

Beginning the Demographic Transition: Very Young and Youthful Age Structures

In recent years, scholars, policymakers, and the media have paid increasing attention to the potential challenges of aging populations in industrialized countries in Europe, North America, and East Asia. These countries have crossed into the far reaches of the “demographic transition,” the process whereby high birth and death rates decline, producing smaller family sizes and longer life expectancies. The average fertility rate in Japan—which, along with Italy, has one of the world’s oldest populations—has been below replacement level since approximately 1965, and is expected to remain below replacement level until the end of this century (UNPD, 2007).

Scholars and policymakers are concerned about the economic consequences of population aging, including the difficulty of maintaining pension and health care systems as the working proportion of the population declines and the proportion of elderly rises. Yet these legitimate economic concerns have not altered the fact that historically, the critically serious problems of undemocratic governance and violent politi-

cal strife have been concentrated in countries at the opposite end of the demographic spectrum, whose youthful populations continue to grow.

Population Action International’s (PAI) 2007 report *The Shape of Things to Come: Why Age Structure Matters to a Safer, More Equitable World* defines very young and youthful age structures as those just beginning the demographic transition. In these countries, mortality rates have declined, and although fertility rates are starting to inch downward, they are still far above replacement level. The vast majority of the population is younger than 30; in some cases, this proportion can be as high as 77 percent. Such countries will continue to experience population growth for the foreseeable future.

Between 1970 and 1999, countries with a very young age structure were four times as likely as those at the end of the demographic transition to have experienced outbreaks of civil conflict (Leahy et al., 2007). Among countries with a youthful age structure, the ratio diminished, but they were still twice as likely to suffer from internal strife as those with a mature structure (in which at least 55 percent of the population is older than 30). Moreover, the pattern has continued, with six out of nine new outbreaks of civil conflict between 2000 and 2006 occurring in countries with very young or youthful age structures. Due to the complex linkages to other issues, there is no direct cause-and-effect relationship between demographics, conflict, and governance. Still, the association between age structure and development is powerful, and warrants a higher priority for population and reproductive health on policymakers’ agendas.

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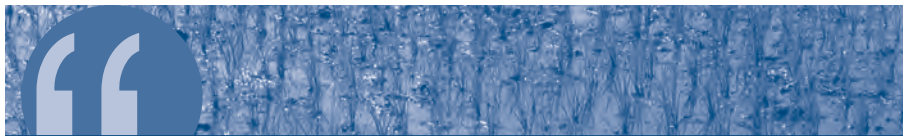
Beginning the Demographic Transition: Very Young Age Structures

In countries with a very young age structure, roughly two-thirds or more of the population is under the age of 30. In 2005, 62 countries representing 14 percent of the world's total population fell into this category—and all had a fertility rate higher than three children per woman. These countries are among the least developed in the world; their average gross national income (GNI) per capita in 2005 was \$827 (World Bank, 2007). In addition to a relatively high likelihood of civil conflict, these countries have autocratic or only partially democratic governments. In the last three decades of the 20th century, only 13 percent of countries with a very young age structure had fully democratic governments, compared with 83 percent of countries with a mature age structure.

Countries with a very young age structure are concentrated in sub-Saharan Africa, with only a few exceptions.¹ Meanwhile, only four countries in sub-Saharan Africa—Gabon, Mauritius, Réunion, and South Africa—have progressed far enough through the demographic transition to have passed beyond the very young age structure category.

At the beginning of the demographic transition, age structures follow the model of the classic “population pyramid,” with each successively younger age group comprising a larger share of the total population than the previous cohort. Better public health and nutrition lower mortality rates. However, fertility rates remain high, due to:

- Women's low social status and/or lack of educational attainment;
- Insufficient access to an array of modern contraceptive methods;
- Large desired family size for reasons of economic productivity or social status; and
- Parents' lack of confidence that most of their children will survive to adulthood.



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While it is likely that fertility rates in countries at the beginning of the demographic transition will continue to decline over time, their populations will still continue to grow rapidly—in some cases, even double or triple—in the next few decades.

Nigeria

While most countries have experienced great demographic change in recent decades, those with a very young age structure have remained largely static, and a few have actually reversed their course along the demographic transition.



Nigerians participate in traditional theater with a family planning theme in Ogun state. (© CCP, courtesy of Photoshare)

A village man and a community-based distribution agent are engaged in a spirited conversation about family planning during a village gathering near the town of Awassa in central Ethiopia. The man has four children and wants four more, and is against family planning. (© 2005 Virginia Lamprecht, courtesy of Photoshare)



The share of Nigeria's population under age 30 in 2005 was actually 1.5 percent *greater* than in 1975—a remarkable anomaly given that most countries have made at least slight progress since then toward a more balanced population distribution (UNPD, 2007).

Only eight percent of Nigerian women use a modern contraceptive method. This low rate, combined with large desired family size, is primarily responsible for Nigeria's fertility rate of nearly six children per woman (National Population Commission & ORC Macro, 2004). One-fifth of Nigerian children die before their fifth birthday, and 42 percent of women have never been to school. These major social and public health concerns are partially responsible for Nigeria's stunted economic development. Although it holds the greatest petroleum reserves in Africa and is the eighth-largest oil producer in the world, the country's per capita GNI was \$560 in 2005, even lower than the average for countries with a very young age structure (EIA, 2007; World Bank, 2007).

Nigeria also remains hampered by political corruption, instability, and bureaucratic mis-

management, which prevent the government from effectively capitalizing on and fairly distributing income from the country's abundant natural resources. After decades of military rule, Nigeria achieved partial democracy in 1999. The 2007 elections were the first to transfer power among civilians. While international observers generally condemned the elections as blatantly manipulated, the outgoing president's handpicked successor, Umaru Yar'Adua, assumed power relatively peacefully. However, violence targeting foreign oil producers continues to destabilize the Niger Delta region, where rebel takeovers and kidnappings have led major multinational companies to significantly cut back their production levels.

Ethiopia

Ethiopia's progress along the demographic transition in the past 30 years has also been slight; the share of its population younger than 30 has remained virtually static. Population growth continues to contribute to a long trajectory of humanitarian crises in Ethiopia. The UN Emergencies Unit for Ethiopia (2003, p. 2)

found that “rapid and unhindered” population growth is a significant factor in exacerbating food shortages. For more than two decades, Ethiopia has been stricken with recurring and, at times, severe food shortages. Due to widespread malnutrition, more than half of all children under age five are stunted, while 47 percent are underweight (Haile, 2004).

Droughts and famine have become more frequent and more severe as, among other reasons, increased population density has led to erosion, the overcultivation of land, and ecological degradation. Most Ethiopians rely on wood and charcoal for energy, and deforestation is extensive—especially in the highlands, where more than 80 percent of the population lives. In 1900, 40 percent of Ethiopia was estimated to be covered by forests; today, this figure stands at less than three percent (Haile, 2005). Ethiopia is one of the poorest countries in the world, with a per capita GNI of \$160, about one-fifth the sub-Saharan African average (World Bank, 2007).

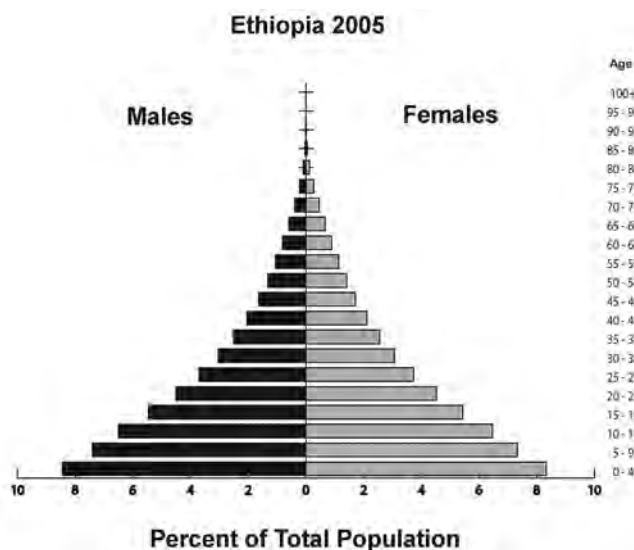
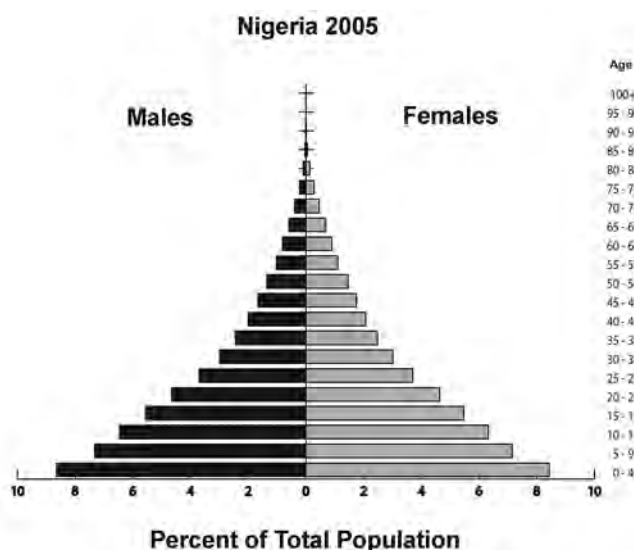
Compounding these environmental and economic problems, the vast majority of the population lives in rural areas, where access to modern health facilities is extremely limited. Use of modern contraceptives in rural areas, while increasing in recent years, remains very low, with a contraceptive prevalence rate of only 11 percent—compared to more than 40 percent in urban areas (Central Statistical Agency & ORC Macro, 2006). To merely maintain current primary school enrollment rates—a far cry from the Millennium Development Goal of achieving universal primary education by 2015—the country would need to build an additional 21,000 schools and train more than 280,000 teachers (Haile, 2005).

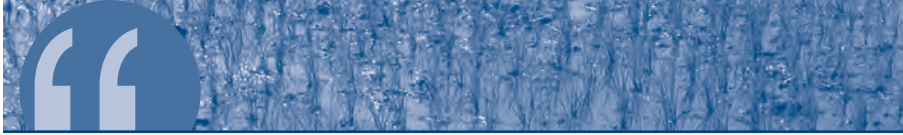
Continuing the Transition: Youthful Age Structures

The progress that countries with a youthful age structure have made along the demographic transition is evident in their population profiles, which reflect a less dramatic proportional increase in the size of each successively young-

er age group. However, populations in these countries are still growing, as women have an average of between two and four children each. The average per capita GNI in countries with a youthful age structure is \$2,429, about three times greater than that of countries with a very young age structure (World Bank, 2007).

Countries with a youthful age structure were about half as likely to experience civil conflict between 1970 and 1999 than those with a very young age structure—and slightly more likely to be democratic (21 percent were rated by the





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Polity IV project as full democracies, compared with 13 percent of countries with a very young structure). However, countries with a youthful age structure were still significantly more prone to conflict and much less democratic, on average, than those that had advanced further along the demographic transition.

Pakistan

There are fewer countries with a youthful age structure than with a very young age structure. However, the youthful group includes India, Pakistan, and Bangladesh, which together are home to more than one-fifth of the world's total population. Among these three South Asian countries, Pakistan has the most youthful age structure, as its birthrate did not begin declining until the 1990s, 20 years later than Bangladesh. In Pakistan, women now have an average of four children each; in Bangladesh, they average slightly more than three. Although the two countries had the same population (113 million) in 1990, Pakistan's population is projected to be 15 percent greater than its neighbor's by 2050. In Bangladesh, 47 percent of married women of reproductive age are using a modern contraceptive method, while in Pakistan, the figure is only 20 percent. Around the middle of the 21st century, Pakistan will become the fourth most populous country in the world, after India, China, and the United States (UNPD, 2007).

In recent decades, Pakistan has been embroiled in high-stakes geopolitical relationships, both internally and externally. The divisions between Pakistan's government and Islamic extremists reached a full-fledged confrontation in the summer of 2007, when the country's military president, Pervez Musharraf, ordered an attack on a mosque held by fundamentalists in Islamabad, leading to the deaths of nearly 300 people. The situation continues to change rapidly, following the assassination of former Prime Minister Benazir Bhutto and the election of a fragile coalition government, and culminating in Musharraf's resignation in August 2008. Overall, political infighting has hindered economic progress—and distracted the government from fighting terrorists and other militants (Toosi, 2008).

The link between age structure and Pakistan's political and social institutions is visible in the growth of the *madrasa* educational system. As the country's school-age population doubled between 1975 and 2000 and placement in public schools became more competitive, many parents—particularly the poor—turned to religious schools, or *madrasas*, to educate their sons. With more than 1.5 million students in Pakistan, *madrasas* provide free room and board to children in need, but their educational outlook is often limited to a strict religious orthodoxy with little practical application for employment. Some *madrasas* have been linked to sponsoring militant activities in Afghanistan and the Kashmir province (International Crisis Group, 2002).

Iran

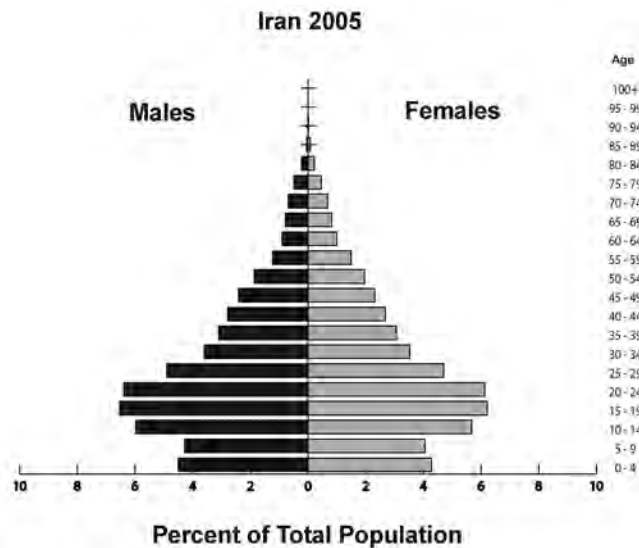
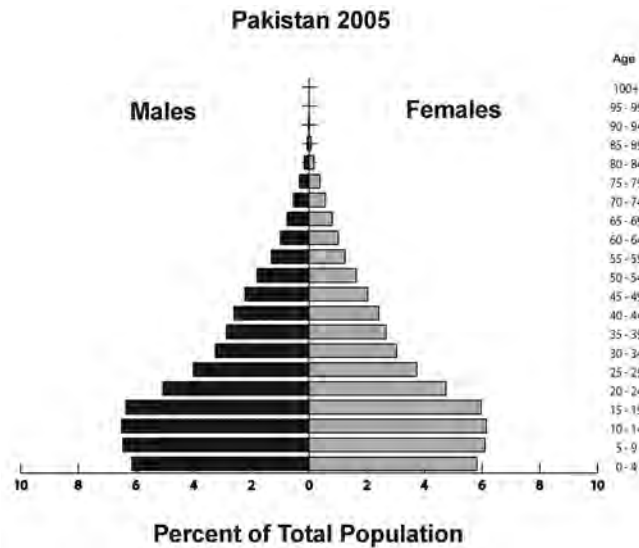
In the 1980s, during the prolonged war with Iraq, Iran's fertility rate was more than 6.5 children per woman, and the annual population growth rate surpassed four percent (UNPD, 2007). Concerned about the economic consequences of escalating demand for public services and jobs, in the 1990s government officials successfully convinced key clerics of the need for a concerted and extensive national family planning program.

Although the program does not focus on the reproductive health needs of the young and unmarried, it provides free modern contraceptive methods at public clinics. Prospective spouses must attend a government-sponsored class on family planning in order to receive a marriage license (Roudi-Fahimi, 2002). Indeed, the program has been even more successful at encouraging smaller families than the government had anticipated. The national fertility rate dropped to the replacement level of 2.1 children per woman (UNPD, 2007). As recently as 1995, Iran still had a very young age structure, but it has now reached the later stages of the youthful age structure category. According to UNPD projections that show fertility rates continuing to decline, Iran will achieve a transitional age structure by 2010.

Interestingly, Iran has made this rapid demographic progress under an autocratic government and with only slow economic development. A lower-middle income country, Iran's economic growth rate has averaged a little more than three percent annually over the past decade, and inflation and unemployment remain high (World Bank, 2007). The political establishment, controlled by Supreme Leader Ayatollah Khamenei and other clerics, has resisted recent efforts toward political reform and openness, while President Mahmoud Ahmadinejad has escalated tensions on the international stage over the country's nuclear development program.

In October 2006, President Ahmadinejad issued a challenge to Iran's now well-established family planning program, calling for higher fertility rates in an aim to increase the country's population by 70 percent, to 120 million. He proposed achieving this drastic change by cutting back women's working hours to encourage them to have more than two children each.

Despite Ahmadinejad's efforts, analysts doubt that Iran will return to high levels of population growth (Cincotta, 2006). The national family planning program and the social and economic changes it has promoted—including higher rates of women's participation in the workforce—are well-entrenched within Iranian



society. Iran's political and economic challenges are substantial, but the country seems well on its way to a more balanced age structure. Iran's history suggests that economic growth and democratic transformation are not prerequisites for a decline in fertility.

Policy Recommendations

Countries with very young and youthful age structures need interventions to encourage progress along the demographic transition, which in some cases they have not even begun.



When education, health care, and employment are available, young people renew and revitalize a country's economy and institutions. Unfortunately, these opportunities are not widespread in many countries that face a continually growing population.

REPORT ONLINE



The complete text of *The Shape of Things to Come: Why Age Structure Matters to a Safer, More Equitable World*, by Elizabeth Leahy and colleagues, is on Population Action International's website: http://www.populationaction.org/Publications/Reports/The_Shape_of_Things_to_Come/Summary.shtml

An earlier report from PAI, *The Security Demographic*, also focuses on age structure and security: http://www.populationaction.org/Publications/Reports/The_Security_Demographic/Summary.shtml

Leahy coauthored an article for *World Watch* magazine on "Population and Security" with ECSP's Sean Peoples: <http://www.worldwatch.org/node/5853>

Governments and civil society should collaborate on reproductive health programs, which must be long-term efforts with ongoing support from bilateral and multilateral donors.

Progress along the demographic transition is achieved through declines in mortality and fertility rates, which produce a more balanced age structure over time. These changes occur through access to basic health care, nutrition, and sanitation. The increased availability and use of modern contraceptive methods and higher levels of female educational attainment have both been shown to promote smaller family sizes (Bongaarts et al., 1990). Many countries—including Mexico, Thailand, and Tunisia—have successfully initiated a shift to smaller family sizes through state-supported voluntary family planning programs that provide free or affordable contraception, counseling, and related reproductive health care. In addition, countries in which most girls attend secondary school have lower fertility rates and better maternal and child health indicators (Abu-Ghaida & Klasen, 2004). This trend enables future generations of girls to be educated, and allows more women to join the labor force and increase their families' income.

Finally, policies and programs in countries at the beginning of the demographic transition must focus on the needs of and opportunities

for young people. People sometime misinterpret the fact that countries with youthful populations have been more vulnerable to conflict and poor governance to mean that young people are, in and of themselves, a security threat. This assumption could not be further from the truth. In fact, young people are an asset for any society, and their well-being and success determine the future of a country's development. When education, health care, and employment are available, young people renew and revitalize a country's economy and institutions. Unfortunately, these opportunities are not widespread in many countries that face a continually growing population. Providing them must be a major priority of these countries' development programs.

Note

1. Countries with a very young age structure outside of sub-Saharan Africa include Afghanistan, Cambodia, Guatemala, Haiti, Honduras, Iraq, Laos, Nicaragua, the Palestinian Territories, Syria, and Yemen.

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Saira, 11, attends a free adult teaching class at Fatehjang Training Center in Fatehjang district, Pakistan. She cannot afford school as she is an orphan. (© 2006 Jacob Simkin, courtesy of Photoshare)

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