

Climate Change and Health Vulnerabilities

Juan Almendares and Paul R. Epstein

Climate change has multiple direct and indirect consequences for human health—all of which are important. Climate change also threatens to disrupt Earth's life-support systems that underlie health and well-being. After all, human health and well-being basically depend on the health of crop systems, forests, other animals, and marine life. Health is the final common pathway for environmental and social conditions. Thus, the well-documented threats that climate change holds for societies and for ecosystems—for coral reefs, forests, and agriculture—ultimately pose the greatest long-term threats to health, nutrition, and well-being.¹

One of the first direct and most obvious results of climate change—an outcome clearly tied to rising average temperatures—is heat waves. These are expected to take an increasing toll in all nations. The disproportionate increase in nighttime temperatures since 1970 and the rising humidity that stems from warming oceans and a heated atmosphere increase the health threats from heat waves.²

Extreme weather events, especially heavy downpours, can create conditions conducive to “clusters” of diseases carried by mosqui-

toes, rodents, and water. In addition, more-intense hurricanes, droughts, and sea level rise are all projected to increase substantially the number of refugees and internally displaced persons across the globe—conditions that will squeeze resources (like water and food) and raise the risk of epidemics of communicable diseases.³

Intense storms have other, less obvious effects on health. When Hurricane Mitch hit Central America in October 1998, it deposited six feet of rain in three days, causing flooding, landslides, and mudslides, and it dislodged pesticide-laden soils from banana, sugarcane, and African palm plantations as well as sediments from ancient Mayan ruins. Areas surrounding gold mines became heavily contaminated with toxic chemicals and heavy metals, and surveys of the local population have shown a dramatic rise in skin and eye diseases. Along with causing 11,000 deaths, Mitch brought epidemics of malaria, dengue fever, cholera, and leptospirosis, and the damages continue to affect development in Honduras today.⁴

Changes in the availability of water due to climate change are another area of concern. Droughts and disappearing glaciers are projected to take an increasing toll on health, agricultural yields, and hydropower. Drought, for example, is associated with epidemics of bacterial meningitis across the African Sahel. And water shortages contribute to waterborne disease outbreaks.⁵

Warming also expands the potential range

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A Honduran boy excited about a carrot from his parents' organic garden—established with technical assistance and support from Sustainable Harvest International

of infectious diseases and disease carriers. In southern Honduras, the warming has been so great that malaria no longer circulates. But people have also found the temperatures inhospitable and have moved north into forested areas ripe with malaria; so the indirect impact of climate change is that more people are exposed to health threats. Insect pests can affect not just humans but also forests and crops, as well as livestock and wildlife.⁶

To deal with these escalating problems, health care systems must be supported and

public health services strengthened. Needed environmental measures include ecologically sound control of vector-borne diseases, such as malaria and dengue fever. Community research on the prevention of malaria has demonstrated that integrated control can be achieved without using DDT. The measures needed include community participation and training, treatment of infected populations, and larval control of anopheline mosquitoes.⁷

Such solutions require organizing communities and mobilizing international forces to address these vital problems. Education is an essential component of all solutions. The development of schools that are ecologically sustainable in Colombia, El Salvador, Honduras, and Guatemala by Friends of the Earth International has helped in the search for appropriate solutions to climate change and health problems. Organic, locally grown agriculture promotes health and nutrition—the basis of resistance to disease.⁸

Health ministries must have convening power and support to work with ministries of agriculture, planning, education, and finance on climate change protection, preparedness, and prevention. At the international level, the World Health Organization can provide guidelines for all nations to prepare for climate change–related ills and “natural” catastrophes. Financial support for this initiative is sorely needed.

Energy poverty is standing in the way of achieving the Millennium Development Goals. The bottom line is that health must again take center stage and—as it did in the nineteenth and early twentieth centuries, when vast improvements in basic water and sanitation were made—become the cornerstone of clean, healthy, and sustainable development.⁹

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