

Adaptation to global climate change is an essential response to a warming planet

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Temperatures are rising on Earth, which is heating up the debate over global warming and the future of our planet, but what may be needed most to combat global warming is a greater focus on adapting to our changing planet, says a team of science policy experts writing in this week's *Nature* magazine.

While many consider it taboo, adaptation to global climate change needs to be recognized as just as important as "mitigation," or cutting back, of greenhouse gases humans pump into Earth's atmosphere. The science policy experts, writing in the Feb. 8, 2007 issue of *Nature*, say adapting

to the changing climate by building resilient societies and fostering sustainable development would go further in securing a future for humans on a warming planet than just cutting gas emissions.

"New ways of thinking about, talking about and acting on climate change are necessary if a changing society is to adapt to a changing climate," the researchers state in "Lifting the Taboo on Adaptation."

The policy experts include Daniel Sarewitz, director of Arizona State University's Consortium for Science, Policy & Outcomes; Roger Pielke Jr., University of Colorado, Boulder; Gwyn Prins, London School of Economics, London, England, and Columbia University, New York; and Steve Rayner of the James Martin Institute at Oxford University, Oxford, England.

Sarewitz and his colleagues argue that the time to elevate adaptation to the same level of attention and effort as the more popular mitigation of greenhouse gases is now, and that the future of the planet demands realistic actions to help the survival of humans.

"The obsession with researching and reducing the human effects on climate has obscured the more important problems of how to build more resilient and sustainable societies, especially in poor regions and countries," Sarewitz said.

"Adaptation has been portrayed as a sort of selling out because it accepts that the future will be different from the present," Sarewitz added. "Our point is the future will be different from the present no matter what, so to not adapt is to consign millions to death and disruption."

Adaptation is the process by which societies prepare for and minimize the negative effects of a variety of future environmental stresses on society, Sarewitz said. Mitigation is the effort to slow and reduce the

negative impacts of climate change by slowing the accumulation of greenhouse gases in the atmosphere.

"The key difference is that adaptation is the process by which societies make themselves better able to cope with an uncertain future, whereas mitigation is an effort to control just one aspect of that future by controlling the behavior of the climate," Sarewitz said.

Policy discussions on climate change in the 1980s included adaptation as an important option for society. But over the past two decades, the idea of adapting to global environmental changes has become problematic for those advocating emissions reductions and was "treated with the same distaste as the religious right reserves for sex education in schools – both constitute ethical compromises that will only encourage dangerous experimentation with undesired behavior," the policy experts state.

Over the years, mitigation was favored as the global response to climate change, and adaptation seemed relegated to local responses to the specific changes brought on by global warming. Major global efforts to cut emissions were convened in the United Nations Framework Convention on Climate Change (UNFCCC) and the Kyoto Protocol. In those efforts, mitigation was talked about in the grandest of levels and adaptation as only having a limited impact.

As a result, adaptation was often looked upon in a negative sense, to be used if the grander plans failed. All the while, the effects of global warming were beginning to be felt, most notably in poorer countries and regions.

"To define adaptation as the cost of failed mitigation is to expose millions of poor people in compromised ecosystems to the very dangers that climate policy seeks to avoid," the authors state. "By contrast, defining adaptation in terms of sustainable development, would allow a

focus both on reducing emissions and on the vulnerability of populations to climate variability and change, rather than tinkering at the margins of both emissions and impacts.

"By introducing sustainable development into the framework, one is forced to consider the missed opportunities of an international regime that for the past 15 years or more has focused enormous intellectual, political, diplomatic and fiscal resources on mitigation, while downplaying adaptation by presenting it in such narrow terms so as to be almost meaningless," they add. "Until adaptation is institutionalized at the level of intensity and investment at least equal to the UNFCCC and Kyoto, climate impacts will continue to mount unabated, regardless of even the most effective cuts in greenhouse gas emissions."

Source: Arizona State University

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