

# WATER FACTS



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## Safe Water in Peril: Addressing the Effects of Global Warming on Safe Drinking Water and Sanitation

Nearly eight hundred million people do not have access to safe drinking water, and two and a half billion people live without adequate sanitation. These dire conditions already pose the greatest worldwide threat to environmental health, and global warming is making matters worse. More frequent, severe droughts and floods are increasing water shortages and causing widespread contamination and sanitation challenges. To avoid an outright global water catastrophe, local, national, and international leaders must urgently pursue a two-part strategy of reducing pollution to minimize further climate change and prepare vulnerable communities to deal with the changes in climate already in progress.

### DROUGHTS AND FLOODS EXACERBATE THE GLOBAL DRINKING WATER AND SANITATION CRISIS

The fourth Intergovernmental Panel on Climate Change (IPCC) report sounded the alarm about unprecedented, rapid changes in the earth's climate.

Scientists predict that the number of drought-affected areas is likely to increase, and that one-fifth of the world population could face severe flooding by 2080.

Droughts reduce the quantity of available water and can also affect water quality by making fresh water excessively salty or increasing the likelihood of harmful algal blooms. Decreasing water flows can reduce the efficacy of wastewater treatment systems, leading to more water contamination. Floods can severely affect water quality by flushing large amounts of toxic runoff into drinking water sources, and by damaging water and wastewater management infrastructure.



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## THE MOST VULNERABLE POPULATIONS ARE THE HARDEST HIT BY THE WATER CRISIS

Developed countries are primarily responsible for causing global warming, but poor populations in developing countries face the highest risks from a warmer climate. Without bold policy action from the international community, vulnerable nations in Africa, Asia, Latin America, and small island states are likely to face the most devastating effects of global warming.

For example, although Sub-Saharan Africa currently contributes little to the causes of climate change (producing less than four percent of the world's greenhouse gases),<sup>1</sup> the IPCC predicts that by 2020, between 75 and 250 million people in Africa will suffer increased water stress due to climate change. In 2011, the Horn of Africa (Ethiopia, Kenya, and Somalia) suffered its most severe drought in 60 years, which left more than 11 million people at risk of famine and malnutrition.<sup>2</sup> In East Africa, snow is already disappearing from mountains like Mt. Kenya and Mt. Kilimanjaro, affecting the local communities whose lives depend on the rivers and streams fed by mountain snows.

In heavily-populated Asia, up to one billion people could face reduced access to water and more extreme weather events, such as flooding and droughts, even with only a small rise in temperature. Chinese scientists have already blamed global warming for reducing the current water flow in China's major rivers to historic lows, and government officials recognize that climate change "...could exacerbate existing problems over water security, water supply, and farming irrigation."<sup>3</sup>

In Latin America and the Caribbean, global warming is expected to change precipitation patterns, resulting in a dearth of water in some areas and too much water in others. Increasingly severe and frequent storms will lead to more flooding and damaged infrastructure, particularly along the coastal areas, where 60 of the regions' 77 largest cities are located.

## THE NEED FOR "CLIMATE-RESISTANT" DEVELOPMENT

Immediate action needs to be taken to curb emissions of greenhouse gases to prevent further warming. Too many international development projects, including those aimed at providing access to clean water and sanitation, are undertaken without taking into account the long-term effects of climate changes that are already occurring.<sup>4</sup> An estimated 20 to 40 percent of the money spent on international development aid could ultimately fail due to climate changes not being taken into consideration.

We must ensure that future economic development is "climate-resistant," so that countries can achieve their development goals while minimizing the threat of catastrophic setbacks. Studies have shown that one dollar spent on adapting programs to accommodate climate-related disasters would save seven dollars of disaster recovery costs.<sup>5</sup>

## A GLOBAL CHALLENGE REQUIRES GLOBAL SOLUTIONS—AND U.S. LEADERSHIP

For many of the five billion people living in the developing world, water scarcity is already a frightening reality—and getting worse. To avert long-term climate disaster, there must be a worldwide commitment to meaningful reductions in greenhouse gas emissions, leading to an 80 percent reduction in global emission levels in 2050 compared to those of 2005. In the United States, Congress must ensure that measures aimed at helping the most vulnerable communities in developing countries include tools and resources for adapting to the changing climate.

Promising adaptation measures should build on recent successful efforts to protect community water supplies from climate change and provide access to sanitation that can withstand floods and droughts. These measures include using ecological sanitation, also known as waterless toilets, harvesting rainwater for future use, and community water management planning to prepare for increased variability in precipitation patterns.

NRDC urgently calls on all countries to work together to invest in "climate-resistant" development and adaptations that protect gains made to date, and facilitate progress in securing safe drinking water and sanitation for all.

<sup>1</sup> Intergovernmental Panel on Climate Change (IPCC). Summary for Policymakers, Climate Change 2007: Impacts, Adaptation and Vulnerability. p.11. <http://www.ipcc.ch/pdf/assessment-report/ar4/wg2/ar4-wg2-spm.pdf>. Accessed March 7, 2012.

<sup>2</sup> United States Agency for International Development. Famine spreads into Bay Region; 750,000 people face imminent starvation. September 5, 2011. [http://www.fews.net/docs/Publications/FSNAU\\_FEWSNET\\_050911press%20release\\_final.pdf](http://www.fews.net/docs/Publications/FSNAU_FEWSNET_050911press%20release_final.pdf).

<sup>3</sup> Chen Lei, Minister of Water Resources China. Climate Change Threatens our Water. April 23, 2011. [http://www.china.org.cn/china/2011-04/23/content\\_22424112.htm](http://www.china.org.cn/china/2011-04/23/content_22424112.htm). Accessed March 7, 2012.

<sup>4</sup> Oxfam. Adapting to Climate Change: What's needed in poor countries, and who should pay. p. 39. [http://www.oxfam.org/en/policy/briefingpapers/bp104\\_climate\\_change\\_0705](http://www.oxfam.org/en/policy/briefingpapers/bp104_climate_change_0705). May 29, 2007. Accessed March 7, 2012.

<sup>5</sup> International Institute for Environment and Development. Africa—Up in smoke 2. The second report on Africa and global warming from the Working Group on Climate Change and Development. October 2006. <http://www.scribd.com/doc/52830239/Africa-Up-in-Smoke-2-An-update-report-on-Africa-and-global-warming-from-the-working-group-on-climate-change-and-development>. Accessed March 7, 2012.