Population

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(with updates by Angela Logomasini)

In his 1798 *Essay on the Principle of Population*, Thomas Malthus argued that human population growth eventually would outstrip Earth's capacity to support humankind, leading to mass starvation.[1] Following that tradition, several prognosticators from the 1960s and 1970s predicted that a growing population would lead to increasing natural resource scarcity and rising commodity prices, causing severe environmental degradation and mass starvation in the near future.[2] The evidence shows, however, that the doomsayers have been wrong on nearly every count. According to a recent United Nations report: "The global economy grew at 5.4 percent in 2006 … The population grew 1.1 percent, increasing the average world per capita income by 4.3 percent. At this rate, world poverty will be cut in by more than half between 2000 and 2015."[3]

Food Supply

Among the most popular claims of the doomsayers is that population will outstrip our capacity to grow food, but history has proved them wrong.

1. Thomas Malthus, *An Essay on the Principle of Population* (New York: Penguin, 1985).

2. Worst among these was Paul Erlich, who suggested that one solution could be to put chemicals into the water supply to involuntarily sterilize the population. See Paul Erlich, *The Population Bomb* (New York: Ballantine Books, 1968), 135–36.

3. Jerome C. Glenn and Theodore J. Gordon, *2007 State of the Future* (Geneva: World Federation of UN Associations, 2007), 1.

- Per capita grain supplies have increased by more than 22 percent since 1950,[4] and food prices have dropped, indicating abundance, not greater scarcity.
- Wheat prices have gone from $256 per ton in 1950 to $90 per ton in the 1990s (in constant dollars).[5]
- The drop in corn prices is equally impressive. A bushel of corn in 1950 would have cost $10.72 in 2000 dollars, but in 2000, a bushel of corn sold for $1.80.[6]
- These gains are not confined to industrial countries. Developing countries also have experienced impressive gains. The rate of increase in food production in poor countries has been more than double that of the rate of population growth.[7]

Natural Resources

Anti-population activists have long claimed that we will run out of natural resources, but thanks to human ingenuity, we have been able to expand supply by discovering new resources and by using them more efficiently. Prices have declined in real terms as supply has increased.

- Relative to wages, prices for natural resources by the 1990s were about half that of 1980 and they were also three times less expensive than they were in the middle of the century and eight times less expensive than they were at the turn of the 20th century.[8]
- In the 1970s, prognosticators predicted that we would run out of oil in the next 10 to 20 years. To the contrary, the about of known oil resources have grown to 15 times the size recorded in 1948.[9] Discoveries of new oil deposits, as well as better extraction technologies, have played a major role in our ability to meet our present and future demands.[10]

Environment and Population

Those impressive gains have not come at a cost to the environment. Technical advancements have allowed farmers to increase crop yields using fewer acres of cropland. In 1950, the average grain yield was only 1.1 tons per hectare.[11] By 1992, grain yield had more than doubled to 2.8 tons per hectare.[12] To understand the true impact on the environment, consider that to grow the amount of food currently consumed using 1950s technologies, farmers would have had to plow under an additional 10 million square miles of wildlife habitat.[13]

4. Number derived from data from *FAO Production Yearbook 2000* (Rome: FAO, 2000).

5. Dennis Avery, "Saving the Planet with Pesticides," *The True State of the Planet,* ed. Ronald Bailey (New York: Free Press, 1995), 55–57.

6. Corn price data are taken from the U.S. Department of Agriculture's Feed Grains Database, available at http://www.ers.usda.gov/data/feedgrains.

7. Avery, 55.

8. Stephen Moore, "The Coming Age of Abundance," in *The True State of the Planet,* ed. Ronald Bailey (New York: Free Press, 1995), 110.

9. Jerry Taylor and Peter VanDoren, "Soft Energy versus Hard Facts: Powering the Twenty-First Century," in *Earth Report 2000,* ed. Ronald Bailey (New York: McGraw-Hill, 2000), 121.

10. Failure to meet energy needs in some markets (such as California) is driven by political failures to allow resource development. Instead, examples like California bolster arguments for pro-market and pro-technology policies that have led to resource abundance in other markets.

11. Food and Agricultural Organization, *FAO Production Yearbook 1970* (Rome: 1970).

12. Food and Agricultural Organization, *FAO Production Yearbook 2000*.

13. Avery, 50.

The trend, then, has been an ever-increasing crop yield using fewer and fewer acres, leaving more land available for wildlife habitat, exactly the opposite of what the doomsayers predicted.

Why Population Trends Are Not Alarming

Although humankind has become healthier and more prosperous regardless of population growth, it has become evident to demographers that the rate of population growth is in gradual and long-term decline. Fertility rates in industrial countries have dropped below replacement level (the level to maintain the current population.)[14] Consider these facts:

- According to demographer Nicholas Eberstadt, the decline in the rate of population growth has extended "over more than a generation by a growing number of countries; and it has suddenly come amazingly close to describing the norm for childbearing the world over."[15]
- In 1950, the average number of children born per woman stood at about five. By 2007, the estimate now stands at 2.59 children for woman.[16]
- All regions of the world are experiencing a decline in fertility rates.[17]
- About 90 countries are experiencing sub-replacement levels of fertility.[18]
- The world's less developed regions experienced a drop in fertility from six children per woman in 1960 to three per woman in 1990.[19]
- According to a 2007 United Nations report: "Global Population is changing from high mortality and high fertility to low mortality and low fertility. Population may increase by another 2.8 billion by 2050 before it begins to fall, after which it could be 5.5 billion by 2100—which is 1 billion fewer people than are alive today."[20]
- The decline in the population growth rate continues to occur at about 30 percent per generation.[21]

Regardless of the projection, given our proven ability to continually increase the availability of resources and food, we doubtless will be able to provide for a much greater population than we have now.

Key Experts

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14. Nicholas Eberstadt, "World Population Prospects for the Twenty-First Century: The Specter of 'Depopulation'?" in *Earth Report 2000*, ed. Ronald Bailey (New York: McGraw-Hill, 2000), 66.

15. Ibid.

16. United Nations Population Division, *2000 Revision of World Population Estimates and Projections* (New York: United Nations, 2000); 2007 number comes from: *World Fact Book* (Washington, D.C.: U.S. Central Intelligence Agency, 2007), accessed online edition at: https://www.cia.gov/library/publications/the-world-factbook/index.html.

17. See World Fact Book, "Field Listing—Total Fertility Tate," https://www.cia.gov/library/publications/the-world-factbook/fields/2127.html.

18. Ibid.

19. United Nations Population Division, *1998 Revision of World Population Estimates and Projections* (New York: United Nations, 1998)..

20. Glenn and Gordon, *2007 State of the Future*,.

21. Eberstadt, "World Population Prospects for the Twenty-First Century," 81.

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Recommended Reading

Bailey, Ronald. 2000. "The Progress Explosion: Permanently Escaping the Malthusian Trap." In *Earth Report 2000*, ed. Ronald Bailey. Washington, DC: McGraw-Hill.

Eberstadt, Nicholas. 2000. "World Population Prospects for the Twenty-First Century: The Specter of 'Depopulation'?" In *Earth Report 2000*, ed Ronald Bailey. New York: McGraw-Hill.

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