

HIDDEN CONNECTIONS

TAKEPART'S BIG ISSUE vol. 12

The Unseen Trigger Behind Human Tragedies

Earth's increasingly volatile weather conditions have been linked to numerous global crises, from terrorism to child marriage.

Pakistani people wade through floodwaters during heavy monsoon rain fall in Lahore on September 1, 2016. (Photo: Rana Sajid Hussain/Pacific Press/LightRocket via Getty Images)

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Erica Gies' work has appeared in *The New York Times*, *The Guardian*, *Scientific American*, *The Economist*, and other outlets.

Bio





Syria's civil war and mass exodus has become, to many global citizens, another source of compassion fatigue.

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BIG ISSUE vol. 12

The story of two young lives altered by the unseen link between climate change and child marriage.



Hidden Connections, Part 1: The Climate Consequence



Hidden Connections, Part 2: The Human Cost



Hidden Connections, Part 3: Honor

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But before it was a war zone, it was the cradle of civilization, with marvelous ruins at Palmyra, Bosra, and Krak de Chevaliers bearing the marks of myriad cultures; Damascus and Aleppo were cosmopolitan and comfortable. So how did it descend into turmoil?

While the roots of political conflict are complex, Syria was tipped into war by a number of surprising factors. The country was flooded with more than 1 million Iraqi refugees from the U.S.-led war, a situation that was causing Syrians severe economic stress. At the same time, [the worst drought in at least 500 years](#) had begun. In Syria, climate change was a catalyst for war. And the country isn't alone. Climate change is the hidden trigger for a range of human crises.

Experts are careful to couch climate change as a “[threat multiplier](#),” as the Department of Defense called it in 2014, not a direct cause of human dramas. Climate change is melting glaciers and raising sea levels; causing more frequent and extreme floods, droughts, and heat waves; turning the oceans more acidic; and degrading soil and air quality. As natural systems change, crops fail, wildfires burn hotter, energy blackouts increase, giant storms destroy cities, and infectious diseases break out more frequently. These stressors amplify tensions in “regions with weak governance, poor living conditions, or persistent conflict that limit the capacity of governments and societies to cope with additional stress,”

according to the Defense Department report.

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Below, we examine climate change's far-reaching and often unseen consequences, from conflict, terrorism, and mass migration to child marriage and disease.



Members of opponent groups attack Assad Regime's bases located at a hill on the border between Latakia and Idlib in Syria on October 10, 2016. (Photo: Beha El Halebi/Anadolu Agency/Getty Images)

Violence and Conflict

In the case of Syria, dams built for irrigation by upstream neighbor Turkey in recent decades also decreased flows to the Euphrates River, contributing to water shortages in Syria. (Turkey has refused to sign water-sharing agreements with downstream neighbors Syria and Iraq.)

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wrote [an early paper](#) linking the war to water stress. [By 2011, crops had failed and livestock had died](#), pushing at least 1.5 million farmers to migrate to cities. Despite the upheaval, most analysts considered Syria to be stable.

“They were wrong,” says Caitlin Werrell, cofounder and president of the Washington, D.C.-based Center for Climate and Security. That’s because they weren’t paying attention to the climate, food, water, and human displacement issues under the surface, she says.

Increasingly, scientists and government agencies, both national and global, are studying that link and preparing for it. A [study published in August](#) by the *Proceedings of the National Academy of Sciences* found a clear link between climate-related disasters and armed conflict in countries that were already ethnically divided. The rate of conflict outbreaks that coincided with climate calamities between 1980 and 2010 was about 23 percent of total conflict outbreaks, a figure that is expected to rocket over the 21st century.

In September, the White House followed up on the Department of Defense’s plan for climate change’s impact on national security with a [presidential memorandum](#). It requires more than 20 federal agencies to employ climate science to safeguard national security. The same day, the National Intelligence Council [put out a report](#) that outlines pathways in which climate impacts can threaten U.S. national security, including food shortages and price spikes, failed investments, human health impacts, social and political tensions, and country instability.

The drought and the water reductions from the dams were exacerbated by government policies that incentivized water waste, leading to widespread crop failures and livestock deaths, says water expert Peter Gleick, cofounder of the nonprofit Pacific Institute, based in Oakland, California, who

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An overloaded vessel of migrants wait to be rescued by members of Proactiva Open Arms NGO in the Mediterranean Sea, some 12 nautical miles north of Libya, on October 4, 2016. (Photo: Aris Messinis/AFP/Getty Images)

Mass Migration

The intelligence assessment said that over the next 20 years, climate-induced environmental stresses are likely to contribute to migrations that “could be dramatic, perhaps unprecedented.” These mass migrations will “exacerbate social and political tensions that could overwhelm host governments and populations...and threaten the social fabric of communities.”

The world has watched a crisis unfold as vast numbers of Syrian and African refugees flow into Europe, taxing countries’ resources and leading to border closures, nativist rhetoric, and occasional violence. But Europe is hosting just 6 percent of the world’s displaced people, according to the [U.N. Refugee Agency](#). The vast majority of the 65.3 million people forcibly displaced in 2015 alone are in the Middle East and Africa (68 percent). While the agency doesn’t categorize the number of climate-related refugees, it said, “We are now witnessing the highest levels of displacement on record.”

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It's not uncommon for receiving countries to feel the strain. Deteriorating conditions in Mali in 2012 pushed 70,000 refugees into neighboring Mauritania, which was struggling with drought and desertification. The migration touched off [mass protests and violence over water shortages](#) in the city of Nouakchott, Mauritania.



Residents gather at the site of a bomb attack in Syria's northeastern city of Qamishli on July 27, 2016. A massive bomb blast claimed by the Islamic State group killed at least 44 people. (Photo: Delil Souleiman/AFP/Getty Images)

Terrorism

In places with weak or opaque governance, climate stress can contribute to the rise of terrorism. Last year “insurgent groups in northern Mali exploited deepening desertification, worsened by persistent drought, to enlist locals in a food-for-jihad movement,” according to the U.S. intelligence report.

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A more well-known case is the rise of the Islamic State in Syria.

“Undoubtedly, instability in Syria exacerbated by climatic conditions opened up an opportunity that ISIS took advantage of in a brutal way,” says Werrell. Taking a lesson from the power opportunity that water scarcity provided it, the Islamic State manipulated water access after it established a stronghold, seizing water infrastructure such as dams in Syria and Iraq and using that as leverage against local populations and adversaries. “ISIS has weaponized water,” she says.

It’s a strategy that could be repeated across the Middle East, North Africa, the Horn of Africa, and the Sahel, Werrell says, areas that are all seeing increased stress on water resources and growing strength among terrorist organizations.

In the coastal megacity of Lagos, Nigeria, slums crowd low-lying areas vulnerable to flooding and sea level rise. Migrants arriving from drought-affected regions to the east are overwhelming public services, and volatility is rising. That has people worrying about the threat of terrorism from Boko Haram, according to a report from the [U.S. Agency for International Development](#).

In the Himalayas, melting glaciers are reducing freshwater resources, and rainfall changes are increasing flooding. That, coupled with nuclear proliferation in perennially unstable places such as Pakistan, may also foster conditions in which nonstate actors can thrive, says Werrell.

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Gayatri (name has been changed to protect privacy), is a trafficked girl who was lured into marriage by traffickers cooking food at her house on March 15, 2014 in Jind, India. (Photo: Subrata Biswas/Hindustan Times via Getty Images)

Slavery and Child Brides

Slavery, too, is exacerbated by climate change, says Kevin Bales, professor of contemporary slavery at the University of Nottingham, who just published a book on the topic, *Blood and Earth*. That's because modern slavery is rooted in poverty, which is often triggered by environmental destruction that deprives people who rely on fishing, hunting, or small-scale agriculture of the natural resources they need to survive. That makes them vulnerable to exploitation.

The most common path to slavery and human trafficking around the world is via remote job offers to poor people with few local prospects, Bales says. "They are lured away from their communities. Then the hammer falls: They're not getting paid; they're under threat of violence and sexual assault."

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Child marriage is one form of slavery, he says. It happens in countries where, culturally, women are assumed to be “second class, third class, or no class at all.” These countries typically have dual legal systems: a national constitutional law structure and a parallel system of tribal or customary law. “When you have weak central governments, at local levels, those local customary rules and laws will overwhelm constitutional law, even though they’re not supposed to,” Bales says.

When environmental destruction creates more extreme economic problems in such places, child marriage increases. “Sometimes they get rid of a girl by selling her,” Bales says.



Patients receive treatment for cholera after Hurricane Matthew in the Hospital of Les Anglais, Haiti, October 10, 2016. (Photo: Andres Martinez Casares/Reuters)

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Disease

Climate change is also weakening the pillars of health: clean air, safe drinking water, sufficient food, and secure shelter. “Between 2030 and 2050, climate change is expected to cause approximately 250,000 additional deaths per year from malnutrition, malaria, diarrhea, and heat stress,” [according to the World Health Organization](#).

High temperatures can contribute directly to deaths, particularly among the elderly. The 2003 heat wave in Europe, for example, led to [more than 70,000 deaths](#); a 2010 heat wave in western Russia [killed 11,000 people in Moscow](#) alone. Heart and lung diseases, including asthma, are also exacerbated by high temperatures, which raise levels of ozone, other air pollution, and pollen, according to the World Health Organization.

Water-borne diseases and those transmitted by mosquitoes, ticks, flies, and even snails—which carry schistosomiasis, a disease caused by parasitic worms—are likely to increase as higher temperatures and standing water from floods lengthen their transmission seasons and spread their impact over a wider area, according to the National Institutes of Health.

Drought can also increase incidence of disease. As water supplies tighten, pathogens can become concentrated in stagnant pools, overwhelming water treatment plants, especially in developing countries, according to the [National Institute of Environmental Health Sciences](#). Intentional sabotage, such as the Islamic State’s attacks on Syria’s water network, has a similar impact, increasing the risk of deadly typhoid and cholera outbreaks, as the [International Committee of the Red Cross warned Reuters last year](#).

Taken all together, it’s a heavy toll. The good news is that governments and aid agencies around the world are beginning to recognize these threats and plan how to avoid them. One surprising solution: The U.S. Army is [partnering with other agencies that might provide food or emergency services](#), such as the State Department, the U.S. Agency for International Development, and Federal Emergency Management Agency. Clearing pathways to food, water, and health care can be a security strategy. Meeting people’s basic needs has a stabilizing effect.

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That's the path Werrell recommended in her 2012 briefing paper on Syria. To help end the violence and create the groundwork for a legitimate government, policy makers must consider the opposition movement's access to vital natural resources, such as food, water, and good farmland. Also, "in the long-term," she wrote, "addressing the full gamut of Syria's societal, environmental and climatic ills will be critical for ensuring a resilient, free, and conflict-proof nation."

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Osha Gray Davidson · Lead Photographer at Central Arizona Conservation Alliance

Thank you for giving a human face - far too many human faces - to the misery caused and exacerbated by our failure to confront climate change.

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