

The Threat of Overpopulation

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In 1804 for the first time in the history of humanity more than one billion people were living on Earth. Then in 1927, 123 years later, the Earth's population surpassed two billion. Another billion was added by 1960, another in 1974, and another—bringing the total to over five billion—in 1987. Estimates are that the Earth's population will surpass six billion in 1999 and reach nine billion people in the year 2054—250 years after first reaching one billion.¹ Traditionally the historically slow increase in population has been attributed to limits on agriculture. Modern analysis of population growth, however, indicates that the primary restriction has been disease. The control of disease and the resulting decline mortality has not always been accompanied by a declining rate of fertility. This has resulted in the huge increase in human population. The rapid increase in the number of humans living on Earth will undoubtedly cause changes in the individual lives of men. Though the changes will not be as drastic as some authors predict, the changes humans introduce to the Earth's environment must be addressed and fully understood.

Those who believe that man is reproducing himself into destruction are quick to point out that greater numbers of men result in a greater strain on the Earth's resources. In the book *A Green History of the World: The Environment and the Collapse of Great Civilizations* Clive Ponting claims that humans are doing irreparable damage to the Earth and as population continues to increase this damage will continue. Ponting claims that this increase of population, what he terms the weight of numbers, will lead to the eventual destruction of humanity.² Rachel Carson in the book *Silent Spring* claims that the use of chemical pesticides and herbicides is destroying the environment by filtering through the soil to destinations unknown. She states that the continued use of chemicals will eventually

lead to unexpected results in nature and in mankind itself.³ Some authors on the subject of overpopulation have predicted eminent doom. William and Paul Paddock in the 1967 book *Famine-1975!* claimed that in 1975 the world would be amidst a famine of huge proportions, and that there was nothing that could be done about it.⁴ This predicted famine never materialised. We must take these proposed dangers seriously; however, man's ability to learn from past mistakes makes it possible for him to develop new ways of life that are less damaging to the environment.

Colin Clark, an English economist, proposed in his 1958 article "World Population" that advancements in commerce, politics, science, and the arts are the results of increasing population. He states that in the past man has always found ways produce more food and theorises that future advancements in the search for food will result in the colonisation of space.⁵ J.H. Fremlin in his article "How Many People Can the World Support?" demonstrates the possibility that instead of conserving the earth and expanding outward man will instead use technology to bring about the destruction of the Earth's ecosystems. Fremlin outlines five steps in the increase of man's population on Earth. He discusses the scientific advancements that must take place for the population of humanity to continue doubling every 37 years. These advancements include the destruction of all plant and animal wildlife on the land and in the sea and the installation of a system of mirrors in Earth orbit to bring the entire planet under the equivalent of continuous equatorial daylight. Fremlin's five steps conclude with a population of 60,000,000,000,000,000 and a population density of 120 persons per square meter in 460 years. This level is achieved by constructing a two thousand-storey structure over the entire surface of the planet (land and sea) and using the oceans and the

atmosphere as a heat pump to dissipate the heat generated by the great number of humans. At the conclusion of Fremlin's article it becomes apparent that the intention of the article is to make the point that humanity as a whole can choose the size of its population, and this vision of the future is just one possible outcome.⁶

Some authors contend that the Earth's resources are limitless. Robert Thomas Malthus stated that the limit of man's population lay in man's ability to produce not Earth's: "[n]o limits whatever are placed on the production of the earth; they may increase for ever and be greater than any assignable quantity."⁷ This position is not true. Resources like coal and oil take millions of years to be created; therefore, in the context of man's existence there is only a finite quantity of these resources. Not all authors agree that the Earth's population will continue to grow indefinitely. Ian Thomas in the book entitled *Population Growth*, examines how historically there have been ceilings placed on population. Once these ceiling are broken by technological changes the population grows to accommodate for this and then slowly stabilises.⁸ It remains to be seen how accurate this view of population growth is; however, forecasts for population growth (such as those by the United Nations⁹) show a slowing in the growth rate of human population.

Since it is unclear whether or not the growth of population will ever slow by itself, it is necessary that the world community take actions to prevent overpopulation and the negative consequences of the growing population. The two largest and fastest growing states in the world, India and China, are also relatively poor states. As a result the developing industries of India and China have chosen cheap, inefficient, and dirty systems of production over more expensive, efficient, and cleaner systems.

Some factories in India have installed pollution controlling equipment is installed to meet the requirements of law but do not use the equipment because of the high cost of operation.¹⁰ It is the role of the international community to convince developing states to install and use cleaner and more efficient means of production. The developed states should also lead the way in the introduction of environmentally friendly systems not only in industry but also in agriculture. The developed nations would then be able to serve as a role model to the developing nations of the world. The question of population control must also be addressed; however, in the current international system this subject is often avoided. There is a great amount of scepticism about the importance of this subject. In addition many are weary of introducing a policy that is associated with the alleged forced sterility and female infanticide of China.¹¹ Many people are also reluctant challenge the world's religious authorities, political powers, and other dearly held notions. However, once the international community recognises the results of overpopulation—as the recent examples of the realisation of ozone depletion and of the effects of greenhouses have proved—the international community will take action.

Though the ramifications of an overpopulation of the Earth may not be as apocalyptic as some authors predict, the issues associated with the Earth's population growth are important and should be studied so that they may be fully understood. The ability of man to find solutions to the problems that he faces will allow him to overcome this problem as well. Man must accept the limitations of Earth's resources and learn to live with them. The possibilities of how this can be achieved are numerous: the states of the earth may accept that the Earth's maximum population has been reached

and dictate the number of children that each family is allowed to have, or mankind may choose to leave behind Earth and migrate outward into space.

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Outline

- I. Changes on Earth will not be as drastic as some predict; however, these changes must be addressed and fully understood.
- II. Greens often point to the stress on Earth's ecosystem caused by increased population.
 - A. Clive Ponting
 - B. Rachel Carson
 - C. William and Paul Paddock
- III. Increases in technology will allow man to solve problems.
 - A. Fremlin
 - B. Colin Clark
 1. Showed the possible negative effects of technology.
 2. Pointed out that humanity can choose not to follow this path.
- IV. Scepticism
 - A. Robert Thomas Malthus
 1. Earth's resources are limitless
 2. Incorrect
 - B. Ian Thomas
 1. S-curve population growth.
- V. International Community
 - A. Actions taken in China and India
 - B. The trouble with population policy
- VI. Conclusion

NOTES

¹ United Nations Population Division, 1998, *World Population Prospects: The 1998 Revision*, <http://www.popin.org/pop1998/default.htm> (9 Nov. 1998).

² Clive Ponting, "The Weight of Numbers" from *A Green History of the World: The Environment and the Collapse of Great Civilizations*, 1991, *Continuity and Change*, Ed. Philip Ensley, Needham Heights, MA: Simon & Schuster Custom Publishing, 1996, 185-92.

³ Rachel Carson, From *Silent Spring*, 1964, *Continuity and Change*, Ed. Philip Ensley, Needham Heights, MA: Simon & Schuster Custom Publishing, 1996, 201-6.

⁴ William Paddock and Paul Paddock, *Famine—1975!* Boston: Little, Brown and Co., 1967, Rpt. in *Population, Evolution, and Birth Control*, Ed. Garret Hardin, San Francisco: W.H. Freeman and Company, 1969, 123-6.

⁵ Colin Clark, "World Population," *Nature* 181 (1958): 1235-6, Rpt. in *Population, Evolution, and Birth Control*, Ed. Garret Hardin. San Francisco: W.H. Freeman and Company, 1969, 107-9.

⁶ J.H. Fremlin, "How Many People Can the World Support?," *New Scientist* 415 (1964): 285-7, Rpt. in *Population, Evolution, and Birth Control*, Ed. Garret Hardin, San Francisco: W.H. Freeman and Company, 1969, 59-66.

⁷ Robert Thomas Malthus, "An Essay on the Principle of Population," 1798, *Population, Evolution, and Birth Control*, Ed. Garret Hardin, San Francisco: W.H. Freeman and Company, 1969, 4-16.

⁸ Ian Thomas, *Population Growth*, London: MacMillan Education, Ltd., 1980, 11.

⁹ United Nations Population Division

¹⁰ Robert Livernash, "The Future of Populous Economies China and India Shape Their Destinies," *Environment* 37.6 (1995): 6-32.

¹¹ A.J. McMichael, "Contemplating a One Child World," *British Medical Journal* 311.7021 (1995): 1651-3.