

Climate Change & Poverty

Issue Brief | September 2009



Issue Context & Description

"The humanitarian impact of climate change is likely to be among the biggest humanitarian challenges in years and decades to come."

—Kofi Annan, former UN Secretary-General

Most scientists agree that the Earth's climate is changing as a result of greenhouse gas emissions.

Worrying trends include sea level rise, more and worse storms, heat waves, droughts and fires. Climate-related risks, such as floods and drought, have always existed, but global warming is increasing those risks. Some scientists, looking at data from the last 12 months, fear climate change is actually speeding up.

While global efforts to reduce greenhouse gas emissions can still vastly reduce climate change impacts, they no longer can eliminate them. Today's greenhouse gas emissions are the result of decisions made 50 years ago. Predictions are that there will be more frequent and extreme climate disasters for decades, and there are signs that this is already happening. In 2007, Africa, Mexico and South Asia all experienced unusual floods, while Europe, Australia

and California saw above average heat waves and forest fires. In 2007, the UN launched 15 urgent appeals in response to climate disasters, the most in one year.¹

Small and medium-scale disasters are happening more often and in multiple places at the same time.² According to Oxfam, the number of floods and cyclones quadrupled between 1980 and 2006 from 60 to 240 per year. Heat waves increased more than five-fold during a similar period.

Poor people and countries are most affected by environmental disasters. Recent reports by the Intergovernmental Panel on Climate Change (IPCC) and the Millennium Ecosystem Assessment (MEA) point

Greenland Ice Melting 1992, 2002, 2005

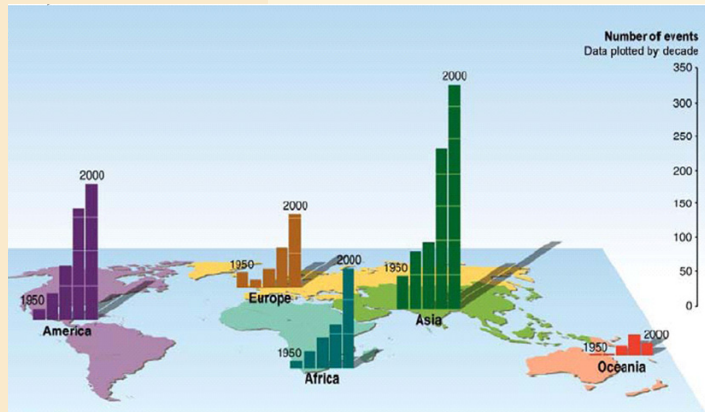


Amount of melting ice shown in red
Source: ACIA, 2004 and CIRES, 2005

1 Oxfam International, *Climate Alarm: Disasters Increase as Climate Change Bites*, Oxfam Briefing Paper, 2007.

2 *Ibid.*

Number of Flood Events by Continent and Decade Since 1950



Source: Millenium Ecosystem Assessment

out that increasing global inequity will be one of the gravest consequences of climate change.

The Oxfam report argues that the “death to disaster” ratio is much higher in poor communities and countries.³ In these regions, people are forced to live on hillsides, in spite of imminent danger of landslides, and on coastal lands that are at high risk of being inundated by rising water. They do not have insurance when they lose a crop to drought or a home to flooding. They cannot easily access clean water after a flood, or medicine to fight flood-related disease.

Although great progress has been made in managing flooding and droughts, these events still wreak havoc on subsistence agriculture upon which many poor people and countries depend. Moreover, many poor countries suffer the effects of these climate events; some are encroached upon by growing deserts. Drought-affected areas in sub-Saharan Africa could expand by 60–90 million hectares. Other developing regions – including Latin America and South Asia – will also experience losses in agricultural production. According to UNDP, the additional number affected by malnutrition could rise to 600 million by 2080.⁴

A World Bank report⁵ released this month argues that high-income countries must drastically reduce their carbon footprints, while helping poor countries

3 *Ibid.*

4 United Nations Development Programme, *Human Development Report 2007/2008 – Fighting Climate Change: Human Solidarity in a Divided World*.

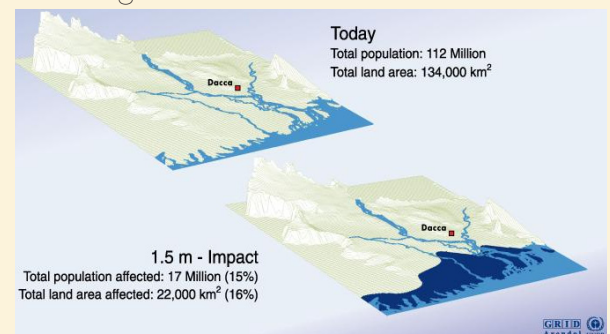
5 World Bank, *World Development Report 2010: Development and Climate Change*, 2009

find low-carbon paths to economic development and poverty reduction. A new Oxfam report⁶ adds that developed nations cannot simply take economic aid they planned to give to developing countries, and divert those dollars to climate-change projects; the entire amount of aid needs to increase to fight poverty and climate change simultaneously.

Droughts and glacial melt will affect access to clean water. Changed run-off patterns and glacial melt are expected to compromise flows of water for irrigation and human settlements in Asia and Latin America. The increase in glacial melt fills reservoirs to the point that dams break and overflow. Rivers are full in the short run but in the long term glaciers will not be as reliable a source of supply for water. According to the UNDP, an additional 1.8 billion people could be living in a water-scarce environment by 2080.⁷

Coastal communities will flood as sea level rises. Researchers estimate that the accelerated melting of glaciers and ice caps will add from 10.2 to 24.1 centimeters to the sea level rise by 2100. Moreover, as the oceans warm, the water will expand, which could potentially double the sea level rise. A 30-centimeter rise in the sea level causes a shoreline retreat of 30 meters or more.⁸ Currently about 100 million people live within about one meter of sea level, the majority of them in the river deltas of Asia and Africa.

Potential Impact of Rise in Sea Level on Bangladesh



Source: UNEP/GRID Geneva, University of Dacca, JRO Munich, The World Bank and World Resources Institute

6 Oxfam International, *Beyond Aid: Ensuring adaptation to climate change works for the poor*, 2009

7 *Ibid.*

8 Mark Meier, University of Colorado’s Boulder’s Institute of Arctic and Alpine Research.

Climate change also will increase disease outbreaks and threaten human health, according to the head of the World Health Organization (WHO).⁹ Droughts and floods will increase diarrheal disease, while changes in the ranges of disease-carrying insects will spread dengue fever and malaria. Both scarcity of water for hygiene and flooding increase the risk of disease in developing countries, and competition for scarce natural resources can lead to violence and threaten security.

Poor people and countries often lack sufficient resources and institutional capacity to respond to climate disasters. Many of these countries already are struggling with war and conflict, HIV/AIDS, ineffective governance and resettlement of displaced people. Furthermore, U.S. Sen. John Kerry (D-Mass.) argued last month, “Climate change injects a major new source of chaos, tension, and human insecurity into an already volatile world. ... In an interconnected world, that endangers all of us.”¹⁰

Although poor countries have been least responsible for the rise in greenhouse gas emissions that has already occurred, much of the anticipated increase in emissions in the next few decades is

expected to occur in the developing world. Most emerging economies, including China and India, are fueling economic development with fossil energy. It will be a challenge to ensure that efforts to reduce global greenhouse emissions are not at the expense of developing economies.

Climate change impact, already felt around the world, will continue to affect many vulnerable populations, even in a best-case scenario of carbon emission reductions. Yet the severity and extent of this impact can be less destructive if the world’s biggest CO₂ emitters take serious steps to reduce their carbon output. The IPCC Fourth Assessment Report confirms that smaller or larger greenhouse gas emissions lead to smaller or larger sea level rise, respectively. Each degree increase in global mean temperature has potentially devastating effects on global coastal wetlands. Adaptation is necessary, but mitigation is also needed to lessen the negative effects of climate change.

Opportunities & Challenges

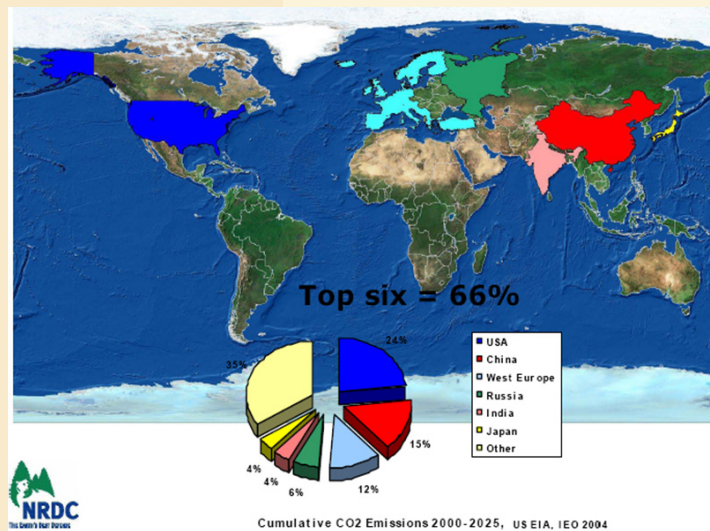
Adaptation

It is possible to prepare for many anticipated changes in climate. Emergency preparedness, changes in infrastructure (e.g., dikes), and changes in behavior (e.g., adjusting agricultural practices) can limit the impact of these changes.

Awareness of the need to encourage adaptation to climate change in the developing world is growing. The UK and the Netherlands, together with the World Bank, are funding a large research study to help developing countries to prepare for climate change. The World Bank Group announced this month that its financing of renewable energy and energy efficiency projects and programs in developing countries rose 24% in the last fiscal year to \$3.3 billion, the highest ever. The Rockefeller Foundation has made a five-year, \$70 million commitment to build the resilience of communities most likely to be affected by climate change.

The global humanitarian system has been able to reduce death rates from public health crises due to floods and droughts. A number of countries, such as

Biggest CO₂ Emitters, 2002–2005



Source: Natural Resources Defense Council

9 Statement by Margaret Chan, Director-General, WHO, April 7, 2008.

10 Sen. John Kerry, “We Can’t Ignore the Security Threat from Climate Change,” *Huffington Post*, Aug. 31, 2009 www.huffingtonpost.com/john-kerry/we-cant-ignore-the-security_b_272815.html

Bangladesh, have models to share.

Many successful examples of soil and water conservation have been developed in water-scarce environments using methods such as zero tillage, agro-forestry and terracing. The challenge is to bring these small projects to scale.

Many developing countries and regions do not have comprehensive adaptation plans in place or the capacity to implement them. Oxfam estimates that developing countries will require at least \$50 billion annually to adapt to unavoidable climate change.

Mitigation

Countries across the globe are committing to reduce their emissions, but time is short and the response is not yet sufficient.

There are growing opportunities to promote economic development, emissions reduction, and adaptation that will benefit poor people and countries. Some opportunities for action include the following:

- **Small-scale renewable energy projects tackle poverty, reduce greenhouse gas emissions and increase resiliency of energy systems.**¹¹ For example, replacing the burning of agricultural residues with solar stoves will reduce greenhouse emissions, improve the health of children and women, and reduce deforestation and land degradation.¹² It also provides economic development and jobs.
- **Forest, agro-forestry, and social forestry projects reduce emissions from deforestation and degradation (REDD).** Well designed projects protect ecosystems and enhance local communities. The destruction of forests releases billions of tons of greenhouse gases (from carbon stored in trees, plants and soils) into the atmosphere, and

11 Oxfam International, *Climate Alarm: Disasters Increase as Climate Change Bites*, Oxfam Briefing Paper, 2007.

12 United Nations Foundation, *Confronting Climate Change: Avoiding the Unmanageable and Managing the Unavoidable*, Scientific Expert Group Report on Climate Change and Sustainable Development, Prepared for the 15th Session of the Commission on Sustainable Development, February 2007.

“Climate change must be integrated into poverty-reduction work, urban planning and development, public health and agriculture.”

—Judith Rodin, President,
Rockefeller Foundation

now accounts for roughly 20% of annual greenhouse gas emissions.¹³ Commercial operations are responsible for much of the destruction of forests. At the same time, more than 1 billion people living in poverty depend on forests for water, fuel, or livelihoods.¹⁴ Carbon markets and sustainable forest management create good jobs and bring impoverished forest communities into the global economy. Conserving these forests also helps protect indigenous peoples and other forest-dwelling communities whose cultures, religions and traditional livelihoods are at risk – and it protects biodiversity as well.

A Framework for Donor Action

Support adaptation and mitigation projects such as those in the “Opportunities & Challenges” section.

Support pilot programs that are helping countries and institutions find ways to integrate economic development, poverty reduction, greenhouse gas emissions reduction and increased adaptive capacity. This will require deep cross-disciplinary collaboration.

Urge the U.S. Senate to pass the American Clean Energy and Security Act (ACES) and support other advocacy efforts, particularly leading up to the UNFCCC Conference of Parties meeting that will take place in Copenhagen in December 2009. Support is needed for swift global climate action to reduce greenhouse gas emissions and keep the rise in average global temperature to less than two degrees Celsius above pre-industrial levels. This requires:

13 Avoided Deforestation Partners, *U.S. Leadership: Mitigating Climate Change and Poverty: Why Protecting Tropical Rainforests is Critical to the Future Health of Our Climates and Countless Lives*. Available at www.adpartners.org.

14 The Nature Conservancy, *Saving Forests to Fight Climate Change*.

- **Cuts in emissions of greenhouse gases by industrialized countries** to 60% to 80% below 1990 levels by 2050.
- **Development of carbon markets**, which will mobilize much greater funding for developing countries than what foreign aid provides. Carbon markets can, for example, make forest protection more valuable than forest destruction.¹⁵
- **Global policy frameworks and incentives** for energy efficiency and clean technology development, deployment and diffusion.

Support research on how poor communities can adapt to climate change. This includes:

- **Regional assessments to identify vulnerabilities and prioritize efforts** to improve adaptive capacities of communities
- **Assessments of the likely costs** of adaptation to climate change in poor countries.
- **Research and innovation to reduce the costs of adapting** to a less predictable climate, including new financing mechanisms.

Support efforts to build institutions that can provide essential sanitation, health, education and

social protection services (e.g., insurance) to all residents, so that they have a better chance of surviving disasters (and building strong economies).

Support increased funding for emergency preparedness, involving affected people in all aspects of preparation. Affected communities are always the first responders in a crisis. They need better early-warning systems and tools for mobilization.

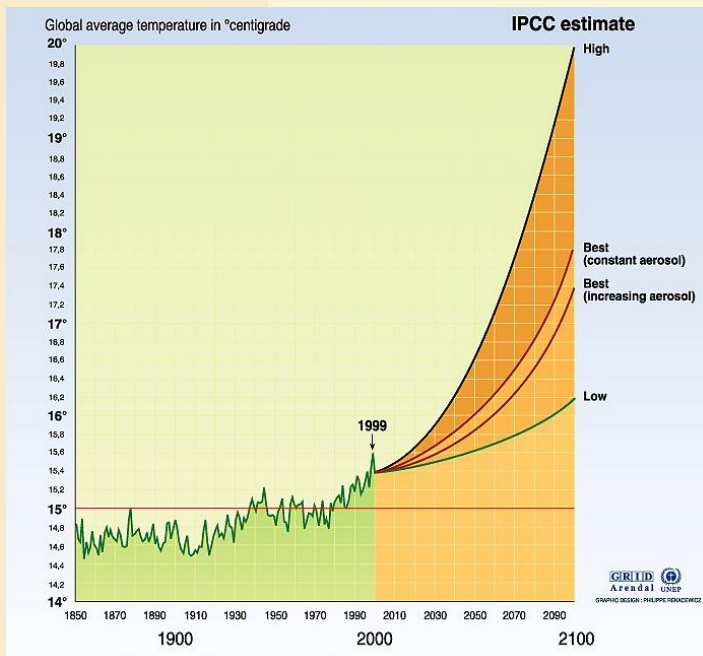
Support public education about climate change and the need to aid adaptation in the developing world.

Provide venture capital for innovative approaches to climate-neutral or beneficial economic development and poverty alleviation.

Support rapid learning across nations and sectors about how to integrate economic development strategies with efforts to reduce emissions, adapt to changes in climate and alleviate poverty.¹⁶ What is critical is to face as one the challenges of water, food, energy, demography and climate change. A new paradigm is needed for developing economies.

Donors are already collaborating to identify strategic philanthropic opportunities and coordinate grantmaking to increase their impact.

Projected Changes in Global Temperature
Global average 1856-1999 and projection estimates to 2100



Source: 1856-1999: Climatic Research Unit, University of East Anglia, projections: IPCC report 95

For Further Information

Adele Simmons, President of the Global Philanthropy Partnership and a member of Synergos' Global Philanthropists Circle, is available for further discussion of these issues. at info@global-philanthropy.org.

¹⁶ In his book, *Common Wealth: Economics for a Crowded Planet*, Jeffrey Sachs, special adviser to UN Secretary-General Kofi Annan from 2002 to 2006 and leader of the UN's Millennium Project, sets forth a plan to alleviate poverty and avert a global climate change crisis by devising sustainable systems of energy and agriculture; stabilizing the world population at 8 billion or below by 2050 via voluntary fertility choices; and widely disseminating technology that helps end extreme poverty.

¹⁵ Avoided Deforestation Partners, *Op cit*.