

The lagging demographic and health transitions in rural Ethiopia: Socio-economic, agro-ecological and health service factors effecting fertility, mortality and nutrition trends.

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1. PURPOSE AND BACKGROUND

This paper documents the pace and nature of the lagging demographic transition in Ethiopia, the second largest country in Sub-Saharan Africa at 75 million, and where population growth rate is still around 2.7%. With over 85% of the population living in rural and often isolated areas, the main concern at the turn of the century had been the lack of strong entry into the demographic transition, given the background of famine, hunger, poverty, epidemic disease, war and instability. It had translated into rapid population growth, densely settled agricultural heartlands, relatively modest urbanization, very high fertility and maternal and child mortality, and chronic and acute malnutrition. In fact, the implementation of the 1993 National Population was assessed after 10 years to having been weakly implemented (Hailemariam, 2003).

The results of the 2005 Ethiopian DHS have just become available for analysis in Spring of 2007 (CSA/Macro, 2006), and can be compared with the EDHS of 2000 (and even with the NFHS, 1990). There appear to be two main paradoxes in rural areas from a comparison of the 2000 and 2005 surveys:

- 1- A near tripling of modern CPR (from 4 to 11%), but no decline in the rural total fertility rate, at 6.0; thus, combined with lowering mortality, contributes to maintaining the high population growth rate.
- 2- An unexpected steep decline in under-five mortality (from 166 to 123) in the 5 years prior to each of the two surveys, at the same time the declining but still high chronic stunting (from 52 to 47%) and the very high critical level of acute wasting (steady at 11%).

The paper briefly describes the demographic history of the 20th century, one of steadily rising annual population growth rates until 1990, and also the more recent increase in very high population-arable land densities in the environmentally stressed highlands.

Another important dimension of the lagging transition is not only the large rural-urban gap in fertility, mortality and malnutrition, but also those related to social, economic, cultural and environmental inequality: where have these widened, and where they have narrowed (Teller et al, 2007). This paper analyzes many of the associated factors of these trends.

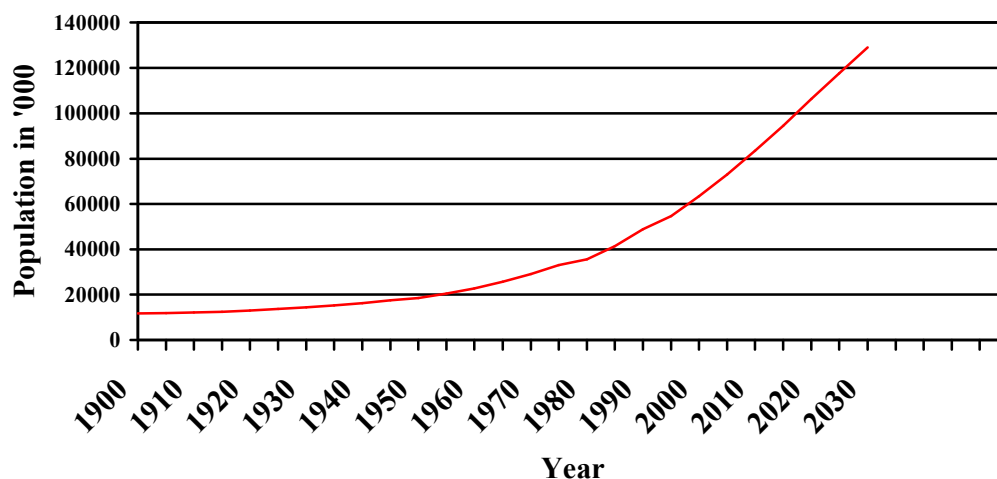
Given these recent data, it is likely that most of the related Millenium Development goals 1990-2015 are not on track and will not be met by the year 2015 (UNICEF, 2007). However, these and other data analyses suggest policy and program implications, and needed research and evaluation, that could accelerate the progress towards those goals.

2. POPULATION SIZE, GROWTH, AND DISTRIBUTION

2.1 Population size and Growth

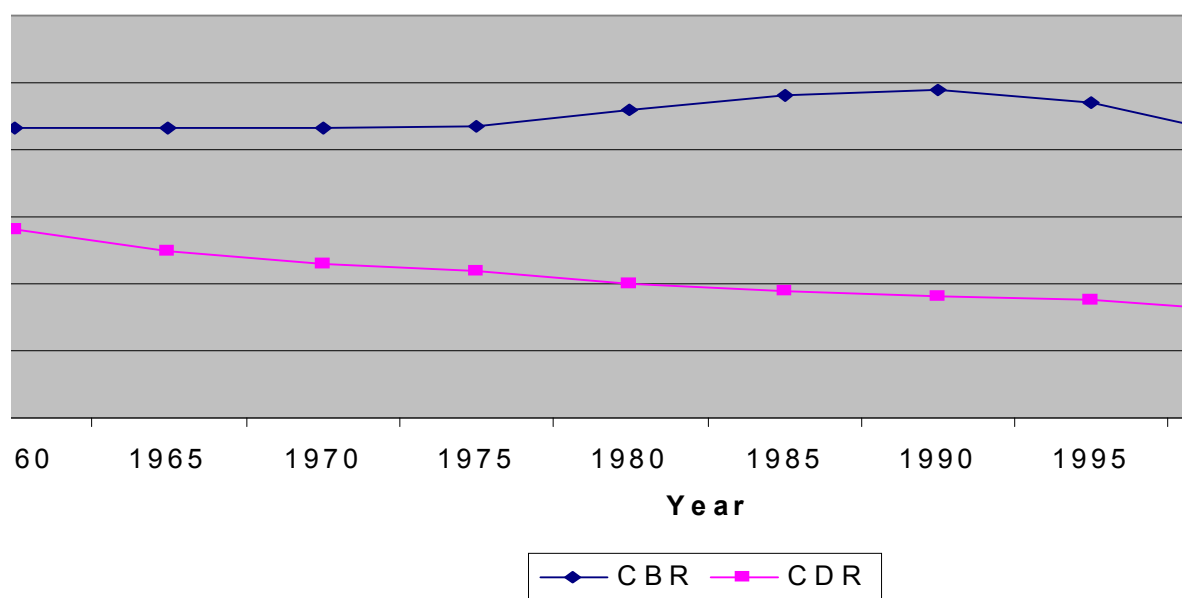
Absence of accurate time series of population data limits the estimation of past growth rate of the population. Although figures on the size of the population started appearing as early as mid-nineteenth century, these were based on guesses made by travellers and visitors (Hailemariam, 1990). Moreover, these figures did not include the most densely populated southern and south western regions. Consequently, until about mid 1960s, no population data existed for the whole country. In 1964/65 the first national sample survey was conducted by the then Central Statistical Office (now CSA) and since then various sample surveys were undertaken that provided estimates of population data for the country. However, these data had their own limitations and they permit only a crude approximation of the actual size of the Ethiopian population. Figure 1 depicts the pattern of Ethiopia's population growth since the turn of the 20th Century. Thus, the population data are estimates obtained on the basis of the reconstruction made by the CSA using the 1984 Census data.

Figure 1: Trends in Population Growth: 1900-2030



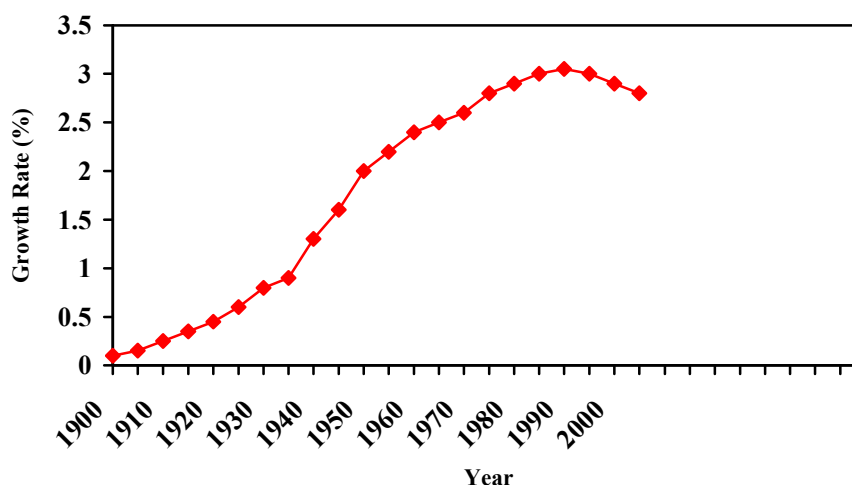
This shows that from the dawn of the human race to the turn of the 20th century, the population of Ethiopia grew to a total of only 12 million people. In only 60 years, however, it increased by about another 12 million and reached 24 million in 1960. It has grown even faster since then with greatest gains occurring since the 1980s. High mortality owing to disease and famine have been implicated to past low growth rates (Galperin, 1981). The decline in mortality due to diseases (Malaria, small pox, etc) has been responsible for the rapid growth of the population since the 1960s as recent famines have caused less mortality than earlier ones. Increasing fertility due to reduced incidence of STIs, reduction in adult mortality leading to longer life in union and no or little fertility control also contributed to the recent rapid population growth. Birth rates have been increasing beginning from about 1975 until about 1995 while death rates have been moderately declining during the same period (Figure 2).

Figure 2: Trends in CBR and CDR: 1960-2005



The rate of population growth increased from about 2.2% in the 1960s to a peak of 3% in the late 1980s and early 1990s (Figure 3).

Figure 3: Rate of Population Growth: 1900-2000.



Consequently, the population increased by more than two and a half times its 1960 size reaching 63.5 million in 2000. According to CSA's medium variant projection, in mid 2005, Ethiopia had an estimated population of 73 million. This puts the country as the second most populous country next to Nigeria in Sub-Saharan Africa. Each year an estimated 2 million persons are added and according to the CSA medium variant projection, Ethiopia will have 83.5 million persons in 2010 and 106 million in 2020 and 129 million in 2030 (CSA, 1999).

Although the growth rate appears to have begun a downward trend from mid 1990s, the speed of the decline is very slow and even by 2020 the rate of growth of the population is unlikely to be any lower than 1.3% per year (UN, 2002). The youthful age structure generated by high fertility levels guarantees a continuing future rapid population growth.

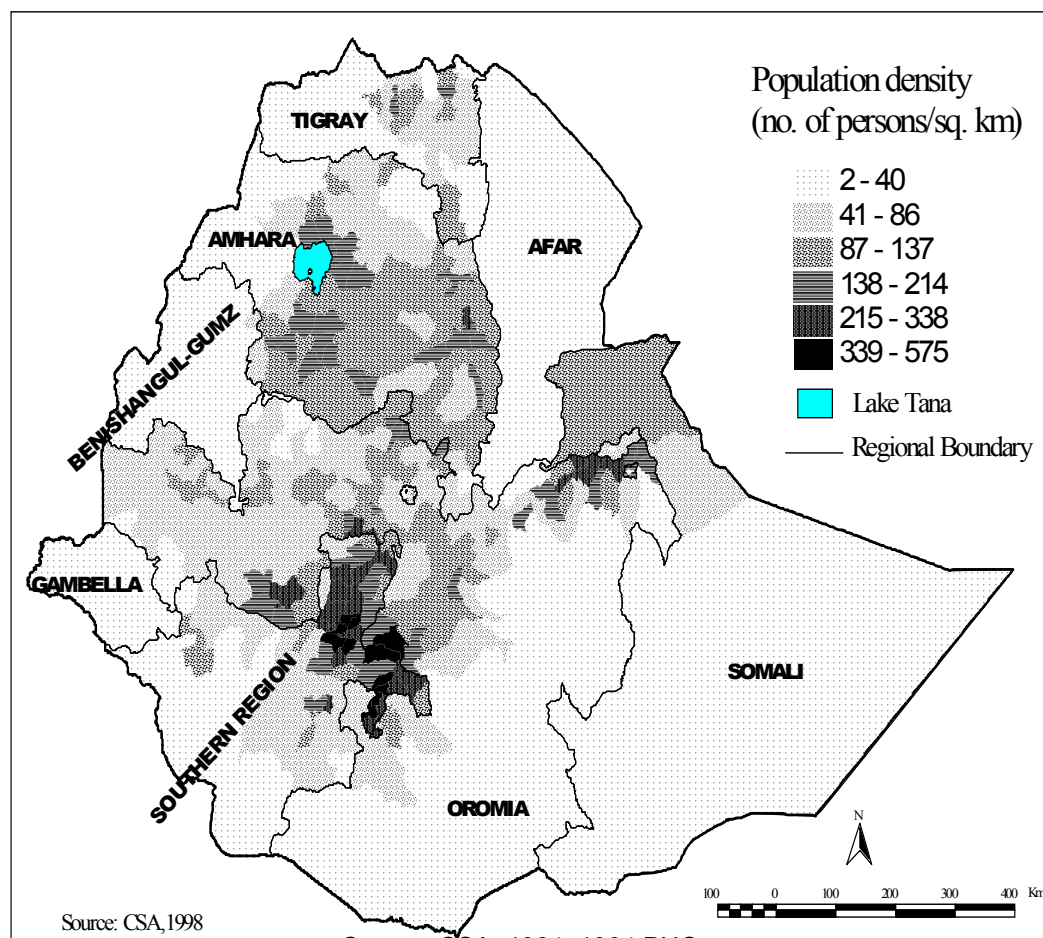
2.2. Population Distribution

The Ethiopian population has traditionally been highly concentrated in the highlands. About 10% of the population lives at the extreme cold zone, 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 2,200 meters above sea level.

The lowlands are very sparsely populated mainly because of malaria and other vector borne diseases. For instance, the vast lowland areas bordering the Sudan in the West, Kenya and Somalia in the South and Southeast and Djibouti in the East are inhabited by less than a quarter (22.5%) of the population. About 12% of the population lives between 1,400 and 1,800 meters above sea level, while 8.2% lives between 1,000 and 1,400 meters above sea level (on about 32% of the total area of the country). Less than 3% of the population lives below 1000 meters; which is 22% of the total area of the country.

Consequently, population density also varies substantially with altitude. The highest population density prevails in the *Enset* Belt which covers Gurage, Hadiya, Kambata and Wolayta Zones of SNNPR. Population density in the *Enset* Belt ranges from about 340 persons per km² to about 575 persons per km². There are pocket areas such as Damot Gale in Welaita zone where population density exceeds 600 persons per km². In the lowland areas bordering Sudan, Kenya and Somalia, population density varies from 2 persons to 40 persons per km² (See Density Map of Ethiopia, fig. 1).

This shows that nearly 80% of the population lives on only 37% of the total area of the country, while the remaining 20% lives on 63% of the country's land area. It also shows that nearly 80% of the population lives on only 37% of the total area of the country, while the remaining 20% lives on 63% of the country's land area.



Source: CSA, 1984, 1994 PHC
Fig. 1. Population density, by *woreda* 1994

Population density by arable land presented in Table 1 for selected Woredas in SNNPR, Oromia and Amhara also show a high population concentration per km² of arable land. Moreover, it increased substantially between 1984 and 2000. Grawa Woreda in Oromia, for example, had 571 persons per km² in 1984, 578 in 1994 and 606 in 2000, an increase of 6% between 1984 and 1994 and 4% between 1994 and 2000. Badewach and Lemo Woredas recorded highest increases in number of persons per km² of arable land, 38% each between 1984 and 2000.

Table 1: Population Density per KM of arable land; 1984-2000

Woreda	Population Density		
	1984	1994	c.2000
Badewacho	270	318	372
Lemo	236	278	325
Grawa	571	578	606
Fedis	421	427	478
Sekotta	-	244	280

Source: DPPC/SERA woreda profiles, 2001 (author's own calculations)

Urbanization

Compared to other countries in Africa, Ethiopia is the least urbanized. A small proportion (15%) of Ethiopia's population lives in urban areas (CSA, 2002). The rate of urban growth is estimated at about 5% per year. Small size settlements and the dominance of a single primate city, the national capital, as the main administrative, economic and financial center accounting for nearly 40% of the total urban population, characterize urban centers in Ethiopia. However, number of localities is increasing rapidly. In 1984, there were about 320 localities with a population of 2,000 or more but within ten years, it increased by two-third and reached 530 in 1994. In spite of the low level of urbanization, inadequate housing resulting in homelessness overcrowded living arrangements, poor sanitation and shortage of health and educational services and employment opportunities are common features of most urban centers in Ethiopia.

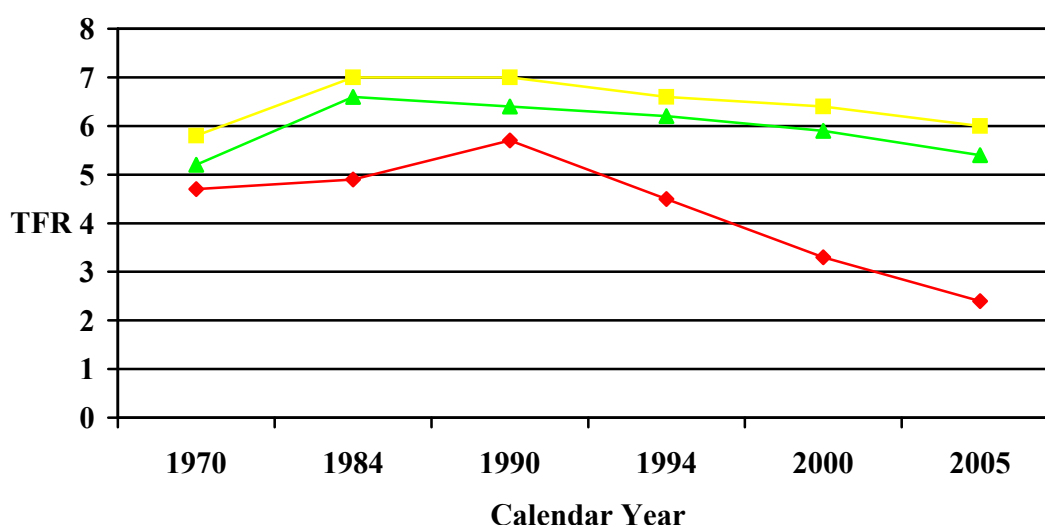
It is expected that the rapid increase in the country's population combined with the decentralized administrative arrangement is likely to lead to rapid urbanization: According to CSA's medium variant projection, by 2020, one out of every five Ethiopians will be living in urban areas and by 2030, half of the country's population will be living in urban centers (CSA, 1999).

2.3 Trends in Fertility and Mortality

2.3.1 Fertility Trends

The main feature of fertility in Ethiopia is that it has been at its highest levels at the end of the twentieth century. It increased between the 1970s and early 1990s from about 5.2 children per woman in 1970 to 6.4¹ in 1990. Since then, however, it has begun a moderate decline, mostly in urban areas (Figure 6). It declined from 6.4 children per woman in 1990 (not including rural Tigray) to 5.5 children per woman in 2000. According the 2005 EDHS, TFR was 5.4 children per woman in 2005. This shows that in the last 15 years, since 1990, TFR declined by only one child per woman.

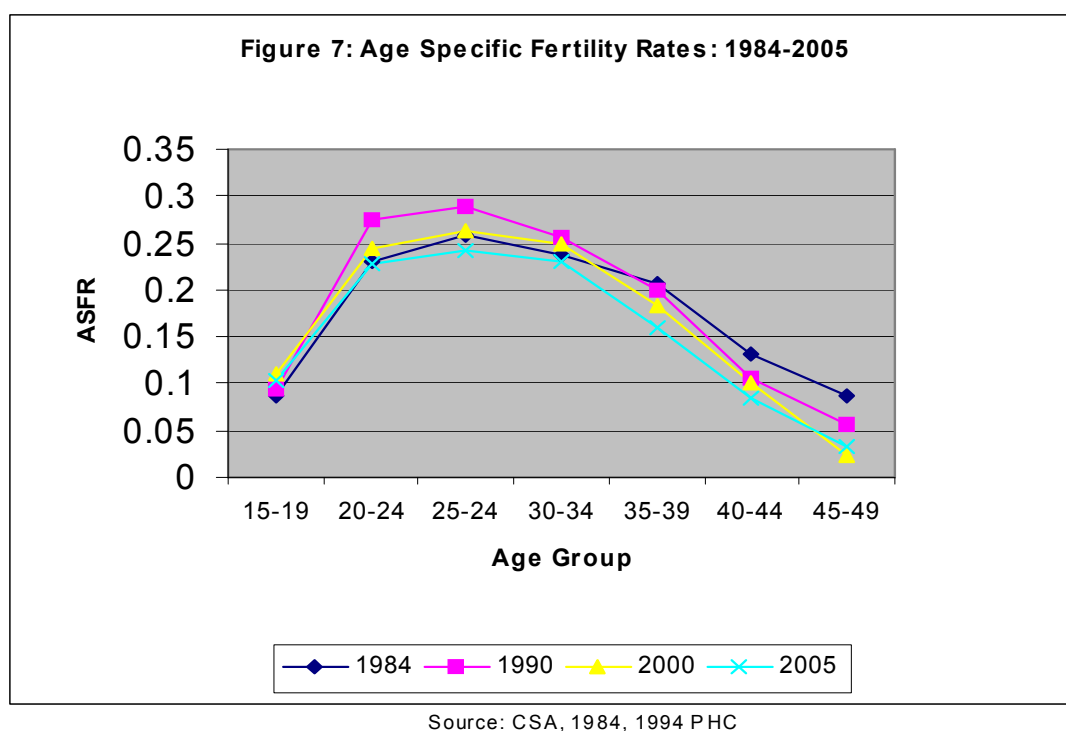
Figure 6: Total Fertility Rates: 1970 - 2005



¹ This is reported TFR not adjusted TFR. The adjusted TFR is much higher.

Urban fertility has been much lower than rural fertility but it also increased between 1970 and 1990. Since then, however, it has been declining sharply. As Figure 6 shows, the gap in urban and rural fertility has been increasing since 1994.

Figure 7 presents the age specific fertility rates since 1970. The figure demonstrates that the population is characterized by a broadly peaked age pattern of fertility that falls slowly with advancing age. This is a characteristic of populations where there is little parity specific fertility control. The figure also confirms that fertility has been increasing in the 1980s and early 1990s with higher age specific fertility rates in these years.



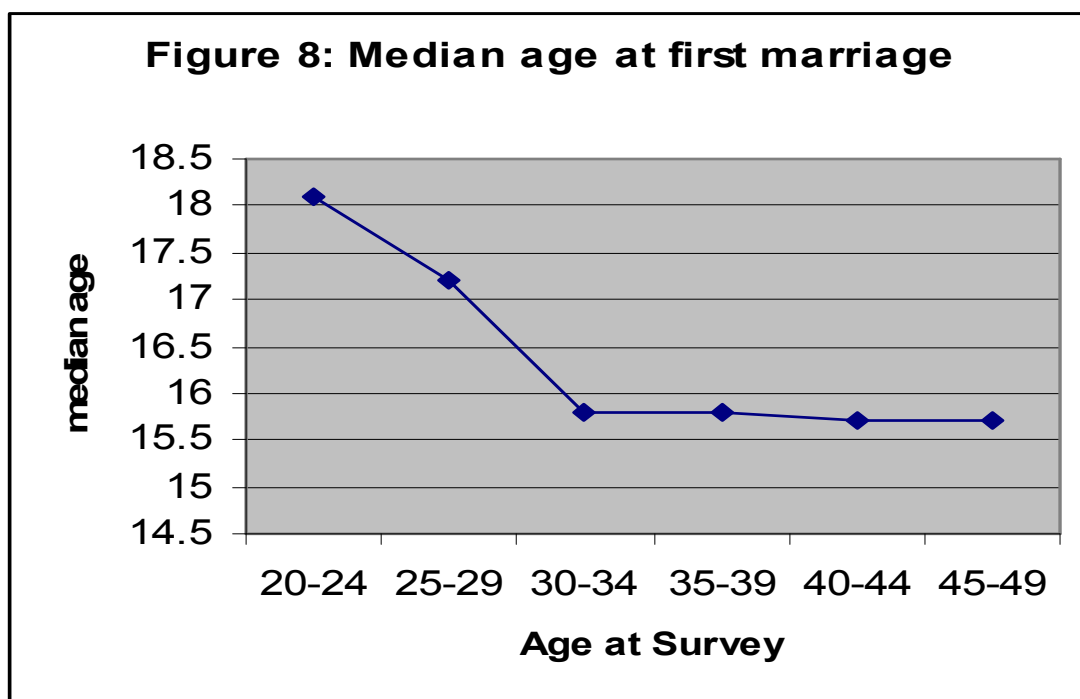
From the above discussion, it can be concluded that fertility was low in the distant past, increased in the late 1980s and early 1990s and the most recent trends are of the declining type but still high in the rural areas.

The apparent upward trend is a phenomenon observed in many developing countries before they began their fertility transition and is associated with decline in the level of primary and secondary sterility due to the treatment of STD, in particular, gonorrhea and the reduction in the incidence of widowhood, which led to longer periods of married life among spouses. The shortened period of the duration of breast-feeding because of the increasing introduction of bottle-feeding might also have contributed to the rise in fertility by shortening the duration of post-partum amenorrhea. Urban fertility has been declining since 1990 suggesting an earlier start of fertility transition in urban Ethiopia, while rural fertility has been lagging behind. Early and universal marriage², the high social

² The mean age at first marriage is less than 18 years and nearly all women are married before they reach age 35.

and economic value attached to children, the low level of infertility³, the depressed status of women and the extremely low contraceptive prevalence⁴, among others, may explain the high reproductive performance in the population. The recent decline may be due to an increase in the age at first marriage, decline in the proportion of married women and increasing use of modern contraception.

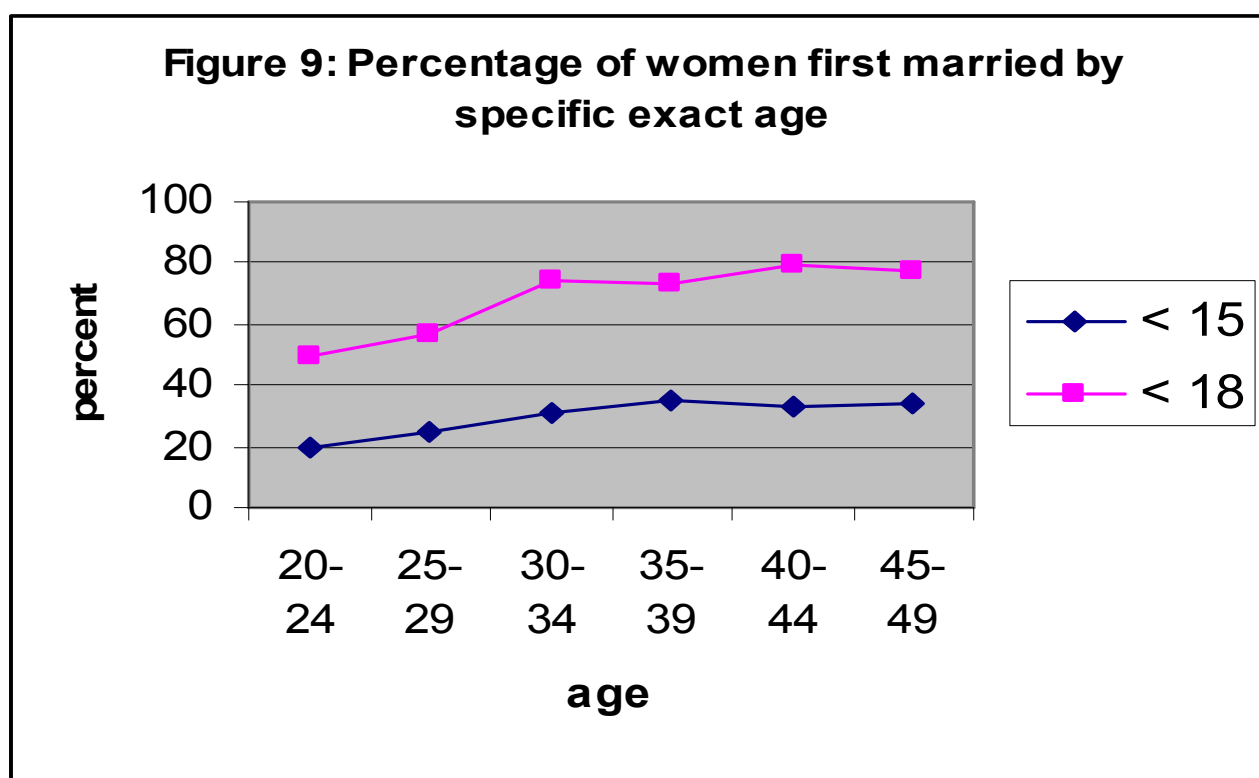
The median age at first marriage increased slowly over the last two decades from 15.7 years for women age 45-49 to 17.2 years for women age 25-29 and 18.1 years for the younger cohorts (age 20-24) (Figure 8). The proportion of women who married before age 15 has also considerably decreased during the last two decades. More than a third of ever married women aged 45-49 were married by age 15. This declined to less than 20% among the younger cohort (20-24) and close to 80% of those aged 45-49 were married by age 18 but this declined to less than 50% among the younger cohort (Figure 9). There is an inverse relationship between age at first marriage and fertility in populations where little or no fertility control is practiced and childbearing outside wedlock is uncommon. The earlier marriage takes place, the higher the fertility and vice versa.



Source: CSA and ORC Macro, 2001

³ Infertility is much lower in Ethiopia compared to other countries in Africa.

⁴ Only 4% of currently married non-pregnant women aged 15-49 reported as users of contraceptives in 1990.



Source: CSA and ORC Macro, 2001

The proportion of women of reproductive age in marriage declined from 72% in 1990 to 63% in 2000. According to the 2005 DHS, it was 63.4%. Increasing female education in the recent past is likely to have contributed for this change in pattern of marriage in Ethiopia. Use of modern contraception increased from less than 5% in 1990 to 8% in 2000 and to about 15% in 2005 (CSA/ORCMacro, 2006). However, method mix has not improved. There is a heavy reliance on temporary methods only. Less than a percent of women were on permanent or long term methods and the majority of the users were on temporary methods (Table 3).

Table 3: Contraceptive Method Mix: 2000 – 2005.

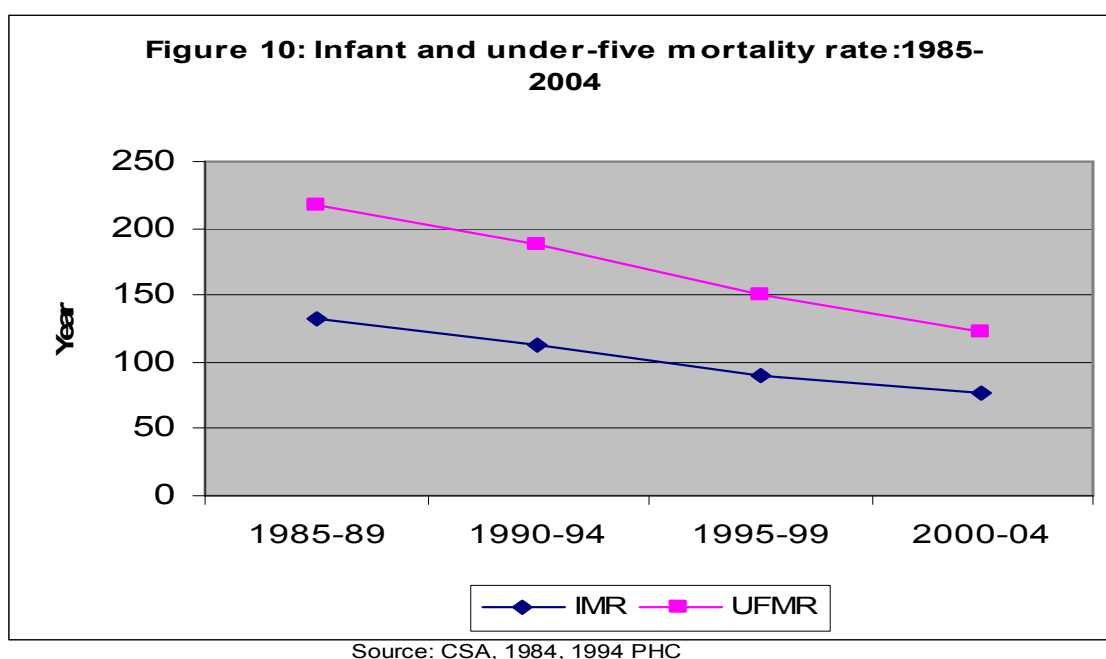
Method	2000	2005
Any modern	6.3	13.9
Female sterilization	0.1	0.2
Male sterilization	0.3	0.2
Pill	2.5	3.1
IUD	0.1	0.2
Injectable	3.1	9.9
Implant	0.0	0.2
traditional	1.7	0.8

Sources, CSA/DHS, 2001, 2006

The high fertility in the past was mainly due to early age at marriage and absence of the means for fertility control. Moreover, as children are psychologically, socially and economically valuable in the society, there has been a strong desire for more children. This is changing as children are becoming more and more expensive (their economic value is declining with more and more children going to school than ever before (gross enrolment in primary schools was 61% in 2000/01 and 79% in 2004/05) (MOFED 2005) and with increasing population, farm size is dwindling sharply and the need for farm labor is falling). Also the decline in infant and child mortality ensures the survival of most children to adulthood. Thus, there is some indication that fertility transition that started long ago in urban areas is being extended to rural areas as well.

2.4.2 Mortality

Mortality levels declined in the population during the last two decades, with the greatest decline between 2000 and 2005. Mortality indices such as infant mortality rate and life expectancy at birth shown in Table 5 reveal a pattern of mortality decline. Infant mortality rate declined from 153 deaths per 1000 live births in 1970 to 110 in 1984 (CSA, 1991; OPHCC, 1991) and further declined to 106 in 1990 (CSA, 1993). In 2000, it was 97 per 1000 and in 2005, declined to 77(EDHS, 2000)



Life expectancy at birth increased from about 44 years in 1970 to about 52 years in 1994 but has recently begun to decline because of the HIV/AIDS pandemic⁵. Life expectancy has declined to 45 years in 2001 (World Resources, 2002). Estimates of HIV prevalence in Ethiopia from the 2005 DHS show that about 1.4% of the adult population 15-49 are infected with the virus (CSA/Macro, 2006).

⁵ About 6% of the adult population is infected with HIV in 2002 (MOHJ 2003).

HIV/AIDS has had some impact on the level of mortality in Ethiopia. Nevertheless, it is very unlikely that it will overcome the momentum of population growth. However, AIDS will not stop population growth or lead it to negative growth rate as many people think. This is because the current growth rate is high, contraceptive prevalence is low and HIV/AIDS prevalence has declined and is likely stabilized

To sum up, from what has been presented so far, there is convincing evidence that fertility, the driving force behind population growth has begun its downward trend, particularly in urban areas. However, a key determinant of the speed at which it will continue falling is the extent to which couples use or fail to use contraception to control the number and spacing of their children. More than half of currently married women who were not using any family planning method at the time of the survey say they intend to use a method in the future.

3. DATA AND METHODS FOR IN-DEPTH ANALYSIS

3.1 Preconditions for the fertility transition

Four essential preconditions for deliberate family limitation in SSA were listed by the Economic Commission for Africa: (UN/ECA, 2002)

- 1- Conscious choice- Psycho-cultural change related to increased child survival and to female education (secondary school)
- 2- Advantageous to kinships: relating increased costs of children for future employment, desired family size
- 3- Later age of marriage (related to urbanization and cultural change)
- 4- Effective, available, accessible contraceptive methods and support services

3.2 Data Sources and Methods

- Data come from the 2000 and 2005 Ethiopia Demographic and Health Surveys (CSA/DHS, 2001, 2006)
- Bivariate (distributions) and Multivariate Analyses
- Odds ratios from logistic regressions are reported (within 95% confidence intervals); green shaded area highlight important finding

3.3 Lagging fertility decline in light of increased CPR

3.3.1 Methods

This analysis looks at the use of modern contraceptive methods by currently married women from the 2000 and 2005 EDHSs. We include the following selected social, economic, and demographic characteristics in the analysis:

- Place of residence (Addis- 4 million, Other Towns, Rural-below 2,000)
- Woman's education (No education, Primary, Secondary+)
- Age group (15-19, 20-24, 25-29, 30-34, 35-39, 40-44, 45-49)
- Employment Status (Work for cash, Not working)
- No. of living children (0, 1-2, 3-4, 5+)
- Partner's education (No education, Primary, Secondary+)
- Wealth status (5 quintiles)
- Visited health facility last 12 months (Yes/No)
- Visited by FP worker last 12 months (Yes/No)
- Media exposure (Exposed to at least 1/ No exposure)
- Age difference (Male partner older by) (< 5 yrs, 5-9 yrs., 10+ yrs)

3.3.2 Key Determinants of CPR

Table 4 below compares the levels of key determinants in the use of modern contraceptive methods. The biggest gainers, women not working (see shaded box), increased their use by over 12 percentage points; and women who visited a health clinic in the past 12 months. And Table 5 shows that the gap (shaded box) between wealthy and poor in CPR has increased in the 5-year period, from 4.2 times higher to 6.7 times higher.

Table 4

Changes in Key Determinants of Current Modern CPR Use, 2000-2005

Determinants Total %	2000 (7.8)	2005 (14.5)	% pt dif. (6.6)
Rural-residence	4	11	6.7
Illiterate woman	5	10	5.4
Woman working	7	13	5.4
-not working	9	21	12.2
Woman's Age 15-19	4	8	4.6
Poorest Wealth Quintile	4	4	0.5
FP worker visited w/in 12 m	20	21	0.9
Visited clinic within 12 m.	13	27	14.1

Table 5

Changes in Predictive Probability of Using Modern CPR, 2000-2005

Equity Gap:Key Determinants	2000	2005
Rural vs. Addis Ababa	.35	.35
Secondary ed. vs illiterate	3.7	2.2
Have 5 kids vs have 0 kids	5.4	4.6
Lowest vs highest wealth qu.	4.2	6.7
Visited by FP worker or not	2.1	1.4

3.4 CHANGES IN KEY DETERMINANTS OF STUNTING AND WASTING, 2000-2005

3.4.1 Methods

We examine stunting (< -2 SD of height-for-age) and wasting (< -2 SD of weight-for-height) and the two EDHSs. Included are the following selected social, economic, and demographic characteristics in the analysis:

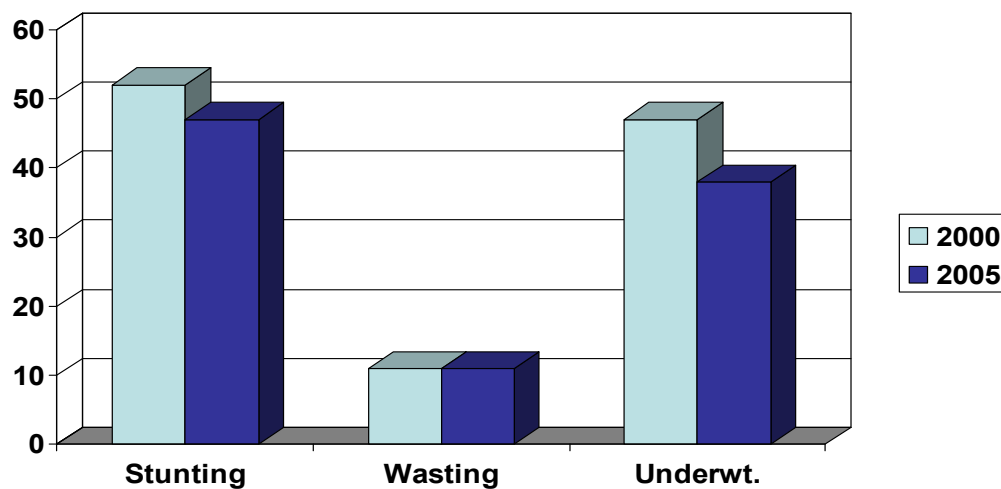
- Place of residence (Addis Ababa-4 million pop., Other urban places/towns, Rural-below 2000 pop.)
- Child age (in months)
- mother's education (No education, Primary, Secondary+)
- Mother's age (15-19, 20-34, 35-49)
- Employment Status (Work for cash, Not working)
- Birth order (1, 2-3, 4-5, 6+)
- Partner's education (No education, Primary, Secondary+)
- Wealth status (5 quintiles)
- Media exposure (Exposed to at least 1 source/ No exposure)
- Have at least 1 ox/cow (Yes/No)
- At least one antenatal visit (Yes/No) – Last child only
- Agro-ecological zone (Dega- above 2400 m, Weina-Dega 1500-2400 m, Kolla-below 1500 m)

3.4.2 Differentials and changes in determinants in chronic and acute malnutrition

The trends below show that while wasting has stayed critically high levels (over 10% is considered critical), stunting and underweight have gone down. The new GPS readings permit an analysis by agro-ecological zones important in agricultural planning (Fig. 15). It shows a reverse relationship for stunting, where the Dega is the highest, than for wasting, where the K'olla is the highest.

Fig. 14

Trends in Young Child Malnutrition, 2000-2005 EDHS



Definitions: chronic, acute and mix of both, respectively

Fig. 15

Differences in Stunting & Wasting, 2005, by Agro-climatic zones

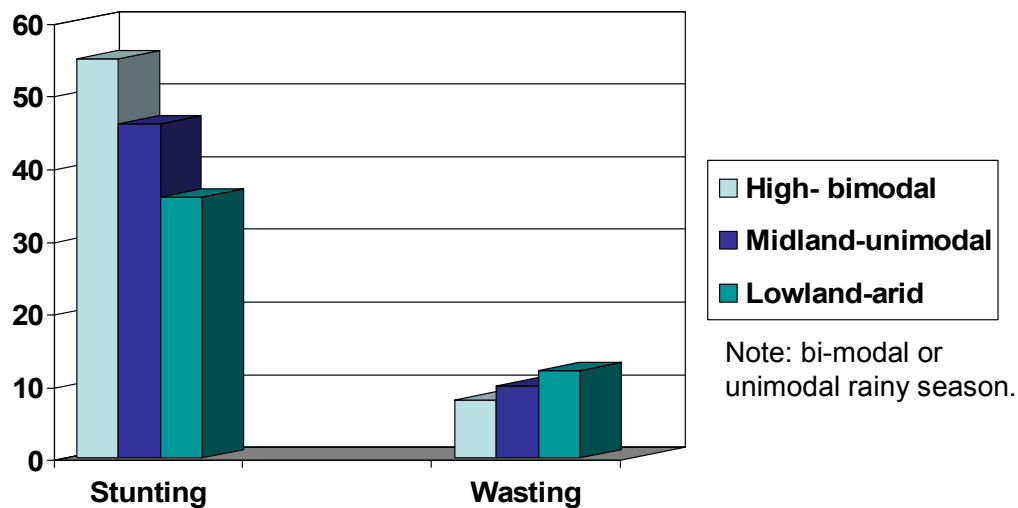


Table 6 shows findings on changes in stunting prevalence. Stunting (moderate and severe) went down much more steeply in Addis (27 to 17 %) than rural areas (52 to 48 %). Moreover, women's education and antenatal visits made a bigger difference in 2005.

Table 6

Changes in Key Determinants of Stunting, 2000-2005

Key Determinants	2000	2005	% Change
Residence- rural	52	48	9.1
Addis	27	17	36.6
Woman's Education- none	54	50	5.4
secondary	41	34	16.7
Antenatal visit- none	50	47	5.4
-1+	44	39	12.2
Birth Interval- <24 mo	57	53	8.6
24-47mo	53	48	9.0
Wealth - no large livestock	---	51	na
- 1+ oxen, cow		46	

Table 7 shows findings on changes in the probability of stunting. Secondary education and oxen/cow ownership reduce probability of stunting, but not consumer durables, wealth and land ownership. In terms of agro-ecology, K'olla (mid-low lowland) residence is less vulnerable now for stunting than the Dega (very high highland)

Table 7

Changes in Predictive Probability of Stunting, Rural Areas, 2000-2005

Key Determinants	2000	2005
Rural vs. (Addis Ababa)	1.38 ns	1.06 ns
Secondary ed. (vs illiterate)	.56	.42
Have 1+ Ox, cow (vs. none)	--	.69
Wealth and land indices	ns	ns
Arid lowland vs. Midland Highland	--	1.3 2.2

Table 8 shows changes in the key determinants of wasting (acute short-term malnutrition: low weight-for-height) from the 2000 and 2005 DHSs, with data gathered at approximately the same time of year each time: that is, in the early-mid months of the year (corresponding to the end of the dry season (“Bega”), short rains in the highlands-“Belg” and Eastern Ethiopia) and beginning of the long rains (“Krepm”) in most of the country. Wasting did not change below the highly vulnerable level of 10% in rural areas, but dropped in half in Addis. Secondary education associated with a huge change in almost eliminating wasting, and antenatal visits were also associated with lower wasting. Livestock and cow ownership not associated with lower wasting.

Table 8

Changes in Key Determinants of Wasting, 2000-2005

Determinants	2000	2005	%change
Residence- rural	11	11	3.3
Addis	4	2	52.0
W's Education- none	13	11	1.1
secondary	7	1	79.5
Antenatal visit- none	13	13	3.7
-1+	11	8	28.6
Birth Interval- <24 mo	12	10	18.0
24-47mo	10	11	20.7
Wealth- no large livestock	--	12	na
- 1+ oxen, cow		11	7

Table 9 shows recent findings on the changes in the predictive probability of wasting (moderate and severe). While education was not significant, having livestock and a higher consumer durables wealth index decreased chance of wasting; living in the arid lowlands was twice as waster as living in the very high highlands.

Table 9

Changes in Predictive Probability of Wasting, Rural Areas, 2000-2005

Key Determinants	2000	2005
Rural vs. (Addis Ababa)	1.52ns	??
Secondary ed. (vs illiterate)	ns	ns
Have 1+ Ox, cow (vs. none)	--	.91
Wealth index	.71 ns	.54
Arid lowland vs. Midland Highland	--	1.3 2.2

3.5 ANTENATAL CARE, 2000-2005

3.5.1 Methods

The main variable is defined as: completed at least one antenatal care visit for the last birth (in the past three years), from the 2000 and 2005 DHSs. Other variables are:

- Place of residence (Addis, Other Towns, Rural)
- Mother's education (No education, Primary, Secondary+)
- Mother's age (15-19, 20-34,35-49)
- Employment Status (Work for cash, Not working)
- Birth order (1, 2-3, 4-5,6+)
- Partner's education (No education, Primary, Secondary+)
- Wealth status (5 quintiles)
- Media exposure (Exposed to at least 1/ No exposure)
- Barriers to health seeking (Financial, Geographical, and Cultural)

3.5.2 Changes in key determinants

Table 10 below shows that utilization did not increase much over the five-year period and remains at the lowest level in SSA. Mothers working for cash increased use of antenatal visits. Perception of inaccessibility lowered use by almost 50%. Perception of cultural barriers lowered use by around 33%

In general, education is an important factor for antenatal visit. Having higher level of education increases the likelihood of one or more visits (both the woman's and her partner's education). Women from wealthier households are more likely to make antenatal visits. Barriers such as accessibility to clinic and culture have a negative impact on antenatal visits. Media exposure positively influences antenatal visits.

Table10

Changes in Key Determinants of Rural Antenatal Visits, 2000-2005

Determinants	2000	2005
Rural residence	22	24
No education-mother	21	22
Working for cash-mother	26	33
Lowest wealth status	15	14
Perceived inaccess/accessible	NA	24/45
Perceived cultural barrier/not a barrier	NA	26/39
TOTAL %	28	28

9

Table 11 shows the changes in the predictors of an antenatal visit, 2000-2005:

1. The large gap (3x) predicting antenatal visits between rural and Addis residence in 2000 was significantly reduced
2. No reduction of education or media exposure gap in the 5 year period
3. Increase in the poverty gap between the poorer and the wealthier mothers.
4. Perceived access and cultural barriers were relatively less important

Table 11

Changes in Odds Ratios Predicting One Antenatal visit, 2000-2005

Equity Gap: Key Indicators	2000	2005
Rural Res. vs. Addis Ababa	.35	.16
W's Secondary vs no education	1.9	2.0
Wealthy vs. Poorest quintile	2.5	3.1
Exposed to media vs not exposed	1.6	1.3
Perceived access to clinic or inac	NA	.7
Perceived cultural barrier or not	NA	.7

40

5. CONCLUSIONS

5.1 Incipient Demographic Transition with Lagging Rural Fertility

Overall, one can say that the demographic transition has started in Ethiopia, with the following promising changes:

- 1- Steady declines in mortality since 1990, now down to 133/1000 for the period 2000-2004.
- 2- Rapid increase in modern CPR (from very low rate of 4% in 1990) in both rural and urban areas since 2000, to 15%.
- 3- Steady decline in stunting in rural areas since 1992 (64% to 48%), but still very high and among the highest in the world.

On the other hand, there are still many challenges:

- 1- Rising population growth until 1990, then leveled off at high level of 2.7%; but now with lower mortality and stalled fertility, will it increase again?
- 2- High rural fertility, stalled at a TRF of 6.0, even in light of much increased CPR
- 3- Wasting still at critically high levels, having been affected by major droughts in 1999-2000 and 2002-2003; the number of annually people “highly affected by food shortage” may have increased to over 5 million (FEWS, 2006-2007)
- 4- Highest levels of chronic malnutrition are now located in the densely populated Dega areas of Northeast Ethiopia, where climate change (erratic short rainy season) is creating greater coefficients of variation and thus vulnerabilities
- 5- Antenatal care, the main entry point into the health system for women, remains very low (the lowest in Africa, according to DHS surveys) and unlikely to come close to meeting MDG targets (UNICEF, 2007).
- 6- Poverty, illiteracy and rural residence inequalities are widening in some variables, not in others (Teller et al, 2007)

5.2 Policy Implications

Ethiopia has accelerated its updating of policies that should affect the demographic transition, including the 1993 Population Policy (National Office of Population), the 2006 Reproductive Health Strategy (Ministry of Health), the 2006 Poverty Reduction Strategy (PASDEP/MoFED), and the 2007 draft of the Nutrition Strategy (MOH). The main issues are how to accelerate the fertility transition in rural areas and shorten the time lag so that population growth rates will come down and relieve one of the deterrents to poverty alleviation.

The government, with NGO, civil society and donor supporting could assist this acceleration by strengthening the following:

- Policy and Strategy Support: Population, Health, Food Security, Nutrition and Poverty Alleviation
- Program and Project design and planning
- Statistical, Demographic and Health Information Systems

- Rigorous evaluations of policies, programs and project effectiveness and on “best PRH/N practices” at local levels
- Capacity-building for research, training and institutional development.
- Applied and operations research

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