

freshwater

WHY POPULATION MATTERS TO NATURAL RESOURCES

Despite humanity's success in feeding a growing world population, the natural resources on which life depends—fresh water, cropland, fisheries and forests among them—are increasingly depleted or strained. One hopeful sign for the new millennium is that population growth is slowing significantly. Current population projections suggest the possibility that world population could peak earlier and at a lower level than indicated by the projections of the past. Such an outcome, however, will require that family planning and related services be available to all who seek them, that more girls attend school and remain there longer, and that more women have the same economic opportunities men enjoy. We know that making family planning and related reproductive health services increasingly available to those who seek them is one of the world's success stories.

The challenge in the new century is to make such services available to all who want them.

POPULATION AND ENVIRONMENT

■ Having reached 6 billion in 1999, human population continues to grow.

UN population projections for the year 2050 range from 7.3 billion to 10.7 billion, suggesting the scope for influencing population's future. More people and higher incomes worldwide are multiplying humanity's impacts on the environment and on the natural resources that are essential to life. The planet's fresh water, fisheries, forests and atmosphere

are already strained. Based on these trends, it is clear that the 21st century will witness even greater pressures on natural resources. Current demographic trends offer hope, however. Over the past 40 years the average number of children born to each woman has fallen from five to less than three. Young people increasingly want to wait to have children and to have smaller families.

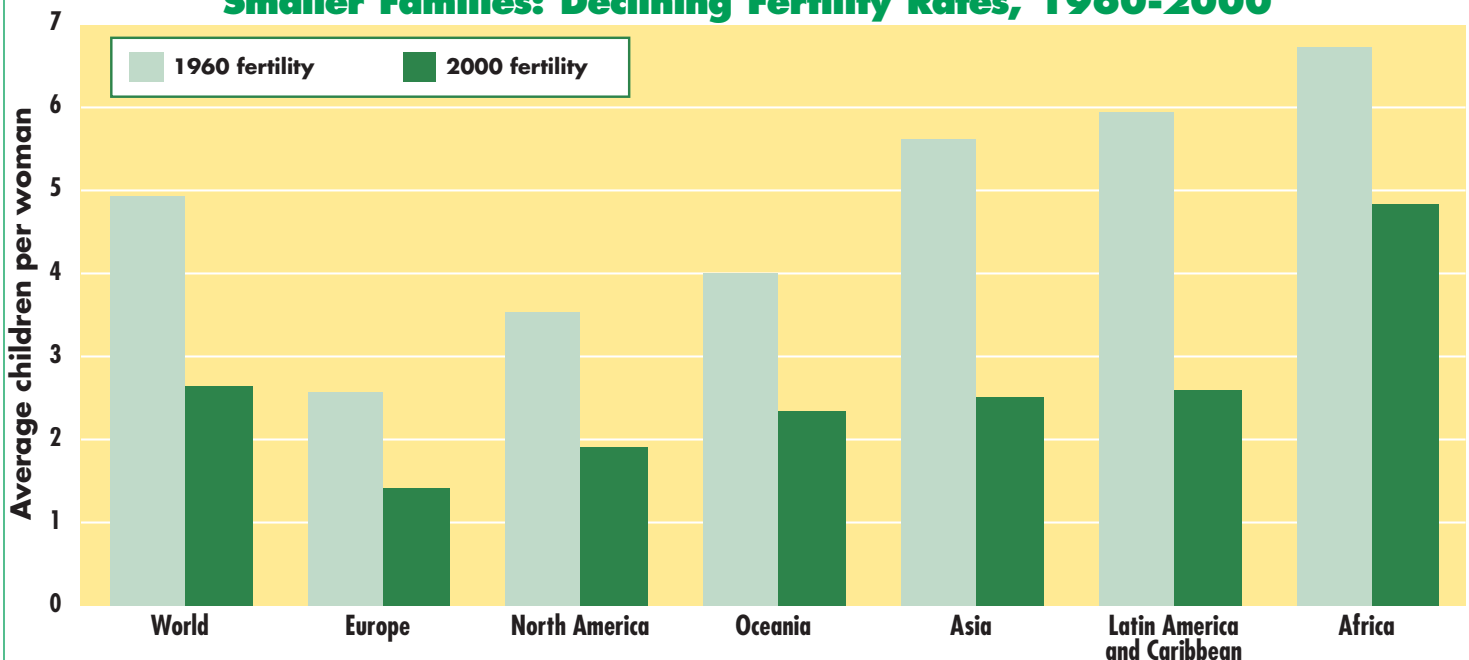
Policymakers have a choice. They can do nothing, or they can help ensure that in the 21st century the world's popula-

tion peaks with fewer than 8 billion people, simply by committing the financial resources to meet the needs of couples who want to have smaller families, later in life.

WATER

■ Currently, 505 million people face water scarcity. Depending on future rates of population growth, between 2.4 billion and 3.2 billion people may be living in either water-scarce or water-stressed conditions by 2025. For tens of millions of

Smaller Families: Declining Fertility Rates, 1960-2000



people in the Middle East and in much of Africa today, the lack of available fresh water is a chronic concern that is growing more acute and more widespread. The problem is worse than it often appears on the ground, because much of the fresh water now used in water-scarce regions comes from deep aquifers that are not being refreshed by the natural water cycle. In most of the countries where water shortage is severe and worsening, high rates of population growth exacerbate the declining availability of renewable fresh water.

CROPLAND

■ **The number of people living in countries where cultivated land is critically scarce is projected to increase to between 557 million and 1.04 billion in 2025.** Despite the Green Revolution and other technological advances, agriculture experts continue to debate how long crop yields will keep up with population growth. The food that feeds the future will be raised mostly on today's cropland. The soil on this land must remain fertile to keep food production secure. The minimum amount of land needed to supply a vegetarian diet for one person without any use of artificial chemical inputs or loss of soil and soil nutrients is .07 hectare, or slightly less than a quarter of an acre. An estimated 420 million people already live today in countries that have less than that per person. Easing world hunger could become unimaginably difficult if population growth resembles demographers' higher projections.

FISHERIES

■ **Most of the world's ocean fisheries are already being fished to their maximum capacities or are in decline.** Global fish production climbed modestly in 1997, the last year for which global data are available, almost entirely because the farming of fish expanded in the world's most populous country, China. Most fisheries worldwide are fully exploited or in decline. While the number of individual fishers continues to increase, the amount of fish each one catches is falling steadily. The poor have long depended on fish

for complete protein, but population growth is helping to push this important food source out of their reach.

FORESTS

■ **Today about 1.8 billion people live in 40 countries with less than 0.1 hectare of forested land per capita, an indicator of critically low levels of forest cover.** Based on the medium population projection and current deforestation trends, by 2025 the number of people living in forest-scarce countries could nearly triple to 4.6 billion. Most of the world's original forests have been lost to the expansion of human activities. In many parts of the developing world, the future availability of forest resources for food, fuel and shelter looks quite discouraging. Future declines in the per capita availability of forests, especially in developing countries, are likely to pose major challenges for both conservation and human well-being.

CLIMATE

■ **In 1996, the last year for which global data are available for both population and heat-trapping carbon dioxide emissions, per capita emissions of CO₂ continued the upward trend that dominated the middle 1990s.** When combined with growing world population, these increased per capita emissions accelerated the accumulation of greenhouse gases in the global atmosphere and, thus, future global warming. With 4.6 percent of the world's population, the United States accounted for 22 percent of all emissions from fossil fuel combustion and cement manufacture, by far the largest CO₂ contributor among nations. Emissions remained grossly inequitable, with one fifth of the world's population accounting for 62 percent of all emissions in 1996 while another—and much poorer—fifth accounted for less than 2 percent.

BIODIVERSITY

■ **More than 1.1 billion people live in areas that conservationists consider the most rich in non-human species and the most threatened by human activities.** While these areas comprise about 12 percent of the planet's land surface, they

hold nearly 20 percent of its human population. The population in these biodiversity hotspots is growing at a collective rate of 1.8 percent annually, compared to the world's population's annual growth rate of 1.3 percent.

POPULATION AND HOPE

■ **Clearly the environmental challenges humanity faces in the 21st century and beyond would be less difficult in a world with slower population growth or none at all.** Population is a critical variable influencing the availability of each of the natural resources considered here. And access to family planning services is a critical variable influencing population. Use of family planning contributes powerfully to lower fertility, later childbearing, and slower population growth. Yet policymakers, environmentalists and the general public remain largely unaware of the growing interest of young people throughout the world in delaying pregnancies and planning their families. In greater proportions than ever, girls want to go to school and to college, and women want to find fulfilling and well-paid employment. Helping people in every country to obtain the information and services they need to put these ambitions into effect is all that can be done, and all that needs to be done, to end world population growth in the new century.

Comprehensive population policies are an essential element in a world development strategy that combines access to reproductive health services, to education and economic opportunities, to improved energy and natural resource technologies, and to saner models of consumption and the "good life." Together these can bring humanity into enduring balance with the environment and the natural resources upon which we will always depend.

SOURCE

Robert Engelman with Richard P. Cincotta, Bonnie Dye, Tom Gardner-Outlaw and Jennifer Wisniewski, *People in the Balance: Population and Natural Resources at the Turn of the Millennium* (Washington, DC: Population Action International, 2000).