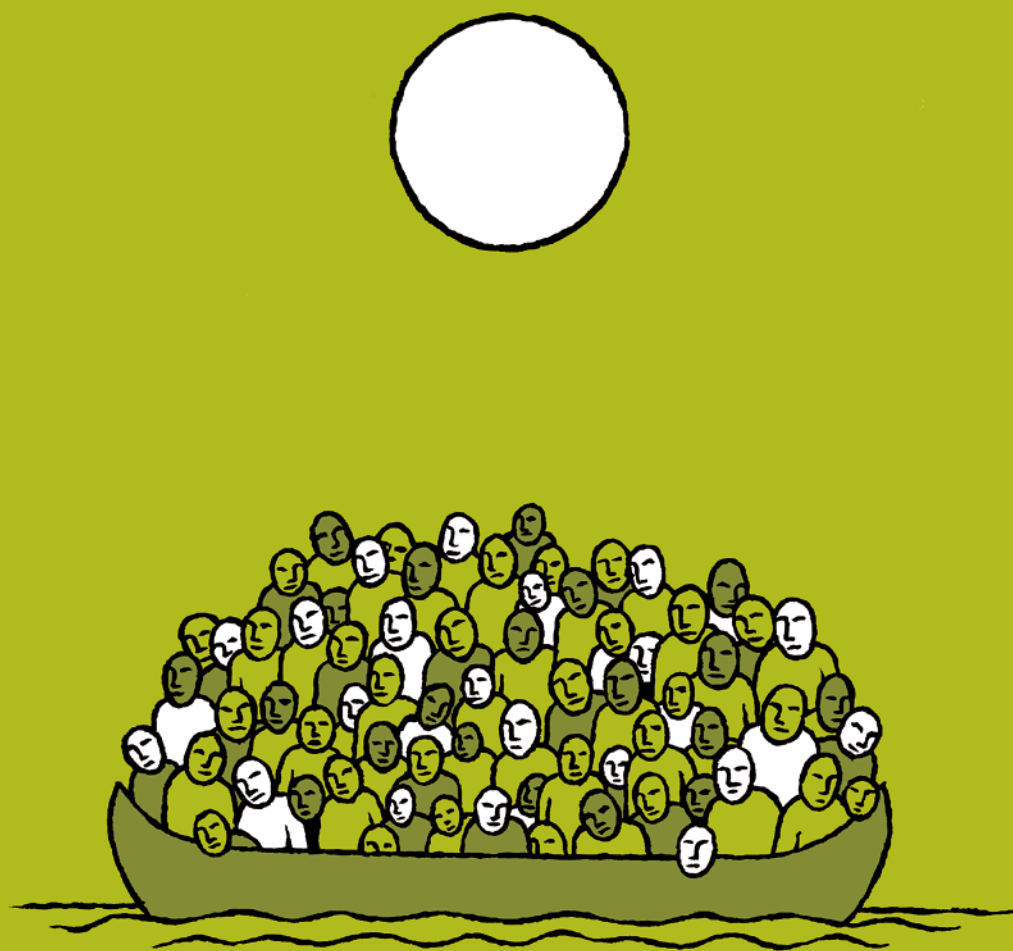


The Post Carbon Reader Series: Population

# Population: The Multiplier of Everything Else

By William N. Ryerson



## About the Author

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William Ryerson is founder and president of Population Media Center and president of the Population Institute. He has worked for nearly forty years in the field of reproductive health, including two decades of experience adapting the Sabido methodology for behavior change communications to various cultural settings worldwide. In 2006, he was awarded the Nafis Sadik Prize for Courage from the Rotarian Action Group on Population and Development. Ryerson is a Fellow of Post Carbon Institute.



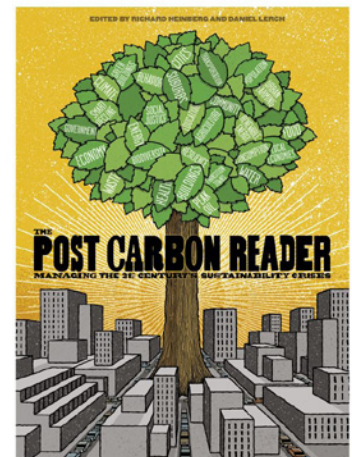
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613 4th Street, Suite 208

Santa Rosa, California 95404 USA



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# The planet and its resources are finite, and it cannot support an infinite population of humans or any other species.

When it comes to controversial issues, population is in a class by itself.

Advocates and activists working to reduce global population growth and size are attacked by the Left for supposedly ignoring human-rights issues, glossing over Western overconsumption, or even seeking to reduce the number of people of color. They are attacked by the Right for supposedly favoring widespread abortion, promoting promiscuity via sex education, or wanting to harm economic growth. Others think the problem has been solved, or believe that the real problem is that we have a *shortage* of people (the so-called “birth dearth”). Still others think the population problem will solve itself, or that technological innovations will make our numbers irrelevant.

One thing is certain: The planet and its resources are finite, and it cannot support an infinite population of humans or any other species. A second thing is also certain: The issue of population is too important to avoid just because it is controversial.

## The Magnitude of the Problem

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### THE BIG PICTURE OF GROWTH GLOBALLY AND IN THE UNITED STATES

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The world’s population is growing by about 80 million people annually—the equivalent of adding a new Egypt

every year. The total population is approaching 7 billion, seven times what it was in 1800. Every day approximately 156,000 people die, but 381,000 are born—a net daily growth of 225,000 human beings.

The cost in human suffering that results from unplanned and excessive childbearing is staggering: 500,000 women and girls die worldwide every year from pregnancy and childbirth<sup>1</sup>—a figure equal to all of the U.S. deaths in World War I, World War II, the Korean War, and the Vietnam War combined. Most of the women who die are in their teens and early twenties, forced by their societies into bearing children too young and far too frequently.

But the developing world is so capital starved owing in large part to its high population growth rate that allocating some portion of government budgets to reproductive health care is often extremely difficult. For its part, the developed world as a whole has failed to come close to meeting the commitments for population assistance made at the International Conference on Population and Development in Cairo in 1994. To achieve the commitments made in Cairo, both developed and developing countries would need to triple their current contributions. The lives of billions of people are being rendered increasingly desperate by being denied access to family-planning information and services they want and need.

**TABLE 12.1**

Years Elapsed between Major Milestones in Human Population Growth

YEARS ELAPSED	YEAR	APPROX. POPULATION
3,000,000	10,000 BC (Agricultural Revolution)	5–10 million
10,000	AD 1	170 million
1,600	~1600	500 million
200	~1800 (Industrial Revolution)	1 billion
130	1930	2 billion
30	1960	3 billion
15	1975	4 billion
12	1987	5 billion
12	1999	6 billion
12	2011	7 billion

The top three countries for population growth are India, China, and the United States. India grows by about 17 million per year, China by about 7 million per year, and the United States by about 3 million per year. These three countries, plus Nigeria, the Democratic Republic of the Congo, Pakistan, Indonesia, Uganda, Ethiopia, Bangladesh, Brazil, and the Philippines, are poised to grow by 1.6 billion by 2050, representing 63 percent of the world's projected growth of 2.6 billion in the coming four decades. These projections are based on assumptions about reduced fertility rates in all twelve of these countries. If the expected fertility reductions do *not* occur, the world's population could double to 13.6 billion by 2067.

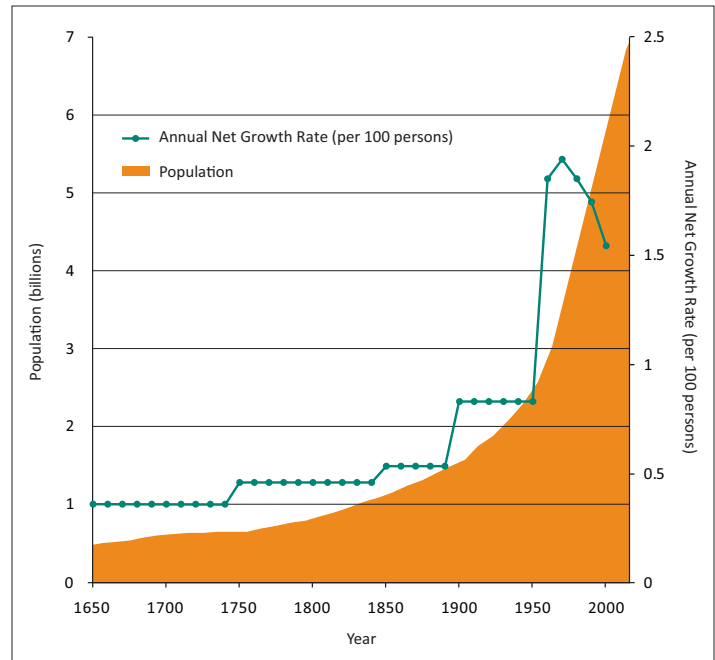
#### WHAT IS CAUSING POPULATION GROWTH?

Population growth of the magnitude we are experiencing now is a phenomenon that started in the twentieth century. As recently as 1925, India and many other developing countries were at zero population growth.<sup>2</sup> Table 12.1 and figure 12.1 give a quick historical look at world population growth rates.

The surge in population growth rates over the last half century is *not* the result of rising birth rates. Birth rates have dropped significantly on a worldwide basis since 1970. Instead, the very high rates of growth of

**FIGURE 12.1**

World population and net growth rates, 1650 to present.



Sources: Population data for 1650–1940 interpolated from U.S. Census Bureau, “Historical Estimates of World Population,” <http://www.census.gov/ipc/www/worldhis.html>; 1950–2010 population data from U.S. Census Bureau, “Total Midyear Population for the World: 1950–2050,” <http://www.census.gov/ipc/www/idb/worldpop.php>; annual net growth data adapted from James Palmore and Robert Gardner, *Measuring Mortality, Fertility, and Natural Increase* (Honolulu: East-West Center, 1983).

the world's population result primarily from declining death rates—the result of widespread vaccination programs and other public health measures. Declining mortality has been the trend of the last two centuries, with especially rapid decline during the last six decades particularly among infants and children. Declines in mortality have been so much faster than declines in fertility that the result has been unprecedented net rates of population increase.

The only way population growth can stop is if the birth rate and death rate reach the same level. At some point, they will reach the same level, either because of rising death rates or reduced birth rates—or both.

#### WHAT WE KNOW ABOUT THE CARRYING CAPACITY OF THE UNITED STATES AND THE WORLD

Nobody knows what the exact long-term carrying capacity (the number of humans—or any species—that

can be sustained by natural resources) of our planet is. In 1999, Cornell University biology professor David Pimentel estimated the planet's long-term carrying capacity at 2 billion people and the carrying capacity for the United States at 200 million, assuming people live at a standard of living similar to that in Western Europe.<sup>3</sup> At our current global lifestyle, the Global Footprint Network (GFN) estimates that humans have already outgrown the sustainable capacity of the planet by 40 percent. If GFN is right, the world is in population "overshoot," which will be followed by a die-off as critical resources become more and more scarce.<sup>4</sup>

In 1992, 1,700 of the world's leading scientists, including the majority of Nobel laureates in the sciences, signed a "Warning to Humanity," which said in part:

Human beings and the natural world are on a collision course.... If not checked, many of our current practices put at serious risk the future that we wish for human society and the plant and animal kingdoms, and may so alter the living world that it will be unable to sustain life in the manner that we know.<sup>5</sup>

In 1994, fifty-eight of the world's scientific academies issued another warning, stating: "It is our collective judgement that continuing population growth poses a great risk to humanity."<sup>6</sup> Moreover, presidential commissions established by Richard Nixon and Bill Clinton both urged stopping population growth in the United States.

## Dimensions of the Problem

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### CLIMATE

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Some environmentalists express doubts about the relevance of population trends to climate change. They rightly point out that high-consuming nations like the United States have the biggest per capita carbon footprints. They state that changing our lifestyles is more important than the growth in the number of Ethiopians, with their relatively small carbon footprints.

There is no doubt that changing Westerners' behavior with regard to energy efficiency and greenhouse gas emissions is critical to solving the climate crisis. However, per capita rates of carbon emissions leveled off in both Europe and the United States in the 1970s and have barely budged since then. On the other hand, total carbon emissions in both the United States and Europe have trended upward in a one-to-one ratio with rising populations. From 1975 to 2009, U.S. population and emissions both rose by 43 percent.

The importance of decisions about family size in developed countries was pointed out in a 2009 study, which concluded that, in the United States, the climate impact of not having an extra child is almost twenty times more important than that of many other environmentally sensitive practices people might employ in their lives: things like driving a hybrid vehicle, recycling, or using energy-efficient appliances and light bulbs.<sup>7</sup> The research also made it clear that potential carbon impacts vary dramatically across countries. The average long-term carbon impact of a child born in the United States—along with all of its descendants—is more than 160 times the impact of a child born in Bangladesh.

The United Nations' median projection of global population growth from 2010 to 2050 shows an addition of more than 2.5 billion people. Even in the low-consuming countries where much of that growth will occur, this is the carbon equivalent of adding two United States to the planet. Rising incomes in countries like China and India—and the desire of poor people worldwide to improve their lifestyles—are also driving per capita carbon emissions upward. Stabilizing population numbers at a sustainable level is the most cost-efficient way to reduce the growth in carbon emissions and to prevent the climate catastrophe that will otherwise occur.

University of Rhode Island biologist Fred Meyerson stated in a debate held by the *Bulletin of the Atomic Scientists* in 2008:

Just stabilizing total emissions at current levels, while keeping pace with population growth,

would require reducing global per-capita emissions by 1.2 percent each year. We haven't managed to decrease per-capita emissions by 1 percent in the last 38 years *combined*. The Intergovernmental Panel on Climate Change, former Vice President Al Gore, and many well-intentioned scientific, media, and activist campaigns haven't changed that fact.<sup>8</sup>

Funding for family-planning assistance in developing countries has been reduced since the Cairo conference in 1994. Yet the cost of full funding for family-planning information and services for everyone pales in comparison to the potential cost of climate change in the future.

## ENERGY

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Abundant and inexpensive energy has enabled the human population to grow sevenfold in just two hundred years. Cheap oil has provided the fuel for the Industrial Revolution and the information revolution; it has provided the pesticides and fertilizers used by farmers to increase crop yields, especially during and since the Green Revolution; and it has fueled the tractors and other equipment in developed countries that have driven crop yields even higher. All of these developments helped lower infant and child mortality rates around the world—and also helped produce, as an unintended by-product, the population explosion of the last half century.

Growth in demand for energy has outpaced population growth, as economies rich and poor have grown. The aspirations of the poorest countries for their share of economic wealth are dependent on continued availability of ever-growing amounts of cheap energy. The global community is only slowly waking up to the realization that shortages of energy and resulting price increases may make it impossible for economic growth to continue.

In 1973, John Holdren (now science adviser to President Barack Obama) wrote:

Consider the true statement, “Total energy consumption in the United States increased 1,100 percent (12-fold) between 1880 and 1966, while population increased 300 percent (four-fold).” On a quick reading, one might infer from this statement that population growth was not the major contributing factor. Actually, the increase in energy consumption per capita in this period was only 200 percent (three-fold); the 12-fold increase in total energy use is the product, not the sum, of the four-fold increase in population and the three-fold increase in use per person.<sup>9</sup>

In the United States, where per capita energy demand is over ten times that of developing countries, the projected addition of 135 million to the U.S. population in the next four decades will likely increase energy demands by more than the total present energy consumption of Africa and Latin America combined.

## WATER AND FOOD

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Freshwater constitutes only 3 percent of all water on Earth, of which about a third is found in underground aquifers and about two-thirds in ice caps and glaciers. Only 0.3 percent of freshwater is found on Earth's surface in lakes, rivers, and wetlands. Massively increased water demand for agriculture and from growing cities and suburbs is rapidly depleting this precious resource. As Lester Brown and his colleagues stated in *Beyond Malthus*:

There will be scarcely one fourth as much fresh water per person in 2050 as there was in 1950. With water availability per person projected to decline dramatically in many countries already facing shortages, the full social effects of future water scarcity are difficult even to imagine. Indeed, spreading water scarcity may be the most underrated resource issue in the world today.<sup>10</sup>

With water tables falling on every continent because of overpumping for agriculture, farmland is being lost as underground aquifers are depleted. This is particularly

# Inexpensive energy has enabled the human population to grow sevenfold in just two hundred years.

true of three major grain-producing countries: China, India, and the United States. Since 70 percent of water pumped from underground is used for irrigation, the depletion of aquifers, combined with loss of seasonal river flows as glaciers disappear, will likely lead to a serious decline in food availability in the next two decades. The twin forces of rising petroleum costs and inaccessible freshwater are likely to cause grain prices to increase dramatically, beyond the doubling and tripling of prices seen in recent years. The consequence will likely be starvation among the world's poorest people, who will be unable to afford to buy food in the marketplace.

In mid-2009, the World Economic Forum issued a report stating that in fewer than twenty years the world may face freshwater shortages so severe that “global food production could crater” because the world could “lose the equivalent of the entire grain production of the US and India combined.” The report warned that half of the global population will be affected by water shortages, millions will die, and water wars will increase over diminishing supplies.

If land-based food becomes scarce, why not turn to the world's lakes and oceans for more fish to feed the growing human population? That is exactly what has been happening, with devastating effects on the world's fisheries. Study after study reveal that wild populations of fish are collapsing as a result of overfishing—in large part because the world's fishing fleet has

a fishing capacity twice that of the sustainable yield of the world's wild fisheries. Fish farming is rapidly replacing wild-caught fish in its share of the world's fish market. However, as fish farming grows, fish are competing with poultry and livestock—and with humans themselves—for feedstuffs such as grain and fishmeal.

## **BIODIVERSITY, FORESTS, AND PROTECTED NATURAL AREAS**

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The concept of carrying capacity does not apply just to humans. It applies to all species competing for the same resources in any area. Growth in human numbers has greatly accelerated destruction of habitats, leading to a rapid increase in the rate of species extinction and rapid declines in the populations of other species. Despite efforts to protect and preserve various species, the last century has seen the greatest extinction of plant and animal life since the age of the dinosaurs 65 million years ago. Humans are responsible for this monumental tragedy, primarily through habitat destruction, but also through the introduction of “exotic” invasive species, pollution, overhunting, and overfishing.

Some of the destruction of the planet's biodiversity is the result of population-driven expansion of human activity, and some is the result of wasteful patterns of consumption and waste. As economies have expanded globally, the growth in human numbers has become even more destructive of biodiversity. Deforestation of

rainforests like the Amazon has been driven both by a demand for lumber products and by the need for additional agricultural land. This deforestation is a major contributor to climate change, owing to the release of huge amounts of stored carbon and the elimination of the carbon-absorptive capacity of the forests.

### POVERTY AND ECONOMIC DEVELOPMENT

The assertion that rapid rates of population growth somehow stimulate economic growth has been made by economists for a long time, but it achieved prominence during the Reagan administration. As advocated by free-market economist Julian Simon and others, the contention was that rapid rates of population growth stimulate consumerism and that the added demand fuels economic growth.

The opposite is true. As explained by Ansley Coale of Princeton University, there is a direct relationship between rapid rates of population growth and declining economic conditions in underdeveloped countries.<sup>11</sup> The economies of many developing countries, such as those in Africa, are being damaged by the fact that a high percentage of personal and national income is spent on the immediate survival needs of food, housing, and clothing. There are simply too many people dependent on each working adult. This leaves little income at the personal or national level available to form investment capital, which in turn depresses industrial productivity growth and leads to high unemployment (which is exacerbated by rapid growth in the numbers seeking employment). Lack of capital also contributes to a country's inability to invest in education, government, infrastructure, environmental needs, and other areas that can contribute to the long-term productivity of the economy and living standards of the people. Indeed, in the twentieth century, no nation made much progress in the transition from "developing" to "developed" until it first brought its population growth under control.

Worldwide, according to a comprehensive report by American author Bruce Sundquist, developing nations



There is a direct relationship between rapid rates of population growth and declining economic conditions in underdeveloped countries.

spend about \$13,000 in per capita public infrastructure costs over the lifetime of each resident.<sup>12</sup> Multiplying that figure by the 78 million in net growth of the population each year means that these countries now require about \$1 trillion per year in new infrastructure development just to accommodate their population growth—a figure that is very far from being met and is effectively impossible for these countries to generate. This explains why the infrastructure of the developing world is sagging under the demands of the equivalent of a new Los Angeles County in additional population (9.5 million) every six weeks.

### HEALTH

In 2008, the world marked an unprecedented milestone: More than half the human population now lives in urbanized areas. The growth in human numbers—combined in many parts of the world with crowding, poor hygiene and health care, pollution, and close interaction of people and farm animals—has led to ideal conditions for pandemics. The World Health Organization has been warning for some years that it is not a question of *if* but *when* these conditions will lead to pandemic disease. Massive rural-to-urban migration in developing countries is making the situation in



large urban centers increasingly desperate, with growing slums that lack basic sanitation and water—and it is likely that this migration will greatly increase in future years. At the same time, encroachment by people into previously wild habitats has led to the spread of new diseases to humans.

Ninety percent of all infectious diseases in Africa, Asia, and Latin America are waterborne, thanks to lack of sanitation and proper water treatment in many areas. The public health infrastructures of poor countries are unable to respond to new disease threats because they are already underfunded and overwhelmed by the existing disease burden. Rapid growth of the populations in these countries leads to stagnating economies that do not generate the funds needed to provide basic health care to those who need it most.

## Myths and Reality

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There is much misinformation about population, some of it intentionally planted by those who think continued population growth holds some benefit for them. Confusion also exists among journalists, who, in turn, misinform the public. The mathematics of exponential growth can also be confusing to those who have not studied math. Even the term “population” is emotionally laden for many people because of the associations it has had with various controversies over the years. Many population myths are based on faulty logic, and many population program policymakers and funders have been reluctant to recognize overwhelming evidence that some of their beliefs are countered by impressive evidence.

The predominant myths about population include misconceptions about the nature of the problem, the belief that population growth poses no threat, the belief that we cannot do anything about population growth, and beliefs about interventions that are mistakenly thought to hold the promise of a quick fix to the population problem. Examples of these are discussed below.

## THE “BIRTH DEARTH” MYTH

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The news media in recent years have been informing people in Europe and the United States that there is the possibility of a coming decline in population numbers sometime in the next fifty to three hundred years because of a “birth dearth.” The following headlines give the picture:

- “Birth Dearth; Remember the Population Bomb?,” *Newsweek*, September 27, 2004
- “Population No Longer a Worry in Poor Countries,” *Times of India*, January 26, 2005
- “Birthrate Decline Will Be Our Global Peril,” *Philadelphia Inquirer*, July 9, 2006
- “A World Without Children,” *Boston Globe*, June 22, 2008

These articles miss the bigger and more immediate picture of what is happening worldwide. Even though the current rate of global population growth at 1.2 percent is lower than the peak rate of about 2 percent that occurred in the 1960s, the world’s population is still growing by about 78 million people each year. That’s the equivalent of adding a new Ethiopia every year. Conservative demographic projections show the world’s population growing by 2.5 billion people over the next four decades—a 40 percent increase. Many people are simply not aware of the scale and speed at which world population is expected to continue growing.

## THE BELIEF THAT SCIENCE AND TECHNOLOGY WILL SOLVE ALL PROBLEMS

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The logical extension of the saying “Necessity is the mother of invention” is that deprivation is good because it stimulates innovation. On the other hand, population experts point out that solutions to some problems (such as high infant death rates and hunger) often cause new problems (such as overpopulation). Moreover, technological innovation doesn’t always come to the rescue. People living in the fourteenth century were in desperate need of the medicines that weren’t invented

until after World War II. People living in Bangladesh and in the Gulf states in the United States are in great need of technology to control typhoons and hurricanes, but to say that their suffering is good because it might stimulate such development would not only be ludicrous but cruel.

Regions with severe overpopulation and related poverty and starvation do not have the relative luxuries of time and energy that are usually needed for invention. Indeed, technological growth may ease us through some of the potential crises of the future, but there is little about the current magnitude or nature of world population growth that can be expected to significantly accelerate technological progress—and in the meantime, many people are bound to suffer needlessly. Even if changing technologies allow for some expansion of population numbers in the future, the limits of social institutions and the needs of other species for habitat make it imperative that we question the desirability of adding more and more people to the population.

#### **THE BELIEF THAT THERE IS A PROBLEM ONLY WITH DISTRIBUTION OF FOOD AND OTHER RESOURCES**

During the discussion of the “new international economic order” that was prominent in the 1970s, the idea was put forward that enough food and other resources existed to support all the people currently on Earth. While there may indeed be enough food grown each year to feed all of the people who are currently alive, when it comes to population growth, trends are everything.

Even if we don’t consider the global environmental consequences of population growth, some of the current trends in agriculture are disturbing. The per capita production of grain products, which comprise the bulk of the human diet, has been declining since 1984 despite continued conversion of forestland into crop production and the Green Revolution of high-yield grains. The simple reason for this change has been that population growth has outstripped growth in agricultural productivity. Since 1970, about 300 million people have died of hunger, and looking ten to twenty years down the

road, many countries face massive starvation. Trends in overpumping of water for irrigation, climate change, and energy availability threaten to greatly reduce global grain production.

It is probably fanciful to imagine that the wealthy countries of the world will materially cut their standard of living to voluntarily give a major portion of their wealth and resources to the world’s poor. If uneven distribution of resources is contributing to severe poverty in developing countries, is it responsible in the meantime to do little to help stop population growth? Of course, if population growth rates remain high, even redistribution of wealth and resources and changing power relationships among countries will not solve the problems of poverty and environmental degradation.

#### **THE BELIEF THAT RELIGIOUS BARRIERS WILL PREVENT THE USE OF FAMILY PLANNING**

It is commonly believed that family planning is impossible in many countries in Latin America or the Middle East because of religious opposition to contraception. In fact, the mainstream denominations of Catholicism and Islam do not completely oppose family planning in their teachings. The Catholic Church supports broad-based sexuality education and encourages couples to limit the number of their offspring to those they can afford and nurture (it does, however, oppose the use of certain means to achieve those ends). The Koran teaches that women should breast-feed their infants for at least two years, which, according to some Islamic scholars, inherently favors child spacing.

Practically speaking, limiting family size and curbing population growth rates have already proved possible in Catholic and Islamic countries. Predominantly Catholic countries like Italy and Spain have achieved sub-replacement fertility, while predominantly Muslim nations like Indonesia, Iran, and Bangladesh have achieved remarkable progress in promoting family planning. The average woman in Indonesia has 2.5 children compared to a 2.7-child average in Asia outside of China.

# There is strong reason to believe that lower fertility rates lead to improved economic development.

## **THE MYTH THAT ECONOMIC DEVELOPMENT IS NEEDED TO SLOW POPULATION GROWTH**

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I personally attended the 1974 U.N. World Population Conference, and I heard many delegates there claim that “development is the best contraceptive.” The example of the reduction in fertility rates in Europe and North America over the two previous centuries was proposed as evidence that improved economic welfare would lead automatically to such a demographic transition in the developing countries. The Demographic and Health Survey reports developed since 1984 for the U.S. Agency for International Development (USAID)<sup>13</sup> show that desired and actual levels of fertility are higher in countries with low levels of economic development and lower in countries with high levels of development.

But which is the cause, and which is the effect? It turns out there is strong reason to believe that lower fertility rates lead to improved economic development, and there is comparatively little evidence that improved economic conditions lead to lower fertility rates. Vanderbilt University emeritus professor of psychiatry Virginia Abernethy points out a number of cases that cast doubt on the idea that economic development leads automatically to lower fertility:

Land redistribution in Turkey [in the mid-twentieth century] promoted a doubling in family size (to six children) among formerly landless peasants. In the United States and much of

Western Europe, a baby boom coincided with the broad-based prosperity of the 1950s. More water wells for the pastoralists of the African Sahel promoted larger herd size, earlier marriage and much higher fertility.<sup>14</sup>

Inversely, poverty can lead to lower fertility rates. For example, the United States had its lowest fertility rate in history prior to 1970 during the Great Depression of the 1930s.

These examples indicate that economic prosperity may lead to higher fertility levels and that economically depressed conditions may motivate people to limit family size. While there are examples of industrialization being associated with lower fertility levels, the nature of the relationship is not well understood. The point is that economic development by itself, without other measures that affect family-size desires or the ability to achieve those desires, is not necessarily a cure-all for the population problem.

## **THE MYTH THAT PROVIDING CONTRACEPTIVES IS ALL THAT IS NEEDED**

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There is a view among many population activists that the top priority in the population field should be to provide contraceptive services. This results from a belief that lack of access to these services is the major barrier to fertility reduction. Of the money spent by developing and developed countries for population-related

work in the developing world, the largest share has gone to providing family-planning medical services to individuals and couples.

It is true that, over the last forty years, increasing access to contraceptive services has helped reduce fertility rates, but large-family norms and the cultural and informational barriers to use of contraception are now the major impediments to achieving replacement-level fertility. Changing this situation takes more than the provision of family planning. It requires helping people to understand the personal benefits in health and wealth for them and their children of limiting and spacing births. It also involves role-modeling family-planning practices and overcoming fears that contraceptives are dangerous or that planning one's family is unacceptable. And it requires getting husbands and wives to talk to each other about the use of family planning—a key step in the decision to use contraceptives. Delaying marriage and childbearing until adulthood and educating girls are also critical.

This does not mean that efforts to provide contraceptive services should be reduced; high-quality, low-cost reproductive health-care services are an essential element of family planning. But access to family-planning methods is not sufficient if men prevent their partners from using them, if women don't understand the relative safety of contraception compared with early and repeated childbearing, or if women feel they cannot take control of their own lives.

An estimated 100 million to 200 million women want to delay or limit childbearing but are not using a modern method of family planning. The top reasons for their nonuse are cultural and informational issues, namely fear of health effects, male opposition, religious opposition, and fatalism. A lot of effort has been focused on providing contraceptives to this group, but in reality less than 2 percent in most countries cite cost or lack of access to services as their reasons for nonuse. On the other hand, there are about 1.8 billion adults who don't use contraception specifically because they want additional children. Indeed, desired levels of



Actors record an episode of *Umurage Urukwiye* ("Rwanda's Brighter Future"), a radio serial drama in Rwanda.

fertility account for roughly 90 percent of the differences among countries in total fertility rates.<sup>15</sup>

## What's Needed to Solve the Population Problem?

Universal access to family-planning services and information is one key to stabilizing population numbers. The freedom to choose how many children to have, and when to have them, has been recognized as a fundamental human right since the 1974 U.N. World Population Conference. When women have the resources to make informed, voluntary decisions about the number and spacing of their children, they often choose to have smaller families.

However, hundreds of millions of women today are not using any method of family planning, because of three main barriers: the desire for large families, lack of correct information, and social opposition. The gravity and complexity of the problem call for a holistic approach that not only improves information and access to family planning but also addresses social barriers such as the status of women—for example, by reducing violence against women and promoting the education of girls.

### PROVIDE FAMILY-PLANNING SERVICES

Reaching people with high-quality reproductive health services and information—including contraceptives and medical supplies at affordable prices—is important for preventing unintended pregnancies, reducing maternal deaths, fighting the spread of HIV, and stabilizing population numbers.

Between 1960 and 2009, the average number of births per woman globally fell from 4.9 to 2.6 as contraceptive use increased. Where family-planning services and related information have been made available, there have been reductions in both fertility rates and maternal mortality. According to the United Nations Population Fund, “The level of unintended pregnancy is lowest in countries with greatest access to effective methods of contraception and where women play a major role in family decision-making.”<sup>16</sup> While significant improvements have been made globally, there are still large populations that lack access to services, particularly the more vulnerable groups such as the poor and those living in remote rural areas.

Ndola Prata of the Bixby Center for Population, Health, and Sustainability has found that the relationship between contraception use, income, and education can vary widely from country to country.<sup>17</sup> Globally, women from the richest segments of society have contraceptive-prevalence rates of two to seven times higher than their poorer counterparts. In countries where contraceptives methods are widely available and accessible, however, the disparity is less. For example, in Bangladesh, contraceptive use does not vary significantly according to level of education, whereas in the Philippines it does.<sup>18</sup> Bangladesh was able to address this variance by making family-planning services highly affordable and accessible, and by employing a vast force of female field workers to visit women in their homes and provide highly subsidized contraceptives. In contrast, the sale of contraceptives is outlawed in Manila, making it very difficult for people to obtain family-planning methods without traveling out of the city.

### ROLE-MODEL A SMALL FAMILY AS THE NORM

Family-planning education can reach large numbers of people very cost effectively through entertainment programs broadcast on radio and television. Serial dramas are especially well suited to this, allowing audiences to watch or listen along as their favorite characters change from holding traditional attitudes to holding modern attitudes regarding issues such as the role of women, family-size decisions, and the use of family planning.<sup>19</sup>

A growing body of evidence bears out the effectiveness of role modeling through entertainment. In 1977 Miguel Sabido, then vice president for research of the Mexican network Televisa, launched a prime-time weekday *telenovela* called *Acompañame* (*Accompany Me*) to educate viewers on family planning. *Acompañame* aired for nine months and dramatized the personal and familial benefits of planning one’s family, focusing on the issue of family harmony. The results included a 33 percent increase in attendance at family-planning clinics and a 23 percent increase in the sale of contraceptives in pharmacies.<sup>20</sup> *Acompañame* was so successful that Televisa developed four additional family-planning soap operas with Sabido. During the nine years that the five family-planning programs were on the air, Mexico experienced a 34 percent decline in its population growth rate. In part through the efforts of the Population Media Center, Sabido’s model has since been applied in numerous countries, and independent research has confirmed its effectiveness, even given the context of other economic and cultural factors.

In terms of births avoided per dollar spent, mass media communications are probably the most effective strategy for reducing fertility rates. Research on a Tanzanian radio serial drama showed that the cost of the program per new adopter of family planning was under \$0.32 (U.S. currency).<sup>21</sup> News and information programs, comic books, and traditional media (such as traveling road shows) can also incorporate educational messages that people can relate to. Whatever the media, family-planning messages should not dwell on methods but

on benefits. People will be much more motivated to use family planning to limit family size if they know that it can lead to happier marriages, improved family harmony, greater health and well-being, and material progress for them and the nation as a whole.

### **ELEVATION OF WOMEN'S STATUS AND GIRLS' EDUCATION**

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How well a society treats its women is one of the strongest indicators of the success and health of a society. Providing girls with an education, allowing women to have a voice in family decisions, and providing women with opportunities for economic freedom are key to creating an environment in which reduced fertility rates are possible.

Several factors affect demand for contraception. Women who cannot read or have limited education may know little about their own bodies, much less about family planning. Misconceptions and myths about pregnancy and contraceptive methods abound. Social norms surrounding fertility and virility, and the overall low status of women, keep many women and men from seeking family planning.

Girls' education is key. As economist Jeffrey Sachs has pointed out:

Girls' education has time and again been shown to be one of the decisive entry points into the demographic transition.... There is the most direct effect: Girls in school, notably in secondary school, are likely to remain unmarried until a later age, and therefore are likely to begin child rearing much later than girls without schooling.... Perhaps most important for the long term, education empowers women in the labor market, raising the value of their time by imparting labor market skills.<sup>22</sup>

Worldwide, 62 million school-age girls are not enrolled in school. In many cases, schools are far away and going to school would take a child away for the entire day, robbing the family of her (or his) labor around the home.

If they are enrolled at all, girls are usually taken out of school first, if needed, since boys' education is valued more highly. In most developing countries, a woman with the same education earns far less than a man, so there is more economic benefit in paying to educate a boy. Also, since in many societies it is the girl who leaves her parents' home to join her husband's household, there is little incentive for her family to educate her, as this "investment" will be lost to the household.

Girls' education and eliminating the gender disparity in primary and secondary education have a direct impact on the number of children a woman has. In Brazil, women with secondary education have an average of 2.5 children versus illiterate women who have an average of 6.5 children. Once women are aware of their options with regard to family planning and are empowered to seek out alternative opportunities in life, the desire for large families decreases. Having fewer children then allows families to invest more in the health and education of each child, thereby raising the productivity of future generations.

### **What Can Be Done**

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We can begin solving the global population problem by providing family-planning information and services, role-modeling a small family as the norm, and elevating the status of women and girls. Because of the controversies surrounding population issues, it will take strong public support to give political leaders the courage to act. How can we best move forward with achieving these goals?

The governments of the world need to make policy and financial commitments to tackle overpopulation. It is critical that every country include reproductive-health issues in national budgets. Moreover, it is important to eliminate laws that require a woman to have her husband's permission to use contraceptive methods and laws requiring parental consent for adolescents under a certain age to obtain family planning.

# How well a society treats its women is one of the strongest indicators of the success and health of a society.

There are many things individual citizens can do:

- Support domestic and international family-planning initiatives, both those providing services and those providing information and education to help bring about lower fertility rates and elevation of women's status.
- Support population organizations to educate people about population issues and to push for sound population-related policies.
- Contact elected representatives urging them to support comprehensive family-planning and reproductive-health services, both internationally and domestically, and to support women's rights and an end to abusive practices such as child marriages.
- Talk to family, friends, and co-workers about the pressing need for achieving gender equity and a sustainable population size.

It is also important that the United States take a leadership role; there are a number of actions the United States can take immediately:

- Issue a statement on the importance of addressing population growth and its relevance to all of the United Nations' Millennium Development Goals.
- Contribute a higher percentage of GDP to population assistance programs in developing countries.

- Establish a new Population Commission to set the agenda for population stabilization, using the recommendations of previous commissions as a starting point.
- Establish an Office of Special Assistant to the President for Population and Sustainability Issues, and similar offices elsewhere in the federal government, to elevate the discussion of the population issue and coordinate with relevant offices in other agencies.<sup>23</sup>

Finally, the philanthropic community and donor nations have important roles to play. Promotion of family planning has dropped steadily down the list of international development priorities since 1994. Between 1995 and 2003, donor support for family-planning commodities and service delivery fell from \$560 million to \$460 million.

## Get Involved in the Solution

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The goal of humanity should be to have a sustainable number of people living a comfortable lifestyle. Instead, we are recklessly pursuing an experiment to find out how many people can be supported in the short term without regard for the impact on future generations or the consequences for other species.

Finding a solution to the population problem will involve multiple strategies—and it will not be either simple or inexpensive. Much of the effort over the last forty years has focused on the development of governmental policies and the provision of family-planning medical services. We must add to this the development of social environments that motivate and empower people to use family planning and limit family size. Governments and the international donor community must get serious about providing ample funding to these and other highly effective strategies.

The world needs to focus major attention on stopping population growth. The planet is finite, and exponential growth is not sustainable. We can solve the population problem voluntarily if we apply what we know and mobilize the funds needed to provide all people with family-planning information and services.



## BOX 12.1

**Why I Chose to Be Childless**

By Stephanie Mills

A few years ago my writers' group, which happened to consist of six non-mothers (we dubbed it the Child-free Ladies' Mind Workers Union Local #1), got into a discussion of our reasons for not having children. Anne-Marie, a poet, said that she had been influenced back in her college days by a speech she heard about, some graduate of a ritzy college vowing not to have children. "That was me," I told her. It was a little unnerving to discover that my action 40 years ago had personal consequences in her life.

It was in 1969 that I gave that speech she remembered, at my commencement from Mills College (although we have a name in common, I'm no relation to the college's founders). I titled my speech "The Future Is a Cruel Hoax." The subject was overpopulation and the ecological crisis. I said that in light of all the damage human beings were doing to the planet, "the most humane thing for me to do would be to have no children at all."

My saying that made big news. The morning after my graduation I woke up to find that I'd become a celebrity. My photo and remarks were on the front page of the Oakland Tribune and going out over wire services all over the country and the world. There were items about it in the New York Times and all the major newsmagazines. For weeks afterwards I was caught up in a maelstrom of media attention. Suddenly I had to deal with reporters and interviewers and invitations to give more speeches and appear on panels throughout the US. I rose to the occasion pretty well, considering that I was a mere 20 years old and an introvert at heart.

Although I had spent my college years—the late 1960s—in a cushy situation on the quiet campus of a women's college, I was part of a generation that felt revolutionary. It helped that Mills was situated just down the freeway from the University of California. As graduation approached we'd watched the US National Guard helicopters pass over, carrying troops to occupy Berkeley during the People's Park riots. Some mighty changes seemed to be coming down, and it was the job of the young to make them good.

Being at a women's college in the heyday of women's liberation, and having a mother who was a feminist and a good mother if no great fan of motherhood, encouraged me to make my own decisions about whether my personal future would include being a mother. In declaring that I would forgo motherhood, I wasn't so much making a

statement about my personal life as I was saying that I would make a sacrifice and depart from the pattern, because I did and do believe that to avert ecological catastrophe individuals must change their lives—that the whole civilization has to change, in fact.

The non-mother label stuck to me, but I didn't let it define me or limit my topics. I spoke about overpopulation, ecology and the social change necessary to deal with the problems our species had created. Occasionally I was pitted in debate against women or men whose cause was maximum human reproduction. Once in a great while the conversation got nasty, but that was the exception. Mostly I was greeted with appreciation and admiration. A lot of people felt that I was saying something that needed to be said.

There were well-intentioned folks who told me that I was just the kind of person who should be having children. I would respond that given the presence of the then three billion people on Earth, there were already plenty of promising babies in the world, a multitude of whom could be well served by some economic and racial justice so that the privileges I had enjoyed wouldn't be such an extraordinary qualification for motherhood.

Even though my decision not to have children was made on what might be called political grounds it proved to be a good personal choice. I am cussedly independent and I love my solitude and freedom. Nevertheless, over the years I have revisited my decision. I never felt an overpowering enough desire to have a child to grow my own or to adopt. But the chagrin of going back on my vow wouldn't have deterred me if I had changed my mind about motherhood. Other women, I know, have been able to combine demanding vocations with motherhood. Given my particular nature, the responsibility and distraction of childrearing most likely would have prevented me from pursuing my work as a writer, which has been immensely rewarding, if difficult and uncertain much of the time. Now that I'm old enough to be a grandmother, I sometimes wish that I had a granddaughter to commune with, but I am friends with some spectacular young people and can learn from them as well as pass along whatever wisdom I've developed. That will have to do.

P.S. In 1969, world population was 3,636,562,333. As of August 1, 2009, it was 6,774,705,647, with about 148 new souls being added every minute.

This essay originally appeared in *More*, August 2009, <http://www.more.com/2050/7097-why-i-chose-to-be>. Reprinted with permission.

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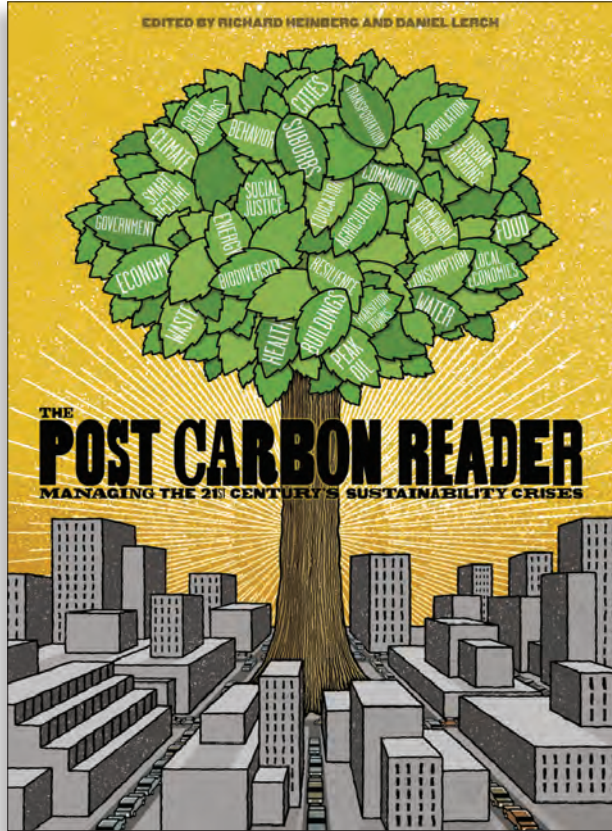
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