
Climate Change and Genocide

The world will experience a growing risk of conflicts over food, energy and water in coming years. The population rises each year by about 80 million people, with most of the increase in impoverished regions already facing environmental stress. Climate change, water scarcity and tighter oil supplies will add to the stresses. As violence increases, in new crises resembling those now underway in Darfur, Somalia and Afghanistan, the tendency might be to look to the military for solutions. We'll need to keep in mind that engineers and doctors will be the only ones who can truly keep us safe.

Hundreds of millions of people live on the margin of survival, and their numbers will increase if we continue on our current trajectory. The poorest of the poor tend to be found in remote, environmentally stressed regions, such as the drylands of Africa, the Middle East and Central Asia, which is evident in Yale and Columbia's Environmental Performance Index. In these places, droughts are becoming more frequent and land more scarce. Rural populations head for the slums in cities unequipped to provide jobs, safe water, sewerage and other basic services.

With a business-as-usual approach, more regions are likely to experience intensifying stresses. Human-induced climate change is predicted to make drylands drier and increase the risk of floods and powerful cyclones in more-humid regions. Increasingly crowded coastal areas will face greater risks of devastating storms. In places that currently rely on groundwater, such as in India, China and the American Southwest, wells will run dry, or become too expensive to drill. And in places in the Andes and in South Asia that depend on the seasonal melting

of glaciers for irrigation, these water flows may stop as the glaciers disappear.

The results are unlikely to be pretty. Poor and hungry people are vastly more likely to fall into violent conflict than rich and well-fed populations. And when the climate gets tough, people migrate. Nomads from the drylands of northern Darfur went into the more-humid farm regions of southern Darfur in the 1980s in search of water for their livestock. Similarly, migrants from other parts of the African Sahel, such as Burkina Faso, moved south toward the coastal regions, into the Ivory Coast and other coastal countries. In both cases, the migrations triggered conflicts. Such conflicts are not inevitable. Violence is often stoked by ruthless and demagogic politicians. Still, the environmental crises and ensuing desperation provide the fodder.

Outsiders tend to attribute violence to religion, culture and politics and overlook the underlying causes of water, food and jobs. What some regard as the arc of Islamic instability, across the Sahel, the Horn of Africa, Yemen, Iraq, Pakistan and Afghanistan, is more accurately an arc of hunger, population pressures, water stress, growing food insecurity and a pervasive lack of jobs.

Real solutions will require bold investments in sustainable development. The United States, Europe, China, India and wealthy oil states will have to join forces to help conflict-prone parts of Africa, the Middle East and Asia to raise food output, increase access to education and family planning, and improve productivity through investments in roads, power, irrigation and telecommunications. To head off even more devastating climate shocks in coming decades, we must also end the deadlock

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over climate-change policy. In water-stressed and conflict-prone regions, technology such as drought-resistant crops, solar-thermal power and drip irrigation can underscore our common fate and interests on an increasingly crowded and crisis-prone planet.