of antenatal care are quite significant; 88 percent of mothers in Addis Ababa received antenatal care from a health professional, compared with less than one in ten mothers in the Somali Region."