The uniqueness of the Ethiopian demographic transition within sub-Saharan Africa: multiple responses to population pressure, and preconditions for rural fertility decline and capturing the demographic dividend

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Abstract

The findings of our new book on population and development in the second largest country, Ethiopia, are presented. We highlight its uniqueness in demographic transitions among countries in sub-Saharan African. Ethiopia has the largest rural-urban fertility gap (with below replacement fertility for Addis Ababa), the lowest maternal health service coverage by far, the highest percentage of illiterate mothers, the largest number of food insecure people, and 83% of the population concentrated mainly in densely populated rural areas. We present a new framework for the study of both poverty and development-driven causes and demographic responses to frequent hazards common in the fragile Horn of Africa. Multiple vulnerabilities and responses are rigorously documented, with migration and off-farm labor mobility, female education, delayed marriage, and lower family size norms predisposing a predicted acceleration of the rural fertility decline. We propose numerous policy and research implications to evaluate progress on what may now be reachable 2015 population policy targets in TFR and CPR, and to prepare for a potential demographic dividend.

Key Words: Demographic transition; demographic dividend; population policy; socio-economic development; migration/urbanization

1 Introduction

This article is a summary based on a new book published by Springer Press (Teller and Assefa, 2011a), with some very new data. The book was written in response to the need for an academic publication on population and develop-

ment in Ethiopia, in particular, and sub-Saharan Africa in general. We expect the book can help meet the needs of the rapidly growing number of universities in Africa and as a reliable research and evidence-based reference for government and for international and indigenous development partners. The real-world challenge has been to adapt the general Western demographic transition theory and frameworks to meet our local and pressing African needs and to understand our different emerging realities.

There has been little consensus on the timing, pace and causality related to poverty and socio-economic development in sub-Saharan Africa. In this heterogeneous region, the demographic transition theory has not been very predictive of the variations between countries. Moreover, especially for the volatile Horn of Africa, it does not take into account the realities of multiple risks and on-going vulnerabilities and hazards in addressing poverty, climate change, instability, excess mortality, food insecurity and globalization. For policy purpose, it is important that population dynamics be well integrated into poverty reduction, climate adaptation and growth and transformation programs and strategies.

2 Literature and conceptual framework

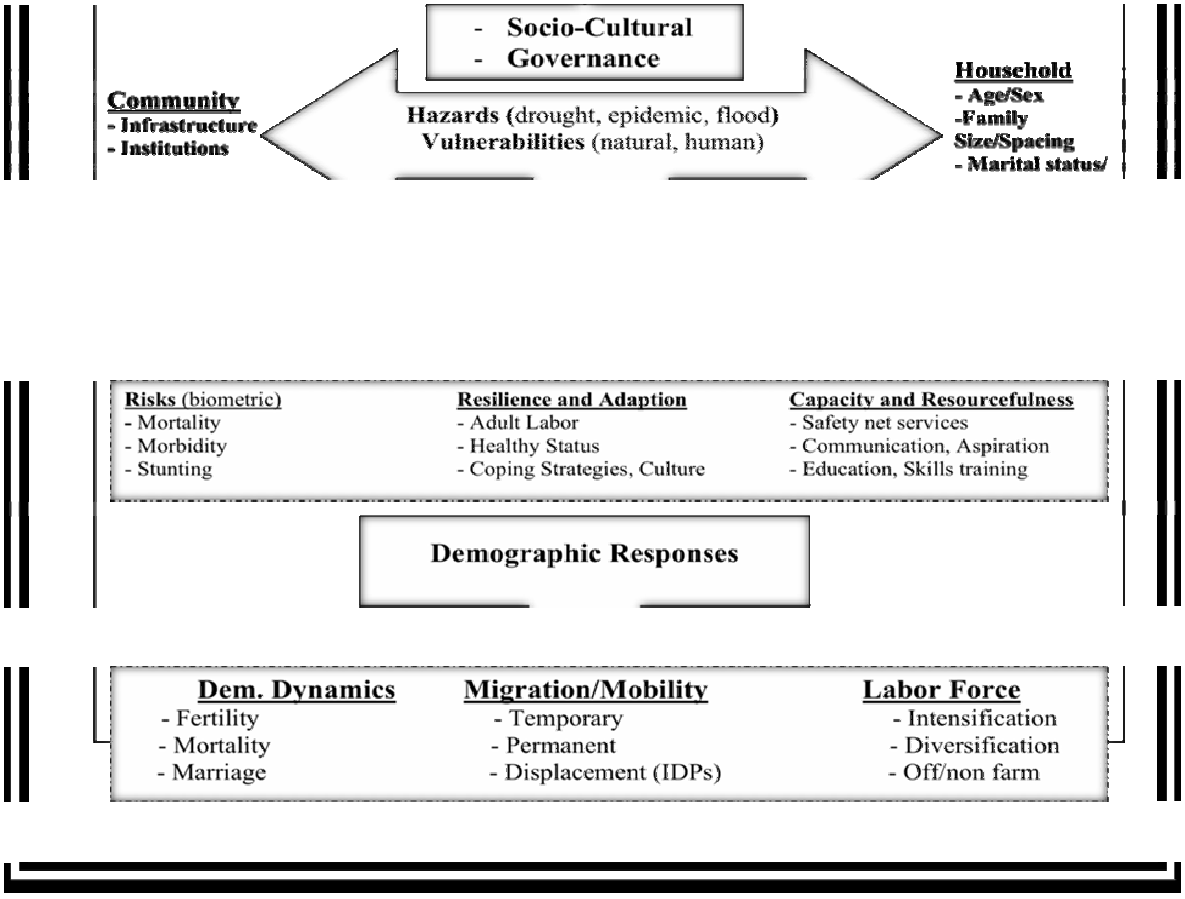
The book begins with a chapter introducing a more contextual conceptual framework (Figure 1) that balances the population-development structural determinants with the demographic responses to vulnerability and frequent hazards. In this way it proposes to be more policy-relevant for high priority national goals, such as poverty reduction, food insecurity mitigation, disaster risk reduction, and the health and education MDGs in demographically challenged sub-Saharan African countries, including Ethiopia.

The framework follows the respected international socio-demographic traditions, including Amos Hawley's (1950) Human Ecology, Kingsley Davis' (1963) Theory of the Multiphasic Change and Response and Boserup's (1965) Agricultural Transformation. It includes appropriate adaptation to the African context, including Adepoju's classic (1994) "Rethinking the Approaches to the Study of Population Dynamics in Africa", as well as advances in the fertility transition by Caldwell (1982), mortality (Hill, 1999) and in migration by Oucho (1990) and Adepoju (1996). It redresses the marginalization of importance of migration, urbanization and mobility, as shown in the Bilsborrow-Carr (2001) application to agriculture and rural development, and the De Sherbinin *et al.* (2007), Tacoli (2007) and Adamo (2009) focus on micro demographic dynamics of the household and social ecology.

We discuss both the similarities and differences in demographic structure, dynamics and composition between Ethiopia and the rest of sub-Saharan Africa, as well as within Ethiopia. Ethiopia is unique also because of its rich and varied cultural background which continues to thrive today. Thus it follows the increased interest in non-socio-economic aspects, such as cultural, diffusional, generational (eg. transitions to adulthood) and ideational approaches, as seen in Lesthaeghe (2010), Lloyd *et al.* (2005) and the more recent writings

of Joel Cohen (2008). It strives to be both holistic and multi-disciplinary, and focuses more on the demographic responses to development, with adaptation and change in the face of chronic hazards, shocks and instability. These responses then feed back into the population structure of the country which interact with other development processes in a continuous iterative process.

Fig. 1: Conceptual Framework: Population/Development Nexus with Demographic Risks and Responses*



In Ethiopia, a policy-relevant, evidence-based research to action approach has been, since the early 1990s, addressing several main demographic pressure and social change dynamics within the broader poverty, food insecurity and development context, as well as the specific National Population Policy.

These include population research related to our conceptual framework by Dessalegn (1992; 2009), Assefa (1994; 2006), Markos (1997), Dejene (1997), Lindstrom and Betamariam (1999), Markos and Gebre-Egziabher (2000), Hogan and Betamariam (2003), Eshetu and Goldstein (2000), and Teller *et al.* (2005), among others. They have had some influence in informing policies related to population and development, but often have not been widely disseminated nor easily accessed in the country.

Our book (Teller and Assefa, 2011a) is divided into the five thematic areas, based on the highest policy priority area in the population and development policy of Ethiopia, namely:

1. The Demographic Transition and Human Development;
2. Health, Nutrition and Mortality;
3. Population Distribution, Migration, Urbanization and Labor Force;
4. Vulnerability and Adaptation: Case Studies in Population Pressure and Food insecurity ; and
5. Development Policy and Program Evaluation.

3 Data sources and methods

National censuses in Ethiopia began in 1984 and demographic surveys in the 1990s, with the first Demographic and Health Survey (DHS) conducted in 2000. Given the lack of a vital registration system and inadequate information systems and research and evaluation capacity, and the lack of demographic and health data, the Demographic Training and Research Center (DTRC) at Addis Ababa University had to carry out demographic surveys and studies in the 1990s. There has been an urgent need to triangulate the sources of national, international and university data, as well as distinct sampling and research approaches. One of our book chapters documents the lack of harmonization of demographic estimates between government ministries, and between national and international sources (Teller *et al*., 2011).

The main sources of data for Ethiopia are generated by the Central Statistical Agency: (CSA) decennial censuses, periodic and specialized surveys, especially the 1990 National Family and Fertility Survey, Ethiopia DHSs of 2000 and 2005 (the 2011 DHS report is still provisional), as well as the following: Labor Force, Health and Nutrition, Welfare Monitoring, Household Income and Expenditure, and Sample Agricultural Census, Sample Vital Registration, among others). Other sources of data include our own university-generated demographic surveys (conducted by the Demographic Training and Research Center-DTRC), demographic/ health and surveillance systems and social science and health research, both national or regionally representative, as well as in-depth case studies, regional and district vulnerability profiles and graduate student theses (qualitative and quantitative).

Additional vital local area information comes from routine service statistics and planning and evaluation departments of sectoral ministries, especially the Federal and Regional Ministries of Health (MoH), Education (MoE) and Finance and Economic Development (MoFED). International partners, in collaboration with the gov-

ernment and NGOs, are also very important in supporting demographic data collection and especially their analysis in Ethiopia (eg. the World Bank, UNICEF, USAID, UNFPA, Population Council, Packard Foundation, and the Population Reference Bureau).

The various methods to analyze these data include a combination of quantitative, qualitative and mixed approaches. In order to analyze the trends, longitudinal and repeated questions on national censuses, national and sub-national surveys and local surveillance systems are used. To understand the causes and consequences over time, multilevel and multivariate techniques are used, along with in-depth case studies and contextual qualitative research. Many of the methods are comparative, analyzing disparities and differences both between countries and within Ethiopia. For policy and program purposes, the identification of vulnerable populations and target groups are done through use of demographic, socio-economic, anthropological, political-historical, agro-ecological and spatial techniques.

4 Results

Why the Ethiopian Demographic Transition is unique within sub-Saharan Africa:

4.1 Ethiopia is currently (c. 2010) *demographically unique* in a number of ways:

- The second largest country in Africa and growing at a high annual rate (2.6-2.7%), and adding more people yearly than most countries (except Nigeria and Democratic Republic of the Congo) (PRB, 2011).
- Strategically situated at a geopolitical crossroads between East Africa, North Africa, Horn of Africa and the Middle East, where there is tension between African, Middle Eastern and European civilizations and access to resources and transportation routes.
- Largest rural-urban gap in fertility in Africa, and the lowest fertility in an East and Southern African Capital city with below replacement level fertility in Addis Ababa (TFR =1.3), 2.4 in other urban centers and 6.0 children per woman in rural areas (Tesfayi, 2011).
- By far, the highest percentage of women 15-49 with no formal education (67%) in Africa (CSA, 2008), compared with an average of 29% for sub-Saharan Africa.
- The poorest maternal health service coverage (5% skilled birth attendance and 28% ante-natal care) in Africa in 2005; with a huge gap in ANC of more than 3 to 1 between urban and rural residence, and more than 4 to 1 between secondary and no formal education (Munayie *et al*. 2011)
- Very high percentage of population in rural areas (83%), third highest in Africa (PRB, 2011), but with an expanding network of small market towns (CSA, 2008)
- Among the largest number of chronic and acutely food insecure (13-15 million) in Africa in 2009 (Teller, 2011).
- Adequate human development MDG progress, in under-five mortality, underweight, HIV/AIDS, primary education and water, one of the few SSA countries on track in most of these goals (Teller and Assefa Hailemariam, 2011b)

4.2 *Incipient stage of fertility transition overall, but 2 Ethiopias*:

As a country Ethiopia is considered as in the second or incipient stage (see map on Figure 2 for country stages); but there are actually two distinct transitions: the urban is very advanced (TFR=2.4), with below replacement fertility in Addis Ababa since 1994 (now 1.3); and the rural, with 83% of the population, is in its incipient stage, with a slight decline, but still with a TFR above 6 in 2005 (see rural-urban gap in Figure 3).[1]

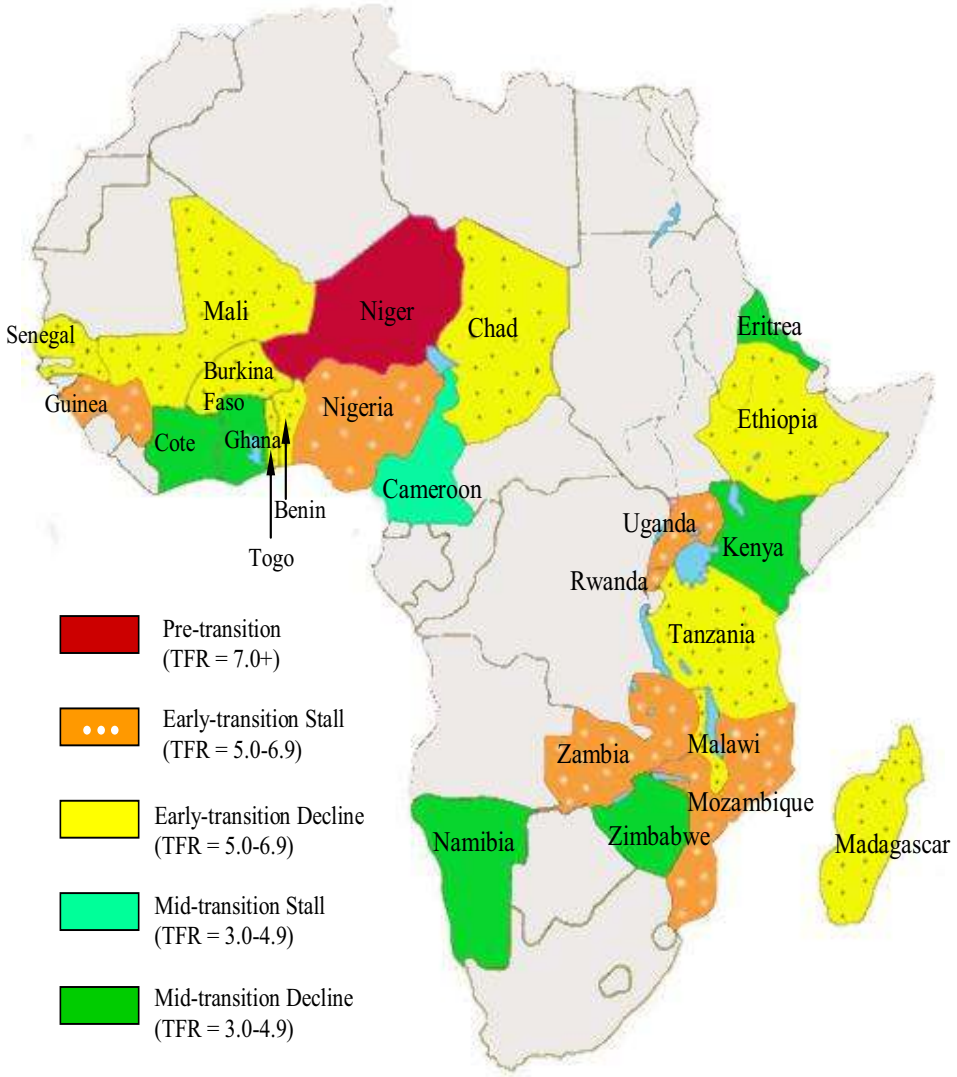
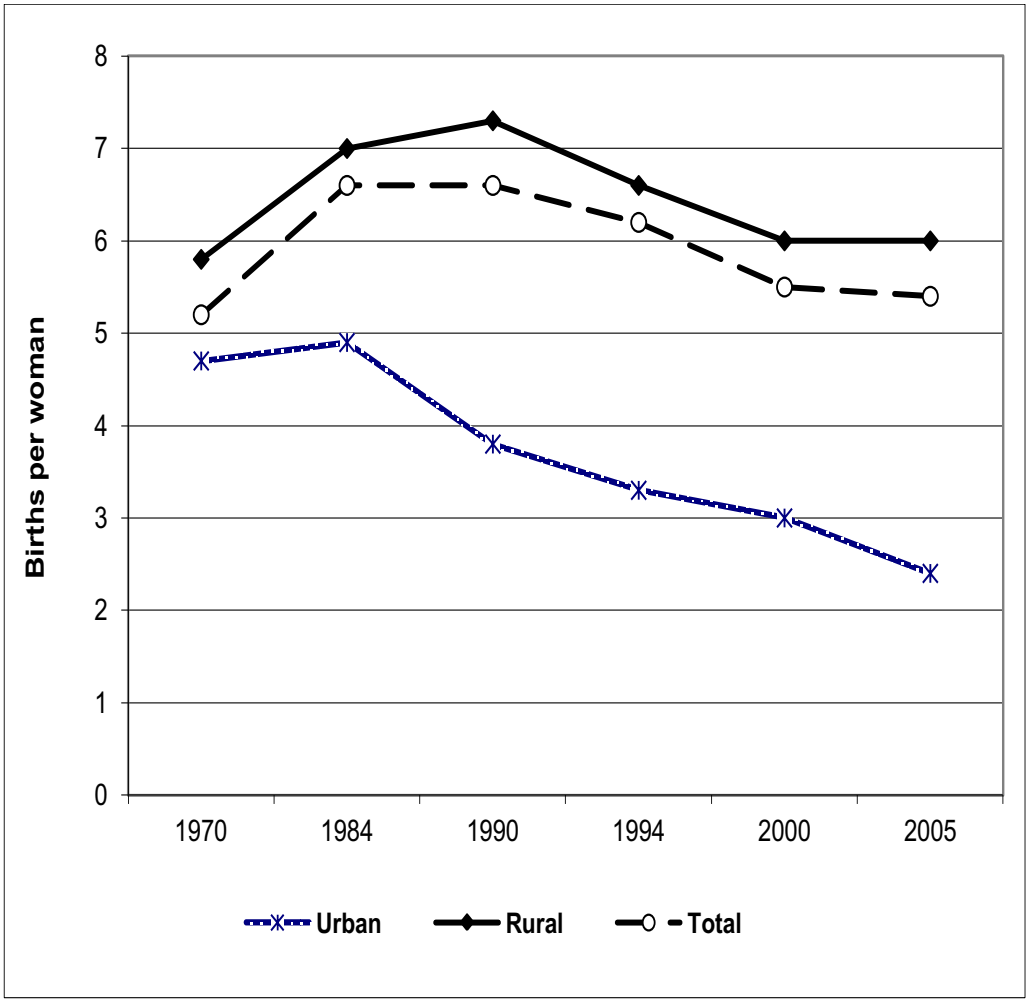


Figure 2 Five different stages of the fertility transition, countries with multiple DHS, 1990-2008

1. The Provisional Report of the 2011 EDHS just released (CSA and ICF Macro, 2011) reveals a significant decline in TFR from 5.4 in 2005 to 4.8 in 2011. Thus the prediction of the book about an acceleration of the decline in TFR in rural areas appears to be happening (rural TFR declining from 6.0 in 2005 to 5.5 in 2011)!



Sources: CSA, 1991 and 1999; and CSA and ORC Macro, 2001 and 2006

Figure 3 The growing rural-urban fertility divide : total fertility by residence, in Ethiopia, 1990-2005.

4.3 *Revised theory of the multiple causes of the fertility transition*:

There is a balance between poverty and vulnerability, with human and economic development and cultural diffusion, as main drivers of the incipient fertility transition; moreover, some of the uniqueness of rural Ethiopia, have been demographic responses to food insecurity, drought, instability and other hazards and shocks, including:

- Population pressure, land fragmentation, and landlessness.
- Urban youth unemployment, highest among females 20-29.
- Increased off-farm, but non-diversified, labor migration.

These negative factors, along with important positive factors including higher school enrolment, greater youth aspirations, basic rural health services and women's empowerment, as well as new 2005 Family Law raising the legal age of marriage to 18 years, are serving to delay marriage and lower desired

family size, including the proximate determinants of abortion and contraceptive use.[2]

Socio-cultural change is also occurring among the younger generations in the small towns and villages in much of Ethiopia. Community norms of family formation are related to later age at marriage and lower fertility expectations among youth. The increasing cost of living and raising a family are reinforcing rising individual aspirations and expectations of a merit-based society. This, along with the expansion of primary education, a slight improvement in secondary enrolment, increased communication and urban diffusion, mobile phone use, mass communications and geographic mobility all affect lifetime goals. Thus, the value of children, of early marriage and of kinship ties is weakening.

4.4 *Expected acceleration in the pace of the fertility decline in Ethiopia: preconditions include*

- Rising CPR among young married couples (compared with rest of sub-Saharan Africa, Table 1).
- Reductions in desired family size and in additional children (compare with rest of sub-Saharan Africa, Table 2).
- Rising age at marriage (Figure 4), youth aspirations and related socio-cultural change.
- Steep declines in under-five mortality (the child survival hypothesis) (Figure 5).
- Increase in girls' (primary completion rate and absorption into secondary schools) staying in school and lengthening transitions from youth into adulthood and marriage.
- Increasing temporary migration, off-farm employment and urban contact and diffusion.
- Strengthening the rural-urban linkages as well as improving the rural non-farm and rural agricultural linkages to absorb the rural labor in employment.

4.5 *The demographic dividend*:

While age dependency has not declined since 1994, with the predicted acceleration in the fertility decline, the predicted youth bulge and lowering age dependency will provide an increasing proportion of the population in the working age category. If the above preconditions are met, the future is promising and the youth would turn out to be a "grown up" dividend rather than "giving up" burden. The preconditions for reaping the potential dividend are assessed to be: skillful youth jobs; agricultural intensification and modernization; technological adaptation; labor intensive production technology; educational quality and efficiency; educational efficiency; healthier lifestyles; higher youth aspirations; better governance; and higher quality of institutions (Yordanos *et al*. 2011).

4.6 *Elongation of the youth transition to adulthood*:

Increased higher education and youth aspirations in urban and accessible rural areas suggest that these youth may be on the vanguard of social change, with implications for delayed marriage and childbearing. A critique of classical economic theories of the demographic transition reveals that they did not take into account the diffusion of ideas, modern communications, and technologies that lead to a more merit-based

2. The new 2011 EDHS report (CSA and ICF Macro, 2011) also reveals a near doubling of the CPR since 2005, from a low of 15% to 29%, with just over a doubling in rural areas (from 11% ^ to 23%) in this 6-year period.

paths to individual capabilities, lifetime goals, i.e., ("agency") and social mobility (see Herman *et al*. 2011)

Table 1 Percentage of currently married women aged 15-49 using any modern contraceptive method by residence and education, eastern and southern Africa countries with three successive DHS surveys: ca. 1990- ca.2005

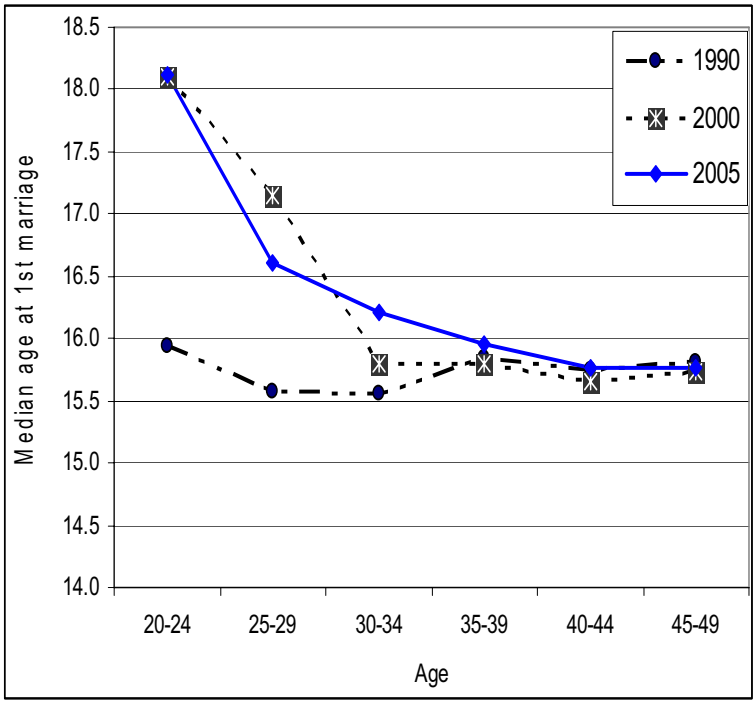
		Urban	Rural	No education	Primary	Secondary or higher	All
Ethiopia	ca. 1990	15.5	1.2	1.1	8.3	30.3	2.9
	ca. 2000	28.3	3.3	3.7	13.2	33.0	6.3
	ca. 2005	42.2	10.6	9.8	21.9	45.9	13.9
Kenya	ca. 1990	25.5	16.4	9.7	19.2	29.3	17.9
	ca. 2000	37.9	25.4	16.1	28.2	46.3	27.3
	ca. 2005	39.9	29.2	8.0	28.8	51.7	31.5
Malawi	ca. 1990	17.2	6	4.8	8.2	37.9	7.4
	ca. 2000	38.2	24.1	21.7	26.5	41.6	26.1
	ca. 2005	34.7	26.9	22.9	28.0	41.0	28.1
Madagascar	ca. 1990	15.8	2.9	1.0	3.6	12.6	5.1
	ca. 2000	17.6	7.1	1.5	8.4	20.7	9.7
	ca. 2005	26.5	15.9	5.2	18.7	28.4	18.3
Rwanda	ca. 1990	19.7	12.6	11.1	13.0	27.5	12.9
	ca. 2000	21.2	8.6	3.2	4.8	18.8	10.3
	ca. 2005	16.1	3.9	5.9	9.7	29.1	5.7
Tanzania	ca. 1990	14.0	4.5	1.8	8.9	33.1	6.6
	ca. 2000	34.3	15.5	7.5	20.5	33.0	20
	ca. 2005	32.8	12	8.3	23.6	38.2	16.9
Uganda	ca. 1990	12.2	1.5	0.9	2.7	11.3	2.5
	ca. 2000	41.6	14.7	9.1	17.2	34.7	18.2
	ca. 2005	36.5	15.1	9.4	16.8	42.2	17.9
Zambia	ca. 1990	15.3	3.2	2.7	6.3	23.9	8.9
	ca. 2000	41.2	16.6	11.0	21.8	42.8	25.3
	ca. 2005	42.0	27.6	27.1	28.9	44.2	32.7
Zimbabwe	ca. 1990	48.7	30.8	24.9	34.0	52.1	36.1
	ca. 2000	61.8	43.9	35.2	44.4	59.3	50.4
	ca. 2005	68.3	53.4	30.3	52.0	65.2	58.4
Namibia	ca. 1990	46.6	13	14.2	17.3	46.4	26
	ca. 2000	63.8	43	27.4	31.9	55.1	53.4
	ca. 2005	53.4	33.7	31.5	44.6	62.6	42.6
Average for	ca. 1990	23.1	9.2	7.1	11.3	27.4	12.6
sub region	ca. 2000	38.6	20.2	13.6	21.7	38.5	24.7
	ca. 2005	39.2	22.8	15.8	27.3	44.9	26.6

Source: Stat Compiler, *http://www.measuredhs.com*;calculated from data

Table 2 Percentage of currently married women who want no more children, by residence and parity 15-49, eastern and southern African countries with three successive DHS surveys,ca.1990-ca.2005

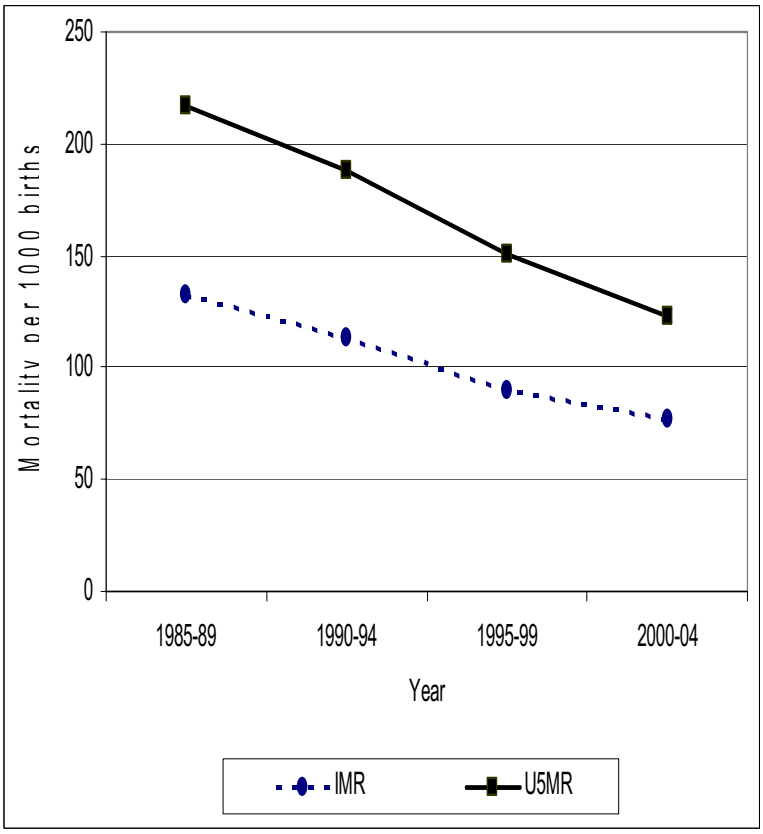
		Residence		Parity			
Country	Year	Urban	Rural	4	5	6 or more	Total
Ethiopia	ca. 1990	45.5	22.0	26.7	34.6	50.9	24.1
	ca. 2005	47.8	41.4	49.8	58.1	72.5	42.1
Kenya	ca. 1990	39.7	51.4	49.0	64.0	81.7	49.5
	ca. 2005	44.6	44.9	66.1	77.0	80.2	48.7
Malawi	ca. 1990	31.5	24.2	34.4	44.6	59.8	25.1
	ca. 2005	43.3	40.5	57.7	75.5	86.8	40.9
Madagascar	ca. 1990	52.7	38.1	51.9	58.2	78.8	40.7
	ca. 2005	43.8	40.5	58.5	60.9	77.9	41.2
Namibia	ca. 1990	46.5	26.0	39.0	40.5	46.3	33.9
	ca. 2005	62.4	57.9	74.7	81.1	84.3	60.1
Rwanda	ca. 1990	39.6	37.0	45.4	54.2	75.6	37.1
	ca. 2005	49.3	41.7	57.5	65.2	81.8	47.8
Tanzania	ca. 1990	27.5	22.0	25.2	35.0	59.7	23.2
	ca. 2005	27.5	29.1	47.0	54.4	63.8	28.7
Uganda	ca. 1990	20.9	19.3	17.9	24.7	55.2	19.4
	ca. 2005	38.7	41.2	43.7	55.1	78.2	41.1
Zambia	ca. 1990	27.3	21.3	24.3	33.8	61.9	24.2
	ca. 2005	42.6	32.5	41.7	57.6	76.5	36.0
Zimbabwe	ca. 1990	34.7	32.0	31.8	46.3	68.9	32.8
	ca. 2005	51.2	41.1	72.6	72.6	82.7	44.5
Average	ca. 1990	36.6	29.3	34.6	43.6	63.9	31.0
Average for sub-region	ca. 2005	45.1	41.1	56.9	65.8	78.5	43.1

Source: various DHS surveys; calculated from data



Sources: CSA, 1990, and CSA and ORC Macro, 2001 and 2006; calculated from data

Figure 4 Rise in age at marriage in younger cohorts: age specific trends in median age at first marriage in Ethiopia, 1990-2005



Sources: CSA, 1991, 1993; and CSA and ORC Macro, 2001 and 2006

Figure 5 Declines in infant (IMR) and under-five mortality (U5MR), Ethiopia 1985-2004

4.7 *Population policy implementation and program evaluation (1993-2010)*:

We address the implementation of the 1993 National Population Policy within the context of development and sectoral policies, and demographic data used to plan, guide and evaluate these policies. Here are the main findings:

- There are varying *demographic projections* until 2035 – under two fertility scenarios and linked with GDP: only under the fast fertility decline scenario (TFR reaching 3.1 and a population at 128 million) with double-digit GDP can Ethiopia is likely to join the middle income country category by 2035 (see Senait, 2011).
- There has been *unsatisfactory implementation of the 1993 National Population – Policy* while the CPR target might be on track for the 2015 target of 44%, there have been weak institutional arrangements and lack of coordination among implementing partners, lack of an M&E system, and absence of a strong legal framework (see Assefa *et al*. 2011)
- There has been *an inability to redress the imbalance between population growth and resources* – this is the main NPP objective (MoFED, 2008) and it has not advanced, while population pressure and environmental degradation have grown; there has been little collaboration from some key sectors
- There is a large *gap between demand and use of data* – the increased demand for data has not *been met with increased capacity to analyze the data, and these* influence use of the data for decision-making; there are a number of data inter-operability issues, such as user friendliness, commitment and dissemination (see Teller *et al*. 2011).
- There is a *lack of harmonization and often confusion* over key demographic data and indicators – Conflicting sources of up-to-date data on population size, growth, fertility, HIV/AIDS, unemployment and migration and off-farm labor have led to contentious debates; the media is particularly challenged in accessing and reporting on the most accurate sources of information. Examples of un-harmonized data include estimates of CPR, female urban employment, arable land population density; temporary, seasonal and international migration and refugees; absolute poverty; food insecurity, maternal mortality, etc. (see Teller *et al*. 2011)
- There have been major *delays in data production*: including not implementing the 2004 Census until 2007, in delaying releasing the results; and in postponing implementation of the 2010 DHS until 2011 – these major national demographic data collection efforts, exacerbated by the lack of a vital registration system, and an unreliable (but improving) Health Management Information System have greatly hindered the analysis and use of evidence for development planning and evaluation. The new plan for a Health Information System (MoH, 2010) and National Statistical Council will help to improve data production and dissemination.

5 Conclusions and policy implications

The main factors identified, through quantitative and qualitative research and data analysis over the past 20, that have contributed to the uniqueness of Ethiopia in the African context are:

1. it is the second largest in population size,
2. its strategic historic and geopolitical location;
3. largest rural-urban fertility gap;
4. lowest capital city fertility;
5. poorest maternal health service coverage;
6. lowest adult literary;
7. largest number of food insecure (chronic and acute);
8. 3rd highest proportion of population in rural areas;
9. deeply cherished traditional cultures in rural areas; and
10. adequate progress on most of the MDGs.

The main challenge is how to capture the projected demographic dividend opportunity. Policy makers and their advisors should consider the following:

- harmonize the MoFED and MoH demographic targets for 2015 where different;
- evaluate and modify the demographic targets on rural-urban migration, urbanization, TFR and CPR with the new census and 2011 DHS results;
- develop a rigorous M&E plan and system for the new Five-Year Development Plan (GTP 2011-2015);
- improve the quality of the RH/FP Health Extension Package components[3];
- enforce the age at early marriage restrictions; increase enrollment and quality of woman's secondary education;
- implement the formation of the long-awaited National Population Council needed for inter-sectoral coordination and leadership.

In order to bridge the research to policy gap, demographers and population-related scientists need to revise and expand traditional theories of the demographic transition to the unique Horn of Africa context and local research base; analyze population responses and adaptation to climate variation and disaster risk reduction; and promote transparent debate with evidence-based research dissemination.

There is a large need for capacity-building in Demographic Research and Population Policy M&E – reorient towards practical, contextual research and evaluation that is policy relevant; increase ease of access and dissemination and use of demographic data and research; strengthen the capacity for master's training in population/demography and in demographic analysis at CSA; and develop a PhD program at Addis Ababa U., under partnerships with external universities.

Here we propose numerous policy implications:

1. Revise and expand traditional theories of demographic transition to *include poverty and adaption,* as well as new generational life course aspirations and community norms of delayed family formation.
2. Redress the National Population

3. The new 2011 EDHS report (CSA and ICF Macro, 2011) also reveals a near doubling of the CPR since 2005, from a low of 15% to 29%, with just over a doubling in rural areas (from 11% ^ to 23%) in this 6-year period.

Policy's main objective (to "*reduce population resource imbalance"*) through transparent debate, and reconsider the importance of spatial redistribution; change the current *rural-urban migration pattern reduction* objective and foster planned and incentivized permanent, temporary, circular and international migration that maximizes human potential and spatial development corridors; make explicit the implementation strategies which would raise the percent urban from 17% to the provisional (MoFED, Sept. 2010) GTP target of 26% in the 2010–2015 period.

3. Support resilience and adaptation strategies to the 2008 National Adaptation Plan of Action (NAPA) relating to *Climate Change and Disaster Risk Reduction* through positive demographic responses in migration, household structure, secondary education and labor force.
4. Use *home-grown population* theories, models, local case studies and indigenous research findings to guide policy; *publications must be much more widely disseminated with greater uptake;* these require a new policy-relevant research agenda for the 2010-2015 population policy is needed.
5. *Harmonize conflicting demographic data* for policy use: strengthen the *institutional capacity* to analyze, interpret, evaluate and disseminate policy-relevant data to facilitate its strategic use; assess the feasibility of reaching by 2015 the ambitious major targets in population and health included in the draft Growth and Transformation Project (GTP), especially the MMR decline (from 590 to 267), and what the MoH labels the contraceptive acceptance rate – or "CAR"(from 32% to 65%).
6. *Raise the awareness* of the importance for reliable, timely and relevant data (including a Vital Registration System), rigorous research and evaluation by policymakers, the public and the media; experts and planners need to look much more critically at the measurement issues in key demographic indicators (e.g., internal migration).
7. Prepare systematically for the projected *demographic dividend* opportunity – this expected youth bulge and low age dependency (by the year 2035) requires early preparation on the preconditions to reaping this potential demographic dividend and preventing it from becoming a burden.
8. Reduce *population pressure* on land and address food insecurity with policies to promote greater rural-urban linkages, agricultural commercialization, off-farm employment and temporary migration, livelihood diversification and urban development.
9. Improve quality of the now very extensive *Health Extension Package*. This ramped-up system of community health workers, village volunteers, model families and village committees can be used for vital statistics and targeting of high risk households, in lieu of a Vital Registration System; however community health work skills need to be upgraded and more closely super-

vised, along with a rational human resource promotion plan, which would help prevent high turnover.

10. Reduce *demographic inequities with vulnerable populations* that have been based on rural-urban, pastoral-agricultural, social class, gender, ethnicity and region. Population redistribution policies can help reduce the huge rural-urban and unskilled-skilled labor gaps.
11. Enhance the effectiveness of the recent rapid update of contraceptive injectables with *longer-term methods* for younger couples.
12. Improve *women's access to secondary education and decision-making autonomy*: Enabling women and girls to have the autonomy to make informed choices regarding their sexual lives, age at marriage and timing of pregnancy, which may assist the effort in accelerating the rate of decline of MMR. These are underlying causes of socio-economic and health problems in Ethiopia.

In conclusion, we are calling for more collaboration and communication between those in academia, research and data generation professions, and policymakers, practitioners and media, as well as technical harmonization of conflicting demographic data. Our analysis should be more locally motivated and contextually driven, and guided by more relevant home-grown theories and models. A good example presently is the large gap in academic research and rigorous evaluation on the explicit link between population and adaptation to climate variability in the Horn of Africa. Our hope is that the enormous potential of this culturally diverse and geo-politically and huge strategic region can reap the potential of the demographic dividend for our children and grandchildren to come. We hope that this research is one small step in this direction.

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