SPECIAL REPORT

Population, Development, and Environment in Ethiopia

1 thiopia has been synonymous with disastrous famine since the 1980s. In the ✓ years since, drought and famine have continued to plague the country, and scholars and practitioners have sought to analyze the causes and mitigate the consequences. Population growth is one of the most critical drivers shaping the country's future, as its social infrastructure and agricultural land are unable to support its growing numbers, and thus many Ethiopians remain trapped in a vicious cycle of poverty, disease, and hunger. The key to achieving sustainable growth lies in reducing the rate of population growth, managing the environment, and building the platform for development. Educating and empowering young girls, changing traditional practices that encourage early marriage and early childbearing, and increasing access to family planning are all steps that could contribute to reducing the country's rapid population growth. While Ethiopia's government has developed a population policy to encourage such efforts, it has so far struggled to implement it due to inaction, disinterest, and ambivalence by senior officials.

Population, Development, and Health¹

The impact of population growth on development is not inherently negative or positive. When accompanied by rapid economic and technological advances, population growth can actually contribute to national development (see Birdsall, Kelley, & Sinding, 2001).

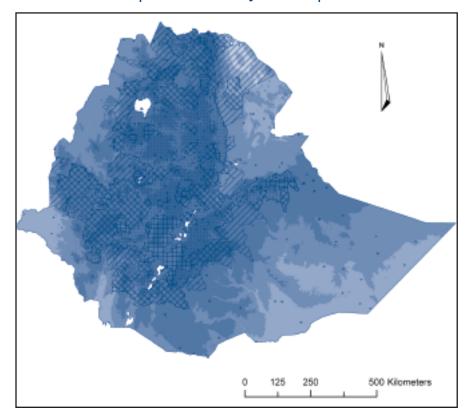
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According to the United Nations Conference on Trade and Development (2002), "In a technologically dynamic developing economy, where rapid processes of capital accumulation and structural change lead to rapid rates of employment generation...population growth need not necessarily have detrimental environmental and poverty implications" (page 95). Unfortunately, Ethiopia—the third most populated country in Africa, with 72 million people—gains almost 2 million people a year in a highly unfavorable economic and environmental context (UN Population Division [UNPD], 2003). At UNPD's current estimate of 2.46 percent, the country will reach 100 million in the next 15 years.2 Even if drastic measures slow the rate of growth, the population will continue to increase as the country's 47 million youths under the age of 24 raise their own families.

Ethiopia's economic and social indicators are declining as the population grows. Its industrial

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Elevation and Population Density in Ethiopia



Elevation (meters a.s.l.)

Below sea level

0-500

500-1000 1000-2000

Greater than 2000

Population Density (persons per sq km)

Less than 25

25-50

50-100

100-200

Greater than 200

Sources:

Population: Center for International Earth Science Information Network (CIESIN), Columbia University; International Food Policy Research Institute (IPFRI); the World Bank; and Centro Internacional de Agricultura Tropical (CIAT); 2004. Global Rural-Urban Mapping Project (GRUMP): Urban/Rural Population grids. Palisades, NY: CIESIN, Columbia University. Available at http://sedac.ciesin.columbia.edu/gpw/

Elevation: ISciences (2003), SRTM30 Enhanced Global Map - Elevation/Slope/Aspect (release 1.0), Ann Arbor: ISciences, LLC

and agricultural output is low, export income is minimal, and the country is heavily dependent on foreign assistance. Per capita income is only \$100 and over 44 percent of the population lives below the poverty line. (Ethiopian Economic Association, 2002). The majority of Ethiopia's population is economically inactive; over half are too young or too old to work, and

only half of the working-age population is employed full time.³ Therefore, a small working population must provide for a large number of unemployed young people, creating a disproportionately high dependency level that inhibits investment in the future.

The agricultural sector—the mainstay of the national economy—is less productive per capita today than it was 20 years ago (Ethiopian Economic Association, 2002). Arable land is overcrowded, overcultivated, and under-maintained. Eighty percent of the population lives in the highlands, which cover only 45 percent of the country and suffer from widespread erosion, deforestation, and loss of nutrients, further reducing the per capita share of arable land (Teketay, Fetene, & Abate, 2003, page 9). Suffering from prolonged cultivation, lacking modern production techniques (e.g., fertilizers), and overly dependent on rainfall (less than two percent is irrigated), over four percent of the country's arable land has completely lost its ability to produce food (Teketay, Fetene, & Abate, 2003). In addition, the government's questionable land tenure system, under which the government owns and frequently redistributes farmland, creates a climate of uncertainty that discourages personal investment and thus reduces productivity.4

Ethiopia depends on foreign aid, which has grown from less than 1 percent of GDP in 1970 to almost 15 percent in 2000, for its basic needs (Ethiopian Economic Association, 2002). In 2001, 39 percent of its central government expenditures were funded by foreign aid (World Bank, 2003). The 2003 drought—the worst in the country's history—forced 13 million people, or almost a fifth of the population, to rely on food aid (International Monetary Fund, 2004). While these disasters occurred every 10 to 15 years in the past, they are now almost permanent features; as a consequence, Ethiopia has become synonymous with famine and natural catastrophe.

Population growth and economic malaise combine to create a dangerous situation for the health of Ethiopia's residents. Life expectancy is 42 years at birth, infant mortality is 114 per

1000 live births, and the mortality rate for children under age five is 171 per 1000 live births (World Bank, 2004). Malnutrition is a chronic problem: more than half of children under five years are stunted, while 47 percent are underweight (UNICEF, 2004). According to the World Food Program (2004), the average daily calorie intake of the population (2,037 per day) lags behind the minimum recommended intake of 2,300 calories.

Ethiopia's health infrastructure is not keeping pace with population growth. A recent report from the World Bank and Ethiopia's Ministry of Health (2004) affirms that at the current pace, achieving the child survival objective of the Millennium Development Goals will be challenging.

- Only about 40 percent of the population lives within five kilometers (one hour's walk) of a health facility;
- The ratio of health professionals is extremely low: the three largest regions have only one doctor per 55,000 people, one nurse per 10,000 people, and one midwife per 100,000 people; and
- Vector-borne diseases (usually relatively easy to control) affect more than 10 percent of the population.

And the HIV/AIDS pandemic is now a major public health problem: although Ethiopia represents 1 percent of the world's population, the estimated 1.5 million living with the virus equals 4 percent of the world's HIV/AIDS sufferers in 2003 (UNAIDS, 2004). HIV/AIDS is damaging the country's socio-economic fiber: more than 90 percent of those infected are between the ages of 15 and 49—the most productive segment of society—and 720,000 children have been orphaned (UNAIDS, 2004).5

Population, Development, and the Environment

Ethiopia's unsustainable population growth contributes not only to its dire economic and social situation, but also to the country's environmental

degradation, especially in the densely populated highlands. These sloping lands, occupied since time immemorial, are severely deforested, overcultivated, eroded, and nutrient-poor. Dr. Assefa Hailemariam (2003), a demographer and development specialist, cites a 1978 study by K. J. Virgo and R. N. Munro to illustrate the problem's roots: "Reconnaissance soil surveys covering 6000 km² in the Central Plateau region, at elevations of 2000-2800 meters above sea level, have found that all the land that is physically cultivable is now cultivated. The only lands not cultivated are in depressions and on steep rocky slopes."

As the population grows and people overcultivate scarce land, its nutrient value is reduced and erosion takes it toll. An expert panel (Teketay, Fetene, & Abate, 2003) recently reported that erosion has seriously degraded over 50 percent of Ethiopia's arable land and projected a grim future:

While the soils in the Ethiopian highlands have a high inherent fertility, the continuous removal of nutrients without replacement as well as the steep and dissected terrain with extensive areas of slopes of over 15 percent, coupled with the high intensity of rainfall, have led to accelerated soil erosion reaching up to 400 tons/hectares/annum.....About 20,000-30,000 hectares of cropland in the highlands are being abandoned annually since cropping can no longer be supported by the soil. It is projected that land degradation at the present rates could destroy the farmlands of some 10 million highland farmers by 2010. (page 12).

Population, deforestation, and erosion are part of a vicious cycle: Hailemariam (2003) notes that less than three percent of the country is currently forested and points out, "As population pressure increases, particularly in the highlands, farmers intensively exercise deforestation. This will leave farmlands and grazing lands exposed to erosion, followed by massive land degradation" (page 9). At the current rate of deforestation of over 150,000-200,000 hectares per year, it will

be completely deforested in less than 20 years unless drastic measures are taken to reverse the trend (Teketay, Fetene, & Abate, 2003, page 11). Why such a high rate? Inhabitants are totally dependent on forest wood for construction and fuel, and overcultivate and overgraze the land. Deforestation is most pronounced in the highlands due to the highly concentrated population, but even in the more favorable lowlands, clearing forests and pastures for new migrants, coupled with archaic farming techniques, is rapidly destroying the ecosystem.

Internal Migration

To cope with the problems of land degradation, the government has initiated a program to resettle people from the agriculturally poor highlands to more fertile lowlands.⁶ While it is too early to judge the current program, it is hoped that the government will not repeat past mistakes. Previous resettlement programs were not voluntary. Neither were they based on serious economic, social, and environmental studies. According to social scientist Dessalegn Rahmato (2003), in response to the famines of the mid-1980s, the government resettled 600,000 people from the northern highlands to the lowlands of western Ethiopia, with terrible results:

In this same period, some 33,000 settlers lost their lives due to disease, hunger, and exhaustion and thousands of families were broken up....The program involved considerable environmental damage. Large areas were cleared of their vegetation to build homesteads, to acquire farmland and to construct access roads. Resettlement in particular failed to recognize the rights of local people or the carrying capacity of the areas of settlement. It created conflict between the host population and settlers. It also failed to adapt farming practices to the agro-ecological conditions of the lowlands, and as a consequence, the environmental damage involved was quite considerable. Moreover, one of the objectives of resettlement was to reduce the population pressure of the highlands and thereby to control natural resource degradation. In the end, resettlement had no or limited impact on population pressure or land degradation. (pages 13-14).

The current resettlement effort may solve the immediate problem of drought and famine. In the long run, however, it will only distribute the problem geographically. While the government is trying to resettle about two million highlanders in the next three years, the region's population will increase by approximately five million people over the same period due to natural population growth. Also, as the population of the more fertile lowlands of the south and southwest grows, it will not be long before these areas also suffer a shortage of arable land and increased social tensions.

Urbanization

Urbanization is not yet a major problem in Ethiopia. However, the rate of population growth in urban areas is much higher than in rural areas: while the national population growth rate is 2.46 percent, the urban centers grow at a rate of 4.1 percent as drought and famine in the rural areas force people to seek alternative livelihoods in the cities (UNPD, 2003). As often is the case, urban expansion occurs at the expense of productive agricultural land, which increases the pressure on available agricultural land. The cities of Debre Zeit and Nazret (45 and 100 kilometers southeast of Addis Ababa) illustrate the desolation created by urban expansion: on each side of the main highway, rows of ugly and disorganized buildings are rising up to replace hectare after hectare of fertile agricultural land. If the current pace of industrialization continues, the environmental damage and impact on agricultural production will be severe.

The Way Forward

Ethiopia's developmental and environmental challenges are multifaceted and require multi-

sectoral approaches, such as investing in health, education, gender issues, and employment. As demonstrated above, the root of Ethiopia's challenges is its runaway population growth. Addressing the population issue will not solve all the problems, but without initiatives to control it, the country will not develop in a sustainable way. The current government has initiated some bold measures that, if successful, would change the lives of the poor, such as an agricultural policy, a poverty reduction strategy, and the millennium development project. However, none of these policies focus on population, despite its causal role, and the government has failed to commit to and implement its 1993 population policy.7

There are many ways to reduce rapid population growth, including educating young women, reducing harmful traditional practices like early marriage and early childbearing, and expanding family planning services. Girls' education is probably the most effective tool for reducing the rate of population growth and altering the country's developmental paradigm. Educated women are economically active, marry late, and make independent reproductive health decisions. For example, contraception is used by less than 5 percent of illiterate women in Ethiopia, while 16 percent of women with some primary education and 45 percent of women with secondary education use family planning methods (Central Statistical Authority [CSA] and ORC Macro, 2001).

However, it is unlikely that Ethiopia will achieve a critical mass of educated women before the population reaches an alarming level. Lacking qualified teachers, adequate educational materials, and infrastructure, education in most of the country is very poor. According to the Ethiopian Economic Association (2002), only two-thirds of children attend primary school; the rate for girls is a little more than 50 percent, versus 72 percent for boys. High school attendance is limited to less than 10 percent (12 percent boys, 8.5 percent girls) while only 2 percent go on to higher education. Less than 20 percent of women—compared to 40 percent of men—are literate (Network of Ethiopian Women's



Ethiopia's leaders must make a strong commitment to family planning and reproductive health at all levels. Without such commitments, local programs may make progress, but will not make a dent in the overall population situation.

Association [NEWA] & Ethiopian Women Lawyers Association [EWLA], 2003). By 2020, the number of school-age children (7 to 12) will grow to 22 million, more than double the number in 1990, requiring a threefold investment in the education sector just to maintain the current dismal level of quality (Ethiopian Economic Association, 2002).

Traditional practices encourage early marriage and immediate childbearing. The average age of girls at marriage is 17 years; over 40 percent of girls are mothers by the time they reach age 19 (NEWA & EWLA, 2003). Each Ethiopian woman will bear an average of 5.9 children (2 of which are unwanted and/or unplanned)—and this number is significantly higher in rural areas (CSA & ORC Macro, 2001). Delaying girls' marriage by at least three years will significantly impact the rate of population growth (Zlidar et al., 2003). Many NGOs are conducting education campaigns harmful traditional practices.8 Combined with rapid urban development, active community involvement, and mass media attention, these campaigns have produced important gains in girls' rights. For example, recent court cases have thwarted parental attempts to force early marriage or genital mutilation, and the government has promulgated new laws that make some traditional practices criminal offenses punishable by imprisonment.

Delaying marriage and childbearing also improves maternal and child health; early childbearing, short birth intervals, and having more than four children are major causes of maternal mortality and morbidity. High-risk births can be avoided by spacing births two or three years apart, delaying first births until at least the age of 18, and reducing the total number of births per woman (Upadhyay & Robey, 1999). Ethiopia's maternal mortality rates are among the highest in the world: according to the World Health Organization (2000), 850 mothers die per 100,000 live births, and one out of every 14 Ethiopian women is likely to die from pregnancy-related complications; in Europe and the United States, it is only about one out of 5,000. Save the Children's (2004) recent assessment of maternal health around the world ranks Ethiopia among the worst countries in the world for mothers. However, access to basic reproductive health servicesespecially family planning—could decrease maternal mortality significantly.

The easiest and most cost-effective response to population pressure is making family planning services as widely available as possible. Concerted efforts to provide contraceptives to those women who want and demand them will contribute significantly towards stabilizing the population growth. In 2000, less than eight percent of reproductive-age women were using modern family planning methods (CSA & ORC Macro, 2001). (Recent reports from the Ministry of Health put this figure a bit higher, but this needs to be confirmed.) Had services been available, more than 45 percent of women would use them to space or limit their child bearing (CSA & ORC Macro, 2001).

Some recent NGO programs show that significant progress can be achieved when family planning services are offered in a culturally and socially appropriate manner. According to internal Packard grantee reports, a community-based reproductive health program in Amhara, the country's second-largest region, combined family planning with other development initiatives to achieve a contraceptive prevalence rate of 39 percent (up from a baseline of 5 percent)

in less than five years. In Western Oromiya, the same approach enabled the Oromo Development Association to achieve 23 percent prevalence. Similar results were obtained in South Wollo, Jimma, and parts of the southern region. However, these successes are few and far between; in most of the country, services are unavailable or inaccessible to the majority of the population.

Government Policy

Ethiopia's National Population Policy, developed in 1993, identifies major obstacles to the country's development effort and proposes measures to address these obstacles. The transitional government, with support from the United Nations Population Fund, developed it prior to—and probably in preparation for—the 1994 International Conference on Population and Development in Cairo. At the time, few countries in Africa had population policies.

The National Population Policy seeks the "harmonization of the rate of population growth and the capacity of the country for the development and rational utilization of natural resources to the end that the level of welfare of the population is maximized over time" (section 4). Specifically, the policy seeks to increase contraceptive usage from 4 percent in 1993 to 44 percent and to reduce fertility from 7.7 children per woman to 4 by 2015 (section 4). Other objectives include reducing maternal and infant morbidity and mortality, increasing female participation in all levels of the educational system, ensuring spatially balanced distribution of the population, and improving agricultural productivity.

Had the policy been implemented as intended, Ethiopia would have made significant progress in reducing the rate of its population growth. But implementation has been a major problem. Senior government officials often take actions that are contrary to the policy, or take no action at all. A recent evaluation of the health development program identifies lack of commitment by government officials as the major impediment to the population policy's proper

implementation (Federal Ministry of Health, 2003). ¹⁰ Ethiopia's leaders often compare its population problem to China's or India's, and conclude that population growth will not negatively impact the country's development, as China and India are enjoying strong economic growth. However, Ethiopia is not like either of these countries: its level of education is far less, and it is not nearly as technologically advanced. Unfortunately, nothing indicates that Ethiopia's economy will reach that level before the population becomes unmanageable.

Ethiopia's leaders must make a strong commitment to family planning and reproductive health at all levels. Without such commitments, local programs may make progress, but will not make a dent in the overall population situation. No population program has succeeded without strong and proactive support from national governments.

International and local level support can complement but not replace government commitment, which is the driving force for population or other development programs.

Ethiopia's leaders should support expanded family planning because, in addition to addressing the population growth problem, it contributes to national development. The Millennium Development Goals adopted by the government identify several targets to be achieved by the year 2015, including reducing child mortality and combating HIV/AIDS (Ministry of Finance and Economic Development [Ethiopia] & UN Country Team, 2004). However, the goals do not mention family planning or reproductive health services, even though family planning services will contribute greatly to the achievement of every one of the development goals.

Family planning helps fight AIDS, for example; both programs not only distribute condoms to their clients, but also share the same health professionals, health facilities, and educational materials. Large families contribute to child malnutrition, while children that are born at reasonable intervals are usually better fed and in better health. In addition, as noted earlier, Ethiopia depends on outside assistance to feed its people, and therefore can not claim independence from

its donors. Since this functional loss of sovereignty arises from the asymmetry between population growth and production capacity, population becomes a question of national security.

Finally, the most important reason for expanding family planning: deciding the number and spacing of children is the basic right of every man and woman. It is ironic that those who oppose family planning programs are society's wealthy, who earn wages far higher than the national average, have access to adequate health and education facilities, and choose to have two or three children. Shouldn't the rest of the population have the same choice?

Notes

- 1. This article is an expanded and updated version of "Population and Development in Ethiopia" (Haile, 2003), which is available online at http://www.waltainfo.com/Profile/SpecialReports/2003/June/report1.htm.
- 2. UNPD (2003) estimates the current population growth rate at 2.46 percent, while the 2000 Demographic and Health Survey (CSA & ORC Macro, 2001) estimates a 2.7 percent growth rate. While Ethiopia's population growth rate increased from 1.5 percent in the 1940s to 3.1 percent in the 1980s, the current growth rate has declined due to a dramatic decrease in fertility in urban centers (3.1 children per family), even as the rural population maintains a high fertility rate of 6.5 children per family (CSA & ORC Macro, 2001).
- 3. According to the Ministry of Youth, Sports, and Culture, 38.2 percent of urban residents aged 15-29 and over a third of high school graduates are unemployed; the rate is much higher for young women (Toga, 2003). For every unemployed man, two women are looking for a job (NEWA & EWLA, 2003).
- 4. For more information on Ethiopia's land tenure system and agricultural development, see the research report by Ethiopian Economic Association & Ethiopian Economic Policy Research Institute (2002).
- 5. A recent study by the Ethiopian Economic Association (2002) found that in two textile factories outside Addis Ababa, 17 percent of the deaths from 1995 to 2000 were due to AIDS. During the period 1996-2000, 37.8 percent of deaths at two government departments were from AIDS, and in three community-based organizations (edirs), 26.5 percent of the total number of deaths were reportedly from AIDS.
- 6. In general, the lowlands are less populated because they are drier, hotter, and infected with malar-

ia and tse tse fly.

- 7. For the text of Ethiopia's National Population Policy of April 1993, see http://cyber.law.harvard.edu/population/policies/ETHIOPIA.htm.
- 8. See, for example, Pathfinder International's efforts to raise awareness about harmful traditional practices in Ethiopia's House of Representatives at http://www.pathfind.org/site/PageServer?pagename=Priorities_Advocacy_Field_Advocacy_Ethiopia_HTP.
- For more information on the Packard-funded programs in Ethiopia, please contact the author at SHaile@packard.org.
- 10. The lack of commitment by government officials might be tied to women's low level of participation in the public sector: only one of its 18 cabinet ministers is female, and only eight percent of the national parliamentarians are women (and even less at the lower level). Women constitute about 25 percent of the public service workforce, and 75 percent of them are support staff (NEWA & EWLA, 2003).

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