NEW PUBLICATIONS

Beyond Disasters: Creating Opportunities for Peace

By Michael Renner and Zoë Chafe
Washington, DC: Worldwatch Institute, 2007. 56 pages.

Reviewed by NICHOLA D. MINOTT

Beyond Disasters: Creating Opportunities for Peace examines the impact of natural disasters on conflicts by analyzing the 2004 Indian Ocean tsunami and the 2005 earthquake in Kashmir. Co-authors Michael Renner and Zoë Chafe focus on two main themes: the impact of disasters on ongoing conflicts, and how the responses to disasters can change the dynamics of these conflicts. These significant and timely questions can help us understand how post-disaster interventions could contribute to conflict resolution and facilitate cooperation among warring factions by helping address the deeper socio-economic and political barriers within the conflict itself.

The report analyzes three cases: Aceh (Indonesia), Sri Lanka, and Kashmir. All three regions were plagued by civil unrest and conflict, and all suffered a sudden and devastating environmental disaster that, for a time, pacified the conflicts. However, the post-disaster outcomes varied, ranging from a peace agreement to further violence and bloodshed. The authors provide important lessons and policy recommendations, demonstrating how governments, the military, disaster relief agencies, and civil society can play positive (and negative) roles in conflict resolution.
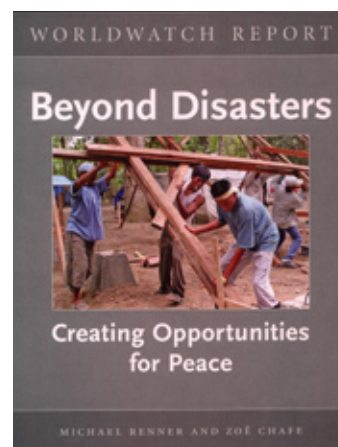
The first part of *Beyond Disasters* presents a general overview of natural disasters as they relate to "human impacts on the natural environment" (p. 7). Renner and Chafe observe

Nichola Minott is a doctoral candidate at the Fletcher School of Law and Diplomacy at Tufts University. She is currently working on issues pertaining to international environment and resource policy studies, international security studies, and conflict resolution and negotiations. She holds a Master of Arts in Law and Diplomacy from the Fletcher School.

that the severity of disasters is increasing as growing socio-economic inequalities push development and settlements into vulnerable areas, exposing more people to the full impact of these events. From the melting ice caps to Hurricane Katrina to the 2004 tsunami, the world has borne witness to the destructive power of environmental disasters.

Renner and Chafe describe how human population growth is forcing more people into fragile and vulnerable ecosystems, thus increasing the number of people likely to be affected by disasters. By 2008, "for the first time ever, more people will live in cities than rural areas" (p. 10). Despite advanced early warning systems—which have decreased fatalities—the number of people affected by disasters has risen 10 percent over the past two decades (p. 9).

Environmental degradation is contributing to the severity of the damage; for instance,

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short-sighted economic policies led Louisiana to lose more than a quarter of its wetlands, eliminating a natural buffer zone that could have minimized the devastation. In addition, the authors cite studies by the Intergovernmental Panel on Climate Change indicating that Earth's temperature has increased over the past century, along with the severity of storms and other undesirable climate-related phenomena.

Yet what ultimately matters is the timeliness and adequacy of relief programs and the ability of the affected society to absorb the shock and rebound. Typically, the poor and disenfranchised bear the brunt of the disaster. For instance, the U.S. federal response to Hurricane Katrina was clearly lacking, and the poor of New Orleans and the Gulf Coast are still suffering the results years later.

Post-disaster relief and economic aid can be used as a political tool: Aid to the victims of disasters can distort the economy by increasing inflation, the cost of living, and competition for jobs, and by leading to unequal compensation and conflicts over resettlement. A disaster can weaken areas already in conflict, further depleting the country's economic resources and making it more difficult to recover from violence. For example, Pakistan's slow response to the 1970 floods in present-day Bangladesh eventually led to the region to push for independence in December 1971. Likewise, Nicaraguan dictator Anastasio Somoza's inefficient response to the devastating 1972 earthquake and embezzlement of international reconstruction aid weakened his support base and eventually led to his overthrow (p. 17).

Renner and Chafe delve deeper into the cases of Aceh, Sri Lanka, and Kashmir. When the tsunami hit the Indonesian province of Aceh on December 26, 2004, the province had been under martial law since the failure of official peace talks in May 2003. The tsunami forced the parties involved to shift their focus from fighting to working together to distribute relief to the population in need. Most importantly, it brought international attention to the conflict. While unofficial peace talks were already in progress prior to the disaster, the post-tsu-

nami involvement of the international community—specifically, the European Union-led Aceh Monitoring Mission—helped increase the commitment to peace. Yet Aceh's post-tsunami peace could be easily endangered by continued inequalities in resource distribution and aid.

Unlike Aceh, post-tsunami Sri Lanka descended into further violence. The unequal distribution of post-disaster aid helped increase tensions between government forces and the Tamil rebels. Other factors contributed to this particular outcome, including the Sinhala nationalists, who viewed any type of negotiated settlement as a ploy for a separate state. Peace was not politically expedient for the Sinhala-led government; studies showed that the majority-Sinhala population did not want to end the conflict. And the international community sided with the government by labeling the Tamils "terrorists."

Unlike the civil wars in Aceh and Sri Lanka, the third case study focuses on an interstate conflict. After a massive earthquake on October 8, 2005, India and Pakistan took tentative steps toward thawing relations, allowing some travel across the "Line of Control," which demarcates their respective geographical claims in the disputed territory of Kashmir. The two governments also agreed to facilitate cross-border relief efforts. Tensions decreased and trade increased; however, both sides remained cautious. While the earthquake mobilized civil society, biased aid distribution stirred discontent and conflict. The authors conclude that the nations missed an opportunity to build peace; neither side seemed ready to make the necessary commitments to truly engage in dialogue.

In the final chapter, "Creating Future Opportunities for Peace," the authors provide an excellent synthesis of the three cases. Their clear and concise summary of the key aspects of post-disaster engagement in each case provides steps the international community can take to help further peacebuilding in these fragile environments. They argue that donor nations should leverage aid to build peace; humanitarian groups should be more sensi-

tive to the realities of politics and conflict; and other actors responding to natural disasters should make a concerted effort to restore the environment (p. 42).

Though the analysis is compelling, the report's main weakness lies in its vague policy recommendations. It is hardly news that environmental restoration will minimize the damage caused by disasters, or that "building trust and reconciliation" is pivotal to increasing cooperation among disputants. Most of the recommendations are aspirational and do not address the hard realities on the ground. The real issue is the lack of political will on the part of governments, the international community, and powerful elites to make the sacrifices necessary to mitigate inequalities that are further exacerbated by natural disasters. How does one create incentives for powerful groups to implement the policies needed to minimize the impact of future disasters? This specific recommendation is lacking—which is what the policy realm most needs.

Overall, I found the report a fascinating examination of how three regions addressed the devastating impact of a natural disaster and their divergent outcomes on conflict. Renner and Chafe conclude that the tsunami and earthquake created opportunities and challenges that warrant further study to determine why the effects on the conflicts were so varied. *Beyond Disasters* is a timely call for more in-depth research on disaster relief and its links to conflict mitigation.

# Bridges Over Water: Understanding Transboundary Water Conflict, Negotiation and Cooperation

By Ariel Dinar, Shlomi Dinar, Stephen McCaffrey, and Daene McKinney
Singapore: World Scientific, 2007. 468 pages.

Reviewed by ANNIKA KRAMER

Two riparian states, A and B, share one transboundary aquifer. The countries' economies are based only on the aquifer's water: They pump water to sell it on the international market as bottled water. Assume, for simplicity's sake, that the capacity of the international market to consume water is limited, and the price per unit of water is a decreasing function of the quantity. Unfortunately, A and B decide how much water to pump without consulting the other. Each country then pumps as much water as possible and sells it on the market; however, this floods the international market and lowers the price for water. If the two countries instead communicated and cooperated, they could maintain high market prices for water and realize the highest joint payoff.

Annika Kramer is a research fellow with Adelphi Research in Berlin, Germany. She is the co-author of "Managing Water Conflict and Cooperation" in Worldwatch's *State of the World 2005.*

With this transboundary groundwater version of the famous "prisoner's dilemma," the authors of *Bridges Over Water: Understanding Transboundary Water Conflict, Negotiation and Cooperation* demonstrate how a transboundary water situation could be expressed using game theory. Game theory is only one of the approaches employed by this textbook, which seeks to introduce the multidisciplinary facets of freshwater management by considering its

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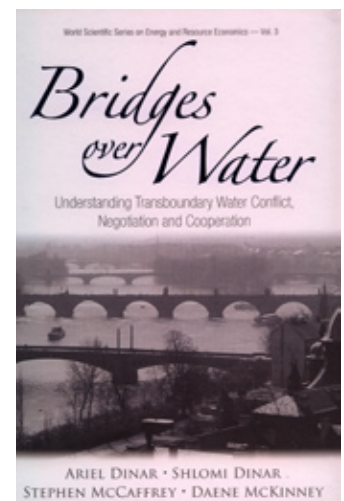
political, economic, legal, environmental, and hydrological aspects. Representing a cross-section of disciplines, authors Ariel Dinar, Shlomi Dinar, Stephen McCaffrey, and Daene McKinney seek to fill the void by producing a single textbook that covers all aspects of negotiations over transboundary water, an ever-expanding field of study. As such, this book is a very valuable undertaking.

Bridges Over Water is aimed at graduate students in economics, engineering, water law, and international relations, as well as practitioners of water resource management, international water law, and water policies. The book provides a theoretical background on water resources and international water law, as well as quantitative approaches to analyzing transboundary water problems, such as river basin modeling and game theory. The annex offers detailed case studies of particular transboundary river basins, lakes, and aquifers, together with the treaties governing cooperation. A CD-ROM accompanying the book includes modeling software, which can be used to model the fictive Lara River basin or other basins.

The book starts with an introduction to global water issues, sectoral use patterns, and water scarcity concepts. After taking stock of the world's transboundary river basins, the first chapter points out that conflict is not the prevailing outcome of riparian states' divergent interests. However, it does not provide a clear overview of common conflicts of interests in transboundary water basins, such as issues of water quality, quantity, and flow timing, or divergent water management priorities such as hydropower, flood control, or wetland protection. This overview would have provided readers with a clear understanding of the most common problems. Also, the authors should have devoted some time to introducing the concept of integrated water resources management as the recognized approach to water management and as a basis for understanding the environmental, social, and political processes taking place in river basins. Instead, it is not mentioned until later in the book, and its principles, including participatory approaches

and institutional aspects, are under-represented in the following chapters.

Bridges Over Water continues with an overview of the literature on conflict, negotiation, and cooperation over shared waters. While this chapter concisely summarizes the literature from various fields of research—which is very useful for anyone doing research in the field—it will probably not be easy for a new student to understand due to its brevity and the multitude of concepts it introduces.

The third and fourth chapters introduce the main principles of international water law and cooperation, providing examples of their application in transboundary basins around the world. The prisoner's dilemma presented above sets the stage for two chapters on cooperative game theory and how it can be used to analyze the cooperative or competitive behavior of riparians in transboundary basins. A fictive example of a basin shared by three riparians is interesting to read in spite of the many formulas that might scare away those less familiar with economics. Together with the knowledge gained in the chapter on "The Use of River Basin Modeling as a Tool to Assess Conflict and Potential Cooperation," game theory is used to analyze the hypothetical but illustrative example of the Lara River basin in the book's annex. The modeling software provided with the book allows students to track cooperation's likely effects on the basin.

The seventh chapter discusses conflict and cooperation over water from the perspective of international relations and negotiations, including examples illustrating how the relative power and geography of riparians—as well as conflict history, domestic policy, and external actors—can influence the balance between conflict and cooperation. This chapter creates a more realistic picture of the various social and political factors that may sidetrack economically rational behavior. The following chapters, "Overview of Selected International Water Treaties in Their Geographic and Political Contexts" and "Global Analysis of International Water Agreements," provide a comprehensive overview of how

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international freshwater agreements can help settle water disputes, including a useful set of questions for analyzing freshwater agreements. Together with the basin case study template in Annex 2, these questions will hopefully contribute to an increasing pool of comparable case study analyses.

Preparing a textbook on such an interdisciplinary topic and targeting graduate students from multiple disciplines is ambitious. *Bridges Over Water* must be complemented by a knowledgeable teacher who can give additional explanations and adjust the contents to the students' level. The book would have benefited from a clearer introduction to the major problems and issues of dispute; moreover, more attention could have been devoted to the actual problems water managers face on the ground—especially in developing countries, where many of the transboundary rivers of the world are located—such as the lack of data, the difficulty of enforcing agreements, and limited institutional capacities to maintain river basin organizations. Overall, however, *Bridges Over Water* is a valuable contribution that helps fill the need for comprehensive textbooks on transboundary water conflict, negotiation, and cooperation.

The Environmental Dimension of Asian Security: Conflict and Cooperation Over Energy, Resources, and Pollution

Edited by In-Taek Hyun and Miranda A. Schreurs
Washington, DC: United States Institute of Peace, 2007. 362 pages.

Reviewed by PAUL G. HARRIS

The Environmental Dimension of Asian Security: Conflict and Cooperation Over Energy, Resources, and Pollution describes and analyzes connections among resources, the environment, and security in Northeast Asia. Despite its title, this book is not about all of Asia, but instead focuses on its eastern, and particularly its northeastern, states and regions. Given the number of people living in this part of the world, its prodigious pollution, its unprecedented economic growth—and the dominant "growth-first, clean-up-pollution-later model of development" (p. 254)—as well as the region's growing appetite for natural resources, anyone interested in environmental security should be concerned about the issues addressed in this book.

Broadly speaking, the book examines the practice of and prospects for regional environmental cooperation, and provides readers with detailed descriptions and analyses of sev-

Paul G. Harris is the director of the Environmental Studies Program and a professor in the Department of Political Science at Lingnan University, Hong Kong. His most recent book is *Europe and Global Climate Change: Politics, Foreign Policy and Regional Cooperation* (Edward Elgar, 2007).

eral prominent environmental and resource issues. The 12 consistently informative chapters include three devoted to defining environmental security and identifying regional institutions that address environmental and resource problems; three focused on energy security, including one dedicated to radioactive waste; two on the marine environment and water security; and chapters on food security, Korea, and NGOs.

Most chapters are very detailed, well-written, and freestanding, allowing readers to easily skip

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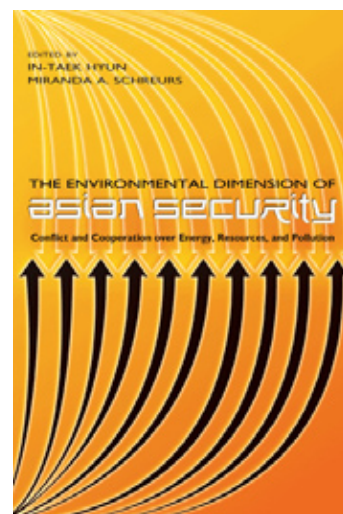
to those chapters of greatest interest. Like several other chapters, Mika Mervio's chapter on water and human security in Northeast Asia (pp. 143-164) is one of the best available analyses of the topic; it is worth the price of the book by itself. Similarly, Young-Ja Bae's chapter is one of the best English-language summaries of radioactive waste management in East Asia (pp. 63-88).

The Environmental Dimension of Asian Security is very useful for its detailed—and sobering—discussion of the poor prospects for establishing robust and effective regional regimes to address environmental changes and resource scarcities. A proliferation of weak and overlapping environmental regimes have had little beneficial impact on environmental problems. Despite the region's profound environmental challenges, longstanding animosities and mistrust prevent effective cooperation on environmental and non-environmental threats alike. As Geun Lee argues, "broader identity relations among the countries in Northeast Asia are perhaps the most important factors affecting the formation of environmental security complexes," alongside "legacies of past colonial history and rivalries between Japan and China" (p. 38) and what Miranda Schreurs appropriately refers to as "still considerable mutual suspicion and tension in the region" (p. 256). Alas, the book does not detail how to surmount these obstacles; we need additional work devoted to overcoming historical suspicions as a prelude to ensuring environmental security in the region.

Some issues are largely absent or given minimal attention. For example, climate change garners very little attention, despite possibly posing the greatest threat to environmental security—and even territorial integrity (due, for example, to sea-level rise)—across much of East Asia. Although Anna Brettell devotes five pages (pp. 104-109) of her very informative chapter on energy security to climate change, it could have been featured much more prominently throughout the book. I would have liked a chapter devoted to climate change and its security implications for East Asia, or at least more

discussion of the global security implications of China's escalating greenhouse gas emissions.

Regular readers of the *ECSP Report* most likely agree that there are important connections between environmental change and security, but may disagree on the exact definition of environmental security. The editors of *The Environmental Dimension of Asian Security* define "environment" and "environmental security" very broadly, which helps explain the heavy emphasis on energy security, which was a major topic of study well before environmental security gained prominence in the lexicon of international affairs.

As Miranda Schreurs notes in her fine chapter on regional cooperation to protect marine environments, "Environmental security has been defined in different and, at times, competing ways" (p. 11). This book is no exception, but the contributors at least move us closer to finding a common definition. In the introduction by In-Taek Hyun and Sung-han Kim, environmental security is defined "in terms of the source of environmental problems, the scope and impacts of those problems, and the level of threat perceived by states or nations in relation to the problems" (p. 9). In other words, if environmental change is not *perceived* at all, it is not a threat to security—or at least it is unlikely to lead to interstate conflict. However, I wonder about the dangers of *unperceived* environmental changes; this definition would exclude climate change until the perception of its threat spread beyond a few scientists. Hyun and Kim propose one way around this problem: Empower "the community of experts working on the environment" (p. 14). When this community has sufficiently stimulated people's perceptions of environmental risk, "preventive" regional cooperation to avert environmental conflict becomes possible (pp. 13-14).

I question whether all of the issues in this book fall under the rubric of environmental security. For example, Esook Yoon, Seunghwan Lee, and Fengshi Wu's excellent chapter on environmental NGOs and their growing (but still constrained) impact on environmental policy refers to environmental security at the outset, but then assumes

that all environmental issues are problems of environmental security. Some chapters refer to the usual environmental security concerns, such as transboundary pollution and competition for natural resources, while others are dedicated to issues that are not necessarily primarily environmental, such as energy and food security. If states seeking energy security adopt energy sources (e.g., coal, nuclear power) that can have major environmental impacts, energy becomes a matter of environmental security, according to Elizabeth Economy, who addresses energy security in her superb chapter on the reality of and potential for a regional "environmental security complex" (see pp. 242-246). But if conflicts over energy arise due to greater demand for it—as Sangsun Shim and Miranda Schreurs discuss in their chapters on dependence on Middle Eastern oil, the 1970s oil shocks, and the nuclear crisis on the Korean Peninsula—this seems to stretch the term "environmental security" far enough to include everything somehow related to the environment.

Similarly, if food shortages arise not from environmental change but from incompetent government economic policies—as is arguably the case in North Korea, which gets much attention in this book (e.g., pp. 165-184)—to call them environmental security issues again stretches the definition. Just as energy security is not always environmental security (hence references in the book to "environmental and energy security"), food security is not always environmental security.

As Geun Lee points out, definitions of environmental security proliferate, and "[a]ttempts to conceptualize [it] have created considerable conceptual and policy confusion" (p. 23). Lee defines environmental security as "the state's protection of the people from environmental threats and threats of an environmental origin" (p. 25), and further refines it by explaining that "[e]nvironmental problems become security issues when the state is forced to respond with extraordinary measures" (p. 25). This definition seems to exclude preventive cooperation described in other chapters, and suggests that something is not a threat to security until the problem becomes quite severe. One might argue that environmental problems are nearly always dealt with through *ordinary* policy means, which would leave most of the issues examined in the book beyond the scope of environmental security. In short, most of the time "environment" and "environmental security" are interchangeable in this book, which explores the environmental dimensions of Northeast Asian international relations and domestic politics just as much as (or more than, in the case of some chapters) security.

The book has a few irksome characteristics: The misleading title suggests that the book is about all of Asia and not just East (and especially Northeast) Asia. Secondly, all of the notes are at the end of the book, but there are no headers to indicate the chapters and page numbers, making reading the notes extraordinarily annoying and time consuming. At first glance, the extremely detailed index—40 pages of small type—is a godsend for those who might use the book for reference. However, it is not reasonably organized; entries for North Korea alone take up two and one-half pages of the index—but not one of these is for "security." In fact, the general index entry for "security" refers to only three pages of the entire book. Some of the material is out of date, and much of the recent literature on environmental politics and diplomacy in Northeast Asia is not cited. Nevertheless, the book's selected but extensive bibliography, which provides a substantial sampling of publications on environmental policy in the region up to a few years ago, is still of great benefit.

Despite the omissions, *The Environmental Dimension of Asian Security* is an excellent book that should be part of any institutional or personal library on environmental change. Readers will not find better descriptions of some of the most important environmental challenges facing Northeast Asia, especially those interested in energy, the marine environment, water, food, the role of NGOs, and regional environmental cooperation. However, readers hoping to find a handy, all-encompassing definition of environmental security will be disappointed—though that is a problem that most of the literature has yet to solve.
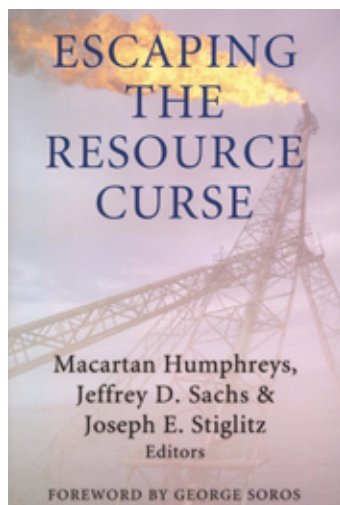
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Escaping the Resource Curse

Edited by Macartan Humphreys, Jeffrey D. Sachs, and Joseph E. Stiglitz
New York: Columbia University Press, 2007. 408 pages.

Reviewed by KAYSIE BROWN

Kaysie Brown is a deputy director of the Program on International Institutions and Global Governance at the Council on Foreign Relations. She has written on topics such as the legacies of war economies in post-conflict peacebuilding; business and international crimes; security and development in the South Pacific; and the rule of law in peace operations. Her recent publications include: *Greater than the Sum of Its Parts? Assessing "Whole of Government" Approaches to Fragile States* (International Peace Institute, 2007), and *The Pentagon and Global Development: Making Sense of the DoD's Expanding Role* (CGD, 2007).

With oil prices becoming increasingly volatile, demand for energy rising in China and India, and instability affecting key oil producers in the Middle East, *Escaping the Resource Curse* surfs the wave of interest in new oil-producing countries. Unfortunately, these producers—such as Sudan and several West African countries—are often better known for poverty, civil conflict, and political instability than for sound resource management policies. For these countries, absorbing substantial new capital inflows without succumbing to civil disorder or corruption poses quite a challenge—one made even more difficult by the set of economic and political distortions collectively known as the "resource curse." This edited volume, in which leading academics, practitioners, and policymakers focus on overcoming the problems faced by states endowed with large oil and gas reserves, could not have come at a better time.

The resource curse is commonly defined as the tendency of states with large reserves of natural resources, such as oil or diamonds, to be less developed than similar states lacking such resources. Jeffrey D. Sachs, in his foreword, attributes the curse to three overlapping phenomena: so-called "Dutch disease," where resource-related capital inflows inflate currency values and crowd out unrelated industries like manufacturing and agriculture; the volatility of commodity prices; and the negative effects of resource abundance on fragile political institutions, which Sachs identifies as a consequence of states' ability to raise funds without taxation. Indeed, below-ground wealth in the developing world is found in countries such as Nigeria, Iraq, and Angola—known more for corruption, conflict, human rights abuses, and authoritarian rule than for good governance or successful poverty-reduction programs.

According to Sachs, "it has now been recognized that transparency and accountability are the remedies" for overcoming the curse. While this sentiment may overstate the extent to which a cure has been found, transparency and accountability are undoubtedly key ingredients, and the editors emphasize them throughout the analysis and policy recommendations that make up the book. In keeping with their focus on solutions, *Escaping the Resource Curse* aims to offer countries that are potentially affected by the curse a framework for effectively managing their oil and gas reserves.

The editors' ambition is undeniable: In their attempt to present a workable solution to one of the more bedeviling economic challenges of recent years, they marry theory and practice while addressing the curse's socio-economic and political effects. Arranged like a handbook for policymakers in oil-rich states, the volume is divided into three sections. Part I comprises particularly interesting (but somewhat cum-

bersome) chapters discussing ways for governments to improve their negotiations with oil corporations, since greater understanding of these processes—from deciding how and when to privatize, to evaluating the economic conditions of an oil contract, to selecting a skilled negotiator—can create more transparency in the oil industry itself.

The next two sections discuss the ways in which natural resource management plays a key role in resource-rich countries once the taps have been turned on and oil revenue has started to pour into a country. Part II focuses on the technical aspects of managing the macroeconomy. It includes a chapter written by Sachs that unpacks how and when oil wealth can have deleterious effects on other economic sectors, and recommends specific ways to reverse this powerful trend. Macartan Humphreys and Martin Sandbu contribute an engaging and well-written chapter on using natural resource funds to push for better management of petroleum revenues in the developing world. These funds, which often employ escrow accounts, typically limit governments' discretion to spend oil money, attempting to conserve and direct the proceeds either by stabilizing oil revenues or by saving a portion for future use. The authors conclude that such funds will be sustainable only if they are accompanied by incentives for political change.

Part III picks up on this theme by focusing on the legal and political dimensions of creating responsible revenue management policies and practices. In one of the only chapters to focus on minerals (as opposed to oil), Michael Ross packs a lot of punch into his examination of the effects of resource wealth distribution. While it is popularly believed that mineral wealth creates wider gaps between the rich and poor than other forms of wealth, he concludes that the evidence is not yet strong enough to confirm this. Given the lack of data, Ross calls on states to focus on creating policies that enable workers to transition from "tradable" sectors such as agriculture and manufacturing to "nontradable sectors" such as services (no doubt easier said

than done). His chapter ends with a balanced, thought-provoking, and cautionary discussion of the promises and pitfalls of decentralization as a method of countering regional inequality.

The conclusion, co-authored by the editors, attempts to bring all of the pieces of the resource puzzle together by making 13 recommendations that span its economic, political, technical, and theoretical aspects. Roughly two-thirds of these recommendations target ways oil-rich governments themselves—and by extension their citizens—could reap greater rewards from their resource wealth. The remaining four recommendations concentrate on how the international community could generate greater transparency and accountability in the oil industry. These proposals include setting stricter standards for multinational corporations and creating a worldwide public information office on oil and gas revenues that would build on the current "Publish What You Pay" initiative. One the more interesting recommendations proposes creating a global clearinghouse for all natural resource revenue funds.

While most of the chapters reflect the latest thinking on the resource curse, and a few move that debate forward significantly, the volume as a whole is a mixed bag. *Escaping the Resource Curse* does not live up to its ambitious goal of bringing together many different streams of thought; instead, it is a rather disjointed collection of discussions about economics, the macroeconomy, and political and legal issues. The real challenge—and the real need—is to figure out to the ways in which these issues intersect. Also, the book sometimes fails to move beyond well-established debates on the resource curse or to make certain very technical ideas accessible to a more general audience—a definite flaw for a volume targeted at policymakers.

Most importantly, the book seems to give short shrift to some of the most intractable aspects of the resource curse. For example, the authors do not explain how to convince an oil-rich governmental elite to initiate reform—a necessary prerequisite to negotiating with oil companies and establishing revenue

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management systems. All too often, they simply assume that the political elite will be virtuous, and thus do not explain how to achieve buy-in. The book also fails to account for China's growing influence, which has transformed the reform landscape, as well as oil-industry nationalization, which has recast the balance of power between oil companies and producing states. While these omissions leave room for further study, *Escaping the Resource Curse* is still an important contribution to a topic that is unlikely to go out of style anytime soon.
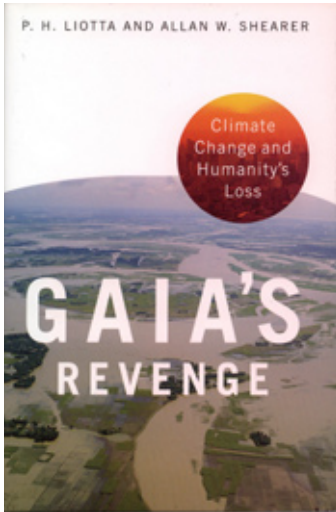
Gaia's Revenge: Climate Change and Humanity's Loss

By Peter H. Liotta and Allan W. Shearer
Westport, CT: Praeger, 2007. 194 pages.

Reviewed by DAVID M. CATARIOUS, JR., and RONALD FILADELFO

David M. Catarious, Jr., and **Ronald Filadelfo** work as research analysts at the Center for Naval Analysis (CNA), where they were members of the team that produced the April 2007 report *National Security and the Threat of Climate Change.*

In *Gaia's Revenge: Climate Change and Humanity's Loss*, Peter Liotta and Allan Shearer argue that scenario analysis can be a useful tool for policymakers searching for the proper response to the impending challenges presented by climate change. Over the course of seven chapters, the authors move from presenting the theoretical underpinnings of scenario development to discussing and critiquing an example of a climate change-focused scenario developed for the Department of Defense. Unfortunately, the discussion is, at times, disjointed and not fully developed. Despite these drawbacks, *Gaia's Revenge* provides an interesting change of perspective for members of either the environmental or security communities.

By looking only at the title, readers may mistakenly expect to read about the past and future effects of climate change on the planet and human beings in particular. Early in the text,

Liotta and Shearer make it clear that this book is not a history of or primer on climate science. In fact, the third paragraph lists everything the book is not supposed to be, concluding that "instead, this book is about the challenges that confront us and finding ways to envision the most effective actions that may best taken" (p. 2).

The authors review the changing definition of security; discuss the impact of different levels of uncertainty on the mindset of decision-makers; and offer a framework for developing and considering climate change-focused scenarios. In describing why these scenarios are of such importance, they state: "We must create representations that allow us to come to terms with [climate change]". *Gaia's Revenge* concludes with a chapter on the current state of the climate change debate in the United States, the difficulty of finding workable solutions, the major issues threatening human security in the coming century, and the need for action at levels other than that of the nation-state.

The book's strength is its ability to provoke discussion among policy- and decision-makers on opposite sides of the divide between the traditional security community and the newer players in the security realm (e.g., the environmental community). By discussing climate

change through a security lens, *Gaia's Revenge* could help the traditional security community find a place for environmental issues in its policy portfolio. Conversely, the book can aid the nontraditional security community by providing them with a methodology and framework for considering familiar issues from a new and useful perspective.

The third chapter, "Zombie Concepts and the Boomerang Effect," will be of most interest to both the national security and environmental communities. In it, Liotta and Shearer review human and environmental security and argue that we must broaden the parameters that define national security to include them. They state that since climate change and other "creeping vulnerabilities" differ from direct threats (such as those posed by the Soviet Union during the Cold War), we will not deal with these problems effectively if we continue to approach security concerns from a military-centric perspective. Because creeping vulnerabilities do not have a clear culprit or policy solution, they often fall prey to the "do-nothing" response. Reconsidering the cliché, "If all you have is a hammer, then every problem begins to look like a nail," Liotta and Shearer comment, "It might be more apt to say that when one only has a hammer, the problems that do not look like nails are ignored" (p. 59).

While we believe that the material covered by *Gaia's Revenge* is valuable, several aspects of the book could use improvement. First, the book is mistitled; it has very little to do with the Gaia hypothesis, mentioning it only in passing. The title implies that the book will focus on the impacts of climate change, but the text focuses on constructing scenarios. A more fitting title would help the book find an appropriate audience.

Second, the book's arrangement is awkward. The second chapter critiques the climate change scenario commissioned by the Department of Defense in 2003 (which is included as an appendix to the text). However, this discussion comes too early; it would have better for the authors to
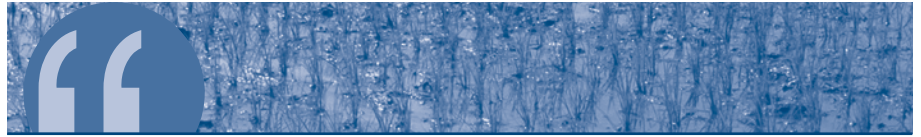
> Since climate change and other "creeping vulnerabilities" differ from direct threats…we will not deal with these problems effectively if we continue to approach security concerns from a military-centric perspective.

discuss the possible frameworks for constructing scenarios and then describe the techniques used in the 2003 scenario. As currently organized, the second chapter seems to distract from the book's main purpose, and stands noticeably apart from the rest of the book.

More problematically, *Gaia's Revenge* reads like a collection of separate essays sewn together under one cover (as one could ascertain from the copyright acknowledgements). For example, the relevance of the material in the fifth chapter (which covers different types of uncertainty) to the rest of the text is unclear. The concluding chapter contains content useful to students of the debate surrounding climate change, but does not serve as a logical conclusion to the chapters that precede it. The organizational problems, occasional repetition, and dense content help make the text disjointed and confusing in places. Upon reviewing the book as a whole, the connections between the sections become clearer, but *Gaia's Revenge* would have delivered a better experience had the authors taken more time to excise extraneous material and keep the text more tightly focused.

While it is not for the casual reader and suffers from some organizational problems, Liotta and Shearer's *Gaia's Revenge: Climate Change and Humanity's Loss* is a valuable contribution to policymakers and researchers working at the nexus of national, environmental, and human security.

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The Global Family Planning Revolution: Three Decades of Population Policies and Programs

Edited by Warren C. Robinson and John A. Ross
Washington, DC: World Bank, 2007. 470 pages
Available online from http://www.worldbank.org

Return of the Population Growth Factor: Its Impact Upon the Millennium Development Goals

By the All Party Parliamentary Group on Population, Development and Reproductive Health (APPG)
London: APPG, January 2007. 69 pages.
Available online from http://www.appg-popdevrh.org.uk

Population Issues in the 21st Century: The Role of the World Bank

By the World Bank
Washington, DC: World Bank, 2007. 70 pages.
Available online from http://www.worldbank.org

Reviewed by GIB CLARKE

Gib Clarke serves as senior program associate for population, health, and environmental issues for the Environmental Change and Security Program and as coordinator of the Wilson Center's Global Health Initiative.

A trio of reports released in 2007—two from the World Bank, one from the UK Parliament—examine the past, present, and future of family planning programs. All three volumes highlight successes and failures; elucidate best practices and lessons learned; and offer recommendations for next steps.

The Global Family Planning Revolution: Three Decades of Population Policies and Programs offers 23 case studies of early national family planning programs, tracing their progress from idea to completion and covering as many as 30 years of successes, failures, and adjustments. Editors Warren C. Robinson and John A. Ross boldly claim that these case studies—all written by key program personnel—comprise a history lesson for the next generation of family planning practitioners. The cases meticulously detail each program's socio-economic, cultural, and political context, and include a full chronology of events. The reader is indeed left with a profound understanding of the family planning movement's birth, struggle to grow, and ultimate success.

The rich history in the case studies is supplemented by a powerful introduction from Steven Sinding, former director general of the International Planned Parenthood Federation. Sinding provides a global context, presenting the key debates (such as the importance of family planning and the best methods for

implementing national programs), critical events and conferences, and influential organizations and individuals that helped shape family planning programs.

In case after case, I was struck by the fact that these programs were truly pioneering, developed with little to no precedent, no models to emulate, and no literature to consult. Due to the lack of precedent, the programs show incredible variation in planning and execution. Some programs were executed with support or direction from the government, while others stayed below the political radar. Some programs worked principally through their health ministry, while others relied on population commissions to coordinate the work of several agencies. Finally, some programs stressed condoms, others promoted intrauterine devices (IUDs), and some changed commodities over time.

Despite their differences, most of the programs were successful, with contraceptive prevalence rates (CPR) increasing and total fertility rates (TFR) declining. The level of success was influenced by the particular methods of implementation, but also seems to be a function of higher socio-economic status, education levels, and the status of women in the country.

Though much can be learned from the cases presented in *The Global Family Planning Revolution*, it falls short in a few areas. First, while the overwhelming majority of the world's high fertility countries are in sub-Saharan Africa, the book includes only two cases from that continent. Second, the authors acknowledge that coercion existed, but downplay its significance too much; the Tunisian chapter, for example, dismisses coercion as "not generalized" (p. 62). For the family planning revolution to be reborn, it must fully own up to its early mistakes.

Whereas *The Global Family Planning Revolution* looks at largely successful programs in the past, the All-Party Parliamentary Group on Population, Development and Reproductive Health focuses on family planning's total exclusion from the United Nations' Millennium Development Goals (MDGs) in its report, *Return of the Population Growth Factor: Its Impact Upon the Millennium Development Goals.* This exclusion is potentially crippling to the family planning movement, as many funding decisions and programmatic priorities are based on the needs identified in the MDGs. Indeed, as the authors note, despite evidence that the unmet need for family planning is high (27 percent of women of reproductive age in sub-Saharan Africa and 16 percent in Southeast Asia) and rising, funding for family planning has not kept pace (p. 15). Rather than decry population's absence and argue for its inclusion as the so-called "Ninth MDG," the authors instead point to evidence—collected in UK parliamentary hearings and submitted briefs—that attaining the MDGs is not possible without addressing population growth.

This accessible and clearly written report is to be praised for its straightforward arguments and easy-to-follow charts. Addressing each MDG in turn, it identifies why continued population growth will make reaching the identified targets more difficult for developing countries. The report concludes with six simple recommendations to donors and the family planning community alike, focusing on removing financial, social, and technical barriers to family planning.

For the most part, the arguments are sound. Reaching the second MDG, achieving universal primary education, will be difficult under any circumstances. Adding in population growth, the authors claim, means that some countries will be "running to stand still"; for example, countries with high population growth need to add two million teachers per year to sustain a teacher-to-student ratio of 40, an already strained educational environment (pp. 21, 29). Success on the third MDG, gender equality and women's empowerment, is not possible until women have the knowledge and means to control their own fertility. Short birth intervals, a frequent component of high birth rates, often contribute to children's poor nutrition, thus making the fourth MDG (reducing childhood mortality) more difficult to achieve. Lack of birth spacing, high-risk pregnancies, and complications from unsafe

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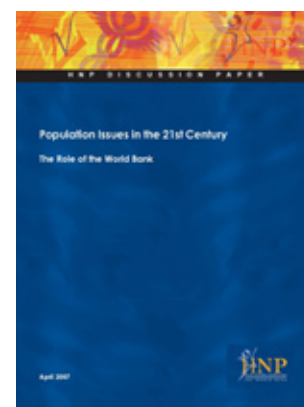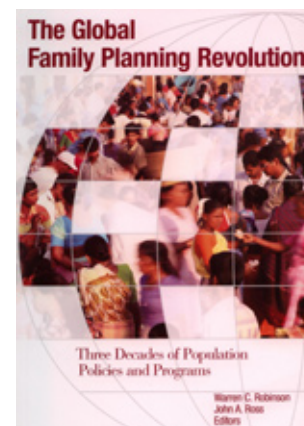
abortion can all decrease maternal health, which is the fifth MDG. The world is already facing difficulties with the seventh MDG, ensuring environmental sustainability, and population growth—especially in areas where growing numbers of people are dependent upon limited stores of forests, fish, or other natural resources—makes it harder still.

On the other hand, the claim that population growth—particularly urbanization—has a negative impact on efforts to fight HIV/AIDS and malaria (the sixth MDG) is less convincing. Some experts argue that urbanization instead improves access to health services (UNFPA, 2007). The relationship between population growth and poverty (the first MDG) is the subject of much controversy. *Return of the Population Growth Factor* uses several instances of correlation between rising populations and worsening poverty to make the case for family planning. Other studies are neither as conclusive nor as optimistic; and some point out that the causal chain works both ways: Poverty can lead to higher fertility, as well (Kelley, 1998; National Research Council, 1986; Pritchett, 1997; Simon, 1981).

Population Issues in the 21st Century: The Role of the World Bank picks up where *Return of the Population Growth Factor* leaves off, with an assessment of the importance and relevance of population issues and recommendations for future priorities for the field and for the World Bank in particular. The authors point out that while family planning programs have been tremendously successful, 35 countries (31 of which are in Africa) still have TFRs of five or higher. In some of these countries, the population will double or triple by 2050 unless dramatic steps are taken.

Population and development are intricately linked, and this report identifies synergies at the World Bank, including those within the office of Health, Nutrition and Population, which is well-positioned to tackle the multi-faceted issue of population. The authors focus on equity, both between and within countries, since inequities—whether due to age, ethnicity, edu-

cation, economic status, or living situation—usually limit access to information and services. Members of disadvantaged groups are often not empowered to negotiate sex or make decisions about their contraceptive use.

Despite the World Bank's confidence in its multi-sectoral approach, the authors are clear about the challenges the Bank faces. First, they point to severe under-funding of population initiatives by donors, developing-country governments, and international organizations (including the Bank itself). Second, developing countries are not prioritizing population—perhaps taking the signal from funders and the MDGs. World Bank strategic plans such as Country Assistance Strategy Reviews and Poverty Reduction Strategy Papers address population only occasionally, and when they do, the policies they include are usually not effective. Finally, the authors ask why Africa has yet to share in the global success of family planning programs. Why is the demand for children so much higher in Africa than anywhere else in the world, despite declines in child mortality? Unlike most other developing countries, people in the majority of African countries list opposition to family planning and health concerns (in addition to wanting more children) as the principal reasons for not using contraception; relatively few women cite lack of access, funds, or knowledge. The authors recommend researching what makes Africa different in these respects, and how programs can be tailored to address these factors.

The Role of the World Bank should be taken with a grain of salt, as the introduction states that its results are "preliminary and unpolished…to encourage discussion and debate" (p. ii). No financial or programmatic commitments are attached to this report. Even so, it is a step in the right direction.

Taken together, these three reports describe the family planning movement, providing a useful history of the factors that have made these programs successful. They also describe a movement in crisis as it grapples with its new status and lower levels of funding. Now that it

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is no longer the darling of donors such as the World Bank, USAID, and private foundations, is family planning content to reposition itself and to play the "enabling" role in development that the Parliamentarians describe? Or will it prove its worth once again as a stand-alone intervention?

The Role of the World Bank offers welcome signs that the negative tide that started at the 1984 Mexico City population conference may be beginning to turn. *Return of the Population Growth Factor* cites the inclusion of universal access to reproductive health as a target under the MDG on maternal health as a symbol of progress. But old debates about family planning's relevance and tactics are still evident. To resolve them, the family planning community should continue to document their positive results on social and economic indicators, and to loudly and consistently emphasize the voluntary nature of their programs. As the case studies in *The Global Family Planning Revolution* show, success did not come quickly or easily. The same kind of patience and creativity demonstrated by these programs may well be required if family planning is to achieve a comeback.

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Governance as a Trialogue: Government-Society-Science in Transition

Edited by Anthony R. Turton, Hanlie J. Hattingh, Gillian A. Maree, Dirk J. Roux, Marius Claassen, Wilma F. Strydom
New York: Springer, 2007. 354 pages.

Reviewed by KARIN R. BENCALA

For many years, the field of water management was dominated by large dam construction and the belief that large-scale technological advances could solve the world's water challenges. Today, integrated water resource management (IWRM) is the preferred (though not perfect) model; while it has existed in various forms for decades, only within the past decade has it emerged as the new paradigm for managing water and other resources to ensure a sustainable supply of good-quality water for both people and the environment. Many water managers now grapple with the challenge of developing

Karin R. Bencala is a water resources planner at the Interstate Commission on the Potomac River Basin. Previously, she was a program assistant with the Environmental Change and Security Program. She has a master's degree in environmental science and management with a focus in political economy of the environment and freshwater management from the Bren School at the University of California, Santa Barbara.

and implementing IWRM plans that must address the many disparate interests involved.

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Water management is truly an issue for everyone, whether you live in a developing or developed country, or in a water-rich or water-scarce region.

Governing water resources is clearly not a simple challenge with a single answer; successful IWRM requires a detailed understanding of a region's water and other natural resources, the ability to make trade-offs between competing human and environmental uses for the water, functioning institutions, and a legitimate government that can see the plans to fruition. In *Governance as a Trialogue: Government-Society-Science in Transition*, Anthony Turton and his co-editors take a hard look at the elements of governance, examining a "trialogue" model that comprises the set of actors and their interactions required to achieve management goals. While this book does not prove the model's effectiveness, its investigation will be beneficial to those attempting to flesh out the requirements for good water governance.

Turton, Hanlie J. Hattingh, Marius Claassen, Dirk J. Roux, and Peter J. Ashton start by offering a new definition of governance: "The process of informed decision-making that enables trade-offs between competing users of a given resource so as to balance protection with beneficial use in such a way as to mitigate conflict, enhance equity, ensure sustainability and hold officials accountable" (p. 12). With this definition in mind, the authors have developed a working model of governance as a trialogue.[1]

Turton and his colleagues conclude that three different actor-clusters in the governance process—government, society, and science—interact with each other in "interfaces." These interfaces are the arenas in which information is transferred between experts and other actors, personal relationships are built, and decisions are made. Each interface is briefly described in an introductory chapter and referred to in a subsequent case study—although the government-society interface receives more attention than the interfaces with science. As Michael E. Campana, Alyssa M. Neir, and Geoffrey T. Klise point out in their chapter on North America, all three groups do not always have the same amount of influence on the process or the end result. Given the importance of these interfaces, it is unfortunate that the editors did not make more of an attempt to map the dynamics of each interface between the three main actor-clusters.

Part 1, "An Overview of Governance," explores ecosystem governance, offering those with limited knowledge a basis from which to assess the trialogue model. Malin Falkenmark's chapter, "Good Ecosystem Governance: Balancing Ecosystems and Social Needs," steps back to explore how the nature of ecosystems determines which resources can be governed and the way in which they should be governed. It succinctly describes water's role in all ecosystems and the essential function it plays in allowing humans to provide for themselves. While the five chapters in this section repeat the definition of some terms and explanations of conceptual topics, they cover important ground: what governance is, what makes for good governance, and how the process plays out at varying scales.

Part 2, "Interrogation of the Trialogue Model," applies the model to ecosystems, but not always specifically to water. The case studies in this section each illustrate at least one of the model's interfaces. However, there is nothing tying the articles together to guide the reader through their evaluations of the model. This section's analysis could be improved by a set of graphics that identifies the interface being investigated and how the arguments either support or challenge the validity of the model.

In her chapter, "Lessons from Changes in Governance of Fire Management: The Ukuvuka Operation Firestop Campaign," Sandra Fowkes

shares lessons from a cooperative fire management project and points out a few of the trialogue model's oversights. First, she observes that each actor-cluster's influence is not necessarily equal and can change depending on the situation. Furthermore, she questions whether or not science should be its own cluster, instead suggesting that it should be viewed as a tool that the other groups use in decision-making. She critiques the model's grouping of everything outside of government or science into one large society cluster, arguing that combining such disparate groups with varying interests and value systems simplifies the true nature of civil society.

The third section of the book, "Cross-cutting Governance Requirements," digs into the mechanics of the interfaces between the actor-clusters. The chapters cover the need for a proper learning environment to educate managers and decision-makers; communication's essential role; and the missing dimension of time. One of the most valuable in the book, this section provides perspectives on the actual process of the interactions that make up governance. Linda Godfrey's chapter, "Ecosystem Governance and the Trialogue Debate: An Overview of the Trialogue Relationship and the Engagement Along Interfaces," delves into the role of science in the trialogue model and explains how governance is affected by both the strength of engagement and the rate at which this engagement plays out between the three groups. These rates are themselves affected by the environment in which these interactions are taking place.

The final chapter of the book revisits the nine hypotheses initially proposed in the introduction, reflects on the chapters' case studies, and proposes a new research agenda. Turton and Hattingh find support for all of the hypotheses, but determine that a few need to be analyzed further. They observe that the names of the actor-clusters are too simplistic and do not reflect the highly complex processes at work. To further the

understanding of governance as a process and as a product, they propose to begin describing and cataloguing the forms of the different interfaces. This effort would bolster the model and help others interested in water governance apply these principles to their own situations.

Governance as a Trialogue lacks discussion on leadership and power, two key aspects of governance. While their influence is difficult to quantify and varies drastically between situations, it is difficult to ignore their importance. Leaders are essential for moving processes forward and for helping factions reach consensus. Power dynamics within a region or control over a specific body of water—especially the roles of upstream and downstream users—must be explored if we are to understand how decisions are made.

Good governance is now recognized as a way to tackle the world's water challenges. Water management is truly an issue for everyone, whether you live in a developing or developed country, or in a water-rich or water-scarce region. Many technological fixes exist, and others are continually being developed and improved, but we have lacked innovative strategies for implementation. *Governance as a Trialogue* reflects the growing attention to the problem of inadequate governance that hinders the larger goal of sustainable development. The trialogue model helps the field focus its attention on specific relationships between actors and the actions they take. Whether or not this iteration is comprehensive does not matter as much as the fact that it furthers the discussion on the only sustainable solution to the water crisis.

Note

1. Turton et al. cite Malin Falkenmark as the first person to use the term "trialogue" to describe the interaction between the three actor-clusters, "during a conversation with one of the authors in Stockholm during the 2004 Stockholm Water Symposium" (p. 12).
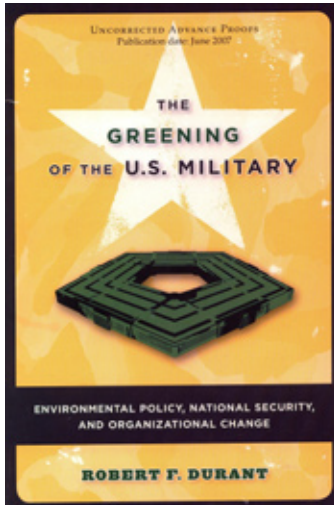
The Greening of the U.S. Military
Environmental Policy, National Security, and Organizational Change

By Robert F. Durant
Washington, DC: Georgetown University Press, 2007. 283 pages.

Reviewed by BRIAN SMITH

Brian D. Smith is currently with a major consulting firm and has served as a contractor to the U.S. Department of Defense, supporting environmental issues, for more than 10 years. He provided technical support to a number of activities sponsored by several of the offices under the leadership of individuals referred to in *The Greening of the U.S. Military.*

The Greening of the U.S. Military: Environmental Policy, National Security, and Organizational Change is a carefully constructed and well-organized account of the regulation of environmental issues within the Department of Defense (DoD) and the armed services. Author Robert F. Durant recounts and analyzes the organizational changes that took place as the defense establishment moved to comply with significant parts of the environmental regulatory framework that governs civil enterprises. Though it looks as far back as the Truman administration, the book focuses on the administrations of George H. W. Bush and Bill Clinton, as well as the early parts of the George W. Bush presidency.

The book is organized around a few broad themes that are carefully threaded through a series of issue-based case studies in self-contained chapters. Each of the chapters examines a particular issue—such as base cleanup or the Military Munitions Response Program—using authoritative secondary sources and official documentation; explains the issue's historical context and relationship to other issues; and then discusses how that issue exemplifies a number of important concepts in the literature on organizational change. As an organizational change textbook built around a well-vetted set of historical cases, the book—which is well-written and easy to follow—succeeds admirably. However, based largely on my experiences and the experiences of my colleagues as contractors working on this process, I found a few important areas where I thought the book was lacking or inaccurate.

Durant provides a generally accurate description of major events and significant movements, including the Republican victory in the 1994 congressional elections and the subsequent retrenchment by the Clinton administration—probably one of the most important reasons for the halting progress made during that time. Efforts by the Clinton administration to reap the post-Cold War "peace dividend" by reducing military budgets—and the pressure from Congress and local interests to quickly deal with facilities targeted for realignment and closure—were key drivers toward realizing the benefits of a more environmentally friendly approach to the management of military facilities and the acquisition of future systems. However, these drivers were also serious impediments to significant and systematic changes in defense culture and the attitudes both within DoD and the armed services toward remediation and restoration efforts. Durant's description lacks a discussion of changes to the force structure itself and the cultural behavior of the military in the face of heightened regulatory pressure and reduced budgets.

Durant suggests that reduced military budgets beginning in the early Clinton administration led to reductions in the emissions of regu-

lated pollutants and toxic materials; however, he misses some key factors. When the budgets were reduced, existing forces—including active Army divisions, Navy carrier battle groups, and Air Force wings—were also reduced, in order to pay for the research, development, and procurement of the next generation of weapons systems. The military chose to retain and maintain its newer systems and retire older systems that had been in service since Vietnam. While some older systems were preserved, the overall reductions resulted in a younger—and in many cases, less polluting—inventory of systems than those used in Desert Shield and Desert Storm. The military's response to the reduced budget was as important to the reductions in effluents as the budget reduction itself. If, instead, the military had decided to take the cuts across the board or largely out of research and development, the budget reduction might have led to increased emissions, given the increase in operational tempo during this time. The reduction tended to preserve the older, pre-compliance ethic toward regulation of the military's environmental performance. Faced with dealing with a number of significant changes in a short period period of time, the military culture was only able to internalize so many. A discussion of that trade-off and decision process is largely missing from *The Greening of the U.S. Military.*

Durant appears to suggest that the military conspired to systematically obstruct the application of federal environmental regulations to its facilities and operations. He does not adequately address an alternative hypothesis: that the DoD and the armed services were not adequately prepared to assimilate and operationalize these regulations. Much of his analysis is focused on a "post-compliance ethic" as the benchmark for performance, when in reality, reaching a "compliance ethic" would have been a more appropriate threshold. He assumes that the defense establishment, acting as a nearly monolithic whole, should have been prepared to accept the regulatory regime, based in evolving case law, and transparently, rationally, and quickly apply

the law to their specific cases. In many cases, such as the munitions rule, the military and the regulatory agencies (notably the Environmental Protection Agency) found themselves in the uncharted territory of managing significant risk to future operations.

Already a conservative organization, when confronted with the possibility (real or perceived) of having its operations curtailed, the military should be granted some leeway for moving slowly and cautiously. The unsettled global strategic environment put enormous pressure on the defense establishment to be prepared to deal with the unexpected, and thus maximize its options. While such slow and cautious movement could be interpreted as obstructionist, I believe that it instead reflects the great difficulty faced by the DoD and the armed services in adjusting their operational cultures in a consistent and uniform fashion.

While Durant correctly identifies senior civil servants as key to successful organizational transformation, he does not address the expanded role of contractors and their impact on organizational change. This role deserves more in-depth discussion, as it is a major feature of current day-to-day operations in the defense establishment. He briefly addresses the firms that develop, build, and support the systems in the defense inventory ("metal benders"). However, the service contractors' role in transformation has greatly increased since the early 1990s, as more technical, analytical, and support work has moved from the government to private industry. Contractors have evolved from providing systems and system-specific support to providing general staff support and specialized technical and analytical support. In many cases, contractors become the organization's institutional knowledge in times of change among the senior leadership.

Finally, I found it curious that despite his extensive research, Durant did not interview many of the key decision-makers referred to in the book. While making extensive use of secondary materials and official documents, he regularly attributes strategies, beliefs, and actions

Faced with dealing with a number of significant changes in a short period period of time, the military culture was only able to internalize so many.

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to individuals without having conducted interviews with them; notably, he did not speak to Sherri Goodman and Gary Vest, whose insights I believe would be central to understanding the opportunities for and impediments to greening the U.S. military.

Peace Parks: Conservation and Conflict Resolution

Edited by Saleem H. Ali
Cambridge, MA: MIT Press, 2007. 377 pages.

Reviewed by ROLAIN BOREL

Rolain Borel heads the Department of Environment, Peace, and Security at the University for Peace in Costa Rica, where his main interests and teaching duties lie in the field of environmental conflict resolution.

In *Peace Parks: Conservation and Conflict Resolution*—brilliantly conceived and edited by Saleem H. Ali—31 authors explore the multiple ways in which environmental conservation zones can facilitate the resolution of territorial conflicts. Ali concludes with "a sense of optimism" because the concept of international peace parks (sometimes known as transboundary protected areas or trans-frontier conservation areas) is expanding rapidly (p. 341). The 17 case studies gathered in this volume show that ecological factors have the potential to become instrumental in peacebuilding; however, much of the evidence is not fully conclusive, and the role of peace parks in international affairs remains in the realm of the possible, not of the certain.

Peace Parks is both broad and deep: Part I provides a historical overview and methodological and theoretical perspectives; Part II presents cases of bioregional management and economic development in existing peace parks; and Part III offers several visions of future peace parks. While most chapters are engaging, some contributions are too long and burdened by unnecessary digressions. Although the majority of the authors are from the United States, and only seven are from the Global South, the cases cover a wide geographical range.

Two main factors explain the growing interest in international peace parks. Anne Hammill and Charles Besançon claim it reflects on the growing commitment to bioregionalism and the need to increase the geographic scale of conservation areas beyond national borders. On the other hand, Rosaleen Duffy argues that peace parks are being promoted as a form of global environmental governance, reflecting the wider shifts in global politics from state governance to networks of international organizations. According to Duffy, this governance model is also related to the "extension of neoliberal market-oriented forms of economic management"—i.e., revenues generated by ecotourism (p. 57).

Several of the articles address territorial issues: Raul Lejano stresses that "territoriality has been the subtext for violent conflict" and that it is "ironic that territory is now being turned on its head as an instrument of peace" (p. 41). In their respective chapters, Ali, Michelle Stevens, and Ke Chong Kim point out that international peace parks can act as physical buffers (e.g., the Sierra del Condor between Peru and Ecuador; the demilitarized zone between North and South Korea) or as sites of collaborative exchange (e.g., "the informal exchange of

information on elephant poaching and security matters" between Tanzania and Mozambique, described by Rolf Baldus et al. on p. 125).

The case of the Kuril Islands, which lie between Japan and Russia, illustrates that territorial problems are unlikely to be "solved by piling up historical arguments based on international law," argues Jason Lambacher, who asserts that a "new approach needs to unsettle nationalist thinking, and defuse historical grievances" as well as offer a "form of political compromise over the sovereignty issue" (p. 269). In fact, it would be irrelevant which country is formally designated the "owner" of the islands, as joint environmental stewardship will require the other's cooperation.

For international peace parks to be effective, certain conditions must be met. Two chapters conclude that post-9/11 "security" measures pose, for example, a definite threat to international peace parks straddling the borders between the United States and Canada or Mexico, in spite of a long history of cooperation between the countries. In less favorable situations, such as the proposed peace park on Afghanistan's borders discussed by Stephan Fuller, the critical security situation poses an almost insurmountable obstacle.

Border areas have their own peculiarities, a life of their own independent from the policies of the respective countries. In their chapter on Liberia, Arthur Blundell and Tyler Christie point out that people on either side are often linked by kinship and marriage, as well as by local trade and culture. Relationships between actors in the immediate vicinity of the border are usually very fluid. In their report on the Selous-Niassa elephant corridor in East Africa, Rolf Baldus and his co-authors state that border inhabitants more frequently share common underdevelopment conditions than conflicts. Therefore, international peace parks must not impose externally designed processes on local stakeholders.

The second section of *Peace Parks* assesses existing international peace parks by identifying their impacts and attempting to separate their effects from other influences. As Maano

Ramutsindela and Ali point out, the "peace" in peace parks is not automatic, because it implies a purpose and an impact that are not always present. According to Hammill and Besançon, since peace parks represent the "confluence of several mutually reinforcing interests, namely those of biodiversity conservation, economic development, cultural integrity, and regional peace and security," integral assessment tools—such as the Peace and Conflict Impact Assessment (PCIA)—could be harnessed to measure progress toward such broad objectives (p. 25). The experience of the Great Limpopo Transfrontier Park in southern Africa, discussed by Anna Spenceley and Michael Schoon, illustrates the difficulty of assessing the effectiveness of such complex initiatives in economic, environmental, and equity terms.

Chapter authors attribute many positive impacts to existing peace parks, including:

- Improving the effectiveness of biodiversity conservation in protected areas;

- Symbolizing ongoing cooperation (which, I argue, could also be attributed to joint efforts on many other issues, such as transportation, mail, or the electric grid);

- Changing the symbolic meaning of a border (see chapter by Ramutsindela); and

- Reducing diplomatic tensions through joint monitoring, collaborative research projects, or joint funding proposals (see chapter by Yongyut Trisurat on Indochina).

Several of the authors also identify negative impacts. Ali points out that just as national conservation efforts can create conflicts, so can international peace parks. In addition to exacerbating political inequalities between local communities and state actors, international peace parks can emphasize disparities between countries, note Hammill and Besançon. Aissetou Dramé-Yayé and her co-authors document the security threat posed by criminals who find the "W" Peace Park in West Africa a safe haven for their activities.

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The chapters in the book's third section identify proposed peace parks and their possible benefits. While all the proposals demonstrate potential, the feasibility of several is questionable—not due to lack of resources (as donor interest is high), but because of lack of political interest. This section, while inspiring, is weaker than the first two, because the feasibility of implementing the proposed parks depends heavily on external factors.

A number of chapters discuss the different processes that have been and could be used when creating an international peace park. Some level of decentralization is inherent—and in itself problematic in most developing countries, points out Dramé-Yayé et al. The decision-making capacity of communities and a cooperation model driven by bottom-up technical and situational demands are critically important to the success of such efforts, some authors argue. However, Duffy contends that

efforts to decentralize and link up with local communities are just window-dressing for top-down, market-oriented interventions by international bureaucracies.

As mentioned earlier, donors find the international peace parks model attractive and may help galvanize the establishment of shared management between border communities, for which state governments are not well-equipped. For example, Blundell and Christie call on international partners to provide the funds for a proposed international peace park along Liberia's borders in order to promote dialogue between West African countries.

Ali concludes that "environmental cooperation is both a result of conflict mitigation and leading to conflict reduction itself, in a dialectical process of a non-linear and complex series of feedback loops in the conflict de-escalation process" (p. 6). *Peace Parks* is a must-read for anyone interested in transboundary conservation areas.
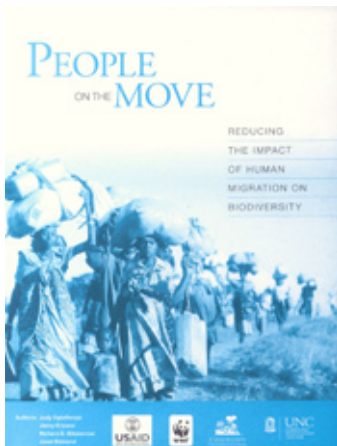
People on the Move: Reducing the Impacts of Human Migration on Biodiversity

By Judy Oglethorpe, Jenny Ericson, Richard E. Bilsborrow, and Janet Edmond
Washington, DC: World Wildlife Fund & Conservation International Foundation, 2007. 93 pages.

Available online from http://www.panda.org

Reviewed by JAMES D. NATIONS

James D. Nations heads the Center for State of the Parks at the National Parks Conservation Association in Washington, DC. He is the author of *The Maya Tropical Forest: People, Parks, and Ancient Cities* (University of Texas Press, 2006).

People have been migrating from one place to another since the first humans walked out of Africa into an uncertain future. Over the millennia, our movement has become increasingly complicated. Human migration today is both

prompted and stymied by factors such as political boundaries, population growth, and environmental damage. As they work to protect Earth's biological diversity, conservation planners and practitioners must increasingly consider the effects of human migration.

In *People on the Move: Reducing the Impacts of Human Migration on Biodiversity*, co-authors Judy Oglethorpe, Jenny Ericson, Richard Bilsborrow, and Janet Edmond point out that "responding to migration is a relatively new concept for the conservation sector" (p. viii). To help focus this

response, this book provides conservation planners and protected area managers with an excellent overview of contemporary human migration, emphasizing its impacts on biodiversity. They stress, however, that they "seek solutions that work for people as well as the environment: for both local residents and, where possible, the migrants themselves" (p. viii).

People on the Move offers a clear, concise discussion of the movement of human populations across landscapes and across international borders. As the authors point out, approximately three million people migrate across international borders each year, and the number of internal migrants may be 100 times as large. The book's survey covers long-recognized factors in migration, such as growing populations and increasing natural disasters, but it also discusses emerging issues, such as globalization, climate change, and the increasing number of civil wars in the last century. Most importantly, the authors provide documented case studies, maps, and graphs, as well as an action plan to improve our understanding of migration and create effective approaches to mitigating its impacts on the biological foundations of human life on Earth. As they indicate, their goal is to prompt "the development of practical tools and new approaches for conservation practitioners in the future" (p. viii).

After defining migration and outlining its potential impacts, the authors dedicate the bulk of the book's chapters to 13 case studies in high-priority natural areas in Africa, Asia, and Latin America. Each case study presents the factors that prompted the migration, the resulting impacts on ecosystems and human populations, and what, if any, attempts were made to alter the outcome. Ten of these cases involved some form of intervention that altered migratory patterns in high-biodiversity environments or mitigated the impact on natural ecosystems and local people. Together, the case studies provide an excellent overview of the complex "push" and "pull" factors that prompt individuals, families, and communities to move from one location to another. The authors look at rural-to-urban, urban-to-

rural, and rural-to-rural migration, pointing out that studies of rural-to-rural migration are less prominent in the literature than the other types, despite the fact that it can have the most serious consequences for natural ecosystems.

In a chapter titled "Deciding Whether and How to Intervene," the authors write that no single blueprint can be applied "to prevent migration or avoid its environmental impacts" (p. 25). Rather, interventions must be carefully selected for each situation. This well-constructed chapter reviews interventions that may help conservation planners and protected area managers prevent migration, influence its course, or reduce its adverse impacts on biological diversity and local populations. The text is complemented by a detailed matrix of possible migration interventions—from local to global scales—that considers such factors as areas of origin, areas of destination, armed conflict, policies, and the parties involved.

As the authors point out, *People on the Move* reviews "what's in the tool kit" for confronting human migration in biodiversity-rich areas (p. 29). They acknowledge that "it is too early to draw conclusions about the most effective interventions, because there are few documented examples and little monitoring of outcomes" (p. 55). However, their action plan is designed to remedy these gaps and help counter the ecological problems human migration can cause.

In sum, these nine brief chapters of well-written text present a state-of-the-art guide to human migration for conservation researchers, planners, and practitioners. The book concludes with an illustrated and annotated list of published and online resources in this too-long neglected field. As population growth, climate change, and civil unrest continue, *People on the Move* will help guide our search for viable solutions to the environmental impacts of human migration. The book will be useful to strategic planners and on-the-ground practitioners of biodiversity conservation throughout the world, as well as to researchers seeking to understand the causes and consequences of the increasing movement of human populations in the 21st century.

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Political Geography: Special Issue on Climate Change and Conflict

Edited by Ragnhild Nordås and Nils Petter Gleditsch
Volume 26, Issue 6, August 2007.

Reviewed by ELIZABETH L. CHALECKI

Elizabeth L. Chalecki is an adjunct professor in the International Studies program of Boston College. She received her doctorate from the Fletcher School of Law and Diplomacy at Tufts University, for her dissertation, "The CO_2 Will Always Get Through: National Security and Climate Change."

Given that the Nobel Committee awarded its 2007 Peace Prize to former U.S. Vice President Al Gore and the Intergovernmental Panel on Climate Change (IPCC), and that greenhouse gas emissions continue to increase around the globe, practitioners of peace and security will have to familiarize themselves with climatic drivers of conflict. To that end, the journal *Political Geography* has devoted an entire issue to exploring the links between climate change and violent conflict.

In the issue's opening article, "Climate Change and Conflict," Ragnhild Nordås and Nils Petter Gleditsch lament the lack of firsthand, peer-reviewed research on climate and conflict, noting that "statements about security implications have so far largely been based on speculation and questionable sources" (p. 628). They cite some of the recent documents addressing this linkage, including the paper for the Department of Defense's Office of Net Assessment (Schwartz & Randall, 2003), the Center for Naval Analysis' 2007 report written by retired military officers, two German reports (German Ministry of Environment, 2002; WGBU, 2007), and the recent UN Security Council debate (UN, 2007), among others. Nordås and Gleditsch are correct: Much of this literature has not been peer-reviewed,

nor was it intended to be. The links between climate change and security are just emerging as fertile ground for both security practitioners and social scientists. Now, however, with world policy attention focused on climate, they rightly point out that these connections cannot be left to tenuous connections in white papers.

Nordås and Gleditsch recommend that future studies of the climate-conflict link should better combine climate models and conflict models, and point out an inconvenient truth about the IPCC reports: They only peripherally address the implications of climate change for security and conflict. Nordås and Gleditsch also maintain that further research on climate and conflict should:

- Differentiate between types of violence driven by climate change, including non-state violence;
- Recognize the capacity of humans to adapt to the positive and negative effects of climate change;
- Take regional variations into account; and
- Focus more on climate change's security implications for the world's poor.

After these common-sense recommendations, Nordås and Gleditsch veer off course with their assumption that the world is becoming more peaceful and that the climate-conflict connection is "self-denying" (p. 635). They point out that conflict models assume that the future will look like the past, and they also note that the "current trend toward a more peaceful world" (a trend measured only since the end of World War II) will not be reversed. However, the climate models, which have been

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extensively developed and reviewed, predict the exact opposite: The future will not look like the past. If, as the authors recommend, climate and conflict models should be more tightly coupled, then the climate models must lead the way.

The second article, "Climate Change, Human Security, and Violent Conflict," by Jon Barnett and W. Neil Adger, states that climate change poses risks to human security because "the more people are dependent on climate-sensitive forms of natural capital…the more at risk they are from climate change" (p. 641). However, this sensitivity is mitigated by social and political adaptive capacity, which varies by region and era. In one of their most interesting observations, the authors point out that climate change-driven stresses can have a cascading effect, with failure in one primary production sector causing a downstream industry to slow down, thus leading to a market failure, etc. While intervening variables are rightly identified, this cascade theory is still particularly noteworthy because the independent variable of climate change is the primary driver.

Barnett and Adger's main finding is that climate change will undermine human security in two key ways: by reducing the opportunities people have to provide for themselves and thus constricting their livelihoods; and by eroding state capacity to provide the services that sustain livelihoods and therefore peace. They recommend three paths for future research, which I believe would all help conceptually strengthen the climate-conflict link:

- Assess the relative vulnerability of people's livelihoods to climate change (by region);
- Connect reduced livelihoods with violent conflict (e.g., why do individuals choose violence?); and
- Examine how climate threatens state capacity.

Rafael Reuveny, in "Climate Change-Induced Migration and Violent Conflict," notes that climate-induced migration appears in many climate change-to-violence scenarios. After studying the effects of other environmental problems on migration, he adapts the standard migration literature to the problem of environmental refugees, and argues that populations can respond to environmental changes in one of three ways: by staying and doing nothing; by staying and mitigating the effects; or by leaving the area.

Reuveny examines 38 cases in which environmental factors played a role in migration, from the Dust Bowl in the 1930s United States to modern-day Bangladesh and Brazil. Since less developed countries are more reliant on the natural environment for their livelihoods, they are more vulnerable to the effects of climate change. Environmental factors that "push" people to migrate include degradation of arable land, droughts, deforestation, water scarcity, floods, storms, and famines, all of which are predicted to intensify as the climate changes. Reuveny recognizes that environmental factors do not work in isolation, but argues that they nevertheless contribute significantly to migration episodes. However, "climate refugees" alone do not engender conflict; instead, conflict arises when migrants of a different nationality or ethnicity move quickly or in large numbers into countries that are themselves suffering from limited resources. Of the 38 migration cases Reuveny studied, 19 resulted in conflict.

Reuveny concludes that it will cost more in the long term to do nothing about climate change-induced migration than it would to formulate a policy for addressing the issue. Citing two examples of public policy interventions in major migrations, he concludes that government policy could help mitigate the effects of climate change on conflict. However, he has no specific policy recommendations for developed countries, and warns of high costs without any citations to back up his claims. Despite petering out at the end, Reuveny's article is one of the more straightforward examinations of the links between climate and conflict in the volume.

In "Climate Change, Environmental Degradation, and Armed Conflict," Clionadh Raleigh and Henrik Urdal report on their statistical analysis of three climate change effects:

> " If, as the authors recommend, climate and conflict models should be more tightly coupled, then the climate models must lead the way.

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cropland degradation, freshwater scarcity, and population displacement. They mapped data on these variables over grid squares of 100 km x 100 km across the Earth's surface, and then overlaid intervening variables, including economic and political factors like GDP and polity scores. Raleigh and Urdal stress that more information can be gained by looking at subnational regions than from national averages, since not all of a country's territory is usually under conflict at once, nor do environmental stressors fall neatly within national boundaries. Hence, local resource scarcity may be a better predictor of conflict than national-level scarcity. Most of their findings underscore the conventional wisdom that environmental stressors are indirect drivers of conflict, but they do find, surprisingly, that "degradation and scarcity variables are uniformly positively and significantly related to conflict" in higher-income countries and less so in lower-income states (pp. 688, 691).

The co-authors recognize that their analysis suffers from one of the key weaknesses of statistically-based conjectures about real world events: The statistical mean often hides substantial regional or temporal variations. Conversely, the exclusion of information about one country or region can make an otherwise significant result statistically insignificant. For example, Raleigh and Urdal determine that omitting data about Russia from one model negates the connection between land degradation, water scarcity, and conflict. Similarly, omitting data about Niger from another model renders the interaction between water scarcity and population growth insignificant. Yet it is not difficult to imagine that, on a very local scale, these drivers would be compelling. Just because a large-N study does not find a statistically significant relationship between two variables across an entire sample does not mean that the relationship might prove different if examined on a case-by-case basis.

The last two articles in the issue focus on Africa. In "Trends and Triggers: Climate, Climate Change, and Civil Conflict in Sub-Saharan Africa," Cullen Hendrix and Sarah Glaser argue that sub-Saharan Africa is especially vulnerable to the conflict-provoking effects of climate change, due to existing inequalities in resource access and distribution. However, Hendrix and Glaser find no significant correlation between rainfall and the onset of civil war, though they do recognize that the country-wide spatial scales they used could mask local hotspots.

In "Environmental Influences on Pastoral Conflict in the Horn of Africa," Patrick Meier, Doug Bond, and Joe Bond cross-reference conflict data gathered from on-the-ground observers in parts of Ethiopia, Kenya, and Uganda with environmental indicators such as vegetation, precipitation, and forage (pasture for grazing) in an attempt to determine whether the latter might serve as possible harbingers of pastoral conflict. They find that environmental drivers are significantly correlated with the incidence of organized pastoral raids, but not with the number of human deaths or the amount of livestock lost.

All these articles conclude that conflict is a complex dependent variable, and that environmental measures of climate change do not provide sufficient explanatory power without taking into account intervening political and economic variables. In addition, most authors lament the incompleteness of the available data sets, which is only to be expected; many countries do not have the inclination or the wherewithal to gather and compile sub-national data sets on environmental variables, and international agencies usually gather data only at the national level.

I have two main concerns with this issue. First, the authors overuse the principle of *ceterus paribus*—all other things being equal. But when are all other things *ever* equal? Such a relationship is a statistical convenience and does not reflect the real world. Attaching too much weight to the existence of a statistical relationship can shut down profitable avenues of inquiry into particular problems, especially if they do not occur on a macro level. If statistical correlation is what Nordås and Gleditsch mean when

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they look for "more rigorous analysis," then they could miss the forest for the trees.

Second, these articles generally appear to conflate the ideas of *conflict* and *security*, assuming that if a region or nation is free from conflict, then by definition it must be secure. This assumption is faulty, as a nation does not have to engage in conflict in order to be insecure. The recent and startling data on Arctic ice melt provides a sterling example of an emerging area of insecurity for many circumpolar nations that has not (yet) devolved into conflict, whereas the pastoral conflict that Meier, Bond, and Bond examine does not rise to the level of a national security threat (though they do not claim that it does).

What the scholarly literature on climate and conflict needs now is not more theory or more attempts at statistical correlation, but opportunities to test out the existing theories on a subnational scale. This issue of *Political Geography* has opened the door to an upcoming and important field of research.

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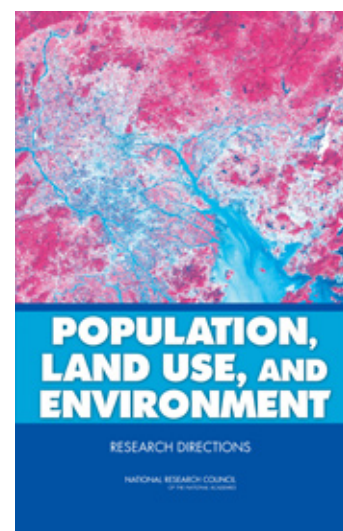# Population, Land Use, and Environment: Research Directions

Edited by Barbara Entwistle and Paul C. Stern
Washington, DC: The National Academies Press, 2005. 321 pages.

Reviewed by DAVID L. CARR

As seen from space, land cover change is far and away the signature imprint of human habitation on the surface of the Earth. What is driving changes in land use and the environment? What is the role of population? In addressing these questions, *Population, Land Use, and Environment* presents the goals and research directions of the National Research Council's (NRC) Panel on New Research on Population and the Environment along with state-of-the-art case studies. The three sections of this volume, edited by Barbara Entwistle and Paul C.

David Carr of the University of California, Santa Barbara, has served as principal investigator on grants from NASA, the National Institutes of Health, and the National Science Foundation, and has authored more than 50 publications on land use/cover change, protected areas, migration, fertility, and health in the tropics.

Stern, focus on land use or land cover change where population is a prominent driving force.

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The first section reviews the state of knowledge in the field; the second recommends research directions; and the third features 10 papers representing current research trends.

The editors of *Population, Land Use, and Environment* observe that recent investigations have expanded our understanding of the influence of human population on the environment to a host of factors beyond mere population growth, including migration, population density, and age structure. They understate, perhaps, the fact that population variables by themselves rarely emerge as overwhelmingly predominant forces driving land-use change; much more commonly, they operate in tandem with socioeconomic, political, and ecological processes.

More than a decade of research on population-environment interactions has produced studies tracking population, land use, and environment dynamics over several (or more) years in diverse geographic regions. These research projects were catalyzed by targeted land use/cover change funding mechanisms and the emergence of international research networks, including the international Land Use/Land Cover Change Project and its successor, the Global Land Project, hosted by the International Human Dimensions Programme on Global Environmental Change (IHDP) and the International Geosphere-Biosphere Program. Importantly, such research has also been enhanced by technological innovations in remote sensing from space. *Population, Land Use, and Environment* offers seven recommendations for researchers in the field, including:

- Increased coordination;
- The examination of causal relationships among specific component factors of population, land use, and environment;
- The combining of population, land use, and environmental variables;
- The exploration of cross-scale interactions;
- The development of linked datasets;
- Increased efforts to model and quantify causal relationships among population, land use, and environment; and
- The identification of highly effective mecha-

nisms to facilitate interdisciplinary research.

How to increase coordination is hotly debated among human-environment scholars, but such controversy aside, coordination is crucial to achieving holistic policies. The second recommendation may understate the role of other factors, particularly economics. Exploring cross-scale interactions remains a major challenge, which is admirably if incompletely addressed in many of the research papers included in the volume.

Developing linked datasets is a key step in moving beyond disaggregated local case studies and large-scale regional and global efforts informed by unreliable or inconsistent data. For example, we could leverage the comparative advantage of existing large-scale surveys that cover areas of dynamic human-environment interactions such as the USAID-sponsored Demographic and Health Surveys (DHS). Advances in novel techniques such as agent-based modeling, spatial and hierarchical statistical approaches, and the integration of methods from the physical and social sciences have furthered efforts to model causal relationships. Additional synergy is promised by funding mechanisms of the National Science Foundation and the National Institute of Child Health and Human Development, which promote cross-disciplinary research and integrated curricula. The emergence of scholarly networks and institutions such as IHDP and the Population-Environment Research Network (PERN) has also facilitated such interdisciplinary work. As more research funding moves toward climate change mitigation and adaptability, funders should be reminded that land-use change is intimately associated with climate outcomes and their impact on human and natural systems.

The third and final section of *Population, Land Use, and Environment* presents 10 research papers that exemplify recent population and land-use research. Two papers focus on agricultural frontiers with dramatic population and forest cover change. "Population and Environment in Amazonia: Landscape and Household Dynamics" by Emilio F. Moran, Eduardo S.

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Brondizio, and Leah K. VanWey challenges the orthodoxy of a linear relationship between population size and deforestation. Survey and land-cover data from multiple years demonstrate non-linear relationships between demographic variables, land use, and primary and secondary forests in the Brazilian Amazon. "Population Change and Landscape Dynamics: The Nang Rong, Thailand, Studies" by Stephen J. Walsh et al. integrates time-series data of remote images with socio-economic and demographic surveys.

Similarly pioneering methods are employed in "Economies, Societies, and Landscapes in Transition: Examples from the Pearl River Delta, China, and the Red River Delta, Vietnam" by Karen C. Seto, which investigates economic and political policies that could impact land-use change and urbanization. Two other studies investigate urban land-use change. "The Urban Ecology of Metropolitan Phoenix: A Laboratory for Interdisciplinary Study" by Charles L. Redman highlights historical, demographic, and socio-economic factors in urbanization and its effects on agricultural land, biodiversity, and human-environment nutrient flows, demonstrating the importance of integrating multiple scales in studies of human and natural systems. "Patterns of Urban Land Use as Assessed by Satellite Imagery: An Application to Cairo, Egypt" by John R. Weeks, Dennis P. Larson, and Debbie L. Fugate develops an "urban index" through the use of remote sensing to pick up signals that can be used to estimate the percent of land surface that is impervious to water (e.g., pavement and buildings).

Two papers examine population-land use relations at the national level in Asia. "A Review of 10 Years of Work on Economic Growth and Population Change in Rural India" by Andrew Foster matches survey data from several thousand households across India between 1971 and 1999 with concomitant satellite data. Research suggests that continued high fertility, population growth, and increased road access accompanied modest but notable reforestation, which was enabled by agricultural intensification and attendant enhancement of agricultural yields. "Global and Case-Based Modeling of Population

and Land Use Change" by Gunther Fischer and Brian C. O'Neill asks the important question of how case study research can best inform global analyses, concluding that spatially explicit analyses at a large regional scale are most suitable.

"Beyond Population Size: Examining Intricate Interactions Among Population Structure, Land Use, and Environment in Wolong Nature Reserve, China" by Jianguo Liu et al. addresses a socio-political conundrum facing protected areas throughout the world: How can policies mitigate human impacts on ecological systems? The authors suggest that relocating young people out of the Wolong Nature Reserve is more socially acceptable than relocating other groups, while also being more ecologically effective and economically efficient.

"People, Land Use, and Environment in the Yaqui Valley, Sonora, Mexico" by Pamela Matson et al. presents cross-disciplinary work incorporating land-use and management decisions from the bio-geochemical cycle to farmers' decision-making processes. The project pioneers the combination of various scales and data sources within a vulnerability and resilience framework. Another study on farming systems, "Population and Environment in the U.S. Great Plains" by Myron P. Gutmann et al. uses county-level data to investigate rural population change, cropland expansion, and soil chemistry changes across the U.S. farm belt during the past century.

While each study incorporates elements of the panel's research agenda, they incompletely integrate social and natural sciences across temporal and spatial scales. The studies are all missing a Meso-scale link between local and regional, economic and political land-use policies, proving that the field remains in its infancy. Nevertheless, the editors and researchers demonstrate the previous decade's remarkable progress and fruitful avenues for further growth. Challenges facing future research include linking social and environmental data, collecting data at the appropriate levels of resolution, comparing data across sites and time, and moving from descriptive studies to those that can reasonably find causality. Moreover, even in

> The conversion of forests to agriculture by rural people still leaves the largest human footprint on the Earth's surface, with consequences both injurious and benevolent.

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light of recent strides, interdisciplinary collaboration remains a challenge.

Climate change has emerged as the topic *du jour*, and human population and land-use interactions are both major causes of greenhouse gases and viable avenues for their reduction. At a time when urbanization and aging have replaced rural population growth and youthful population structures as the most-discussed demographic trends of the new millennium, the demands of rural population change and urban consumption on rural systems remain the primary drivers of land-use change. As research agendas shift towards climate change, human vulnerability, urbanization, and aging, the conversion of forests to agriculture by rural people still leaves the largest human footprint on the Earth's surface, with consequences both injurious and benevolent. The improved understanding of the connection between human activity and environmental concerns demonstrated in *Population, Land Use, and the Environment,* which synthesizes more than a decade of population-land use research, is both exciting and daunting.

Poverty Reduction: An Effective Means of Population Control

By Mohammed Sharif
London: Ashgate, 2007. 184 pages.
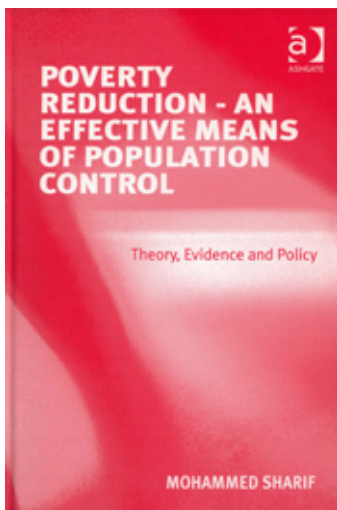
Reviewed by RACHEL NUGENT

Rachel Nugent is deputy director of the Center for Global Development's Global Health Programs. She has 25 years of experience as a development economist with the Population Reference Bureau, the Fogarty International Center of the U.S. National Institutes of Health, and the UN Food and Agriculture Organization, among others.

Population policy in developing countries has long been a controversial topic, not least because the vast amount of research devoted to understanding the key determinants of fertility behavior has been inconclusive. In addition, because population raises sensitive and ideological issues, population policy has been mired in political debates. The combination of slow progress in both the research and policy spheres on the role of population growth in development, and what governments should do to influence that growth, has pushed this crucial topic to the sidelines of most of the important development discussions of our day.

Fertility decisions are driven by a complicated set of social, economic, cultural, and technological conditions that are difficult to sort out. Government policy may be a minor influence on the fertility component of population growth, but in some places and times it can be an important agent of change, even simply by changing decisions at the margin. However, it is not easy to measure the impact of government policy—or any other factors—on fertility. Therefore, research has been sometimes contradictory, sometimes inconclusive, and the strongest results are highly site- and program-specific (see, e.g., Robinson & Ross, 2007; Schultz, 1997). In *Poverty Reduction: An Effective Means of Population Control,* Mohammed Sharif attempts to use both theoretical and empirical analysis to take a fresh look at the topic. Unfortunately, the book is contradictory and inconclusive—and certainly not fresh.

Until very recently, policy advocates and researchers seemed to agree that high rates of

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population growth adversely affect development and poverty, and that family planning policies are important tools of development assistance. Recently, however, attention to international population issues has declined alarmingly, stemming from a combination of complacency (due to lower population growth in some countries) and a paucity of effective tools to meet the ongoing twin challenges of poverty reduction and fertility reduction (Cleland et al., 2006; Gwatkin, Wagstaff, & Yazbeck, 2004).

While fertility has declined in many developing countries, and most of the developed world is experiencing stagnant or declining populations, the "population problem" is not solved. In 16 developing countries, total fertility rates exceed 6.0, and low contraceptive prevalence is a major barrier to development (PRB, 2008). Fifty-five countries have fertility rates of 4.0 and higher. Depending on death rates in those countries, this implies their populations will double in 17 years or less. Finally, in these and other developing countries, the highest fertility rates are generally found among the poorest fifth of the population. Thus, the question of population growth and its relationship to poverty is not inconsequential, leaving substantial room for debate about appropriate policies.

Mohammed Sharif's book takes us back to an earlier time by re-opening the debate about whether family planning is good for poor families. Sharif's main arguments are that high fertility is a rational, often beneficial choice for poor families; and that poverty makes a higher number of children desirable. He concludes that only reductions in poverty will bring down fertility rates among the poor. Sharif examines these assertions empirically, and then derives policy implications from the results.

Researchers on this topic have always faced the challenge of demonstrating a direct causal relationship between poverty and fertility. Many correlates of poverty are also associated with high fertility rates. How do we know what causes what? Sharif devotes much of his book to cross-country regression analysis intended to demonstrate that poor people may be acting rationally in choosing large fami-lies. Unfortunately, the analysis presented is largely undermined by the failure of his data and methodology to adequately answer "what causes what?"

Sharif compiled data on poverty and related variables for 83 developing countries from various UN sources to test multiple specifications of his model. With countries as the unit of analysis, he finds that high fertility is not a cause of poverty, and illiteracy is not causally related to contraceptive prevalence. Sharif concludes that the fertility choices of poor developing-country citizens are rational, and argues by implication that international family planning advocates have failed because they have not understood poor families' choices and decision-making processes. Half of Sharif's message is certainly right: Poor people are rational. But they are also extremely constrained in their choices, access to information, and time horizons. As a result, their choices may not be optimal—for themselves or society. Sharif does not explore this possibility, and therefore the book does not advance our knowledge of what policies would be useful in reducing these constraints.

Setting aside the book's polemics attacking international family planning advocates, Sharif's cross-country analysis of the determinants of poverty suffers from measurement and econometric issues—not the least of which is the problem of intervening variables. No reasonable person doubts that poverty affects childbearing decisions in a household, and that numbers of children affect a household's likelihood of being impoverished—but many other variables intervene as well. Researchers have spent years trying to specify models in which fertility choice can be isolated from the variables that determine it. Yet Sharif cites almost none of the voluminous empirical and methodological literature in this area (e.g., Birdsall et al., 2001; Eastwood & Lipton, 1999; Schultz, 2005; Livi-Bacci & De Santis, 2004; Oxford, 1994). And some of his results are anomalous; for example, he finds that—in addition to fertility—urbanization and illiteracy have no effect on poverty.

It is difficult to compare Sharif's data and results with other studies. For his preliminary

The highest fertility rates are generally found among the poorest fifth of the population.

assessment of poor people's rationality, he relies on (quite old) data from the government of Bangladesh, even while noting its poor reliability. He uses the UN Statistics Division for cross-country data, but not the Demographic and Health Surveys for important variables such as unmet need, which is commonly defined as the percentage of women or couples who wish to postpone or avoid pregnancy but who do not use contraception.

What causes high fertility? Sharif calculates both poverty and fertility as functions of independent variables, and then in the second stage estimates each as a function of the predicted value of the other. He finds that fertility and poverty are negatively related. He interprets this finding to mean that children serve as assets for poor, rural families and are therefore desired. Thus, he concludes that high fertility is not only a rational, but also a beneficial choice for poor people.

Sharif acknowledges that family planning programs have increased contraceptive use across the world, but points out that the increase is found largely among the well-off in developing countries, and not among the poor. He faults the UN Population Fund for pushing family planning as the solution to high fertility, and recommends that policymakers focus on other factors that underlie poverty.

In these conclusions, Sharif may be half-right. It is reasonable to push for poverty reduction through a multi-pronged approach that addresses underlying causes. No country or global policymaker would dispute the importance of that goal. But what is the policy lesson from his finding that high fertility reduces poverty? And how much can we rely on that finding? Unfortunately, despite the benefit of a much stronger intellectual foundation to draw upon than earlier population policy researchers, Sharif has not made headway in the analytical challenges of separating determinants of fertility from those of poverty and other related factors.

Most observers would not doubt Sharif's assertions that there are close links between fertility and his selected variables. Where they would part from him is in accepting the anomalous results of his econometric analysis, and in deriving policy conclusions from those inconsistent and confusing relationships. Policymakers will obtain little guidance in finding the road ahead from this backward look at population policy.

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The Price of Neglect: From Resource Conflict to Maoist Insurgency in the Himalayan Kingdom

By Bishnu Raj Upreti
Kathmandu, Nepal: Bhrikuti Academic Publications, 2004. 446 pages.

Reviewed by SALEEM H. ALI

Although surrounded by conflict over the last two centuries, the Himalayan nation of Nepal has been resilient in the face of colonialism. Even during the British Raj, the feudal rulers of Nepal managed to stay relatively independent by offering diplomatic and military support to the British. However, for 10 years, contemporary Nepal was beset by a civil war that killed 13,000 people. A fragile peace agreement signed in 2006 led to historic elections in April 2008, but the years of internal strife exacted a serious toll on the country.

Overtly, the conflict began as an ideological clash between a monarchic system and a socialist egalitarian ideology influenced by the writings of the Chinese revolutionary leader Mao Zedong. The Maoists differentiate themselves from classical communists because the strength of Nepal's proletariat lies with the rural peasantry rather than the urban working class. While many of the key Maoist leaders are highly educated intellectuals (including Baburam Bhattarai, who was trained in environmental planning), they clearly tapped key grassroots factors that supported the rise of this movement among the masses, such as elite corruption and marginalization of rural areas by the urban economy. It is particularly surprising that the movement gained traction at a time when most other communist states, including China and Vietnam, began tacitly moving towards a capitalist economic model, while retaining centralized political control.

Bishnu Upreti's book, *The Price of Neglect: From Resource Conflict to Maoist Insurgency in the Himalayan Kingdom* was published in 2004, just as the Maoist insurgency was reaching a fever pitch and violence was spreading to the

Saleem H. Ali is an associate professor of environmental studies at the University of Vermont's Rubenstein School of Natural Resources, and is on the adjunct faculty of Brown University's Watson Institute for International Studies. His most recent edited volumes are *Earth Matters: Indigenous Peoples, the Extractive Industries and CSR* (Greenleaf, 2008), and *Peace Parks: Conservation and Conflict Resolution* (MIT Press, 2007). http://www.uvm.edu/~shali/

capital, Kathmandu. In the book's first six chapters, Upreti offers an introduction to resource conflict, covering theories of conflict and their application to environmental resources such as water and forests. The author uses examples to demonstrate the importance of resource conflict's cultural context; for example, those seeking to understand the conflict over the Asian Development Bank-funded irrigation project in Andherikhola must consider the Hindu caste system, which is still prevalent in Nepal. South Asian graduate students will find this contextualized introduction to resource conflicts most useful—and affordable too, since the book was published in Nepal.

Upreti uses some rather unusual quotations to highlight the importance of environmental conflicts, such Fidel Castro's speech at the 50th anniversary of the World Health Organization indicting the "blind and uncontrollable laws of the market" for environmental degradation. Yet he misses an opportunity to link such anecdotal references and quotations to the book's larger theme. Analyzing such rhetoric in the context of the Maoists' manifesto would have been illuminating; for example, it is ironic that Upreti

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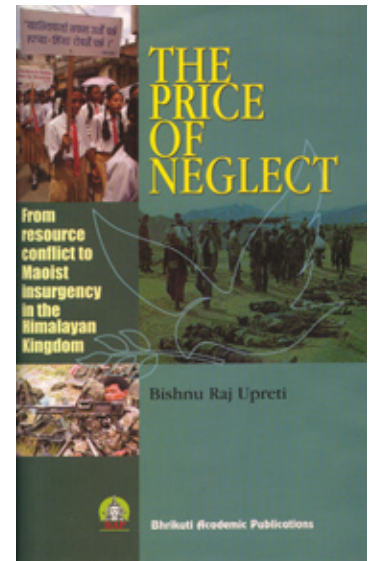
links the rebellion and resource depletion since Mao's own philosophy was deliberately anti-nature (Shapiro, 2001).

The last four chapters of *The Price of Neglect*, which are devoted to analyzing the role of resources in the Maoist conflict, are the most widely marketable. Upreti blames both the land tenure tradition of *guthi,* which is meant to be a trust but is often exploited by the culturally elevated elite, as well as the *panchayat* system of communal governance, for the Maoist uprising. A patriarchal kinship system, *guthi* is an important social structure among the Newar indigenous communities of the Kathmandu valley. Under the more widely practiced *panchyat* governance structure—found throughout South Asia—village elders act as a dispute-resolution council. However, the elders are often not selected by the community but rather through arcane preferences of family lineage.

Unfortunately, Upreti does not explore some of the more interesting environmental aspects of the rebellion. For example, how does forest degradation and overuse of land correlate with the Maoists' regional strengths? Some preliminary research in this regard by Jugal Bhurtel and myself (2009) could have been further developed in this book. Also, a detailed ethnographic analysis would have helped explain the potential linkages between resource degradation and conflict. In addition, Upreti does not address the possibility that the conflict itself has led to immense environmental damage, creating a negative feedback loop (Murphy et al., 2005).

Another missing element is India's perceived influence on Nepal—the diminution of which is an ardent part of the Maoist agenda. By leveraging environmental factors such as water availability and hydropower potential, Nepal could potentially increase its influence on India. This strategic interdependence is not adequately discussed in the book and deserves greater attention by security scholars. As transboundary cooperation becomes even more of an ecological necessity, the shifting balance of power may provide a vent for social movements predicated on inequality.

The book's useful appendices provide a first-hand narration of Maoist demands and government counter-offers, as well as the correspondence between Baburam Bhattarai and the International Crisis Group. However, further analysis of these exchanges in the light of some of the earlier chapters of the book would have provided greater structural continuity to the text.

The Price of Neglect ends on an optimistic note, stating that the Maoist conflict was not related to ethnicity or territorial separatism and hence should be easy to resolve, since it is fundamentally about internal political reform. The 2006 treaty seems to prove Upreti right, but will the Maoist-led government maintain the peace? Despite the shortcomings outlined above, Upreti's book is a worthwhile effort at bringing local flavor to resource conflict discourse in South Asia.

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Security By Other Means: Foreign Assistance, Global Poverty, and American Leadership

Edited by Lael Brainard
Washington, DC: The Brookings Institution, 2007. 364 pages.

Reviewed by SEAN PEOPLES

The calls for a more effective U.S. foreign assistance framework have been deafening lately. Although official foreign aid has increased substantially over the last five years, its fragmented organization and lack of clear strategic objectives have come under fire. Many prominent voices in the development community argue that substantial reform is needed to effectively alleviate poverty, strengthen security, and increase trade and investment in developing countries (e.g., Sewell, 2007, Sewell & Bencala 2008; Patrick, 2006; Desai, 2007). CARE International's announcement that it would forgo $45 million a year in federal funding is a clear indication that our development strategy is still plagued by significant problems (Dugger, 2007). In *Security By Other Means: Foreign Assistance, Global Poverty, and American Leadership,* several leading scholars—including Steven Radelet, Charles Flickner, and Lael Brainard—offer innovative approaches to reforming U.S. foreign assistance.

This Brookings Institution volume, edited by Lael Brainard, joins the growing chorus of criticism of foreign assistance reform in offering a clear set of first steps. In his 2007 paper for Brookings, Desai recommends consolidating the numerous aid agencies and departmental programs into one cabinet-level department for international development. Stewart Patrick (2006) advocates a complete overhaul of the 1961 Foreign Assistance Act, given the outmoded law's lack of clarity. In another report, Patrick and his former colleagues at the Center for Global Development analyzed President Bush's FY2008 budget and found that "the U.S. continues to devote a relatively small share of its national wealth to alleviate poverty and promote self-sustaining growth in the develop-

Sean Peoples is a program assistant for the Environmental Change and Security Program (ECSP). His areas of focus include the relationship between demographic dynamics, natural resources, and broader development issues. Prior to joining ECSP, he worked as associate director for Congressional Programs at the Population Resource Center.

ing world" (Bazzi, et al. 2007, p.1). In the first chapter of *Security By Other Means*, Brainard explains that aid is not distributed purely on the basis of need: "In dollar terms America continues to place far greater emphasis on bribing non-democratic states than on promoting their democratization" (p. 18).

The inefficiency and fragmentation of the current U.S. foreign aid structure stems from several cumulative factors, including: numerous competing strategic objectives; conflicting mandates among government and non-governmental organizations; congressional and executive branches jockeying for control; and countless organizations with overlapping efforts. Wading through the web of legislation, objectives, and organizations comprising U.S. foreign assistance efforts is a dizzying exercise.

Helping us untangle this confusing web is *Security By Other Means,* which compiles the findings of the Brookings Institution-Center for Strategic and International Studies Task Force on Transforming Foreign Assistance in the 21st Century into a manual of sorts for reforming foreign assistance. Not shying away from the nitty-gritty of foreign assistance policy, the book's contributors delve deep into the current development assistance framework and
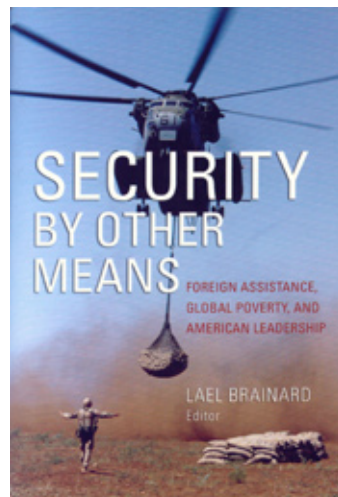
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recommend valuable reforms, which include: integrating strategic security concerns; formulating clear objectives; understanding recipient country capacities; and building effective partnerships that exploit comparative advantages.

Covering a wide range of development challenges, some chapters offer prescriptions, while others provide case studies or context. In his chapter on strengthening U.S. development assistance, Steven Radelet, a senior fellow at the Center for Global Development, rightfully highlights how poorly U.S. assistance is allocated: "Significant amounts of aid go to middle-income countries that have access to private sector capital and have graduated from other aid programs" (p. 100).

As food insecurity, violent conflict, and natural disasters wax and wane, humanitarian assistance continues to expand in scale and scope. Steven Hansch's sobering chapter provides a blueprint for the ways the United States can draw on its military's comparative advantages and more effectively coordinate the world's donors for emerging humanitarian needs. Patrick Cronin argues that conflict prevention can be integrated into development reform: "A serious—but realistic—capacity to turn swords into plowshares and prevent conflict before it begins must be a core mission of the U.S. government in the twenty-first century" (p. 161).

Building and strengthening the capacity for creativity within the legislative branch is also critical. Charles Flickner, former staff director for the Appropriations Committee's Subcommittee on Foreign Operations, Export Financing, and Related Programs in the U.S. House of Representatives, acknowledges the resource and cultural challenges (especially congressional committee culture) faced by those in charge of appropriating foreign assistance (p. 238).

Security By Other Means successfully provides a realistic assessment of the challenges to strengthening U.S. leadership in development assistance. The book, along with the Helping to Enhance the Livelihood of People Around the Globe Commission report, encourages a much-

needed discourse not only on foreign assistance, but also on U.S. foreign policy in general. The authors provide a timely service for the new presidential administration by taking an integrated look at development challenges and discouraging the use of cookie-cutter approaches to foreign assistance allocation and humanitarian interventions.

Some readers may find *Security By Other Means* lacking. For instance, Capitol Hill staffers would likely find a condensed and more visually stimulating version of greater utility. Policy wonks would benefit from several more case studies peppered within appropriate chapters. Prominently placed case studies strongly support Cronin's chapter on development in conflict contexts, but other chapters did not give cases the same emphasis, even though successful reform requires learning from past mistakes and successes.

At a July 2007 Senate Committee on Foreign Relations hearing on foreign assistance, then-Director of U.S. Foreign Assistance and U.S. Agency for International Development Administrator Henrietta Fore committed to simplifying the process and integrating the numerous spigots of money flowing outward. Brainard and two other leading experts on foreign assistance—Sam Worthington, president and CEO of InterAction, and Radelet—testified that rapid globalization and the inevitable integration of international economies are the impetus for a more unified and harmonized foreign aid structure. A clear consensus emerged from their recommendations: promote local capacity and stakeholder ownership; favor long-term sustainability over short-term political goals; and encourage the consolidation and coordination of the disjointed U.S. foreign assistance structure.

While federal aid flounders, private foundation donations are growing steadily and are poised to overtake official governmental aid. Moreover, businesses have steadily expanded the scope of their humanitarian work. Private businesses and foundations can avoid much of the bureaucratic red tape that strangles

> Wading through the web of legislation, objectives, and organizations comprising U.S. foreign assistance efforts is a dizzying exercise.

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government aid. Nevertheless, an attempt by business interests, private foundations, and federal foreign assistance to integrate their approaches and build technical capacity could only be a positive step.

The authors of *Security By Other Means* successfully parse the many challenges and opportunities posed by U.S. foreign assistance reform. Along with a growing number of critical voices, this book provides a basis for further discussion and action on a number of fronts, including integrating diverse donor funds, seriously deliberating the comparative advantages of various organizations, and streamlining competing foreign assistance mandates.

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The Shape of Things To Come: Why Age Structure Matters to a Safer, More Equitable World

By Elizabeth Leahy, with Robert Engelman, Carolyn Gibb Vogel, Sarah Haddock, and Tod Preston
Washington, DC: Population Action International, 2007. 96 pages.

Available online from http://www.populationaction.org

Reviewed by JOHN F. MAY

In the past two decades, the study of the world's evolving demographic trends has led population scholars to reassess two classic paradigms. The first paradigm held that the theory of demographic transition—a country's transition from high mortality and fertility to low mortality and fertility—was a set of hypotheses regarding fertility with limited predictive value, and far from a universal model encompassing mortality, fertility, and migration. The second paradigm—held by many economists until quite recently—

John F. May is a senior population specialist in the Africa Region at the World Bank. He specializes in population, reproductive health, and HIV/AIDS policies and programs, with an emphasis on sub-Saharan Africa.

was that population growth and demographic trends have no impact on (or, at least, are "neutral" to) economic development.

Recent demographic trends appear to have ended the period of intellectual doubt first

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opened by the Princeton Project's work on fertility decline in Europe (Coale & Watkins, 1986). Mortality and fertility levels have declined rapidly everywhere except sub-Saharan Africa. These declines have often been followed by transitional migratory movements. The initial intuition that the demographic transition (also known as the demographic "revolution") would reach virtually all the corners of the world has been proven correct (Chesnais, 1992). Moreover, the rapid demographic transition has brought about unexpected results, such as extremely low levels of fertility—far below what is needed to replace the current population—in some countries, as well as the phenomenon of rapid aging, both of which have had far-reaching consequences for the economy.

New research, focused on East Asia, has also challenged the conventional wisdom regarding the independence of demographic trends and economic development. This work has demonstrated that changes in age structure, dependency ratios, and labor force size have contributed to at least one-third of the region's rapid economic growth, dubbed the "Asian miracle" (Birsdall et al., 2001). A country's age structure, population pyramids, and changes in rates of population growth are now being recognized as more important determinants of economic development and poverty reduction than population size itself (and, to some extent, population density). This evidence is encapsulated in a new theory, the "demographic dividend," which emphasizes the gains brought by growing numbers of workers with fewer dependents to support (Lee & Mason, 2006). Indeed, as neatly stated by Nancy Birsdall et al. (2001), researchers have once again returned to the idea that "population matters."

A recent study by Population Action International (PAI), *The Shape of Things To Come: Why Age Structure Matters to a Safer, More Equitable World*, provides a timely illustration of these trends and their current interpretations. The report seeks to demonstrate that in today's changing world, investment in well-designed population and reproductive health policies can play an important role in advancing national and global development. Through their analysis of age structures and population pyramids across the world, Elizabeth Leahy and her co-authors guide the reader through the consequences of the demographic transition and changes in age structures, as well as their implications for economic growth. They also explore the impacts of changing age structures on security, democratic development, governance, vulnerability to civil conflict, and social well-being. These dimensions—examined earlier by PAI in *The Security Demographic* (Cincotta et al., 2003)—are arguably more difficult to analyze.

The first of the report's seven short chapters explains the meaning of population structures. The next four chapters focus on four types of age structures and introduce a new classification system: very young, youthful, transitional, and mature. Seven countries—namely, Germany, Iran, Mexico, Nigeria, Pakistan, South Korea, and Tunisia—provide case studies. *The Shape of Things To Come* also addresses two atypical age structures, caused either by large migratory movements or the HIV/AIDS epidemic, as well as a speculative age structure illustrating a country that moves beyond the demographic transition in approximately 2025. Finally, the last chapter wraps up the authors' findings and considers future demographic possibilities.

The layout is truly stunning: The colors of the graphs and population pyramids skillfully highlight major changes; key messages are prominently displayed; and a very simple but quite powerful graph plots the percentage of the population aged 0-29 (vertical Y-axis) against the percentage of the population aged 60+ (horizontal X-axis). This graph, which recurs throughout the study, enables the reader to immediately position a country on the demographic transition "scale."

The Shape of Things To Come offers a few key findings:

- Very young and youthful age structures are most likely to undermine countries' development and security;
- Countries with a transitional age structure (i.e., in the middle of the demographic tran-

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sition) stand to benefit significantly from demographic change;

- Countries with a mature age structure (i.e., 55 percent of the population is above age 30) have generally been more stable, democratic, and highly developed; and
- Societies and governments can influence age structures by enacting policies that support access to family planning and reproductive health services, girls' education, and economic opportunities for women.

The crucial role of policies has been too often overlooked in recent demographic studies; PAI deserves credit for addressing it in a straightforward manner.

The report's original analysis and the wealth of information accompanying it could have been enhanced in a number of ways. First, the authors could have further analyzed the effects of the demographic transition on age structure by using, for example, the concept of the transitional multiplier to compare different transitions. The transitional multiplier is obtained by dividing the total population at the end of the transition by the total population at the beginning of the transition; the same concept can be extended to specific age groups (e.g., Chesnais, 1990; 1992). They could also have further explored top-heavy population pyramids with older age structures. Moreover, they could have highlighted the importance of the time factor, since a country's pace through the demographic transition varies, which can lead to different age structure outcomes (e.g., a stalled fertility decline can have dramatic effects). Addressing these points would have helped *The Shape of Things To Come* to more completely chart demographic changes.

In addition, it is not easy to sort countries into only four age structure categories; allusions to a fifth category, a post-mature age structure, could have been explored further. The issue of *negative* population momentum (as in the case of Russia) also merits more consideration. Finally, the succinct discussion of migratory movements could have been expanded to include the possibility that such movements might cause countries to regress across some age structure categories.

Furthermore, some of the report's bolder claims—namely, the link between population trends and political stability—rest on rather shaky grounds. Although the authors offer the necessary caveats, some of the analytical conclusions presented in the book appear to result from connecting facts that may or may not be causally related. For example, while it is one thing to say that 80 percent of civil conflicts (defined as causing at least 25 deaths) occurred in countries in which 60 percent or more of the population is under age 30, it is another thing altogether to prove statistically that the youthfulness of the population is a cause of civil conflict. Such conclusions depend on the size of the sample, which should be discussed in greater detail. The previous PAI report on the security demographic, to which this report refers, faced similar difficulties.

In conclusion, *The Shape of Things To Come* could have examined several issues in more detail. Despite these omissions, Leahy and her co-authors offer a timely and useful tool to chart the changes in age structures that are brought about by the demographic transition that continues to spread around the world.

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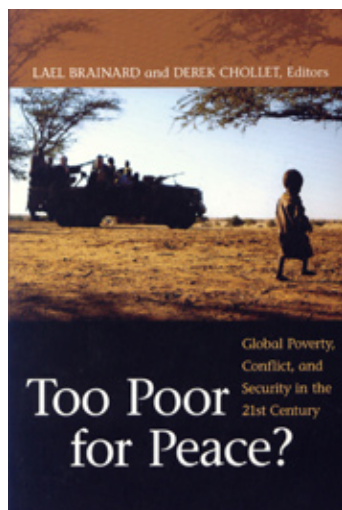
Too Poor for Peace? Global Poverty, Conflict, and Security in the 21st Century

Edited by Lael Brainard and Derek Chollet
Washington, DC: Brookings Institution, 2007. 175 pages.

Reviewed by STEWART PATRICK

Stewart Patrick is a senior fellow and director of the Program on International Institutions and Global Governance at the Council on Foreign Relations (CFR). Prior to joining CFR, he directed the Center for Global Development's project on Weak States and U.S. National Security. His most recent book is *The Best Laid Plans: The Origins of American Multilateralism and the Dawn of the Cold War* (Rowman & Littlefield, 2008).

Five years ago, the World Bank published *Breaking the Conflict Trap*, a groundbreaking book identifying intrastate war as a critical barrier to poverty eradication in a large cohort of developing countries (Collier et al., 2003). *Too Poor for Peace? Global Poverty, Conflict, and Security in the 21st Century* picks up where Paul Collier and his colleagues left off, this time focusing on the impact of poverty on violent conflict. The book's broad thesis is that alleviating poverty in the 21st century is not only a moral but also a security imperative.

"Extreme poverty literally kills," write editors Lael Brainard and Derek Chollet (p. 3). This claim is true both directly—through hunger, malnutrition, and disease—and indirectly, by leaving poor countries vulnerable to domestic upheaval and war and by generating transnational threats that endanger regional and international security. At the same time, the poverty-insecurity nexus constitutes a "tangled web," with overlapping threads of intervening variables and strands of reverse causality. Poverty and violence reinforce one another, but their specific relationship is mediated by context-specific drivers ranging from resource scar-city to weak institutions to malignant political leadership to demographic trends. Like spiders' webs, each country is unique; there is no single route to prosperity (or penury), no single pathway to peace (or war).

Drawn from an August 2006 conference sponsored by the Aspen Institute, "The Tangled Web: The Poverty-Insecurity Nexus," this slim volume is divided into two parts. The first chapters usefully distill recent findings (including some published elsewhere by the same authors) on specific links between poverty and conflict. The later chapters review, more unevenly, the practical dilemmas confronting external actors seeking to engage poor, conflict-prone states. Throughout, the authors use refreshingly clear, jargon-free prose aimed at an educated policy audience.

Among the most interesting—if controversial—chapters is Susan Rice's examination of the negative implications of developing-country poverty for global (as opposed to human) security. (Full disclosure: Rice and I are frequent collaborators.) She makes an impassioned case that poverty breeds insecurity by undermining the capacity of states to deliver four sets of critical goods: basic physical security, legitimate governance, economic growth, and social welfare. Beyond bringing misery to their inhabitants, such poverty-induced capacity gaps produce negative "spillovers" for regional and global security, in the form of cross-border terrorism, crime, disease, and environmental degradation. She contends that in an age of global threats—from terrorists in Mali to Ebola in the Democratic Republic of the Congo—the United States cannot afford to be indifferent to poverty that weakens state capacity.

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Rice's chapter raises as many questions as it answers. The world is full of weak states, of course, and not all generate negative spillovers, much less those of the same type or magnitude, which suggests that intervening mechanisms and situational variables are involved. Are states that suffer from particular types of weakness more susceptible to particular types of threats? And does a state's vulnerability depend on whether its weak performance is a function of the political will of its governing regime, a low level of state capacity, or some combination of the two? Rice is more persuasive in showing the linkage between weak states and transnational spillovers than in demonstrating how poverty is linked to state weakness. Although she qualifies her argument by noting that "though poverty underlies state weakness" the latter is "also a consequence of other capacity deficits," her use of the bloodless term "capacity" gives too short shrift to the role of human agency (and particularly the role of corrupt, misgoverning elites) in generating poor state performance (p. 34).

The role of intervening variables is front and center in Colin Kahl's chapter addressing the links between demography, environment, and civil strife in the developing world, based on his similarly titled book (Kahl, 2006). In recent years, the environmental security literature has been dominated by two diametrically opposed perspectives. The "neo-Malthusian" view attributes civil strife to deprivation brought about by population growth, environmental degradation, and natural resource scarcity. The alternative "resource abundance" thesis contends that an embarrassment of resource riches fuels violence, whether by creating a tempting "honey pot" for factions to fight over or by subsidizing institutional pathologies (the well-known "resource curse"). Kahl considers this dichotomy a false one, noting that scarcity and abundance can occur simultaneously at different levels of analysis. For instance, abundance in one resource can create scarcity in another; different sorts of resources present different risks for developing countries; and the pathologies of scarcity and abundance can occur and interact with one another in the same country
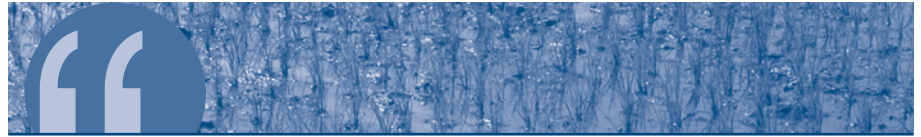
> **The poverty-insecurity nexus constitutes a "tangled web," with overlapping threads of intervening variables and strands of reverse causality.**

over time. Kahl's distinctive contribution is to recognize that resource "scarcity" is not only a natural but also a social phenomenon, reflecting political and economic competition, and that the relationship between demographic and environmental pressures and conflict is mediated by (among other factors) the strength of the state, the nature and quality of its governing institutions, and the identity, solidarity, and power of societal groups.

According to Berkeley economist Edward Miguel, "the poverty-violence link is arguably the most robust finding in the growing research literature investigating the causes of civil wars" (p. 51). But is poverty breeding violence, or vice versa? To answer this question, Miguel and two colleagues employ an intriguing natural experiment: They analyze the impact of drought—a purely exogenous economic shock that increases poverty—on state propensity for conflict in Africa. Their findings are startling: "The size of the estimated impact of lagged economic growth on conflict is huge," Miguel writes, with a one percent decline in GDP "increasing the likelihood of civil conflict by more than two percentage points" (pp. 54-56). In contrast, they find little correlation between violent conflict and variables like political repression, democratic freedom, ethnic fragmentation, colonial history, or population density. In sum, "economic factors trump all others in causing African civil conflicts" (p. 55). Miguel suggests that this robust finding has clear policy implications: Very little foreign aid, he observes, addresses

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the immediate triggers of civil conflict. Donors could change this by directing a significant proportion of external assistance toward helping countries cope with the sharp income fluctuations created by exogenous shocks, such as poor weather or collapsing commodity prices. By extending such insurance, the international community could help remove support for rebel movements.

The past decade and a half has seen a surge in policy attention to the possible security implications of demographic change—some of it thoughtful (e.g., Cincotta et al., 2003; Urdal & Brunborg, 2005), some of it sensationalized (e.g., Kaplan, 1994). Henrik Urdal's chapter provides a judicious assessment of the potential risks and rewards of "youth bulges" in developing countries. He finds a robust correlation between a country's youth cohort and its propensity for low-intensity conflict. "For each percentage point increase of youth in the adult population," he writes, "the risk of conflict increases by more than four percent" (p. 96). And yet large youth cohorts have the potential to be a blessing rather than a curse, particularly if they precede significantly smaller cohorts. As fertility rates continue to decline (sometimes dramatically) in the coming years, much of the developing world stands to gain a "demographic dividend," in the form of increased economic growth and lower vulnerability to violence.

The second portion of the book is devoted to several policy challenges confronting external actors in violence-prone poor countries. These chapters address working with youth in war-torn countries (Marc Somers); bolstering responsible political leadership where corruption is the norm (Robert Rotberg); operating as private actors in insecure environments (Jane Nelson); and promoting democracy as well as security and basic needs (Jennifer Windsor). Somers observes that young people—and particularly young males—are typically demonized as a national liability, rather than as a potential asset in building a more peaceful future. Ironically, he notes, "it often seems that nations do not know what to do with their own young

people while armed groups keep discovering new ways to make use of them" (p. 102). Somers calls for carefully targeted programs that harness the energy and vision of youth and provide young men, in particular, with the opportunity to gain both employment and dignity.

Rotberg looks at the other end of the status hierarchy, highlighting the critical role of leadership in overcoming poverty in Africa. Throwing a bucket of cold water on those who still attribute poverty in developing countries primarily to a lack of foreign aid, he argues that the divergent trajectories of African countries can be explained overwhelmingly by their quality of governance, and specifically the personal leadership qualities of heads of state or government. He pointedly juxtaposes the authoritarian Robert Mugabe, the former independence hero who has managed to drive once-prosperous Zimbabwe into the ground, with visionary leaders like South Africa's Nelson Mandela, Botswana's Festus Mogae, and Senegal's Abdolaye Wade. Rotberg documents a rising demand for good governance in Africa, but what of the supply? Here the answers are less clear. Rotberg claims that sub-Saharan Africa appears to lack "a practical ethic of public service," but he offers few ideas on how outside actors might work with internal reformers to help instill such an ethos.

The book's one shortcoming might be the modesty of its aims and claims. The editors could have been bolder in seeking to break new conceptual ground, to offer more definitive conclusions on the basis of current research, and to address the policy implications of the book's overall findings. Like many conference volumes, it lacks an overarching theoretical framework or conceptual model to lend coherence to its disparate chapters and to explain how the various drivers and intervening variables can and do fit together. The introduction, for instance, includes no trend lines or maps of current levels of poverty or conflict, leaving the reader to wonder if the situation is as dire as described—and which states, precisely, are entwined in the "nexus." And although the editors review some prominent

debates, they generally abstain from evaluating purported causal linkages or proposing steps to cut them. The absence of a conclusion reinforces the depressing sense that the filaments of "the tangled web" will remain tightly knotted.

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Trade, Aid and Security: An Agenda for Peace and Development

Edited by Oli Brown, Mark Halle, Sonia Pena Moreno, and Sebastian Winkler
London & Sterling, VA: Earthscan, 2007. 204 pages.

Reviewed by JOHN W. SEWELL

Trade, Aid and Security: An Agenda for Peace and Development undertakes the challenging task of assessing the interrelationships between trade and aid, as well as the complex causes of conflict within the poorest countries. Emerging from a four-year research collaboration between the World Conservation Union (IUCN) and the International Institute for Sustainable Development (IISD), this edited volume collects six papers by specialists in trade, aid, conflict, and sustainability. The editors' goal is "to see these objectives—trade, aid, and security— as interlocking components of the overriding objectives of peace and development."

Trade, Aid and Security is, in many ways, a pioneering volume. Starting from the premise that both aid and trade policies have sometimes exacerbated tensions and violent conflict within the poorest countries, it also argues that aid and trade policies can be tools to help prevent existing tensions or conflicts from turning violent. The chapters on designing conflict-sensitive

John W. Sewell is a senior scholar at the Woodrow Wilson International Center for Scholars, former president of the Overseas Development Council, and author of numerous articles and analyses of globalization, development, and U.S. national interests, including "A Memo to the Next President: Promoting American Interests Through Smarter, More Strategic Global Policies," co-authored by former ECSP Program Assistant Karin Bencala.

trade policy, building markets for conflict-free goods, promoting conflict-sensitive business in conflicted areas, and managing resources (both natural and aid) are particularly strong. These analyses synthesize a great deal of information and research not normally considered by trade or aid specialists.

My definition of an "interesting" book is one that not only provides new information but also stimulates my own thinking about the broader ramifications of its analyses. The authors in this

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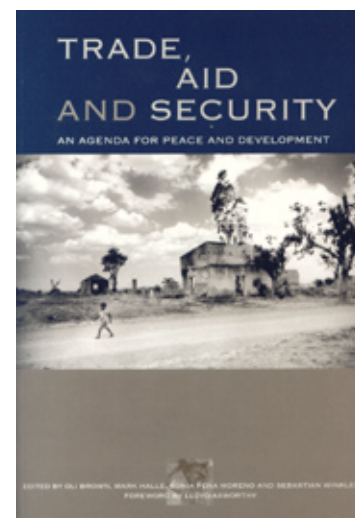
volume raise the right issues and shed much light on the choices that will have to be made. But like all good analyses, *Trade, Aid and Security* raises some questions that have not yet been discussed seriously, especially by policymakers.

First, the papers present a seeming paradox: By its very nature, economic, political, and social development requires change—in laws, customs, practices, and even human behavior. But change is inherently conflictual and destabilizing. Some states in the process of development actually "fail"; others, unable to deal with the politics of change, give rise to authoritarian governments.

There is broad agreement that increasing the number of established market democracies benefits both rich and poor countries. Democracies tend to make better political and economic choices than non-democratic governments, and democratic states tend not to start wars with one another. Market economies also generate resources that can be used to invest in people, and market policies eventually promote democratization.

There is one catch, however: These benefits are realized only by *established* market democracies. The history of Europe and the United States in the 19th and 20th centuries should remind policymakers that achieving stable open markets and open societies was neither easy nor automatic. Indeed, the social welfare state was created specifically to deal with the social costs of unfettered market forces. Policymakers ignore the links between political and economic reform in countries where neither is established at their peril.

But if conflict is inherent in development and democratization, then conflict-prevention policies need to be linked to strategies for promoting market reforms and creating strong democratic institutions. Support for domestic institutions that mediate internal conflicts, whether economic or political, is essential, as are institutions that bridge ethnic or geographic divisions within countries, such as democratic institutions and civil society groups.

Governments in many countries are under great pressure, particularly from international financial institutions, to convert inward-oriented, state-dominated economies to more open market-driven approaches, while also strengthening fragile new democracies. Either of these reforms is difficult to carry out under the best of circumstances; reconciling them is even more difficult.

Globalization has made both economic and political reform more difficult. Opening markets creates winners and losers, thereby shifting the distribution of economic power and wealth within developing countries. Various groups—ethnic, religious, political, and regional—have been winners and losers in this process, which has led to tension, contested policies, and increased conflict.

Moreover, globalization has limited the powers available to governments to manage conflicts brought about by economic change. Before globalization, governments could manage the speed of change by closing markets and limiting financial flows. These techniques are no longer effective, as the globalization of financial markets has made capital flows more volatile, and new trade agreements have prohibited many of the measures used previously to protect industries and groups. As a result, it is much harder for governments to redistribute income, assets, and economic power to compensate "losers" in the processes of change.

One thing seems clear: To manage the politics of economic and political change, policymakers and analysts must put a much higher premium on strengthening the institutions that mediate conflicts within countries and on building "constituencies for change" among groups within these countries (Rodrik, 1999).

Many of the authors in *Trade, Aid and Security* emphasize the need to develop conflict-sensitive policies, particularly in aid programs. Indeed, they make a number of useful recommendations for specific policies designed to diminish conflict. But they fail to consider that the development promotion business and the role of the outsider have changed.

Fifty years ago, official development assistance (ODA) volume and policy was dominated

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by the United States; the World Bank still was a bank; and the International Monetary Fund (IMF) was focused on the problems of the OECD countries.

Today, the development landscape is much more complex. The Bretton Woods institutions now dominate the development debate, but provide only a small percentage of overall ODA. The situation is further complicated by the proliferation of other bilateral providers and multilateral programs. Each has its own history and constituencies, as well as national and regional interests. International NGOs are now important players in development, both as providers of assistance and as active lobbyists on the global level. And philanthropic foundations, notably the Gates Foundation, have become important providers, while multinational corporations are establishing their own aid programs.

The current reality is that too many ODA providers are trying to do too many things, in too many countries. We need to seriously rethink the ways and instruments though which ODA is provided (e.g., Sewell, 2008).

Those seeking to prevent conflict should also focus on the *politics* of change, both within the poorest countries and within the rich countries. Several chapters in *Trade, Aid and Security* make the case that resources, whether derived from aid flows or legitimate trade, often are not equitably distributed or used to end poverty or promote sustainable development. Instead, they are captured by special interests or steered to political elites. Furthermore, globalization has led to increased income inequalities even within rapidly growing developing countries (as well as between rich and poor countries).

Nigeria's situation is illustrative of the complexity of the trade-aid-security nexus. Rich in natural resources, it is rife with ethnic and religious conflicts and highly political disputes over the distribution of oil and gas revenues. Nigeria does not lack the resources to end poverty and sustain its deteriorating environment, but successive civilian and military regimes have squandered its riches, and recent elected governments have not substantially changed the situation. Outside agencies must consider how best to help those who want to change politics within their own countries.

Politics also have a considerable impact on rich countries' development policies. For instance, U.S. and European agricultural policies are designed to benefit domestic agricultural constituencies, despite the fact that subsidies and lack of market access disadvantage producers in poor countries. In addition, donors still give a great deal of aid to middle- and upper-income developing countries to support political or commercial interests that may be legitimate, but do not promote development. Yet, until recently, those groups trying to reduce conflict have not focused on the trade and aid policies of rich countries.

Finally, *Trade, Aid and Security* would have been strengthened by a chapter on the impact of the international financial system on conflict and sustainable development. As the Asian financial crises of the 1990s demonstrated, poor people and poor countries suffer disproportionately from financial instability. Barry Eichengreen (2004) estimates that financial instability in the 1980s cost Latin American countries at least two percentage points of economic growth. Other analyses show that over the last quarter-century, financial instability has reduced the incomes of developing countries by roughly 25 percent.

Restructuring the international financial system by making existing financial institutions more effective can help dampen the costly instabilities inherent in a globalized financial system that has no effective international regulation. There are, however, political costs to reforming the key multilateral institutions. The decision-making structure of the IMF was originally set up so that both borrowers and lenders had a voice in the fund's policies. But no industrial country has borrowed from it since the mid-1970s; the main borrowers are now poorer developing countries, which have much less voice in the institution's governing board. More adequate representation in international financial institutions for developing countries would increase the legitimacy of

> Too many ODA providers are trying to do too many things, in too many countries.

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financial policies now seen by the South as being imposed by the North.

There already are many volumes on trade and its impact on poverty and aid policies. Few, however, transcend the compartmentalization of both academic disciplines and policymakers. *Trade, Aid and Security* does, and for this reason alone, it should be read by students and practitioners. The important issues it raises are a welcome contribution to the knowledge of the links connecting aid, trade, and conflict.

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The Upside of Down: Catastrophe, Creativity, and the Renewal of Civilization

By Thomas Homer-Dixon
Washington, DC: Island Press, 2006. 448 pages.
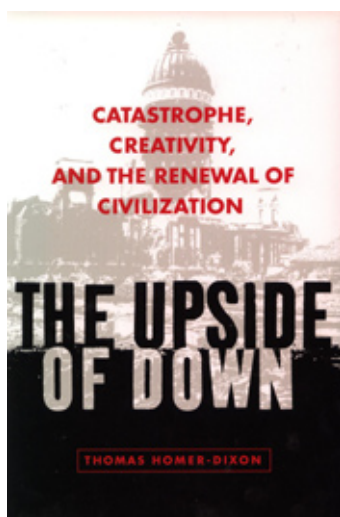
Reviewed by RICHARD MATTHEW

Richard A. Matthew is an associate professor of international and environmental politics in the Schools of Social Ecology and Social Science at the University of California at Irvine, and director of the Center for Unconventional Security Affairs (http://www.cusa.uci.edu). Recent books and co-edited volumes include *Reframing the Agenda: The Impact of NGO and Middle Power Cooperation in International Security Policy* (Praeger, 2003) and *Landmines and Human Security: International Relations and War's Hidden Legacy* (SUNY Press, 2004).

University of Toronto Professor Thomas Homer-Dixon writes provocative and influential books on issues of global importance, roaming effortlessly across scholarly disciplines and distilling insights from complex theoretical literatures. His arguments illuminate complicated global processes, describe the problems they generate and their likely trajectories, and identify responses that individuals, businesses, and policymakers should consider.

His latest book, *The Upside of Down: Catastrophe, Creativity, and the Renewal of Civilization,* deserves a wide readership and should be the focus of animated discussions in classrooms, journals, and policy arenas around the world.

In his first study, *Environment, Scarcity, and Violence,* Homer-Dixon argued that societies were experiencing natural resource scarcities that, in turn, often triggered or amplified diffuse forms of violent conflict. In his second major work, *The Ingenuity Gap,* he built on his earlier research to argue that contemporary societies often fail to generate or deliver ingenuity where it is needed to solve serious social and environmental problems.

With *The Upside of Down*, he has moved confidently into the realm of grand theory. The book's major arguments—which can be classified into three sets—are concise, accessible, and supported by 100 pages of detailed notes that suggest mastery of an enormous and diverse literature. He integrates ideas in novel ways to generate compelling explanations, but he is also cautious, emphasizing areas of uncertainty and

pointing out possible alternative analyses.

The first set of arguments focuses on the converging human-generated processes that Homer-Dixon believes are creating the conditions for catastrophe. He identifies five of these "tectonic stresses":

- Energy stress, due to a general imperative for growth that is now at odds with the declining availability of cheap and easily accessible oil—humankind's major energy source;
- Economic stress, a complex problem that has much to do with income inequality (and has recently moved to the top of the agenda);
- Demographic stress, as populations grow rapidly in areas like the megacities of the developing world, which are hard-pressed to provide their residents with the means to survive and flourish;
- Environmental stress (the focus of Homer-Dixon's earlier work), which worsens as we continue to degrade forests, fisheries, and other natural resources; and
- Climate stress, the result of greenhouse gas emissions that alter the composition of the atmosphere in ways that have dramatic, alarming, and often unpredictable impacts across the planet.

Not only are these stresses interconnected in ways that augment their lethality, but their current and potential impact on humankind is further enhanced by technologies that deepen and expand connectivity, and that give small groups and individuals unprecedented power that can be exercised toward good or bad ends.

Anyone familiar with contemporary literature on global change will recognize these stresses, as they have all received considerable attention in recent years. But Homer-Dixon has an exceptional talent for pulling familiar ideas together in a lucid, sensible, and authoritative manner, building a worldview that is compelling and easy to grasp.

The second elegant set of arguments places these contemporary stressors and multipliers in a more general theory of social breakdown and renewal, amply illustrated with discussions of the collapse of the Roman Empire, the genesis of the 1906 San Francisco fire, and many other examples. Homer-Dixon asks the reader to think of societies in terms of their energy requirements. Initially, easy access to cheap energy (such as oil fields) can enable rapid growth. But if, over time, the society remains committed to growth, it inevitably will have to draw energy from further afield and at a much higher cost. As the Energy Return on Investment (EROI) deteriorates, the society will discover that it is overextended, dependent, and vulnerable to breakdown.

Homer-Dixon then introduces ecologist C.S. Holling's (2002) "panarchy" theory, which describes the life cycle of an ecosystem in terms of growth, collapse, regeneration, and a new phase of growth. Complex systems from forests to human societies do not develop to some optimal size and then maintain themselves, argues Holling; instead, they grow too large and become rigid and vulnerable to external shocks. When the day of reckoning arrives, they disintegrate, creating the opportunity for a renaissance.

Homer-Dixon applies this cycle to the present day, arguing that human societies, which have internalized the particularly aggressive imperative of growth known as capitalism, are doing whatever they can to maintain a high rate of economic growth. Unfortunately, they are doing this in the context of the multipliers and stressors—including the looming end of cheap oil—discussed earlier, a situation he regards as grave and untenable.

Finally, Homer-Dixon argues that the political realm is ignoring the tensions between a culture of economic growth and a world of growing stresses. When societies experience a catastrophic problem, whether it is 9/11 or Hurricane Katrina, governments do not propose policies that tackle deeper causes of vulnerability. Short time frames, special interests, and cognitive commitments are powerful constraints on political innovation, and so political elites spend billions of tax dollars trying desperately to maintain the status quo. In short, we are in dire straits.
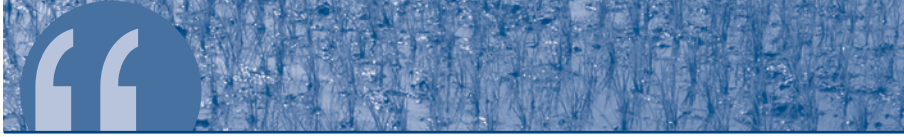
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> ## 21st century societies are poised to break down, and the breakdowns may be shockingly fast, painful, and interconnected—"synchronous failures."

The third set of arguments in *The Upside of Down* examines what we can and should do today. While Homer-Dixon has included some caveats about predicting the future, the thrust of his first two arguments is that 21st century societies are poised to break down, and the breakdowns may be shockingly fast, painful, and interconnected—"synchronous failures." We can take steps that might mitigate some of these breakdowns; we can position ourselves to weather them; and we can take advantage of the opportunities to build new institutions and values that emerge after breakdowns occur. But avoiding them altogether is not a scenario Homer-Dixon explores.

Nonetheless, *The Upside of Down* ends on a positive note. The key words for the closing set of arguments, especially "catagenesis" and "prospective mind," suggest that we need to be ready to rebuild. We already have been given opportunities to rebuild—for example, after 9/11 and after Katrina—and we have largely failed. Now we need to take advantage of each opportunity that presents itself because the breakdowns are likely to increase in frequency and scale, and it is becoming very clear that it is futile to try to preserve the status quo.

The arguments at the end of the book are not as rich in details as those in the earlier sections, and I think many readers would welcome an expanded set of conclusions. However, the broad contours are quite clear: We need to understand what is going on, pull our heads out of the sand, and cultivate—as individuals and communities—the capacity to navigate a world that contains much uncertainty. We can do this by being open to new ideas, by innovating in every area of human activity, by experimenting with new practices and institutions, and by avoiding the appeals of extremists who promise easy solutions—(e.g., let the market solve it)—to very complicated problems. We need also to oppose the knee-jerk responses of governments—which are so profoundly compromised by special interests—to deny deep problems, and to over-invest in maintaining systems and processes that are at odds with the set of stresses reshaping the global environment. And we need to interrogate the growth of capitalism and ask ourselves whether the benefits still warrant the costs of this value system.

The Upside of Down is not a perfect book; it does not discuss the burgeoning networks of social entrepreneurs who are tackling global challenges from the roots up by drawing people from all sectors of society into vibrant transnational communities committed to creating social value. I think Homer-Dixon may be right: Leviathan is, in large measure, the beached artifact of modern politics. In its day, the modern state achieved much, but even the world's only superpower now finds itself unable to revise a health care system that is wildly inefficient or reform a tax code than no one understands, let alone apply its vast resources to a challenge like climate change. And yet, even in the United States, the very heartland of capitalism and big government, there is a dynamic world growing outside the Beltway, and it is the site of new values, clever experiments, endless innovations, and a refreshing commitment to redefining the good life. Even though *The Upside of Down* is not perfect, it is very good; it will garner well-deserved awards and stimulate much-needed debate.

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