

INTRODUCTION

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CLIMATE DISRUPTION IS the most widely discussed element of the “perfect storm” of environmental problems now confronting humanity.^a And well it might be. While other problems are ominous—such as the increasing chance of vast epidemics, the global spread of toxic chemicals, or the accelerating extermination of the plants, animals, and microorganisms that support us—climate disruption amplifies all these major environmental problems. For example, it exposes people to more diseases by increasing the geographic range of nasty tropical pathogens; it changes the distribution (and perhaps increases the toxicity) of persistent organic pollutants, and it accelerates the global rate of extinctions. That leads to the breakdown of natural ecosystems and disruption of human food production and water supply systems.

Because climate disruption is caused by human-generated processes and land use changes that civilization heavily depends upon, and because it has such far-reaching effects and connections, climate change is almost certainly the most complicated issue ever to confront the modern world. *Climate Peril* is an excellent introduction to the complexities of both the causes and the consequences. Dr. Berger explains the connections between industrialization, habitat destruction, population growth, personal consumption, and climate change. The book covers the wide range of climate change issues that we have been concerned about for many years, especially the often overlooked interactions between human population growth and the climate system.

Consider that each person added to the planet generally will require more resources, food, and energy and will emit more greenhouse gases (GHGs) into the atmosphere than the last person. That’s because people pick the low-hanging fruit first, so newcomers on average must be fed from more marginal land, use water transported further or purified more, and get metals

^a <http://www.theguardian.com/environment/2012/feb/20/climate-change-overconsumption>

from poorer ores. The acquisition and manufacture of virtually every material object that person uses, every trip in an automobile or airplane, and every meal that he or she eats will lead to the release of additional carbon dioxide, worsening climate change. Our food system itself is responsible for roughly a quarter of all greenhouse gas emissions. Increasing food production will cause more greenhouse gases to be emitted, but they, in turn, will likely have a malign impact on human beings by reducing harvests. Atmospheric warming and increased adverse weather are already reducing crop yields in many parts of the world, and higher temperatures and CO₂ acidifying the oceans is endangering what's left of their bounty.

Typhoon Haiyan in 2013 was likely so huge and powerful because the roughly 1°C global temperature rise since industrialization made the western Pacific Ocean warmer, and warmer oceans make storms more intense. High population density and poverty increase people's vulnerability to extreme weather events generated by climate change. The high population density of the Philippines (321 people per km²; nearly equal to Japan's) and its poverty (a ninth of Japan's per capita income) made the impact of Haiyan disproportionately worse than it might have been in another society. Large numbers of people were living in exposed areas, often in fragile wooden shacks that were blown away by high winds or washed away by storm surges. The result was thousands of deaths and hundreds of thousands left homeless.

Similar effects were seen when Hurricane Mitch struck Honduras and Nicaragua in 1998; more than 20,000 people died or were missing. Many if not most of them in those less developed nations were poor people living in exposed and hazardous situations, such as river valleys below steep overgrazed hillsides. Of course, as economic, technological, and social forces, along with demographic pressures, have caused more and more people to move from rural to urban situations, almost half of the human population lives in coastal areas.^b And as John Berger explains, global warming will lead to sea-level rises that will force large numbers of coastal dwellers to become climate refugees in the future.

These issues do not impinge only on the poor citizens of developing nations. Climate change is currently affecting all of us in terms of the harsher weather and changing climates we are already experiencing. This is reflected in the higher costs we are paying, or will soon be paying, for food and insurance, and the taxes we will have to pay to cover the costs of damage

^b <http://coastalchallenges.com/2010/01/31/un-atlas-60-of-us-live-in-the-coastal-areas>

relief and rebuilding in the wake of severe storms and floods, among other climate-related disasters. Citizens of developed nations are not immune to such calamities. As *Climate Peril* clearly demonstrates, taxpayers will have to pay for huge investments in infrastructure repair and new adaptive development to reduce vulnerability to future disasters. We will also have to live with the knowledge that we will not be leaving this planet in good condition for our sons and daughters, grandchildren and great-grandchildren, and that that will adversely affect the quality of their lives.

So read *Climate Peril* to become well informed about what probably is the greatest threat ever faced by civilization. By the time you are done, perhaps you will agree with us that the only long-term solution is not only to curb greenhouse emissions and find alternative ways to provide energy and produce food and other goods, but also to deal with the rapidly rising global population and the desperate poverty that are making both climate disruption and resource destruction ever worse. In addition to making family planning and health services readily available to all throughout the world and improving girls' access to education in developing nations, the solution to the human dilemma requires that equity issues also be addressed. We must find ways to reduce wasteful consumption by the rich while increasing needed consumption by the poor. Both people and the environment must be treated justly and ethically if we are to create the conditions for a safe climate and a sustainable civilization. People must recognize that the human enterprise must ultimately be scaled to fit the resources of the planet rather than being allowed to destroy both the planet's climate and its resource base.

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