State of the World 2013

IS SUSTAINABILITY *Still Possible?*

THE WORLDWATCH INSTITUTE

CHAPTER 33

Shaping Community Responses to Catastrophe

Paula Green

Vahidin Omanovic was 15 when war came to his rural village of Hrustovo and the nearby city of Sanski Most, Bosnia, in 1993. Bosnian Serb militias dragged men and boys from their homes, shooting some immediately, capturing others for concentration camps, and deporting the elderly on buses. The homes they left behind were plundered down to the copper wiring and then dynamited. Hiding on a departing bus under his mother's ample peasant skirt, Omanovic survived in a displaced persons camp. Returning to Hrustovo after the war, he helped build a graveyard for 300 murdered villagers and reconstructed homes for surviving residents or newly arriving refugees. Twenty years later, Hrustovo is repopulated. Omanovic lives in his rebuilt home with his family, working as founder-director of a nongovernmental organization (NGO), the Center for Peacebuilding, dedicated to re-establishing relationships between Bosnian Muslims and Serbs.[1]

Although Sanski Most has lost its haunted, ghostly postwar appearance, domestic and foreign investors are deterred by an inconclusive and unstable postwar agreement, limiting recovery and opportunity. Residents rely on each other, but without economic and political capital, Bosnia's young adults are forced abroad to find work, fraying the social fabric and further depressing the region. Not many young men like Omanovic have remained to reweave the community life shattered by war.[2]

Dishani Jayaweera lives in Colombo, Sri Lanka's capital, far from the war-torn and tsunami-affected regions of that island. As a member of the dominant Sinhalese majority, she could enjoy a good life without much regard for the immense suffering of marginalized Tamil minorities in other regions. But she has chosen the difficult and somewhat dangerous path of helping fellow Sri Lankans re-establish ethnic relationships after the ravages of war and nature. Her Center for Peacebuilding seeks to heal and strengthen community by rebuilding inter-ethnic and inter-religious relations sundered by war and further damaged by unjust post-tsunami and

Paula Green is founder and senior fellow at the Karuna Center for Peacebuilding and a professor of conflict transformation at the School for International Training Graduate Institute in Vermont.

AusAID Photolibrary

A fisherman and his wife tend their nets on Mathagal beach, Sri Lanka. The Mathagal fishing community has received aid to support its post-tsunami recovery from AusAID and the International Organization for Migration.

postwar resettlement decisions. Sri Lanka's transition to peace remains fragile, and Tamils experience discrimination rather than support from the government.[3]

In Rwanda, Joseph Sebarenzi survived the 1994 genocide because he was out of the country, but his parents and most of his large nuclear family were murdered, along with 1 million others in 100 days. In the 20 years since, Sebarenzi has transformed himself from someone bent on revenge into a prominent peacemaker who lectures and writes about reconciliation and forgiveness. The Rwandan government has invested heavily in rebuilding on both the physical and social levels, especially modernizing the capital, Kigali, and supplying modest housing stock nationwide. It instituted a community social healing program called *gacaca*, designed to restore broken inter-ethnic relationships between Hutus and Tutsis. A strong government keeps the peace, but fear and tension exist on all sides, and trust remains understandably low. Most Rwandans remain economically impoverished, but Rwanda's current stability has attracted foreign investment. Some educated, urban youth can imagine, if not yet attain, a better future.[4]

The victimized identity groups in Bosnia and Rwanda were unprepared for war, and Sri Lankans could not even imagine the tsunami. In our current moment, however, with climate crises already occurring, population increasing, and vital resources diminishing, social capital, resilience, and preparedness may make the difference between life and death—or between bare survival and a more ample post-disaster transition.

Denial and Resistance

Can most people even imagine life in the environmentally compromised world of the future or come to terms with our ability to destroy our nest? Why have the fires, floods, hurricanes, droughts, temperature extremes, species extinctions, toxins, cancers, and other evidence of a disordered environment not produced responses as large as the problems? What will it take to break through the collective fog of denial, passivity, ignorance, and unspoken terror that seem to underlie refusal, especially in the United States,

to grapple with the reality of catastrophic change? In the past decade, approximately 200–300 million people a year were seriously affected by natural disasters or technological accidents. The U.N. International Strategy for Disaster Reduction estimates economic costs of global natural disasters will reach $300 billion by 2050 at the present rate of environmental challenges, while the Global Humanitarian Forum projects an annual cost of $600 billion from climate disasters by 2030. Clearly, a crisis is at hand—and yet denial accompanies this crisis for large segments of the population.[5]

A "cultural trance of denial" impedes the capacity to awaken to increasingly pervasive and obvious environmental destruction. Through the defense mechanism of denial, barely articulated primal fears lie below the level of consciousness, providing a false sense of reassurance that all is right with the world. Noted psychiatrist and author Robert Jay Lifton studied the paralytic effects of the prospect of nuclear annihilation on the U.S. population during the cold war period. He coined the phrase *psychic numbing* to describe how individuals and societies block awareness or minimize the dangers of issues that are too painful to comprehend. Psychic numbing, he wrote, "is a societal reaction to impending doom, chaos, and ultimately mankind's extinction."[6]

In the United States and elsewhere, the looming consequences of environmental collapse have evoked similar responses of denial and numbing, blunting awareness of climate and resource realities and creating large time gaps between evidence, acceptance of evidence, and policies based on evidence. Fear of individual and collective nonexistence can override powers of observation, constrict assimilation of critical knowledge, and protect against the "inconvenient truths" that are too painful to know. Reinforcing this denial, disinformation from those with vested interests in environmentally harmful enterprises undermines the clarity required to respond in any measure commensurate with the magnitude of the crisis. Soothed by manipulated information, confused about how to respond, and frustrated by the inadequacy of replacing lightbulbs and growing tomato plants in the face of catastrophe, feelings of helplessness, depression, or misdirected anger may arise. Relentless busyness protects against anxiety and leaves little time for sustained thought or community organizing. Diffuse worries about the future fuel demands for illusory protective boundary walls and border fortifications, which are useless against environmental deterioration.

"Humankind cannot bear very much reality," wrote T. S. Eliot. But repression and denial have severe consequences that affect our collective safety. Denial shelters unacknowledged fear and saps motivation for appropriate responses, whereas confronting reality counteracts helplessness and hopelessness, builds social capital, lessens fear, and releases energies

needed for change. One hopeful initiative, known as the Degrowth Movement, advocates reducing production and consumption in order to live within local ecological, equitable, and environmentally responsible limits. Visionary alternatives like degrowth inspire others and increase demands for reasonable government-led programs dedicated to the common good. Deliberate planning for climate-altered lives involving multiple sectors of society will arouse further awareness, sideline climate deniers, and stimulate adaptive innovations.[7]

Human Behavior in Times of Crisis

Although laws and customs help guide individual responses to crisis, human behavior in times of war and natural disasters cannot be fully predicted or controlled. Within countries or across borders, in high and low social relatedness cultures, and under the pressures of environmental catastrophe or genocide, there are no guarantees of humane responses. Humans are beset with fear and greed, as well as endowed with compassion and generosity. And disaster calls forth wide-ranging reactions within individuals and communities, as witnessed in Rwanda, Sri Lanka, and Bosnia.

At a seminar for South Asian activists, Indian participants confronted Bangladeshis about their lack of preparedness for near-certain devastating floods, informing them that India would not accept massive numbers of new climate migrants, given its responsibility for over 1 billion citizens of its own, 25 percent of whom live below the poverty line. India, in fact, is slowly building a wall on its Bangladeshi border in response to an already steady flow of climate and economic refugees who are adding to instability in northeastern India. Mass climate migration in response to specific disasters in South Asia and elsewhere has not yet occurred but is widely predicted despite evidence that, for emotional and legal reasons, displaced people prefer to repatriate and rebuild rather than relocate. In Bangladesh and elsewhere, environmental conditions may make rebuilding impossible, greatly expanding climate refugee populations. [8]

After the December 2004 tsunami in Sri Lanka that resulted in over 30,000 deaths, many Tamil, Muslim, and Sinhalese residents in coastal areas rescued fellow citizens without regard for the ethnic identities that perennially enflame their communities. For a brief time, until disaster allocations favored the majority Sinhalese population, the impulse to care overshadowed the distinctions of status and affiliation. Aid discrimination provoked resentments that led to further armed conflict until in 2009 the government declared victory over the Tamil minority LTTE separatist militia, ending a 26-year insurgency. Damaged inter-ethnic relations now threaten Sri Lanka's capacity to manage expected climatic events such as sea level rise and storm surges.[9]

The destruction wrought by Hurricane Katrina in New Orleans in 2005, when approximately 80 percent of the city flooded in 18 hours, brought out the best and worst of human behavior—from rescue to robbery to racism. Neighbors did their best to help each other throughout the city, but the Lower Ninth Ward, where the population was 90 percent African-American, experienced the highest number of deaths by drowning. Evacuation by car succeeded, but no buses were provided for an estimated 200,000 to 300,000 persons who rely on public transportation, although New Orleans officials were aware of the risks facing these individuals. Despite the cohesion of the neighborhood, residents lacked connections to those in power who might have aided their evacuation.[10]

The National Guard

Louisiana National Guardsmen distribute Meals Ready to Eat in preparation for Hurricane Isaac.

Other lessons learned after Katrina included the need for effective coordination between different levels of government, electronic protection of medical records, emergency generators, guaranteed fuel delivery for hospitals and shelters, and much more extensive community planning and drilling. When Hurricane Isaac struck in 2012, preparedness paid off: the levees held, electronic medical records were available, and generators moved throughout New Orleans on flatbed trucks.[11]

Racial and class prejudices, with their demarcations of access, visibility, and privilege, affected human behavior during and after the disasters in Sri Lanka and New Orleans. Despite pleas by residents, much of the Lower Ninth Ward community in New Orleans has not been rebuilt, fueling accusations about deliberate population transfer based on race and poverty. The economically impoverished half-Vietnamese Village de L'Est in New Orleans, however, was rebuilt, an accomplishment attributed to the refugee experiences of the highly networked Vietnamese community as well as the leadership role of their church.[12]

In the 1992–95 war that shattered Bosnia, previously the most ethnically diverse of Yugoslavian states, the bonds of community snapped. The same pattern emerged in 1994 in the Rwandan genocide, another nation ripped apart by political manipulation, greed, grievances, and history. Amid the strife and chaos of war or natural disasters, however, individual behaviors varied widely: not all Bosnians and Rwandans abandoned the designated

enemy group. Rescuers emerged, as they do in all cultures—often unpredictably and with no previous indication of a heroic disposition. Holocaust rescuers, for example, who quietly risked their lives by sheltering people marked for genocide during World War II, recount their generally unplanned rescue behavior as an ordinary response to a particular request for help. Their outstanding acts stand at the pinnacle of moral behavior, in sharp contrast to the violence and betrayal committed by some and the bystander behaviors of most, who neither contribute to nor prevent violence. Rescuers provide a counterpoint to the worst of human behavior observable in war and upheaval.[13]

In planning for climate crises, resource scarcity, and forced migration, this great variability in human behavior and resilience must be accounted for. Because catastrophes, whether natural or human-made, stimulate primal survival instincts, individuals may react in ways that protect, provoke, or disrupt. Some may collapse into depression and helplessness or engage in violent behavior in response to frustration and anxiety. Others will seek to shield only those of similar affiliation. At the other extreme, there will be individuals facing calamities who will mobilize community resources for responsible and inclusive action, and some who will become rescuers. Educational efforts that provide guidance for accountable and ethical behavior in times of crisis can help to control fear-based responses that might harm or destabilize the community as well as encourage mobilizers and rescuers.[14]

Cultivating Social Capital

Social capital, the sum total of resources, knowledge, and goodwill possessed by everyone in a network, provides a web of connections that communities can use to obtain relief and reconstruction aid. Participants in networked communities are best able to organize support, articulate their needs, and work together to rebuild and stabilize. In countries like Rwanda, Sri Lanka, and Bosnia, with limited geographic mobility and multigenerational attachments to land and ancestors, social capital tends to be high, at least in times of peace. Among the mobile populations of greatly diverse cities, social capital characteristically is built within neighborhoods, identity groups, or professional and business associations. In regions fractured by war, fear and mistrust must be overcome for communities to re-establish relationships that protect against oncoming disasters.

Political scientist Daniel Aldrich believes that social networks are the most important determinants for coping with disasters. Those who are strongly rooted in community often rely more on themselves than on their governments, whereas more individualistic, less connected populations expect state services and support. In India, for example, bus passengers will disembark to repair washed-out roads that impede their journey or col-

lectively rebuild villages destroyed by floods. Rich networks, Aldrich claims from studies of the United States, Japan, and India, energize people, improve resilience, and encourage disaster preparedness, which reduces loss and suffering in climate-related catastrophes. He cites two cities in Japan equally engulfed by post-earthquake fires in 1995. In one city, people in their neighborhoods organized rapidly to douse the flames; in the other, people did not mobilize and suffered far more harm. Similarly, after the 2004 tsunami in India's state of Tamil Nadu, one village secured disaster relief through relationships with the local government whereas another village lacked the social connections to gain access to this network of aid.[15]

Aldrich believes social capital is a more critical variable than wealth, education, or culture and that it can be cultivated through crisis preparedness events and community activities such as exist in Seattle, which offers disaster management classes and training programs for officials and civil society. Preparedness and resilience researchers Kevin Ronan and David Johnston document the advantages of working with schools, youth, and families—an existing network—to increase resilience while planning for disasters. Encouraging schools and communities to prepare and practice for a hazardous event through realistic and carefully planned scenarios builds trust, establishes mutual reliance, and increases the odds of survival far beyond what can be achieved by reliance on external hazards managers.[16]

In another cultural context, a study conducted by social scientist Ashutosh Varshney in India confirms the value of intergroup networks in areas plagued by communal violence. He found that Indian cities with positive connections between Hindus and Muslims prevented inter-ethnic riots whereas those without solid inter-religious relations could not stem the rising tide of violence. Both informal and associational robust civic links prevented riots, but the more deliberate and formal associational relations created especially sturdy bonds that helped end violence in times of threat. The Indian cities lacking sufficient Hindu-Muslim social capital capitulated under siege from violent mobs, leaving trauma and resentments to fester and reignite future violence.[17]

High social capital in besieged communities does not always prevent violence, however. Rwanda and Bosnia, for instance, experienced an onslaught of ethnic violence despite previous associational links and high rates of intermarriage. In Sri Lanka, strong ties did bind the majority Sinhalese to each other, as occurred in Bosnia and Rwanda, but that bonding deprived the less-favored Tamils of humanitarian aid when the tsunami multiplied the problems caused by their ongoing war. In postwar Bosnia, Sri Lanka, and Rwanda, Vahidin Omanovic, Dishani Jayaweera, and Joseph Sebarenzi promote social healing and reconciliation, revitalizing inter-ethnic networks that might prevent a return to armed conflict and

help communities facing severe climate events. Social capital is predictive for disaster prevention or preparedness, but not necessarily sufficient. Yet it does often raise the odds of averting disaster, and it raises the quality of life before and after climate or war catastrophes.

Socially cohesive Japan is not challenged by ethnic diversity or plagued by extensive poverty. Japanese culture rewards conformity and eschews challenges to authority; its citizens expect efficient services and truthfulness in return for their obedience. The handling of Japan's 2011 massive 9.0 magnitude earthquake and tsunami, and the subsequent meltdown at its Fukushima Daiichi nuclear plant, created a disaster that may leave thousands of square miles of this overcrowded country uninhabitable for decades, producing Japan's greatest reconstruction tasks since World War II. The management of this disaster shattered people's trust in their government so severely that some Japanese citizens have purchased their own dosimeters to measure radiation penetration in the land and waters.[18]

This nuclear event, recalling the nuclear-bombed annihilation of Hiroshima and Nagasaki, spawned social networks in Japan that challenge authority and press for elimination of nuclear power. Industries relying on nuclear power are currently on a collision course with protesting citizens who no longer believe their elected officials, while the Japanese government equivocates and seeks acceptable compromises to protect the future of nuclear power. Groups of citizen activists, no longer waiting for their government to lead, are planning an alternative future based on the "four-Cs" of climate, connectivity, community, and character. Some are joining the Transition Towns movement, which has spread to 24 Japanese communities.[19]

In North America, Europe, Australia, New Zealand, and elsewhere, the rapidly spreading Transition Towns movement is a robust example of communities mobilizing in anticipation of resource and climate-based threats. In rural Putney, Vermont, bonds develop as residents acquire skills in sustainable energy, food preservation, alternate transportation, and other survival topics. Transition Town members in Totnes in the United Kingdom helped spark this global movement and initiated over 30 workshops, including bicycle maintenance, eco-construction, and local economic regeneration. "There is no cavalry coming to our rescue," remarked cofounder Rob Hopkins. "Transition says we need to come to our own rescue."[20]

Farmers markets, Transition Towns, the Occupy movement, degrowth, and many other citizen-led initiatives arise in response to an increasingly fragile planet. Combined with disaster preparedness, the mutual responsibility and resilience characteristic of well-networked communities have proved essential in times of war or climate disaster. Although bonds of

friendship and community sometimes fail to survive the assaults of armed conflict or environmental catastrophe, the memory of harmony and mutual assistance helps people rebuild communities for a future that is bound to present challenges to human well-being.

Disaster Preparedness, Development Assistance, and Resilience

Crisis planning progresses beyond denial to deliberation and decisionmaking. Well-prepared communities anticipate and manage denial, helping those caught in anxiety or bewilderment. Having already deliberated as part of planning, these communities are poised for life-saving decisions and rapid action, augmented by rich social networks that organize support services. With the increasing number and severity of climate events, disaster specialists recommend drills and preparedness for cities, school systems, hospitals, and public officials.[21]

These services, however, may exist primarily for economically privileged communities and nations. In the United States, many large and some smaller cities have emergency management websites that offer, for example, Community Emergency Response Teams, first responder training, Red Cross information, guidance for businesses, and extensive publications. Minneapolis offers preparedness information in English, Hmong, Somali, and Spanish; Los Angeles provides guidance for families, children, and neighborhoods in Spanish and English. In economically developed countries, most earthquake- or hurricane-prone cities are somewhat prepared for expected natural disasters. In the global South, however, where people already live with almost constant disruption, little climate vigilance exists. And for situations of armed conflict, the best planning is mitigation of the conditions that give rise to war and violence.[22]

A four-pronged approach can create disaster-resistant communities: mitigation, preparedness, response, and recovery/reconstruction. Mitigation is concerned with the planning, building, accessibility, and maintenance of the systems and facilities in a community, such as transport, land use, and development codes. Good systems help prevent hazards from turning into disasters and make a sustained difference in the outcome. While community members build their social capital and create more environmentally responsible lives, local governments should conduct a community risk analysis, integrate planning into all decisionmaking bodies, create a local resource network, and promote public awareness. This checklist for local government can provide cities and regions a margin of safety and sustainability that will help minimize the negative impacts of future climate events.[23]

Studies show that the way communities and government officials respond in the weeks and months that follow disaster can have a strong impact

on the mental health of victims. Research from Hurricanes Katrina and Rita, both in Louisiana, indicate that survivors whose lives were returned to some degree of normalcy shortly after the traumatic climate event fared much better psychologically than those for whom services and security were not restored rapidly. The longer the adversity continues, the higher the rates of mental health problems.[24]

Climate change will continue to take its most inexorable toll on the poor in both poor and rich countries—those who have the least protection from physical infrastructure failure, unreliable government institutions, faulty warning systems, and inadequate emergency health and transport facilities. Furthermore, the impoverished of the world have limited financial and material reserves for mitigation or recovery and live in vulnerable areas that are especially subject to the ravages of nature and the toxic spills and fumes from polluting industries in their neighborhoods. Both the Ninth Ward of New Orleans, which houses the poor of a rich country, and the Tamil fishing villages on Sri Lanka's coast, home to the poor of a poor country, experienced this class impact of disaster rescue and relief.[25]

Sadly, it is sometimes the overstretched but well-meaning development assistance agencies that stifle community support networks by introducing systems that feel regimented or disempowering to local residents. Aid availability can create competition for goods and services that results in antagonistic relations between communities and development workers. Aid organizations, in the country with the permission of the host government, can be limited by government priorities for aid distribution. Victims of disaster, often anxious and vulnerable, may be hypersensitive to slights and resent the erosion of cultural beliefs and local leadership.[26]

New programming in aid, known as community-driven development (CDD), shifts the equation by relegating planning, decisionmaking, and financial resources to both majority and marginalized communities, who are fully responsible for implementation. With aid agencies anticipating further demands due to increasing catastrophes, CDD approaches can empower local leaders to use and strengthen their own social capital and resilience, maximize available resources for their own welfare, and implement community recovery, reconstruction, and preparedness in accordance with local traditions.[27]

Integrated planning for risk reduction and adaptation to twenty-first century challenges must be established through cooperation by the world's governments and intergovernmental agencies, which are ultimately responsible for human safety and well-being. The U.N. Environment Programme (UNEP), for example, is tasked with minimizing environmental threats to human welfare from the environmental causes and consequences of conflicts and disasters, working within the constrained limits of U.N.

member-state mandates. For nearly 40 years it has delivered environmental expertise to U.N. members and regional partners. UNEP notes that since the start of the new millennium, more than 35 violent conflicts and perhaps 2,500 disasters have affected billions of people worldwide. UNEP works with communities on such issues as risk reduction, capacity development, transformation of resource-based conflicts, and learning to "build back better." Like CDD, it seeks to empower rather than lead, to inspire rather than direct.[28]

More than aid, planning, or even resources, what may help most of the world's people cope with catastrophe is the remarkable human capacity for resilience. Humans bear the unbearable, survive to tell the story, manage the shadows of grief, and create renewed lives. Resilience is the ability of individuals and communities to withstand shock, cope with emergencies, adapt to new realities, and heal from the experience. It exists in all human communities and is built on the strength of local relationships. Many residents of Bosnia, Rwanda, and Sri Lanka, like people in climate-battered New Orleans and Japan, have demonstrated stunning resilience in their capacity to recover from tragedies that no one should have to endure. Some have rebuilt their lives on the ashes of their homes and their ancestors, planting their fields and awaiting new growth. Those with no possibility of "building back better" must establish lives in new lands, demonstrating even more resilience and coping capacity and requiring additional social services.

Hajime Nakano

A team of volunteers help with post-earthquake and tsunami recovery at Kobuchihama, Japan.

In *Resilient People, Resilient Planet*, the U.N. Panel on Global Sustainability noted that a resilient world requires the eradication of poverty, inequality, unsustainable consumption, and inadequate governance. Continued existence for all the world's communities demands a radical shift from resource competition to appropriate allocation of what remains; a willingness to share responsibility for climate mitigation, resource management, and vulnerable populations; and a commitment to resolve increasing sociopolitical tensions without the additional affliction of armed conflict. Civilization depends on acknowledging our capacity to destroy our common nest, focusing our collective energy on its survival, and respecting planetary limits.[29]

for an Uncertain World," lecture, University of Canberra, 20 February 2012.

20. Stephen Flynn, *The Edge of Disaster* (New York: Random House, 2007).

21. Betty Hearn Morrow, *Community Resilience: A Social Justice Perspective* (Oak Ridge, TN: Community and Regional Resilience Institute, 2008).

22. U.N. Population Division, *World Population Prospects: The 2010 Revision*, online database at esa.un.org/unpd/wpp/unpp/panel_population.htm; Malea Hoepf Young et al., "Adapting to Climate Change: The Role of Reproductive Health," in Mazur, op. cit. note 16, pp. 108–23.

23. Patricia H. Longstaff et al., *Building Resilient Communities: Tools for Assessment* (Syracuse, NY: Syracuse University, Institute for National Security and Counterterrorism, Project on Resilience and Security, 2010); chapters on the Norse settlement of Greenland in Jared Diamond, *Collapse: How Societies Choose to Fail or Succeed* (New York: Viking Penguin, 2005).

24. Andrew Zolli and Ann Marie Healy, *Resilience: Why Things Bounce Back* (New York: Free Press, 2012), p. 259.

25. See, for example, Sami Grover, "Resilience vs. Sustainability," *Treehugger*, 28 March 2011, and Jamais Cascio, "The Next Big Thing: Resilience," *Foreign Policy*, 15 April 2009.

26. Tony Juniper, "Will 2012 be the Year of the 'R' Word?" (London) *Guardian*, 14 December 2011.

Chapter 33. Shaping Community Responses to Catastrophe

1. Vahidin Omanovic, discussions with author, 1997–2002.

2. Vahidin Omanovic, discussion with author, July 2010.

3. Randall Kuhn, "Facts on the Seashore: Conflict, Population Displacement, and Coastal Vulnerability on the Eve of the Sri Lankan Tsunami," Josef Korbel School of International Studies, University of Denver, 2009.

4. Joseph Sebarenzi, discussions with author, June 2012; Joseph Sebarenzi and Laura Mullane, *God Sleeps in Rwanda* (New York: Atria Books, 2009).

5. Mark Pelling, David Manuel-Navarrete, and Michael Redclift, *Climate Change and the Crisis of Capitalism: A Chance to Reclaim Self, Society and Nature* (London: Routledge, 2011); "Disaster Preparedness and Prevention (DPP): State of Play and Strategic Orientation for EC Policy," European Commission of Humanitarian Aid Office, Brussels, 2011; John Vidal, "Global Warming Causes 300,000 Deaths a Year, says Kofi Annan Thinktank," (London) *Guardian*, 29 May 2009.

6. Richard Heinberg, *Peak Everything: Waking Up to the Century of Declines* (Gabriola Island, Canada: New Society Publishers, 2012), p. 23; Robert Jay Lifton and Richard Falk, *Indefensible Weapons* (New York: Basic Books, 1982).

7. T. S. Eliot, *The Four Quartets* (New York: Mariner Books, 1968); Research & Degrowth, at degrowth.org.

8. Index Mundi, at www.indexmundi.com; Christian Parenti, *Tropic of Chaos: Climate Change and the New Geography of Violence* (New York: Nation Books, 2011).

9. Kuhn, op. cit. note 3; Climate Change Knowledge Portal, "Sri Lanka Dashboard," World Bank, at sdwebx.worldbank.org/climateportalb.

10. Victoria Transport Policy Institute, at www.vtpi.org.

11. Brendon Nafziger, "Weathering Hurricane Issac: Health Care Lessons Learned from Katrina," *DOTmed News*, 11 September 2012.

12. Juliette Landphair, "The Forgotten People of New Orleans: Community Vulnerability, and the Lower Ninth Ward," *Journal of American History*, December 2007, pp. 837–45; Karen J. Leong et al., "Resilient History and the Rebuilding of a Community: The Vietnamese American Community in New Orleans East," *Journal of American History*, December 2007, pp. 770–79.

13. Eva Fogelman, *Conscience and Courage: Rescuers of Jews During the Holocaust* (New York: Anchor Books, 1995); PROOF: Media for Social Justice, at proofmsj.com.

14. Kevin Ronan and David Johnston, *Promoting Community Resilience in Disasters: The Role for Schools, Youth, and Families* (New York: Springer Publishing, 2005).

15. Daniel P. Aldrich, *Building Resilience: Social Capital in Post-Disaster Recovery* (Chicago: University of Chicago Press, 2012); bus passengers in India from author's observations; Tamil Nadu from Daniel P. Aldrich, "How to Weather a Hurricane," *New York Times*, 28 August 2012.

16. "Office of Emergency Management," Seattle.gov, at www.seattle.gov/emergency; Ronan and Johnston, op. cit. note 14; Robert D. Putnam, *Bowling Alone: The Collapse and Revival of American Community* (New York: Simon & Schuster, 2001).

17. Ashutosh Varshney, *Ethnic Conflict and Civic Life: Hindus and Muslims in India* (New Haven, CT: Yale University Press, 2012).

18. Ken Belson, "Japanese Find Radioactivity on Their Own," *New York Times*, 31 July 2011; "Social Capital and Disaster Recovery," *Social Capital Blog*, 15 November 2011; Tina Gerhardt, "After Fukushima, Nuclear Power on Collision Course With Japanese Public," *Huff Post Green*, 26 July 2012.

19. Gerhardt, op. cit. note 18; Brendan Barret, "Japan Considers Green Future After Nuclear Disaster," *Aljazeera*, 11 February 2012.

20. Transition Putney 2.0, at www.transitionputney.net; Transition Town TOTNES, at www.transitiontowntotnes.org; quote from 3rd International Conference on Degrowth, Ecological Sustainability and Social Equity, Venice, 19–23 September 2012, at www.venezia2012.it.

21. Amanda Ripley, *The Unthinkable: Who Survives When Disaster Strikes—and Why* (New York: Three Rivers Press, 2009); Ronan and Johnston, op. cit. note 14.

22. "Minneapolis Community Emergency Response Teams (CERT)," Minneapolis, at www.minneapolismn.gov; "Community Readiness," Emergency Management Department, City of Los Angeles, at emergency.lacity.org.

23. Donald E. Geis, "Creating Sustainable and Disaster Resistant Communities," *The Aspen Global Change Institute*, 10 July 1996.

24. Pauline W. Chen, "After the Tempest Passes, Easing the Trauma It Left," *New York Times*, 6 November 2012.

25. Environmental Translation Project, at environmentaltranslation.org; DeMond Shondell Miller and Jason David Rivera, *Comparative Emergency Management: Examining Global and Regional Responses to Disasters* (Boca Raton, FL: CRC Press, 2011).

26. Anouk Ride and Diane Bretherton, *Community Resilience in Natural Disasters* (Basingstoke, U.K.: Palgrave Macmillan, 2011).

27. World Bank, "Community Driven Development," at web.worldbank.org.

28. U.N. Environment Programme, "Disasters and Conflicts," fact sheet, Geneva, undated.

29. U.N. High Level Panel on Global Sustainability, *Resilient People, Resilient Planet* (New York: United Nations, 2012).

Chapter 34. Is It Too Late?

1. Robert Socolow, "Wedges Reaffirmed," *Bulletin of the Atomic Scientists*, 27 September 2011.

2. Robert A. Dahl, *A Preface to Economic Democracy* (Berkeley: University of California Press, 1985).

3. Raymond Williams, *Marxism and Literature* (Oxford: Oxford University Press, 1977), pp. 121–27.

4. For more information on cliodynamics, see Peter Turchin, "Cliodynamics: History as Science," at cliodynamics.info.

5. Robert Costanza et al., "The Value of the World's Ecosystem Services and Natural Capital," *Nature*, 15 May 1997, pp. 253–60.

Advance Praise for
State of the World 2013: Is Sustainability Still Possible?

"*State of the World 2013* cuts through the rhetoric surrounding sustainability, providing a broad and realistic look at how close we are to achieving it and outlining practices and policies that can steer us in the right direction. . . . A must-read for those seeking authentic sustainability."

—Hunter Lovins, President, Natural Capital Solutions and Author of *Climate Capitalism*

"This is a book of hope for a world in profound crisis. It gives honest assessments of the enormous challenges we face and points us toward institutional and cultural changes that are proportional to our dire situation. *State of the World 2013* reaffirms that we are not helpless but that we have real choices—and that transformation is both possible and desirable."

—Reverend Peter S. Sawtell, Executive Director, Eco-Justice Ministries

"*State of the World 2013* cuts through 'sustainababble' with crisp coverage that puts the news of the year in context and provides an expert survey of today's and tomorrow's big issues. It's a perennial resource for everyone concerned about our common future."

—Karen Christensen, publisher of the 10-volume *Berkshire Encyclopedia of Sustainability*

"Every elected official in the world needs to read this book. Mass denial is no longer an option. An 'all hands on deck' approach to transforming our culture and economy is the only path to a safe, resilient future. This book is the blueprint for that safe path forward."

—Betsy Taylor, President, Breakthrough Strategies & Solutions and Founder, Center for a New American Dream

SCIENCE | ENVIRONMENT

2013

STATE OF THE WORLD

Is Sustainability Still Possible?

"State of the World 2013 assembles the wisdom and clarity of some of the earth's finest thinkers, visionaries, and activists into a dazzling array of topics that merge to offer a compellingly lucid and accessible vision of where we are—and what is the wisest and healthiest course for the future."

—**NINA SIMONS,** Cofounder, Bioneers

"This edition forges a new path for the *State of the World* series, and for environmental thinking in general. . . . A pivotal book that marks a defining moment for our species."

—**RICHARD HEINBERG,** Senior Fellow, Post Carbon Institute, and author of *The End of Growth*

"State of the World 2013 is a powerful collection of articles, and the vision behind it is impressive. Here is a book that gets beyond 'sustainababble' and asks the tough, essential questions. It should make readers more determined than ever to do their part in avoiding planet-wide disaster—and better informed about how to do that."

—**PETER SINGER,** Professor of Bioethics, Princeton University, and author of *Animal Liberation, One World,* and *The Life You Can Save*

Sustainability gets plenty of lip service, but the relentless worsening of key environmental trends reveals much of that attention to be "sustainababble." From climate instability and species extinctions to approaching scarcities of freshwater, minerals, and energy, worrisome limits to human economic activity look more pressing each year—all while our political institutions seem impotent to address the challenge.

THE WORLDWATCH INSTITUTE, in this edition of the celebrated *State of the World* series, takes an unflinching look at what the data say about the prospects for achieving true sustainability, what we should be doing now to make progress toward it, and how we might cope if we fail to do so.

ISLANDPRESS

Washington | Covelo | London
www.islandpress.org
All Island Press books are printed on recycled, acid-free paper.
Cover photos: *Binoculars Reflecting the Sky* ©iStockphoto.com/Jill Fromer
Rain clouds, vertical ©iStockphoto.com/Adrian Assalve

ISBN 13: 978-1-61091-449-9
ISBN 10: 1-61091-449-X
90000 >
9 781610 914499