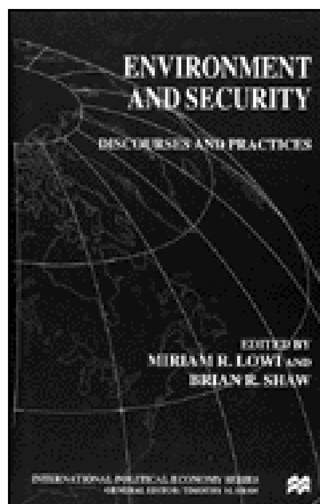
Book Reviews

Environment and Security: Discourses and Practices

Miriam R. Lowi and Brian R. Shaw (Editors)
New York: Palgrave, 2000. 225 pages.

Reviewed by ***Jon Barnett***

In the last three years there has been considerable diversification within the literature on environment and security. Earlier "first" and "second" waves of scholarship were dominated by North American political scientists such as Thomas Homer-Dixon and politicians such as Warren Christopher, and were supported by a handful of like-minded environmental scientists such as Norman Myers.[1] This research had two principal characteristics: (a) somewhat superficial explorations of possible (rather more than actual) environmentally-induced conflicts; and (b) a strong emphasis on nation-states as the primary security referents and actors.



These earlier waves were always challenged by human security advocates and critics from cognate disciplines who argued that people's legitimate day-to-day needs go beyond those provided by nation-states (see Barnett, 2001; Dalby, 1999; Tickner, 1992; and Walker, 1993). They argued that to achieve environmental security, fundamental reform of modern beliefs and institutions—of which national security is one—is needed. Further, critics of the earlier waves of environment-conflict research found it to be driven more by the ideological predilections of authors (which tended towards the hypothetical rather than the empirical) and overly sensationalist in nature (Barnett, 2000; Deudney, 1992; and Gleditsch, 1998).

A "third wave" of environment-security scholarship can now be discerned. It is characterized by: (a) greater contributions from diverse disciplines; (b) a partial decoupling of security from conflict and states; (c) more detailed empirical investigations of local and regional cases, with greater recognition of their temporal and spatial dimensions; and (d) more attention to matters of both method and discourse. This new pluralism is at last producing environment-security scholarship that is consistent with (and at times equal to the best of) contemporary non-security related studies of environmental change from across the social sciences. With this has come the welcome prospect of a meaningful and genuinely useful discipline.

More than any other single volume, *Environment and Security: Discourses and Practices* embodies this "third wave." With few exceptions, Miriam Lowi and Brian Shaw have assembled a collection of excellent papers that in sum make this the most concise and useful edited collection on environment and security since Jyrki Käkönen's 1994 *Green security or militarized environment*. The editors aim to advance discussions of environment and security beyond general linkages and issues of conflict; they include more exploration of the complex relationship between environmental change and security by drawing on more disciplines and perspectives. In this respect, the book aims to develop the "third wave" of environment-security scholarship while not explicitly acknowledging it.

Environment and Security contains ten chapters plus a useful introductory chapter by Lowi and Shaw. The ten chapters are split evenly among "discourses" and "practices." The book claims to represent an "interdisciplinary community, composed of both academics and practitioners" (page 3). This claim has some justification, as among its sixteen contributors there is a fair representation from non-political scientists (including a welcome and excellent chapter by anthropologist Michael Thompson), and practitioners from the U.S. security bureaucracy are also represented.

The chapters from the environmental social scientists Simon Dalby, Steve Lonergan, Elizabeth Malone, Steve Rayner, and Aaron Wolf are a strength of the book. For too long, environment and security scholarship has ignored these and other scholars' work on the human dimensions of environmental change. *Environment and Security* also

offers two new cases for environment-security research from South Korea and the Himalayas as well as discussions of transboundary water dispute resolution and water issues in the Middle East, South Asia, and the Aral Sea Basin. While it is too much to ask from this volume, prospective editors of future collections might seek more contributions from beyond North America and from "practitioners" beyond the national security bureaucracy (to include representatives of local communities, intergovernmental organizations, and NGOs).

The chapter by Margaret Evans, John Metz, Robert Chandler, and Stephanie Eubanks on "The Changing Definition of National Security" unwittingly highlights the challenge states face in accommodating this third wave of environment and security thinking. The authors write from the vantage of state security bureaucrats, and promote a preventive-defense approach using the analogy of preventive medicine (although the question of why the United States seeks to be "global doctor" is not satisfactorily addressed). Practicing this preventative defense is seen to require (a) recognizing non-military factors in conflict, (b) assessing possible courses of action, and (c) intervening at key points to prevent conflict from unfolding. However, this approach is more surgical than medicinal. It focuses on symptoms rather than causes, and relies on the certainty of models and the judgements of experts. And, as the book's excellent chapters by Rayner and Malone, Lonergan, Lowi, Sergen and Malone, and Thompson all demonstrate in various ways, such models of conflict are epistemologically flawed and incapable of predicting the actual occurrence of conflict.

Even more importantly, these other authors all show that the prevention of environmental insecurity—however we may define it—is less a matter of strategic intervention at key junctures and much more a matter of building up social capital, institutional capacity, and overall social resilience to manage environmental change. The inverse of their collective argument, then, is that it is not just environmental change *per se* that undermines environmental security. Rather, it is environmental change *in combination* with the broader political economy processes of impoverishment and underdevelopment that simultaneously undermines social institutions at the same time as it degrades local environments (Barnett, 2001). Practicing environmental security is therefore less a matter of seeking to effect positive changes in supposedly vulnerable places and more a matter of ending those processes that create that vulnerability.

This continuing shift away from considering environmentally-based insecurities in isolation and towards recognizing broader social vulnerabilities and their global causes is a hallmark of the third wave scholarship. Its challenge to the modern Western state and its bureaucrats (such as Evans et al.) is that discussions of environmental security can no longer ignore the role of the globalized but largely U.S.-led international economy in generating local insecurities of all kinds. This point is forcefully made both in Dalby's chapter in this book ("Geopolitics and Ecology") as well as more broadly in Michel Chossudovsky's 1998 *The globalisation of poverty*. The deeper imminent contradiction exposed by this third wave is precisely this: that the more scholars focus on the causes of environmental insecurity, the more the state (and particularly the United States) becomes the problem rather than the loci of solutions. Specifically under scrutiny here are those U.S. trading practices that affect underdevelopment and the unwillingness of the United States to implement global environmental agreements. Whether the U.S. policy community takes this point on board may well determine the future policy-utility of environmental security. Acknowledgement of such a contradiction might well effect a profound change in U.S. foreign policy, steering it toward a meaningful commitment to peace and security worldwide. Failure to acknowledge it will render U.S. policy in this area increasingly disconnected from research.

The combination of perspectives and cases contained in *Environment and Security* perfectly outlines the theoretical and empirical content of the third wave of environment and security scholarship and its challenges to policy. This is an excellent and useful book that deserves to be on the shelves of anyone seriously interested in contemporary developments in environment and security research.

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Endnotes

[1] See Levy (1995), 35-62 .

References

Barnett, Jon. (2000). “Destabilising the environment-conflict thesis.” *Review of International Studies 26*(2), 271-288.

Barnett, Jon. (2001). *The meaning of environmental security: Ecological politics and policy in the new security era*. London and New York: Zed books.

Chossudovsky, Michel. (1998). *The globalisation of poverty: Impacts of IMF and World Bank reforms*. London and New York: Zed books.

Dalby, Simon. (1999). “Threats from the South: Geopolitics, equity and ‘environmental security.’” In Daniel Deudney & Richard Matthew (Eds.), *Contested Grounds: Security and Conflict in the New Environmental Politics* (pages 155-185). Albany: State University of New York Press.

Deudney, Daniel. (1992). “The mirage of eco-war: The weak relationship among global environmental change, national security and interstate violence.” In I. Rowlands and M. Greene (Eds.), *Global Environmental Change and International Relations* (pages 169-191). London: MacMillan.

Gleditsch, Nils Petter. (1998). “Armed conflict and the environment: A critique of the literature.” *Journal of Peace Research 35*(3), 381–400.

Käkönen, Jyrki. (Ed.). (1994). *Green security or militarized environment?* Dartmouth: Aldershot.

Levy, Marc. (1995). “Is the environment a national security issue?” *International Security 20*, 35-62.

Tickner, J. Ann. (1992). *Gender in international relations: Feminist perspectives on achieving global security*. New York: Columbia University Press.

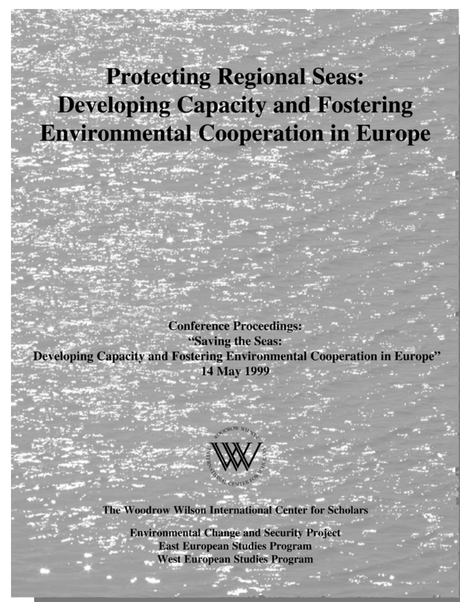
Walker, R.B.J. (1993). *Inside/outside: International relations as political theory*. Cambridge: Cambridge University Press.

Conference Proceedings Volume

Protecting Regional Seas: Developing Capacity and Fostering Environmental Cooperation in Europe

Stacy D. VanDeveer and **Geoffrey D. Dabelko**, Editors

On 14 May 1999, the Woodrow Wilson International Center for Scholars assembled a group of scholars and practitioners to discuss the similar challenges of pollution that undercut the marine ecosystems and the economic potential and health of surrounding human populations of the Baltic, Mediterranean, and Black Seas of Europe. Entitled “Saving the Seas: Developing Capacity and Fostering Environmental Cooperation in Europe,” the conference was held at the Center in Washington, DC. This conference proceedings volume reflects the scholarship and debate featured at that conference and contains chapters that compare and analyze the state of environmental management in each of the three regions including the structure, funding, and effectiveness of each sea’s protection program. The hope for the conference and of these proceedings is that scholars and policymakers may draw valuable lessons for replicating success stories and avoiding failed pathways for future environmental management programs.



Generous funding for *Protecting Regional Seas: Developing Capacity and Fostering Environmental Cooperation in Europe* and the May conference was provided by the Woodrow Wilson Center and by the U.S. Agency for International Development’s Office of Population through a cooperative agreement with the University of Michigan Population Fellows Programs.

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States, Scarcity and Civil Strife in the Developing World

By Colin Kahl
Doctoral Dissertation. Columbia University. 2000.

Reviewed by ***Jack A. Goldstone***

It is a shame this doctoral dissertation is not yet in print as a book; everyone who is interested in the next steps forward in understanding the links between environment, population, and civil conflict should be reading it.

While Thomas Homer-Dixon (1999) and the Toronto school have argued that environmental scarcity can lead to conflict, and I have argued that population pressures on recalcitrant economic and political institutions can lead to crises (Goldstone, 1999; 2001), other scholars have claimed that economic and political factors are more important to issues of conflict and regime stability (Gleditsch, 1998). Kahl moves us strongly forward in these debates, integrating environmental and demographic concerns and then tackling the more difficult question of *which* mediating economic and political conditions make it most likely that demographic and environmental stress will lead to civil strife.

Kahl begins with a thorough review of not only the literature on environmental security, but also of current scholarship on internal wars. Too much of the writing on environmental security has focused on environmental pressures that *could* lead to political crises. Kahl improves the balance by also examining key issues that scholars working on more conventional analyses of security have shown are frequently involved in such crises: failures of state capacity, internal security dilemmas, and ethnic rivalries. Kahl skillfully brings together the literature on environmental and population stresses with the mainstream literature on the sources of internal wars.

He then provides detailed case studies of the rural communist insurgency in the Philippines and ethnic clashes in Kenya to delineate his models of population change, environmental scarcity, and strife. The conclusion provides additional illustrations—including one of the best accounts I have seen of the factors behind the genocide in Rwanda—from throughout the developing world.

Kahl's major insights involve the pathways by which demographic and economic stress lead to different types of conflict. He points to two major pathways: state *weakness* and state *exploitation*.

State weakness involves an erosion of state administrative effectiveness, caused either by lack of adequate fiscal resources or by welfare or security burdens that are beyond the capacity of the government to manage. Rapid population growth or degradation of important physical resources can contribute to both conditions. Weak states are unable to provide key welfare and security services to the population. When a state is inattentive to or ineffectual against landlessness, rising unemployment, or rapacious landlords that threaten a portion of the population with destitution, the way is open for guerrilla movements to provide an alternative to that state.

In the Philippines, the New People's Army filled the void left by the government's weakness in rural areas, providing employment and protection in return for allegiance to its anti-government campaign. Similar conditions provided opportunities on a smaller scale for the Zapatistas in Chiapas, Mexico. This notion that state weakness leaves governments vulnerable to opposition movements is not new. However, Kahl also shows that, where ethnic cleavages exist, state weakness creates a security dilemma; absent the power of the state to curb conflicts, any group is vulnerable to the depredations of another. State weakness thus creates a Hobbesian state in which ethnic conflicts that might be dormant under strong governments roar into the open in pre-emptive attempts to secure group survival or dominance.

These ethnic conflicts are often inflamed by state exploitation. In order to divert attention from its weakness, to gain allies, or simply to divide its opponents, states suffering from administrative weakness often deliberately fuel ethnic or regional strife. This tactic may take the form of (a) supporting the claims of one particular ethnic group identified with the state, or (b) supporting various groups in order to keep ethnic conflicts going as a distraction and justification for increasing state power. The former practice is all too recurrent in Rwanda and Burundi, and has been increasingly adopted by the Mugabe regime in Zimbabwe. The latter practice has been skillfully employed by President Moi in Kenya.

Kahl then looks further into the nature of states to ask if other conditions determine whether state weakness and state exploitation are more or less likely to have these dangerous effects. He finds that the impact of demographic and environmental stress on state actions is mediated by two broad structural characteristics of society, which he labels "groupness" and "inclusiveness." A society with strong "groupness" has clear identity divisions that make it easy to mobilize groups independent of the state—be they ethnic, regional, or religious groupings. The combination of all three (as exists in the former Yugoslavia) seems particularly dangerous in

times of state weakness. While a society with high "inclusiveness" has a large degree of political participation and wide circles of actors with influence on state policy, a society with low inclusiveness has discriminatory or sharply curtailed political participation and few avenues for influencing state actions. Either high groupness or low inclusiveness tends both to magnify the adverse consequences of state weakness and to facilitate state exploitation.

The Philippines under Marcos provides a textbook case of low inclusiveness. Kenya under Moi provides a clear case of high groupness compounded by low inclusiveness–*except* in the country's cities. One of the most interesting twists of Kahl's work is that it provides an explanation for why Kenya (despite severe environmental and demographic stress as well as continuing ethnic conflict and democratic struggles against Moi) has not exploded in violence to the degree that other countries in Africa have experienced. Kahl points out that, in Kenya's cities, there is actually rather *low* groupness and *high* inclusiveness. Although Kenya's democratic institutions are faulty, these institutions are more active in the cities, and different ethnic groups from throughout Kenya have come together in urban settings to seek solutions to Kenya's problems. The result is that, while Moi has been able to stir up ethnic strife in the rural areas and to use such strife to reinforce his claims to power, the cities remain a center of democratic opposition rather than revolutionary violence.

This short review cannot do justice to the richly detailed and sensitively nuanced case studies that Kahl provides, nor to his elaborations of the concepts I have mentioned. This research is one of the most sophisticated and promising approaches to the issues of demographic and environmental security I have seen. We should hope for a book to appear fairly soon, but in the meantime I would urge interested scholars to obtain the microfiche of this dissertation and to learn from its insights.

Jack A. Goldstone is professor of sociology and international relations at the University of California at Davis. He is the editor of The Encyclopedia of Political Revolutions *(Washington, DC: CQ Press, 1998), and recently published "Population, Environment, and Security: An Overview" in Myron Weiner and Sharon Stanton Russell (Eds.),* Demography and Security *(Oxford: Berghahn Books, 2001.)*

References

Gleditsch, Nils Petter. (2001). "Armed conflict and the environment: A critique of the literature." *Journal of Peace Research 35*(3), 381–400.

Goldstone, Jack A. (1999). "Demography, development, and domestic conflicts." In T.V. Paul and John A. Hall (Eds.), *The international order in the twenty-first century* (pages 352-372). Cambridge: Cambridge University Press.

Goldstone, Jack A. (2001). "Demography, Environment, and Security." In Paul Diehl and Nils Petter Gleditsch (Eds.), *Environmental conflict: An anthology* (pages 84-108). Boulder, CO: Westview Press.

Homer-Dixon, Thomas. (1999). *Environment, scarcity, and violence.* Princeton, NJ: Princeton University Press.

Environmental Conflict

Paul F. Diehl and Nils Petter Gleditsch (Editors)
Boulder, Colorado: Westview Press, 2001. 343 pages.

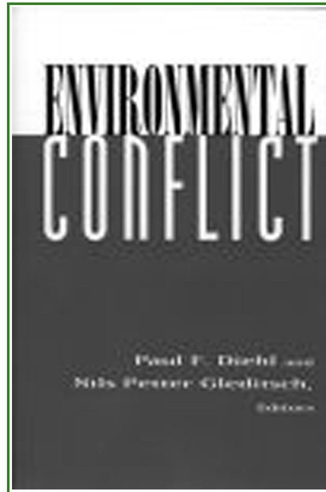
Reviewed by ***Bryan McDonald***

Environmental Conflict identifies and addresses theoretical and empirical deficiencies in the research on relationships between environment and conflict. This volume grew out of a series of papers originally prepared for a 1996 NATO workshop on "Conflict and the Environment," and also contains revisions of articles that appeared alongside the conference in a 1998 special issue of the *Journal of Peace Research.* The book is a thoughtful and important attempt to refine understandings about the relationships between environmental factors and conflict. For those who have followed the debates about environment and conflict research there is much that will be familiar; those new to the field will find the book a well-balanced introduction to environmental security concerns.

As Diehl and Gleditsch recognize, there is a long tradition of claims that environmental factors have been responsible for wars in the past and could contribute to wars in the future. Despite the existence of such claims, Diehl and Gleditsch find that "it was not until the recent emergence of environmental issues on the international political agenda that more specific claims about environmental disruption and violent conflict emerged" (page 2). But even with the development of such claims,

the editors argue that research conducted on relationships between environment and conflict (what Diehl and Gleditsch describe as the environmental security field) has too often focused on conceptual and definitional issues to the detriment of more theoretical and empirical efforts to explore the causal linkages. This book aims to address these shortcomings by highlighting efforts to explore empirically testable theoretical claims about the relationship between environment and conflict.

Environmental Conflict contains an introduction and twelve chapters, five of which were prepared for the book and seven of which are updates of previously published works. The volume is divided into three parts. Part I contains six largely empirical chapters which consider the causal role of environmental degradation in conflicts. The section begins with a chapter by Valerie Percival and Thomas Homer-Dixon that provides an updated consideration of the relationship between environmental scarcity and violent conflict using the case of South Africa. Wenche Hauge and Tanja Ellingsen then respond to concerns raised in the Phase II findings of the CIA's *State Failure Task Force Report* (State Failure Task Force, 1999) about their quantitative test of Homer-Dixon's causal model of environmental factors and civil conflicts. Subsequent chapters include: Jaroslav Tir and Paul F. Diehl's consideration of the relationships between demographic pressure and interstate conflicts; Jack Goldstone's presentation of a more dubious view of the relationship between environment and conflict amidst an examination of the role of population changes in contributing to security concerns; and an examination by Steve Lonergan of rhetorical claims and empirical evidence about the possibility of conflicts induced by water scarcity. Part I concludes with a chapter by Bjørn Lomborg which refutes doomsday scenarios of the worsening state of the environment and contends that many of the resources relevant to environment and conflict research are becoming more abundant rather than scarcer.



Part II of *Environmental Conflict* aims to redress a deficiency of research into the possibility that environmental degradation could foster cooperative responses. The section begins with chapters by Manus Midlarsky on the relationship between democracy and the environment and by Rodger Payne on the role of sustainable development in both addressing environmental degradation and preventing environmentally triggered conflicts. David Denoon and Steven Brams then explore the development of a fair settlement for the Spratly Islands conflict. Part II concludes with Ken Conca's examination of the potential for environmental degradation to foster international cooperation. Building on the mixed empirical and theoretical findings of Part I, Conca writes that, while there is no guarantee that greater international environmental cooperation will promote peace, "there is a theoretical foundation for the claim that environmental cooperation can promote and enhance peace" (page 245). The articles in Part II reveal a rich variety of research on environment and cooperation that has heretofore been largely neglected by environment and conflict research.

By way of conclusion, the authors of two chapters in Part III reflect on the past and future of environment and conflict research. The chapter by Nils Petter Gleditsch is a broad and critical look at directions in methodological and theoretical research on the environmental causes of conflict; it also identifies nine common problems that must be addressed to further the study of the environment conflict nexus. The final chapter by Daniel Schwartz, Tom Deligiannis, and Thomas Homer-Dixon takes issue with some of the criticisms raised in Gleditsch's chapter, and offers suggestions for future directions of research on environment and conflict.

As a whole, *Environmental Conflict* provides a needed overview of the findings and theoretical directions present in environment and conflict research. While it is not the stated intention of the volume to address the conceptual debates over the breadth of the "so-called environmental security field" (page 2), the discussions contained in *Environmental Conflict* nevertheless provide support for broadening the scope of research in environment and conflict to a more inclusive set of concerns related to what this volume refers to as "environmental security." The concerns include: (a) research into the possibility that environmental degradation may engender cooperative responses, (b) explorations of various forms of human vulnerability to environmental scarcities, and (c) social adaptations to environmental stress.

While the book's case studies of cooperation arising from environmental degradation greatly increase the utility of *Environmental Conflict*, other aspects of environmental

security research—such as the role of human efforts to adapt to environmental degradation in preventing or forestalling conflict—are largely absent from the volume. Such areas of research may be vitally important to achieving the volume's goal of understanding the casual linkages between environmental factors and conflict. Recent research into the social impacts of environmental degradation conducted by the Global Environmental Change and Human Security (GECHS) project office at the University of California, Irvine suggests that cooperation or adaptation are often more probable long-term outcomes of environmental change than violent conflict. For example, an examination of the impacts of environmental stress on small island states revealed a number of adaptive mechanisms that states use to address environmental degradation, including international trade and the development of regional governance regimes (Matthew & Gaulin, 2001). Adaptations also occur at the micro or individual level and can include shifting gender roles or the introduction of new technologies such as solar ovens. Relationships between ecological systems and social factors are highly dynamic; and while ecological change may interact with social factors to affect quality of life, only rarely do societies lose all adaptive capacity and collapse into violence.

Nonetheless, this valuable book shines an important spotlight on research into the explanatory role of environmental factors in intrastate and interstate conflicts, a research direction which has received a good deal of attention in the field of environmental security. *Environmental Conflict* provides a broad and foundational overview of empirical and theoretical research into the relationships between environment and conflict and environment and cooperation. It follows in the tradition of Deudney and Matthew's *Contested Grounds* and Lowi and Shaw's *Environment and Security* in providing a range of insights (Deudney & Matthew, 1999; Lowi & Shaw, 2000). However, unlike the work by Duedney and Matthew, *Environmental Conflict* does not consider the way its subject ties into larger theoretical issues in political science and international relations. And unlike Lowi and Shaw's volume, it does not bring together academic researchers and policymakers. It is most useful as an empirical overview of research on environment and conflict, and raises important issues for future research in environmental security. The volume is useful for researchers, but should not be overlooked by those seeking an introduction to the field for teaching purposes.

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References

Deudney, Daniel, & Matthew, Richard A. (Eds). (1999). *Contested grounds: Security and conflict in the new environmental politics.* New York: SUNY Press.

Lowi, Miriam R., & Shaw, Brian R. (Eds.). (2000). *Environment and security: Discourses and practices*. New York: St. Martin's Press.

Matthew, Richard A. & Ted Gaulin. (2001). "The social and political impacts of resource scarcity on small island states." *Global Environmental Politics 1*(2), 48-70.

State Failure Task Force. (1999). "The state failure task force: Phase II findings." *Environmental Change and Security Project Report 5,* 49-72.

The Meaning of Environmental Security: Ecological Politics and Policy in the New Security Era

By Jon Barnett
London: Zed Books, 2001. 184 pages.

Reviewed by ***Geoffrey D. Dabelko***

Perhaps a more appropriate title for this book would be *The* Meanings *of Environmental Security*. In it, Jon Barnett highlights how a *diversity* of conceptions (and fierce competition among them) constitutes "environmental security." Barnett also questions these conceptions and the consequences of their profile in policymaking circles, making the book a broadly valuable contribution to the field.

Diversity and Inclusion

Cataloging environmental security's myriad iterations may at first glance appear a modest endeavor. Yet the field has had precious few examinations of its differences, and fewer still as thorough as Barnett's. Barnett rightly emphasizes that one's interest in (and endorsement of) any of environmental security's competing tenets depends in no small measure on one's position—culturally as well

as institutionally. While his groupings are not original—(1) efforts to redefine security, (2) theories about environmental factors in violent conflict, (3) the environmental security of the nation, (4) the linkages between military and environmental issues, (5) the ecological security agenda, and (6) the environmental security of people—Barnett's in-depth presentation enables the reader to see fresh connections and symmetries across the broad environmental security field. In addition, his discussion of the "securitization" of environmental politics cuts across these traditional categories and closely connects this dynamic with the institutional history of environmental security policies and ideas.

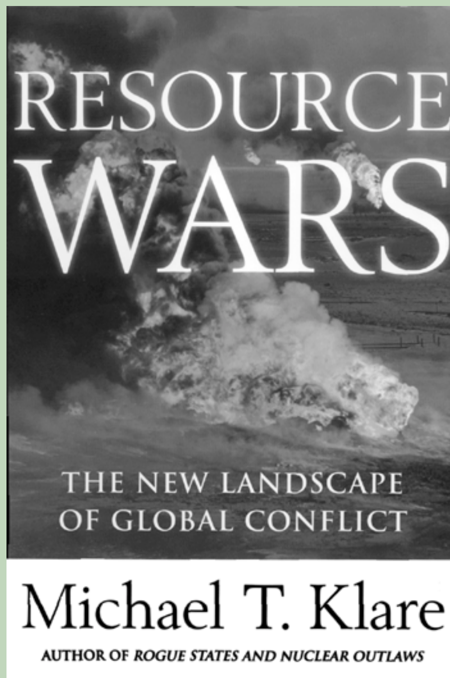
Despite this diversity and the breadth of linkages it implies, Barnett believes that issues of equity, justice, and human well-being remain too often outside environmental security debates. In *The Meaning of Environmental Security,* he critiques much of the field's discussions—particularly those in the developed North and situated within the more statist and realist assumptions of security—for not seriously considering equity issues. He adopts a pessimistic view of many Northern enunciations of environment and security linkages, often viewing them as antithetical to a cooperative "Green Agenda" that fundamentally tackles the root causes of environmental decline. Barnett also asks rhetorically if current dominant environmental security concepts do not in fact impede attempts to achieve the interrelated values of peace and justice. In this way, his analysis has its antecedents in the works of Daniel Deudney, Ken Conca, Ole Wæver, Matthias Finger, Wolfgang Sachs, Vaclav Smil, and Jyrki Käkönen. By Barnett's own characterization, his book is a normative attempt to insert these considerations fundamentally into the linkages of environment and security.

As part of an attempt to reconstitute environmental security, Barnett also argues that analysts should ask not *how* the environment contributes to conflict but *why* the focus is on such a linkage in the first place. He blames Northern interests for using the dramatic subject of conflict to deflect attention from root causes of environmental degradation that relate directly to Northern consumption practices. Under the first paradigm, the

Resource Wars: The New Landscape of Global Conflict

Michael T. Klare

New York: Metropolitan Books, 2001. 289 pp.



With rapid population growth and economic expansion driving excessive energy demands and dwindling supplies of natural resources, *Resource Wars* predicts that future global conflicts will increasingly occur over access to and supplies of vital natural resources and less frequently occur over ideological differences representative of the Cold War. Author Michael T. Klare, an expert on the changing nature of warfare who has previously written on small arms/light weapons and rogue states, argues that national power now resides with a powerful domestic economy that possesses a strong capacity for technological innovation and the export of high-tech goods. The book presents the reader with valuable information from a range of primary government, military, and industrial source materials to support the author's claim that nations are more frequently defining national security in terms of resource security in oil, water, minerals, and timber.

Resource Wars covers a wide-range of conflict over essential materials including: oil conflicts in the Persian Gulf and South China Sea; energy conflict in the Caspian Sea Basin; water conflicts in the Nile Basin, Jordan, Tigris-Euphrates, and Indus River Basins; and minerals and timber conflicts within national borders.

enemy has instead become instability (or "anarchy," to use Robert Kaplan's hyperbolic term from the 1994 *Atlantic Monthly* article of the same title) (Kaplan, 1994). The threat then is seen to emanate from the South, outside Northern borders, and not from within, from developed country consumption patterns in a globalized economy. Barnett is correct to highlight the inability of many meanings of environmental security and the institutions that act on them to speak to Northern environmental practices or impacts. The field's literature has largely been divorced from the trade and environment debates, from consumption critiques, and from the divisive global issues of climate change and biodiversity loss.

Has Power Corrupted Environmental Security?

Barnett also focuses on whether the absorption of environmental security concepts into environmental, diplomatic, and security policies in a host of countries has compromised critical thinking about these concepts. Barnett argues that these tenets and paradigms have in fact been deeply adopted within security policy structures, blunting fundamental questions about their validity and utility. Barnett is perhaps overstating the amount of institutionalization and acceptance of environmental security within at least the U.S. government (the case this reviewer knows best). But his basic concern is sound. It is precisely *because* environment and security ideas now resonate within government and policy circles that observers should continue to question, probe, and debate their meanings and implications.

Barnett further maintains that there is also a "pervasive silence" on the inverse of environmental security—that is, environmental insecurity. The heavy engagement of environmental security by some government actors (particularly militaries and intelligence communities) leads Barnett to argue that there is precious little focus in either research or policy on the individual as the object of security (human well-being); instead, the realist conception that the state is the object to be secured remains dominant. These government actors, Barnett asserts, are primarily interested in the *symptoms* of environmental degradation or depletion (i.e., their contributions to instability) rather than the *causes*—thus keeping the state as the near-exclusive center of concern. As Barnett puts it when critiquing the environment and conflict thesis: "[T]he issues that ought to be of more concern are the day-to-day insecurities associated with the erosion of individual and group welfare and resilience" (page 64).

But one could also argue that another kind of insecurity should be the focus of environmental security. The field's heavy emphasis on environmental degradation as cause and effect of conflict could be coming at the expense of research into cooperative, peace-building efforts to deal with transboundary environmental stress. In this view, environment and conflict linkages capture only the secondary and causal impacts of environmental insecurity. Very little systematic thought in the research or policy community has been devoted to identifying the *mechanisms* by which environmental security can be achieved within and across states. What are the peacemaking potentials of environmental politics?

Indeed, the failure to tackle peacemaking, cooperation, or confidence-building has both analytical and practical costs for the current study and practice of environmental security. Analytically, the exclusive focus on causal roles in conflict has not significantly advanced knowledge about economic, political, and social variables that might help societies or states avoid conflict. The environment and conflict field has started to address this shortfall with its increasing attention to capacities, vulnerabilities, or "ingenuity gaps" operating among a host of independent variables contributing to conflict and the dependent variable of violent conflict. Researchers must continue working on these next steps for understanding conflict by analyzing the inverse—environment and peace.

From a practitioner or policy perspective, finding the means to address insecurity, foster peace, and insert justice into the equation of environment and security hinges on identifying intervention points for conflict prevention, equitable development, empowering programs, and active cooperation. While there are competing toolboxes for the provision of "environmental security," too often policymakers have not chosen the toolbox containing environmental cooperation, development assistance, livelihood strategies, health and family planning, and girls' education.

It is critical to ask whether environmental security is meant to be an overarching paradigm for addressing (or, as Barnett maintains, intentionally not addressing) environmental challenges. Or is "environmental security" a flag of convenience for a set of subquestions or topics that are largely unrelated and do not compose a paradigm? It is both true and self-evident, for example, to say that the U.S. Department of Defense wants to (a) avoid acting to address root causes or (b) focuses on only conflict and the symptoms of degradation. But the military may be able to play limited but constructive and proactive environmental security roles. For example, Barnett suggests that the Australian Defense Forces

participate in an integrated surveillance system to monitor wildlife trafficking and introductions of alien plant species in ecologically fragile Northern Australia. At the end of the day, however, the military pursues a different mission with different tools than those that fundamentally address environmental problems.

It is also worth recalling that the analysts who forcefully argued for a broader, environmentally-inclusive definition of security (such as Lester Brown, Jessica Mathews, Norman Myers, and Michael Renner) themselves came from the environmental community. Even if they were not offering forceful critiques of the global economic system or injustice in current development patterns, these advocates for the "greening" of security had ambitions to address the broad underlying causes of environmental degradation. When Barnett highlights throughout his book the dangers of the "securitization" of environmental issues, he is also pointing up this original division. Linking environment and security is a calculated risk reflecting a fundamental tension. In attempting to green security, how does one avoid the coercive, conflictual mindset associated with security thinking?

The results thus far have been mixed; but definitions and policies in both the security and environmental arenas continue to evolve. Indeed, one can make cases for either optimism or pessimism about incorporating environmental linkages into a more human-centered conception of security. For Barnett, the dangers of this evolution are best anticipated and addressed by "foster[ing] dialogue between a more diverse range of interests represented in reformulated governance processes" (page 10). He singles out the enunciation of human security and its explicit questions of "whose security" in the United Nations Development Programme's 1994 *Human Development Report* as a liberating step away from the exclusive state focus. His final two chapters place this human focus and the promotion of peace at the center of a fundamental attempt to reformulate environmental security.

The Future of Environmental Security as Policy

Debates on the merits of environmental security concepts (while less visible than highly-publicized policy fights) do remain very active within the bureaucratic guts of many governments. The change in U.S. presidential administrations has made the level of environmental security institutionalization in the United States presently uncertain. Numerous environmental security efforts of the past decade within the United States can be tied directly to Al Gore, and many wonder whether the environmental security initiatives adopted under the two Clinton administrations will die on the vine without Gore's high office driving intelligence community and defense community actions.

Early indications suggest that the U.S. Department of Defense will narrow its focus with regards to environmental security, focusing again on defense installation compliance with domestic environmental regulations. Environmental intelligence analysis—which got a large push during the latter half of the first Bush administration in the early 1990s—appears to be continuing, as policy consumers in the new Bush administration call for reports on environmental and associated transnational issues. And in what may be an interesting irony, the increased priority given to conflict prevention within the U.S. Agency for International Development may lead to more human-centered tools being applied within an environmental security sphere. While this potential shift from security institutions to development institutions as the primary (and legitimized) purveyors of environmental security would not fundamentally address the larger equity concerns expressed in *The Meaning of Environmental Security*, Barnett might welcome it as a first step to making human well-being a central concern.

Geoffrey D. Dabelko is director of the Woodrow Wilson Center's Environmental Change and Security Project.

References

Kaplan, Robert. (1994, February). "The coming anarchy." *The Atlantic Monthly 273* (2), 44-76.

Reflections on Water: New Approaches to Transboundary Conflicts and Cooperation

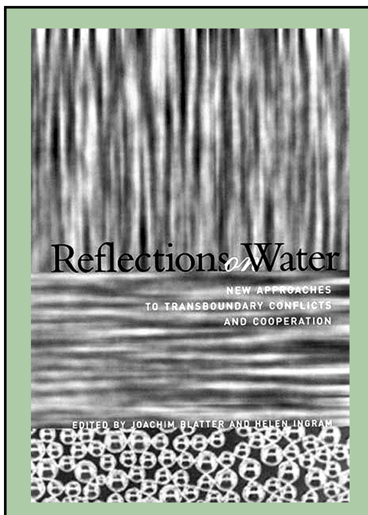
Helen Ingram and Joachim Blatter (Editors)
Cambridge: The MIT Press, 2001. 358 pages.

Reviewed by **Marcia Fraser Macomber**

Reflections on Water argues that the exploration of transboundary water issues must include social science methodologies to complement the more traditional approaches offered by law, engineering, and economics. The main point of the book is to stress that

water is never an objective, rational entity; rather, it is a social construct whose governance is determined by culture. While the case studies presented here deal with familiar water policy issues, they approach these issues in novel and valuable ways.

Reflections on Water details the development of current water policy, tracing it to modern societal belief systems that emphasized utility and individualism. The book argues that these notional legacies have led to an overemphasis in transboundary water policy research on legal, technical, and economic approaches. The authors maintain that, while traditional approaches continue to be necessary and useful, relying on these approaches may prevent a full understanding of water by obscuring how it can be valued within its social and ecological contexts.



The book's first two chapters lay out its theoretical framework, detailing a number of transformative processes that have reshaped the meanings of water and continue to do so. Through an exploration of globalization and decentralization, the authors describe how modern definitions of water have expanded in tandem with the development of Western civilization. They outline how this expansion and transformation has resulted in the emergence of a multitude of water-based epistemological communities, alternative governance structures, and political actors (including Internet-based communication networks, binational environmental alliances, and municipal-level regional water quality monitoring programs). While they acknowledge that some issues in transboundary water policy study require traditional perspectives, the authors of *Reflections on Water* stress that scholars who focus on national governments may miss observing the agency of other social actors.

The second section of the book explores these ideas through the use of eight case studies. Drawing on examples from Western and Eastern Europe, North America, and Africa, the case studies are authored by scholars from the fields of political science, environmental policy, social ecology, and law. The collection of topics reflects the editors' wish that the reader think "outside the box" about water. Studies are framed around transboundary issues for which water either may be represented physically or may simply provide a conceptual framework (thus deviating from more typical discussions of supply and demand, water markets, or allocation issues). The authors utilize qualitative social science techniques—including network analysis, discourse analysis, historical analysis, and social ecology methods—to draw out the links between water, society, and transboundary resource stewardship. In each case study, the reader is drawn into observing the roles that are and are not played by both traditional and non-traditional actors.

Case studies framed in a social-ecology orientation provide examples of the cultural imbeddedness of the meaning of water as it relates to governance and policy. María Rosa García-Acevedo provides an example from the Imperial and Mexicali Valleys with a historical analysis of the relationship between water, land, and socio-institutional development along the U.S.-Mexico border. David McDermott Hughes juggles similar variables by looking at land allocation within Zimbabwe—where water represents both a physical and cultural border between Chimanimani National Park, the Vhimba people, and the national governments of Rhodesia and Zimbabwe. Both of these studies do an excellent job of sketching how indigenous people must confront and adjust to those policies developed in periods following non-indigenous settlement and the immigration of modern value systems.

Two other studies in *Reflections on Water* exemplify issues with a traditional "resource" orientation. Instead of being the policy issue itself, water in both these cases provides the medium for conflict or cooperation. These case studies also provide a more thorough understanding of how to use alternative social science approaches to disentangle societal drivers from decisions made by national resource institutions based on "objective and rational" mandates. In the first study, Kathleen M. Sullivan looks at the role of public media discourse in wild North American Pacific salmon "wars." Next, Paula Garb and John M. Whiteley provide an analysis of the institutional resiliency responsible for the maintenance of hydroelectric power production during political conflict in the former Soviet state of Georgia.

Still other case studies in the book reveal new linkages and associations for water by focusing on how it can provide the framework for transboundary environmental cooperation. Joachim Blatter and Suzanne Lorton Levesque use network analysis to describe how epistemic communities (a) form in response to shared environmental values, and (b) cause social actors to shift

their allegiances from members of a nation to members of a transboundary community. The regulation of recreational boats on Lake Constance (bordered by Austria, Germany, and Switzerland) is the subject of Blatter's study. He first describes the development of various regional advocacy groups that support and oppose boat regulation, and then moves to show how these groups contributed to the formulation of pollution and habitat protection policies for the lake. Suzanne Lorton Levesque uncovers the Internet as a powerful actor in the construction of environmental advocacy networks both within and across the United States and Canada. For example, these networks have produced a transnational initiative to create a wilderness area extending from Yellowstone Park in Wyoming to the Yukon Territory in Canada.

Pamela M. Doughman and Joseph F. DiMento look at institutions set up by more traditional political actors, providing a comparison to Blatter and Levesque's grass-roots orientation. Doughman's analysis of U.S.-Mexico binational environmental institutions and DiMento's description of international conventions and organizations to protect the Black Sea both provide clear examples how institutional cultures frame definitions of water—definitions which ultimately drive the creation of water management policies.

Doughman compares the mandate of the first U.S.-Mexico binational water institution—the International Boundary and Water Commission (IBWC), created in 1944—with that of the institutions created as a party to the North American Free Trade Agreement (NAFTA) in 1993. Her analysis illustrates the effect of the transformative processes outlined in the earlier theoretical section of *Reflections on Water*. She describes how globalization and decentralization processes have shifted the focus of water policy—in this case, from the IBWC's concern with allocation and provision of water for agriculture to the current orientation of such groups as the Border Environment Cooperation Commission and the North American Development Bank toward qualitative aspects of water that provide for healthy communities and ecosystems. Doughman contrasts the IBWC (a closed organization run by engineers) with the democratic flavor of the NAFTA institutions, which seek to include participation of local actors.

DiMento's approach departs from the non-conventional orientation of the editors by arguing that, in many cases of international environmental institution building, legal initiatives between central governments of participating countries are a necessary precursor to building networks that can be supplemented by other political actors. As an example, he describes the role of the international community in forging collaboration between nations bordering the Black Sea via the establishment of the Black Sea Environmental Program (BSEP). DiMento's study provides a sobering view of the extreme difficulty important environmental programs face when they are not driven by local social actors. While he argues the BSEP is vital to the future of the region, he details the barriers to its implementation, including "exclusionary ideologies which associate cooperation with the diminution or destruction of national values or religious beliefs" as well as lack of access to local perspectives on the part of the international organizations (page 250). Notions of governance that exclude societal considerations also tend to limit the number of possibilities with which international organizations have to work. Although DiMento's purpose is to argue for the importance of legal instruments, his analysis effectively demonstrates that laws are not enough.

The collection of topics reflects the editors' wish that the reader think "outside the box" about water.

The last section of *Reflections on Water* summarizes aspects of the case studies, stressing key points that correspond to the theoretical underpinnings laid out in the first two chapters. Authors Richard Perry, Joachim Blatter, and Helen Ingram draw the essays together by using water as an example and a metaphor for thinking about how globalization has changed the way the postmodern world thinks about governance.

The methodologies advocated in the book would be extremely useful in elucidating differences between Northern and Southern as well as Eastern and Western attitudes about water and governance. In all but one of the examples provided in *Reflections on Water*, the transboundary issues described were confined within the European/North American context. In both Blatter's and Levesque's studies, for instance, transboundary epistemic communities were created in regions where globalization processes have (a) diminished the importance of national borders, (b) reduced social inequities, and (c) enhanced access to communication for their citizens. Additionally, the countries to which these common value members belonged share a common language. This aspect of the European and North American networks compels one to wonder what type of networks exist where water is

shared between countries struggling with economic, political, and cultural systems that are obstacles to transboundary communication. Using discourse analysis to study the way in which actors in non-Western countries perceive and advocate water (or other environmental) policy issues and options could create new avenues for transboundary communication; it would also legitimize alternate perspectives describing how relationships between culture, society, and water have evolved. The case studies provide a colorful variety of diverse models that should stimulate ideas for social science water policy research in other geographical and cultural settings.

Reflections on Water combines many ideas into one book, which contributes to both its strengths and its weaknesses. Because the book's approach comes out of ideas from social theory, some may find its language unfamiliar and difficult to follow. Ingram and Blatter state that their goal is to "stimulate scholars in the international water policy community to think about inadequacies of existing approaches to international water policy and to complement those modern approaches with alternates [sic]" (page 4). But the weakness of the book is that the writing style and language may pose some obstacles to enticing those international water policy scholars who might benefit most from its contents. The language is also value-laden at times—for example, referring to conventional approaches as framing water in an "uninteresting fashion" (page 3) through the fault of "excessively rational and utilitarian mindsets" (page xv). Although the authors clearly acknowledge the value of these other interpretive frameworks, they run the risk of alienating those they wish to convert by employing such harsh terms.

Overall, however, *Reflections in Water* is an excellent collection of articles and is worth a thorough read. The book provides a unique blend of history, sociology, philosophy, and water policy questions. Its appreciation of new scholarly approaches provides a wide range of examples and ultimately succeeds in providing an interesting, refreshing, and extremely relevant contribution to thinking about water and governance. By focusing on social aspects, the book is able to analyze the effectiveness of organizational structures and cooperative mechanisms as they relate to the societies they are designed to benefit.

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Environment and National Security: The Case of South Asia

By Narottam Gaan
New Delhi: South Asian Publishers, 2000. 265 pages.

Reviewed by ***Sunila S. Kale***

In the post-Cold War era, a growing debate has emerged between those international relations scholars who still adhere to state-centered paradigms of security and those who believe that the proper unit of analysis should instead be the individual citizens of states. Narottam Gaan's monograph contributes to the literature of this latter group by applying a redefined notion of national security that includes environmental issues to the region of South Asia. While scholars wedded to traditional state-centered notions of security argue that stretching the definition of security to accommodate human and environmental concerns will ultimately decrease its heuristic utility, Gaan and others question the ability of the dominant state-centered models of international relations to adequately capture the range of threats to security in the contemporary era. According to this cohort, while the source of conflicts may be found in traditional threats to state sovereignty, these conflicts may have their genesis in phenomena not traditionally investigated in realist security paradigms. Environmental degradation and population migration are increasingly cited as examples of the "new" threats to security.

The environmental security literature is premised on the understanding that the boundaries of ecosystems (defined as regions composed of living and non-living materials that interact to form a coherent life-system) do not conform to the political boundaries of sovereign states. Therefore, multiple ecosystems can share a single nation or—in, a far more dangerous situation in terms of interstate conflict—multiple states can share a single ecosystem. The most dramatic and often contentious example of the latter is the sharing of river systems by multiple states.

In a framework in which notions of security center on the individual, the sanctity of the environment also gains in importance. While realist accounts maintain that military capability is integral to maintaining security,

environmental security theories hold that access to water, productive land, and breathable air are equally important factors. In this vein, Gaan argues that environmental degradation forms a far more immediate threat to the individuals of states than do the threats of military aggression and interstate conflict.

Armed with these theoretical tools, Gaan provides an account of the sites of present and potential conflict due to environmental degradation among and within six states of South Asia: Bangladesh, Bhutan, India, Pakistan, Nepal, and Sri Lanka. The book is organized into an initial theoretical chapter followed by one chapter each on environmental degradation, the adverse social effects that result from it, and ensuing environmental conflict. A concluding chapter summarizes and re-articulates his principal theses. Each of the substantive chapters is further divided into descriptive sections on each of the countries included in the study as well as on specific inter- and intrastate conflicts.

In the first chapter, Gaan surveys the theoretical literature that challenges traditional notions of security and then outlines a theory of the causal mechanisms by which environmental degradation leads to conflic, (both within and between states). Gaan spends the subsequent three chapters presenting empirical evidence to substantiate his theory. Environmental degradation—which includes damage to land, water, atmosphere, forests, and the biodiversity of oceans and seas—is accompanied by a number of adverse social effects. Among the specific social effects Gaan discusses are: (a) economic decline resulting from decreased agricultural and industrial productivity; (b) lack of potable water; (c) scarcity of energy supplies; (d) health emergencies triggered by changes to the environment; (e) displacement of populations and the resultant ethnic and socioeconomic conflict; and, ultimately, (f) financial crisis and declining state capacity to find adequate solutions to conflicts. After discussing the social effects of environmental degradation, Gaan sketches the ongoing inter- and intrastate contestations in South Asia. These include (a) conflicts over water scarcity, (b) river siltation and erosion, (c) sharing of river systems, and (d) population displacement.

Authors of empirical studies face a trade-off between presenting a broad swath of information on the one hand and providing an in-depth analysis on the other. While replete with useful data, Gaan's presentation in the substantive chapters (2-5) lacks an organization that would more concisely synthesizes the data in an overarching theoretical framework. The theoretical section in chapter one outlines stimulating propositions about the association of environmental degradation and political conflict. But the evidence, while impressive in its scope, is never satisfactorily organized in the service of his thesis.

Gaan's book is impressive for the detailed information it provides, but it might have benefited from a narrower focus on a few specific sites of conflict. For example, in the chapters on environmental degradation and its social effects, Gaan provides substantial data on the status of the environment in Bangladesh. The Bangladeshi population is faced with a relative scarcity of land and decreased agricultural productivity, which is partially a result of increased siltation of the rivers and subsequent flooding (which deteriorates soil quality). In one section of the second chapter, Gaan notes that the affected populations often migrate in search of new economic opportunities. There is considerable migration from Bangladesh to various states of India, as well as migration within Bangladesh of peoples from the flood plains to the hill tracts. At the same time, the Bangladeshi government is increasingly unable to provide alternative solutions. Then, in his final substantive chapter on environmental conflict, Gaan details the conflicts that have resulted between the states of Bangladesh and India as well as among ethnic groups within Bangladesh. Gaan's text contains all of the relevant material to make a coherent argument linking environmental degradation and conflict. However, Gaan does not systematically guide his reader through this information.

Parsing out the theoretical and substantive import of Gaan's work would also have been made easier by clearer prose. The reader faces the obstacles of misused and misspelled words, awkward syntax, and grammatical errors. Despite these substantive and stylistic shortcomings, Gaan's book represents an important step in providing empirical support for a broadened theory of international relations and security. *Environment and National Security* will prove useful as a source of ideas for researchers who wish to explore sites of environmental conflict in South Asia.

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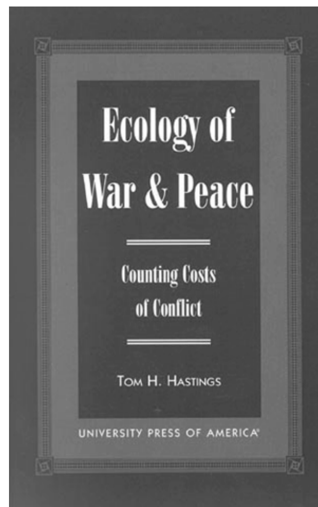
Ecology of War and Peace: Counting Costs of Conflict

By Tom H. Hastings
Lanham, MD: University Press of America, 2000. 142 pages.

Reviewed by ***Elizabeth L. Chalecki***

"Si pacem para pacem" ("If you want peace, prepare for peace"). With this sentiment, Tom Hastings opens the door to a discussion of the interrelationship between violent conflict and environmental damage. Hastings, who is coordinator of the Peace, Conflict and Global Studies Program at Northland College, makes his "bias" clear on the first full page: he is a proponent of nonviolence, and advocates the abolition of all war and war preparation.[1] This is a noble opinion, but it necessarily limits the resulting discussion of possible security issues, since he believes that any kind of military force is useless at best and dangerous at worst. In addition, while he acknowledges in passing the existence of similar problems in other countries, his focus is entirely on the misdeeds of the United States. *Ecology of War and Peace* is not for the scholar; rather, it appeals to lay persons or undergraduates just beginning to study this subject and who might not have thought of these connections.



The book's first section, entitled "Ecological Costs of War Readiness," introduces the reader to the ecological damage resulting from development and testing of nuclear, chemical, and electromagnetic weapons. Hastings' main premise is that by poisoning ourselves with weapons production and disposal, we are the cause of our own insecurity. In addressing these issues, he (a) questions the military logic that writes off the people and wildlife in and around Paducah, Kentucky as "acceptable losses" in pursuit of U.S. nuclear power; and (b) points out that testing, deployment, and disposal of nuclear and chemical weapons largely occurs on native-held lands over the protests of indigenous people. The second section, "Shooting Wars: Mother Earth as Collateral Damage," discusses (a) the ecological damage caused by the use of Agent Orange in Vietnam, (b) the 1998-1999 air campaign in Serbia, and (c) some of the environmental effects of refugee populations generated by war. The third section, entitled "Ecological Causes of Conflict," deals with conflicts over water, the role of free trade in exacerbating unsustainable resource extraction and use, and the poverty that underlies conflict. In these two sections, Hastings relies heavily on anecdotal evidence, and repeatedly states that "stories of... harmful environmental activities are commonplace." A bit more elaboration surrounding such statements would have been very useful. The book's fourth section, entitled "Ecology of Peace," examines nonviolence as a solution to conflict, largely leaving the environmental question aside. Here, Hastings points out that the necessary conditions for war include humans' willingness to kill each other under certain circumstances and access to sufficient weaponry to do so. He concludes that a nonviolent conflict- management system would allow humans to value all life on earth, not just their own.

Many features of this book are worthy of praise. Hastings' concern for humankind and passion for environmental and social justice are unquestionable. He recounts with sympathy the stories of pilot Herb O'Brien, who contracted throat cancer after disarming a nuclear weapon in a radiation suit that failed to cover his neck, and soldier Tim Gilmore, who developed inoperable tumors after exposure to Agent Orange. He also brings up interesting questions that most scholars in this field would not relate to security questions—such as the difference between "hard" ethics (based upon scientific evidence) and "soft" ethics (based upon "charismatic and emotional appeal").

Unfortunately, those looking for a systematic and academically rigorous examination of the ecological costs of war will have to look elsewhere. There are very few references to sources, a lack of documentation that is especially frustrating to those who would like to know more about any particular point or incident. Instead, the author makes general statements, such as "the scientific community concluded time and time again..." (page 41) without providing any supporting evidence. Occasionally he will cite something, only for the reader to find that it is from the Grandmothers For Peace Newsletter or other such gray sources. Referencing a more comprehensive list of peer-reviewed literature in this field would have been extremely helpful.

Hastings also touches briefly and without substance on issues with major environmental security impacts, such as global warming, the World Trade Organization, the relationship of terrorism to national security, and the role of non-governmental organizations and coalitions in changing the defense agenda to include environmental

issues. Finally, a few jarring phrases (such as referring to the Vietnamese as "illiterate and nearly Stone Age peasants") mar the otherwise hopeful tone of the book. Given the criticisms above, *Ecology of War and Peace* should be considered a call to activism for those who want to incorporate personal moral beliefs into their environmental security studies.

Elizabeth L. Chalecki is a research associate at the Pacific Institute for Studies in Development, Environment, and Security in Oakland, California. She has worked with Environment Canada, the U.S. Department of Commerce, and the Brookings Institution.

Endnotes

[1] Hastings is clearly inspired by Christian anarchist Ammon Hennacy, who used nonviolent, faith-based activism to protest development and testing of the atomic bomb.

Environmental Security and Engagement in Central Command

By Colonel Alan L. Moloff
Atlanta: Army Environmental Policy Institute, 2000. 35 pages.

Reviewed by ***Kelley Sayre***

Environmental Security and Engagement in Central Command by Colonel Alan L. Moloff, MC, is a summary of (a) the environmental security issues in the U.S. Central Command (CENTCOM) Area of Responsibility and (b) the possible steps that could be taken to integrate environmental security initiatives into peace-time engagement missions. Colonel Moloff argues that, in order to justify military participation in environmental security missions, any exercises undertaken would have to be not only cost-effective but also serve U.S. interests—particularly by increasing regional stability and reducing the likelihood of conflict.

CENTCOM covers the Arabian Peninsula and Iraq, the northern Red Sea, the Horn of Africa, and South and Central Asia. Moloff identifies four environmental problems that are common throughout the area: (1) increasing consumption and waste fuelled by population growth, (2) scarcity of potable water, (3) contamination from hazardous and industrial wastes, and (4) the predisposition to infectious disease. The book offers specific and detailed engagement exercises to combat these problems.

Moloff argues that, since the U.S. Department of Defense (DOD) already conducts peace-time humanitarian relief missions, peace-time environmental security missions could lessen the probability of conflict arising from environmental problems. Since the Department of State and U.S. Agency for International Development (USAID) already serve such engagement missions throughout the globe, Moloff suggests that the DOD collaborate with State and USAID. To kickoff this effort, Moloff envisions an annual conference headed by State that would provide (a) ideas for environmental security engagement missions, (b) intelligence about potential missions, and (c) a forum for nongovernmental organizations to share their ideas and past experiences. He also suggests educating senior officers about the issues at hand so they will be more likely to participate. In the end, Moloff notes, any missions undertaken by DOD must be economically beneficial, and provide other benefits to the United States as well as the host country.

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Environmental Security and Engagement in Central Command is a brief description of the issues at hand and possible solutions for environmental security problems in CENTCOM. It is also an outline for a plan of action in the future. In addition, the monograph concisely illustrates how the national security strategy addresses the issue of environmental security. While short in length, it is a well-rounded look at the DOD's perception of environmental security and conflict prevention.

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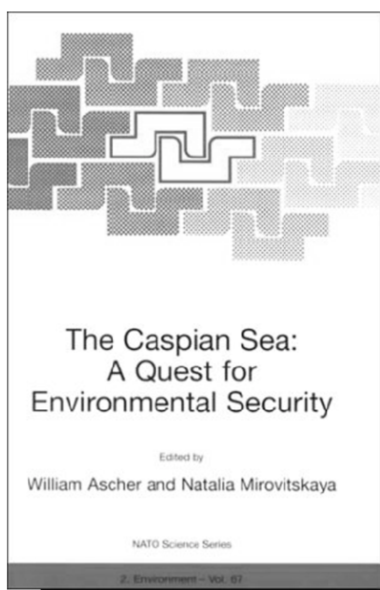
The Caspian Sea: A Quest for Environmental Security

William Ascher and Natalia Mirovitskaya (Editors)
NATO Science Series 2: Environment and Security, Volume 67. Dordrecht, Netherlands: Kluwer Academic Publishers, 2000. 364 pages.

Reviewed by ***Stacy D. VanDeveer***

The profound political and economic changes across the Caspian Basin (as well as its reportedly large oil reserves), have raised interest in Caspian politics around the world. In *The Caspian Sea: A Quest for Environmental Security*, William Ascher and Natalia Mirovitskaya have tapped this increased interest and assembled a book that adds to our understanding of political and economic development within Caspian states and the unique nexus of environmental security issues in the region. (The volume resulted from a 1999 Advanced Research Workshop, involving participants from 16 countries with experience in NGOs, governments, academia, and the private sector.) The book is a tour de force of the international and transnational politics around the Caspian Basin.



Ascher and Mirovitskaya seek to understand "how to foster cooperation in resource-sharing and environmental security issues and how to structure international cooperation to ensure its effectiveness" (page ix). *The Caspian Sea* includes 24 chapters that are organized into five sections ("Development versus Environment?"; "Caspian Geopolitics"; "Law and Development"; "The Role of Civil Society and Scientific Institutions"; and "Prospects for Effective International Cooperation"). The editors' introduction and conclusion are extremely useful and informative, effectively connecting and drawing lessons from all of the book's other chapters. And *The Caspian Sea's* many authors collectively demonstrate the importance of linkages across the large issue areas of environmental challenges, security and geo-strategic politics, law and legal systems, and civil society development. If the linkages between these issue areas remain ignored or unaddressed, these authors suggest, prospects for effective regional cooperation around environmental and traditional security concerns may remain grim. Particularly convincing are their arguments that the region's environmental and economic development questions cannot be effectively addressed at regional or domestic levels without serious attention to legal reform and civil society development and participation.

The Caspian Basin is understood to contain significant oil reserves. Yet valuable resources such as oil are no guarantee of democracy or long-term economic development. For states with oil reserves, the often violent and exploitative resource politics of Nigeria offers a cautionary tale. For citizens, the frequent lack of democracy and human rights in many oil rich states is also worrisome. Ascher, Mirovitskaya, and their colleagues outline a host of connections between Caspian oil and gas development and its related environmental and security challenges—including marine and air pollution, biodiversity loss and the reduction in fish stocks, desertification, geological instability, and sea level variance.

For those who find many of the books in the NATO Science Series heavy on scientific, technical, and environmental assessment and short on politics, *The Caspian Sea's* concentration on multidisciplinary political, legal, and social analysis is a welcome rejoinder. Furthermore, the book brings a main strength of the NATO series: numerous contributions from Caspian researchers and feedback for all authors from a diverse set of experts from inside and outside of the region who participated in the 1999 workshop.

Ascher and Mirovitskaya's *The Caspian Sea* is a

comprehensive and much needed addition to the literature on regional environment and security linkages. It is of interest to all those concerned about the proliferating regional environmental challenges around the globe and to those focused on regional security concerns. The book highlights the important, but often subtle, connection between traditional security concerns and the burgeoning ecological and resource-related challenges to human well-being.

Stacy D. VanDeveer is an assistant professor of political science at the University of New Hampshire.

Altered States: Globalization, Sovereignty, and Governance

By Gordon Smith and Moisés Naím
Ottawa: International Development Research Centre, 2000. 78 pages.

Reviewed by **Anita Sharma**

Protests during last year's World Bank, International Monetary Fund (IMF) and World Trade Organization (WTO) meetings surprised and shocked many leaders of these multinational institutions. Since the organizations view their missions as assisting development and address poverty in mainly Southern countries, why were they castigated for encouraging globalization and trade liberalization?

Responding to the protests of more than 20,000 people in Prague that shut down World Bank/IMF meetings, World Bank President James Wolfenson showed his dismay. "We are trying to do a job that makes things better," he said. "Outside these walls, young people are demonstrating against globalization. I believe deeply that many of them are asking legitimate questions. And I embrace the commitment of a new generation to fight poverty. I share their passion and their questions. Yes, we all have a lot to learn, but I believe we can move forward only if we deal with each other constructively and with mutual respect" (McCarthy, 2000).

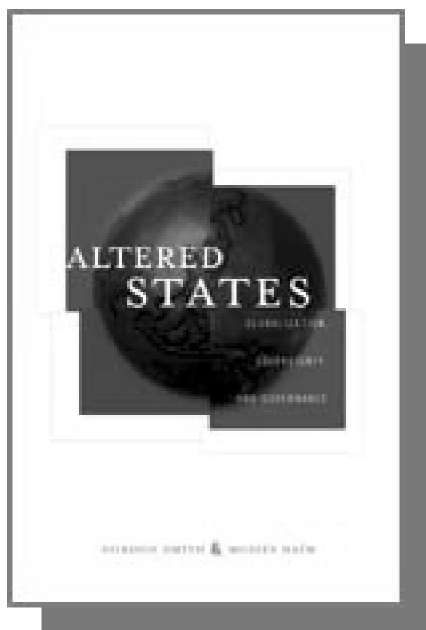
But as Gordon Smith and Moisés Naím correctly note in their new book *Altered States: Globalization, Sovereignty, and Governance*, the more nefarious effects of globalization threaten to obscure and obviate the positive connections that global integration and interdependence bring. According to Smith and Naím, when commercial interests exploit trade opportunities in search of cheap labor and investment, the resulting inequalities of "wealth, consumption and power" are exacerbated at astronomical levels. While many individuals have profited from the effects of globalization, increasing despair and alienation are more commonplace. As detailed in *Altered States*, the gap between rich and poor countries has widened so that the fifth of the world's population living in the richest countries now has 74 times the income of the fifth living in the poorest ones. (In 1960, that ratio was 30 to 1 in 1990, it was 60 to 1.) OECD (Organisation for Economic Co-operation and Development) countries, which have just 19 percent of the world's population, account for 71 percent of world trade, 58 percent of foreign direct investment, and 91 percent of all Internet users (page 8).

Altered States, commissioned by the United Nations Foundation and its Better World Fund and published last year by Canada's International Development Research Centre, was intended to inform and influence the agenda of the UN Millennium Summit held in October of 2000. Based on the assertion that a stronger and reformed United Nations can improve global governance and create a more peaceful world, *Altered States* explores (a) the positive and negative forces of globalization, (b) the subsequent challenges and opportunities for state sovereignty, and (c) the current governance gap. Smith (director of the Center for Global Studies at the University of Victoria, British Columbia), and Naím (editor of *Foreign Policy* magazine and former Venezeulan Minister of Trade and Industry) focus on three imperatives in need of immediate attention: (1) preventing deadly conflict, (2) providing opportunities for the young, and (3) managing climate change. They also suggest ways in which the United Nations and its member states can work together to tackle these challenges.

Gordon and Naím's central assertion is hardly a new concept: that globalization has the capacity to simultaneously erode the sovereignty of states while ascribing new legitimacy through international regimes. Governments have moved from dominant player to simple market participant in key areas historically conceded to their competence (control of lethal force, capital, and information). The global diffusion of lethality means that, in some countries of the world, private armies can outgun the organized militaries, and that in many places private hands control greater sums of capital than do governments. Moreover, with the marked increase in social mobility worldwide and the explosion of the Internet, people are ever more self-reliant in validating the information they receive.

Over the past fifty years, governments have increasingly looked to each other for help in solving complex transnational issues and in establishing rule-based regimes. Their efforts might be grouped into three broad categories: (1) global housekeeping; (2) global safety; and, in an altogether different kind of problem, (3) the management of expanding individual rights. *Global housekeeping* involves such issues as

the environment, energy resources, and international economic activity. *Global safety* includes efforts to devise effective arms control regimes and other arrangements for mutual security. *Managing the emergence of individual rights* can be seen in the development of the global human rights agenda, which has at its core the clear message that governments have obligations to their citizens and not simply to each other. Catastrophes such as Haiti, Somalia, Bosnia, Rwanda, Kosovo, and elsewhere since the end of the Cold War have generated growing claims that members of the international community have an affirmative obligation to act. And governments are increasingly being held accountable not only for their own actions but also for the actions they tolerate among fellow governments. According to Smith and Naím, this increasing incapacity of states to manage their own affairs (and their consequent reliance on international institutions to provide global public goods) means that the international community must harness the positive forces of globalization and commit toward strengthening global governance.



But the global community is not at all ready for such action, according to Smith and Naím. As they put it:

> What becomes more obvious, however, is the troubling mismatch between institutional capacities and customs of governance and the problems that need solving. We are simply not organized well to manage our affairs. This is why the dynamics of globalization inspire such dread and resistance, whether among Swiss farmers afraid for their livelihoods, or suddenly unemployed South Koreans, aboriginal peoples tenacious in defense of their cultures or worried Illinois teachers with pensions invested in rickety Asian securities. (page 3)

So how might the international community reconcile the dilemmas posed by the processes of globalization? *Altered States* suggests using the United Nations as a vehicle to counterbalance the inequities that accompany globalization. While it may be radical to assume that a stronger UN may be the panacea to all our ills, the authors contend that their suggestions are not revolutionary approaches toward global governance. As a matter of fact, most of their recommendations toward preventing deadly conflict, providing opportunities for the young, and managing climate change incorporate mechanisms already within the United Nations system.

Regarding the prevention of deadly conflict, Smith and Naím draw attention to the fact that conflict is overwhelmingly intrastate. They argue that, as the international community develops norms and rules "that legitimize. . .international intervention to stop the worst offences against human security and human rights" (page 24), it must do so in a legitimate and effective manner. In the authors' opinion, illegitimate interventions (such as NATO's military campaign against Kosovo) or imprudent decisions by the Security Council (such as supporting the ill-timed independence referendum in East Timor which led to mass violence and rioting) threaten the legitimacy necessary to undertake such missions. For more effective UN conflict prevention measures, *Altered States* suggests measures that would strengthen early-warning capacities and enhance the UN Secretary General's ability to respond to incipient crises. (This rapid reaction response mechanism was more fully explored in the Report of the Panel on United Nations Peace Operations, also known as the Brahimi Report.[1]) As the authors suggest, however, early-warning signals and calls for early prevention often fall on deaf ears in the UN Security Council. While Smith and Naím do not advocate unlikely measures such as amendments to the UN Charter to curtail the veto or expand membership, they do suggest other reform measures that could be enacted to reform without amendments. These include: (a) developing tacit agreements among the Permanent Five to refrain from vetoing procedural resolutions; (b) vetoing only resolutions that threaten a country's own vital interests; and (c) mandating vetoes be accompanied by a public statement justifying the decision.

Global disparities of wealth (such as increasing poverty and squalid conditions in burgeoning megacities, escalating environmental degradation, and the resultant health crises) are the most severe threats to the futures of the world's children—one-sixth of the world's population. According to Smith and Naím, the cooperative-action capacities of the United Nations are also perfectly suited to better opportunities for youth by "enhancing their access to the necessities of life." These include addressing the HIV/AIDS scourge, providing basic education to every child, expanding

Internet access in developing countries, and bettering children's health—particularly by discouraging tobacco consumption and reducing exposure to leaded gasoline.

The good news is that the United Nations is already giving most of these issues high priority. Recently, UN Secretary-General Kofi Annan initiated a "global fund" (estimated to require between $7 billion to $10 billion a year) to help combat HIV/AIDS. The UN General Assembly is also holding high-level political meetings to intensify international action to fight the epidemic and to mobilize the resources needed. In addition, UNICEF has several programs encouraging opportunities for childhood education. But according to Smith and Naím, some goals are yet unrealized: they point to the unkept promises of the 1990 World Summit of Children to encourage the health of children. However, they also note that progress has been made in several areas. In particular, the WHO-sponsored Framework Convention on Tobacco Control (launched in 1999) is a notable effort to reduce cigarette smoking among children.

Environmental challenges such as global warming are at least in part human-generated phenomena, and Smith and Naím argue that any solution must not just address technical issues but also incorporate political and institutional solutions. However, given recent statements by the Bush administration, one solution offered by *Altered States* (reducing emissions that cause global warming by strengthening the Kyoto Protocol) will be unlikely. Others proposals by Gordon and Naím (such as accelerating the start-up of the Clean Development Mechanism, a governance mechanism in the Kyoto Protocol that channels financial resources to developing countries for investment in sustainable development) are only possible if individual states are dedicated to their implementations.

Kofi Annan's Millennium Report, "We the Peoples: The Role of the United Nations in the 21st Century," took up many of the same themes as *Altered States* (Secretary General, 2000). The report also focused on the awesome effects of globalization, and pledged that the UN would work toward the eradication of world poverty by increasing economic and technological opportunities throughout the world, generating opportunities for the young, and promoting health and combating HIV/AIDS. In addition, "We the Peoples" advocated the prevention of deadly conflict by: (a) encouraging balanced economic development with a commitment toward human and minority rights, (b) strengthening peace operations, (c) encouraging smarter sanctions, and (d) addressing questions of intervention and sovereignty. Confronting challenges such as global climate change, the water crisis, soil depletion, and deforestation requires an increased commitment toward global stewardship. As articulated in *Altered States*, the quality of life for future generations hinges on our ability to manage and protect our environment.

Just as globalization is a process, efforts to spread its benefits and mitigate its harmful effects must reflect a course of action that constantly cultivates better governance as well as the responsibility and resources necessary to encourage a better and more just world. While *Altered States* repeats the often-heard litany of globalization's positive and harmful effects, it goes a step beyond the usual rhetoric by offering useful suggestions to address these challenges.

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Endnotes

[1] Released amid great fanfare and skepticism in the fall of 2000, the Brahimi report (named after its chair, former Algerian Foreign Minister Lakhdar Brahimi) offered recommendations to strengthen the world body's peacekeeping role—including the need for preventive initiatives, sound peace-building strategy, promotion of international human rights instruments, rapid deployment of forces, and on-call expertise. Its most important and most controversial recommendation was the suggestion that peacekeeping be treated as a core activity of the United Nations and that expanded operations and efforts be consolidated within a single branch directly under the UN Secretary General.

References

McCarthy, Julie. (Reporter). (2000, 26 September). "IMF/World Bank." *All things considered.* Washington, DC: National Public Radio. [On-line]. Available: http://search.npr.org/cf/cmn/cmnpd01fm.cfm ?PrgDate=9%2F26%2F2000&PrgID=2

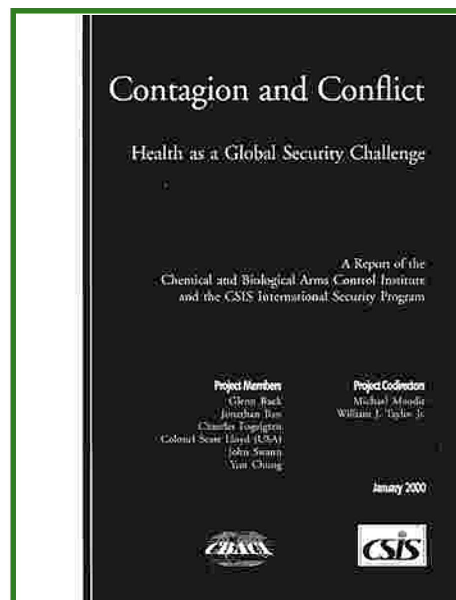
"We the Peoples: The Role of the United Nations in the 21st Century." (2000). Secretary General's Millennium Report to the General Assembly. New York: United Nations.

Contagion and Conflict: Health as a Global Security Challenge

By Michael Moodie, William J. Taylor, Jr., Glenn Baek, Jonathan Ban, Charles Fogelgren, Scott Lloyd, John Swann, and Yun Chung
Washington, DC: Center for Strategic and International Studies, 2000. 76 pages.

Reviewed by ***Mark W. Zacher***

A great deal has been written about the impact of health issues on national and international countries' security over the past decade. "Security" in this context refers to the lives and medical conditions of a state's citizens—but it also connotes the overall strength of national economies and societies. Excerpts of a recent study on this topic was published in this journal in summer 2000—namely, the National Intelligence Council's (NIC) report *The Global Infectious Disease Threat and Its Implications for the United States*. The NIC report provides quite a good overview of data concerning the geographical pattern of diseases and some of their effects. *Contagion and Conflict* (which is produced by the Center for Security and International Studies and the Chemical and Biological Arms Control Institute) is comparable to the NIC study in both length and purpose.



The introduction of *Contagion and Conflict* reviews the worldwide pattern of infectious diseases and also outlines the three major issues concerning the interaction between health and security—failing states, humanitarian warfare, and biological warfare. Its discussion of the global pattern of diseases provides some relevant information, but it could have been more thorough in describing the prevalence of diseases in different areas and varied conditions and the use of biological warfare. Additional information would have been particularly useful for the subsequent section on failing states.

The monograph's first section treats the influence of health problems on failing states, identifying a number of impacts the authors claim are interrelated. These include: (a) economic destabilization because of a loss of productive workers; (b) a decline in the ability of governments to respond to a host of problems; (c) a sense of popular alienation from the government; (d) a decline in food production; (e) the increased risk of foreign intervention and interstate wars; and (f) the increased risk of conflict over the use of sanctions against states that violate UN resolutions (e.g., Iraq). These are all interesting points, but there is little corroboration in *Contagion and Conflict* of their interrelationships. For example, it would have been helpful if the authors had discussed some concrete examples of how national health problems have promoted and could promote foreign intervention and interstate wars. One could, in fact, make the case that in Africa the prevalence of serious health problems have discouraged military adventurism because disease-ridden countries are unable to mount military ventures.

The second section of *Contagion and Conflict* deals with health standards and humanitarian warfare. It focuses in particular on "the imposition of deprivation" by one combatant on another—especially in civil wars, and particularly involving the denial of food and medical supplies. The recent cases of Yugoslavia, Rwanda, Sudan, and Kosovo are noted. As the history of "scorched earth" policies indicates, this is not a new problem; in fact, it may have been worse in the past. The authors fail to explore either the particular ways in which this strategy is being employed or (in the light of the present concern about infectious diseases) how combatants might be promoting the spread of such diseases. In fact, instances of states' deliberately promoting the spread of infectious diseases during warfare are probably quite rare, whereas the manipulation of food supplies during conflict is very common.

The final problem addressed in *Contagion and Conflict* concerns biological warfare, which has attracted much more attention from high levels of government than the previous two topics (especially in the industrialized world, which sees itself as the most likely object of attacks). This section of the monograph reviews some of the major features of international policy regarding biological weapons as well as several key policy problems. Its main focus is on Western approaches to dual-use technology. The discussion is a perfectly good overview, but it does not point up any new approaches.

The last two sections of the monograph concern recommendations for broad and specific strategies on

contagion and conflict. The central consideration is the need to balance a humanitarian desire to help and a prudential concern to avoid risks. Some of the more specific recommendations are (a) the building of better monitoring and information-sharing systems, (b) governmental support for the development of drugs that are needed in the developing world, (c) the restructuring of refugee camps, (d) the reappraisal of policies toward dual-use technologies in the case of biological weapons, and (e) the need to take a large number of considerations into account before intervening in foreign health emergencies. These are all perfectly good recommendations, but they are not accompanied by discussions of how to secure the necessary foreign and local political support.

For someone who does not know a great deal about the intersection of health and security concerns, this monograph provides an overview of a good of number of the constituent issues. However, it does not offer a great deal to people who have worked on these matters.

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The Security Dynamics of Demographic Factors

By Brian Nichiporuk
Santa Monica, CA: RAND, 2000. 52 pages.

Reviewed by ***Jessica P. Powers***

In *The Security Dynamics of Demographic Factors*, Brian Nichiporuk looks at three key demographic trends and their impact on U.S. and global security for the future. Citing the growth of research on the role of population as a national security variable, Nichiporuk (writing for RAND's Population Matters program and the Arroyo Center, RAND's army research division) undertakes to condense the multifaceted and disciplinary research into a concise and readable format designed to appeal to policymakers. He does a fine job of analyzing the impact of demographic factors such as long-term fertility trends, urbanization, and migration on security.

Nichiporuk argues that the United States must (a) focus on military preparedness, (b) more carefully target foreign aid for development, and (c) pay more attention to indicators and warning measures in order to be able to respond more effectively to security challenges posed by demographic factors. He begins by defining the two fundamental areas of demography: population *composition* and population *dynamics*. While population *composition* describes the "characteristics of a given population," population *dynamics* addresses the "changes in composition of a given population over time" (page 3). Nichiporuk acknowledges that demographic factors alone rarely cause internal or external conflict. But he also points to their indirect role in exacerbating underlying tensions (such as ethnic tensions or resource scarcity), citing the work of different scholars including Peter Gleick, Jessica Tuchman Mathews, and Thomas F. Homer-Dixon.

Next, Nichiporuk details current global demographic trends. According to the latest middle-range estimates of the United Nations, today's world population of more than 6 billion people is expected to rise to a high of 9.4 billion by 2050. Most of this growth (up to 95 percent, according to Nichiporuk) will occur in developing nations. The author is quick to point to the especially high fertility rates of nations such as the Democratic Republic of Congo (DROC) and Nigeria, large African nations that are replete with natural resources such as oil and diamonds but that suffer from conflict and unrest. Conflict in the DROC is not only interethnic but also has attracted the intervention of neighboring countries, which have their militaries deployed both in the country and along its borders. Sierra Leone and Liberia, examples of failed states in the developing world, are also experiencing high fertility rates of 6.1 and 6.3, respectively (page 42).

Another demographic trend noted in *The Security Dynamics of Demographic Factors* is the growing urbanization in the developing world. In 1950, only 17 percent of the world's population was urban, compared to over 50 percent of today's population. Within the developing world, urban areas are increasing far faster than in the developed countries. By 2015, there will be 23 "megacities" (or cities with populations of at least 10 million people), within the developing world—including Bombay, Lagos, Dhaka, Rio de Janeiro, and Teheran.

What are the security implications of these demographic trends? Nichiporuk identifies three. First, demographic trends can lead to changes in the nature of conflict. These changes will result from rapid growth in urban populations, changing migration patterns, and the impact of concentrated growth on resource availability. Second, changing demographics will drive states to develop different sources of national power. Many developing nations with high growth, for example, have

Report on the Future of the U.S.-Mexico Border: Population, Development, and Water

The current situation along the U.S.-Mexico border illustrates the effect that rapid population growth can have on efforts to achieve sustainable development. Current migration trends in this region, coupled with the natural rate of population increase as well as intensified trade, are putting intense pressures on the border's environment, water supply, and health and sanitation infrastructure. Policymakers and practitioners must consider the relationship between population and environmental dynamics in order to develop appropriate interventions.

In May 2001, the Environmental Change and Security Project (ECSP) and the University of Michigan Population Fellows Program (PFP) hosted a workshop in Tijuana, Mexico entitled "The Future of the U.S.-Mexico Border: Population, Development, and Water." The workshop provided a valuable forum for interdisciplinary and binational communication—a necessary prerequisite for progress toward a sustainable future for this important international setting. Participants discussed the opportunities and constraints facing border citizens and decision-makers over the next 25 years with regard to transboundary water, health, and demographic issues.

ECSP and PFP will publish in fall 2001 a summary of the workshop's proceedings, conclusions, and recommendations as well as two papers presented during the workshop. Contact Robert Lalasz at lalaszrl@wwic.si.edu or 202/691-4182 for more information.

created two sets of military populations: elite units to maintain order, and state power and infantry units to act as regular army forces. Finally, sources of conflict will change, impelled by factors such as the mounting unemployment of growing youth bases in developing countries whose fledgling economies are already struggling.

One factor largely omitted by Nichiporuk's analysis is the threat of infectious diseases. He does acknowledge the devastating impact of the HIV/AIDS epidemic on sub-Saharan Africa, even going so far as to recognize it as a wild card. However his later discussion on military power in developing nations fails to analyze how the devastation of this pandemic might affect developing nations' manpower resources. For example, while 16 of the 20 nations with the highest fertility rates globally are in sub-Saharan Africa, the majority of HIV/AIDS cases (roughly around 70 percent) are currently also in sub-Saharan Africa. In the case of African military populations (often pointed to as a vector for the disease given their frequent and often long deployments), general surveillance data are nearly nonexistent. This lack of data is due to a number of different factors, including: (a) the difficulty of obtaining numbers due to stigma, (b) fear of release from active duty after testing positive, and (c) governments' anxiety that acknowledging the impact of AIDS on their militaries could make them appear vulnerable to others.

Furthermore, it is widely acknowledged by epidemiologists that this deadly disease is spreading to India and China as well as across other parts of Asia—all areas that are experiencing phenomenal growth. And in countries showing negative or low population growth (such as Russia), the HIV/AIDS pandemic is also gaining ground. How these countries will be affected militarily by the loss of huge segments of their adult working population to infectious diseases is a topic that needs to be explored in greater depth.

Despite this omission, Nichiporuk's review of demographic factors and their implications for security addresses some of the most important challenges. Especially worthwhile is Nichiporuk's recommendation that the United States should be responding to such demographic pressures through both proactive policies and monitoring of warning signs, including:

- Emergence of a youth bulge combined with low job-creation rates/government indifference;
- Divergent fertility rates between neighboring states with land borders, no nuclear weapons, and comparable technological levels;
- Chronic high fertility rate in developing nations with one party rule and weak political and healthcare institutions;
- Divergent fertility rates between ethnic groups having mixed settlement patterns and historical

enmity;
- Steady regional declines in per-capita freshwater availability coupled with new development projects with cross-border implications (e.g., dams, irrigation systems).

Population pressures can exacerbate explosive situations, leading to major crises. As such, the United States should work to improve its monitoring systems. Given the brevity of Nichiporuk's report, he was unable to cover these inadequacies in more detail. Perhaps future studies by RAND will address them.

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The Ingenuity Gap

By Thomas Homer-Dixon
New York and Toronto: Alfred A. Knopf, 2000. 480 pages.

Reviewed by **Marc A. Weiss**

Thomas Homer-Dixon's essential argument in *The Ingenuity Gap* is that ingenuity—a special blend of creativity and innovation—will help us all develop new solutions to the world's great challenges. His discussion of the earth's physical and human difficulties (from climate change to the growing gap between rising wealth and persistent poverty) clearly articulates the increasing need for "such ingenuity" to call forth viable solutions. At the same time, he recognizes the limitations on the ability and willingness of people to generate practical and visionary answers to very tough questions, with technological advances serving as both a help and a hindrance to this healing process.

Homer-Dixon focuses on what he identifies as "the ingenuity gap" that is placing humanity ever further behind the learning curve in the face of serious global concerns. "Rather than speaking of limits," he writes,

> it is more accurate to say that some societies are locked in a race between a rising requirement for ingenuity and their capacity to supply it. . . .If a society develops a serious ingenuity gap—that is, if it loses the race between requirement and supply—prosperity falls in the regions already affected by scarcity. . .Such societies risk entering a downward and self-reinforcing spiral of crisis and decay (pages 374-5).

This interesting approach leads Homer-Dixon to relatively pessimistic conclusions, or at least ones that must inevitably draw their hopefulness from faith rather than science:

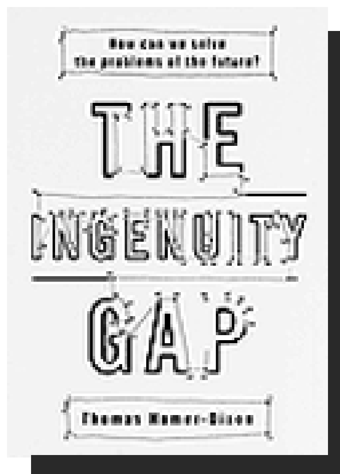
> As ingenuity gaps widen the gulfs of wealth and power among us, we need imagination, metaphor and empathy more than ever, to help us remember each other's essential humanity. I believe this will be the central challenge of the coming century—one that will shape everything else about who we are and what we become (pages 395-6).

The Ingenuity Gap does provide the reader with a very interesting and well-written discussion of complexity theory, chaos theory, new growth theory, and a host of other recent ideas in economics, sociology, environmental science, information technology, and philosophy. Indeed, Homer-Dixon takes us on a veritable cook's tour of his inquiring mind and an intellectual journey in space and time—ranging from Canary Wharf in London to Patna, India, and encompassing personal conversations with scholars such as geologist Wallace Broecker and marine biologist Michael Whitfield. This journey-of-discovery style of narrative permeates the text. "I had come to Las Vegas on the penultimate leg of my travels," Homer-Dixon writes at one point. "I now had at hand most of the pieces of my ingenuity puzzle. . . .These somewhat disconnected thoughts ambled through my mind as I ambled around Comdex, reinforcing similar conclusions I had reached earlier in my investigations. . ." (pages 314 and 319).

But while *The Ingenuity Gap* is certainly literate and engaging, it generally fails to answer the vital question the publishers pose on the front of the dust jacket above the title: "How can we solve the problems of the future?" Homer-Dixon's efforts ultimately do not add much of value to what we already know about international economic, social, and environmental issues. For example, he suggests that we need to accelerate the supply of ingenuity:

> Whether it's a matter of meeting our energy demand by inventing new types of fuel, feeding a still rapidly

growing world population by boosting grain yields, stabilizing the international financial system by making available more information of countries' finances, or stopping mass violence by setting up an international rapid-reaction force, we need to supply more and better ingenuity for more and better technologies and institutions (page 397).



But how should we accomplish these goals? Homer-Dixon's answer, unfortunately, is not especially original or innovative:

> This means that we should dramatically increase our funding for scientific research in critical areas—like energy and agriculture—in the hope we can invent new technologies. And it also means that we should reform existing international institutions (from the IMF to the UN) and build a range of new institutions (for example, to deal with climate change) to ensure global prosperity and peace. While a formal world government is probably not in the cards, at least not for a long time, we must accept that our *governance* of our global affairs has to become vastly more elaborate and sophisticated (pages 397-8).

In addition to arguing that humanity needs to increase the worldwide supply of ingenuity, Homer-Dixon also suggests that human beings collectively can "slow our skyrocketing need for ingenuity" by easing up a bit on the rapid pace of change—mainly through reducing population growth, resource utilization, and the globalization of finance capital. If only people would stop hurrying to promote the ethic of "more and better," contends Homer-Dixon, we could all relax and not worry so much about the necessity for constantly producing new forms of ingenuity. Indeed, he argues that "[a] shift to less material values in rich societies would help reduce our overall need for ingenuity to manage our relationship with our environment"(pages 398-9).

But while increased scientific research, conservation, and consumption reduction are certainly worthwhile goals, they hardly constitute pathbreaking new ideas or a highly creative policy agenda. In *The Ingenuity Gap*, one of the most important gaps is contained within the book itself. Convincing people to create a world government and cease purchasing large homes or cars will require far more ingenuity than Homer-Dixon offers us here. He identifies serious problems and proposes thoughtful solutions. Yet nowhere in his long discourse does he really explain where or how "ingenuity" will generate the answers.

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The Pervasive Role of Science, Technology, and Health in Foreign Policy: Imperatives for the Department of State

Washington, DC: National Research Council, 1999.
111 pages.

Reviewed by ***Clair Twigg***

In the last twenty years, science, technology, and global health (STH) have become central topics in discussions of national and international security. In 1998, the U.S. Department of State (DOS) asked the National Research Council to examine the role of STH in foreign policy issues and to suggest ways in which DOS both could improve its ability to react to STH problems and better use the STH expertise for which the United States' scientific community is known. The result of that study, *The Pervasive Role of Science, Technology, and Health in Foreign Policy: Imperatives for the Department of State,* offers recommendations that focus on (a) providing leadership within the DOS on STH-related issues, and (b) strengthening the available base of STH expertise available to DOS.

Science, technology, and health issues are central to many DOS interactions with other governments. Issues such as nuclear nonproliferation, infectious disease, the use of energy resources, population growth, and food supply are just some of the many issues on which DOS must be current and proactive. In recent years, however, the importance placed on STH within DOS has decreased. There is no longer an STH-related cone in the Foreign

Service; there is no incentive for either civil or foreign servants to gain STH training; and the number of science counselors in foreign embassies has been reduced to only 10 worldwide. STH issues are not seen as important within the Foreign Service culture, and many employees have no desire to take on new topics and undergo further training.

As *The Pervasive Role* puts it, in many instances STH issues have been viewed within DOS as "minor appendages to foreign policy discussions, and many international STH programs are handled as a special category of activities only vaguely related to the implementation of U.S. foreign policy" (page 20). When budgets are cut, these "minor appendages" are among the first issues to be ignored. In addition, there has been little effort made in general to add new, technical expertise to DOS; efforts at modernization and restructuring have most commonly been centered on traditional foreign policy concerns.

In *The Pervasive Role,* the National Research Council offers several recommendations for making STH issues more central to DOS initiatives and goals. First and foremost, the authors assert, it is necessary for the secretary of state to demonstrate a commitment to these issues by designing and instituting a policy that highlights STH. For example, they recommend that the secretary appoint an undersecretary for scientific affairs who would have "responsibility for ensuring consideration of STH factors in policy formulation, especially during meetings and consultations involving the Secretary and/or Secretary's senior advisors and during day-to-day activities at all levels of the Department" (page 27).

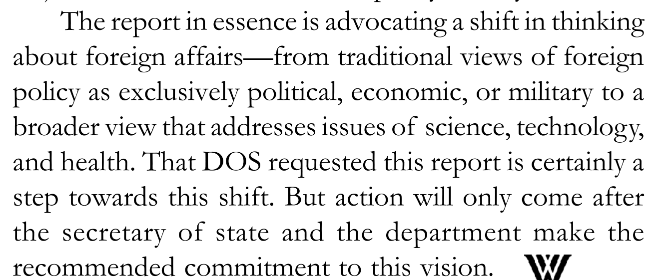
The Pervasive Role also advocates that STH awareness permeate the ranks of DOS. The authors recommend that "the Department's leadership should expect all [Foreign Service Officers] and other officials of the Department to achieve a minimum level of STH literacy and awareness relevant to foreign policy while stimulating attention to STH throughout the Department by establishing promotion and career incentives for successful service in STH-related positions" (page 36).

In addition, the authors recommend that "[t]he Department should assign at least 25 carefully selected Science Counselors to embassies in countries where STH-related activities are of major interest to the U.S. Government and to missions to international and regional organizations that support STH programs of considerable foreign policy significance" (pages 57-58). DOS should also (a) offer its employees both the training and the compensation to taking on additional skills, and (b) lobby Congress for additional funds as they are needed for this training and restructuring. The report argues that, by having better-trained employees with a higher sensitivity to STH issues, DOS can assist not only U.S. embassy communities but other private-sector institutions such as universities, research institutions, consulting firms, nongovernmental organizations, and other groups' information or advisory services abroad. Additionally, bilateral work (governmental or otherwise) of a scientific nature is one area where the possibility for peaceful, nonpolitical exchange is possible.

The report in essence is advocating a shift in thinking about foreign affairs—from traditional views of foreign policy as exclusively political, economic, or military to a broader view that addresses issues of science, technology, and health.

The Pervasive Role also stresses that it is important the United States remains first in the world in STH knowledge/expertise; to this effect, it highlights the need for additional U.S. funding for STH training and research. The authors fault DOS for not lobbying Congress more effectively about the importance of STH for promoting the international agenda of the United States. While the research capabilities and efforts of the United States remain top-notch, its policymakers tend to separate science from policymaking—even when the issues under discussion (such as food security or nuclear weapons) are perhaps best examined firmly within their scientific contexts. The result, the authors argue, is that U.S. government policy and decision-making has become more political. But without additional financial resources to improve STH capabilities within the DOS, this disjunction between science and policy is likely to remain.

The report in essence is advocating a shift in thinking about foreign affairs—from traditional views of foreign policy as exclusively political, economic, or military to a broader view that addresses issues of science, technology, and health. That DOS requested this report is certainly a step towards this shift. But action will only come after the secretary of state and the department make the recommended commitment to this vision.



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The World's Water 2000-2001: The Biennial Report on Freshwater Resources

By Peter H. Gleick
Washington, DC: Island Press, 2000. 309 pages.

Reviewed by ***Baruch Boxer***

In his second biennial survey of global water resources, Peter Gleick skillfully brings together wide-ranging historical, scientific, technical, institutional, and legal information about key factors and trends affecting water availability and quality around the world. *The World's Water 2000-2001* ranges from descriptions of basic geophysical and hydrological processes to analyses of the implications (economic, political, environmental, social, health, and security) of alternative perspectives on water resources conservation and development. Gleick's clear, well-organized presentation balances (a) consideration of the difficulties faced in estimating present and future water supply with (b) an in-depth assessment of several topical issues—including water and food production, dam removal and ecological restoration, the technological and economic feasibility of desalination, and the limitations and benefits of water reclamation and reuse. The result is a well-focused and informative work that is authoritative while avoiding the excess technical or political baggage typical of other surveys.

After looking closely at the question of international legal and moral grounds for the "human right to water," the book engages its main task by forcefully raising two fundamental questions. First, how and why do we define and measure water availability, use, and distribution the way we do? Second, what assumptions underlie various projections of freshwater demand, and why are there so many inconsistencies among these projections—especially in the compilation and interpretation of water use data? By raising these fundamental issues at the outset (and by carefully reviewing research and the full literature to date), Gleick points up major continuing problems in efforts by governments, international agencies, and the scientific community to establish a reliable information baseline for understanding present and future dimensions of the global water dilemma.

There are still many uncertainties regarding natural variations in water availability for both ecological requirements and the functioning of economic and political systems at various scales. To begin, global estimates of water stocks and flows are approximations at best. As Gleick points out, despite impressive technical advances in monitoring, it is still virtually impossible to measure and combine information on diverse water sources like soil moisture, glaciers, lakes, polar ice, aquifers, and snowpack. Thus, conflict resolution efforts in the Middle East and other "hot spots" are confounded by difficulties faced in trying to distinguish between "relative" and "absolute" measures of natural water "supply," "need," and "use."

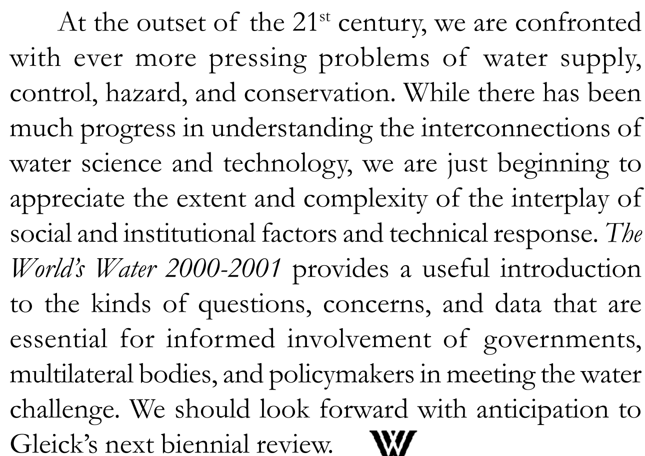
Gleick's brief but careful review of international-river-basin-assessment methodology highlights how definitional uncertainties and limitations are seriously undermining well-intentioned multilateral efforts to address transnational water disputes at the basin/watershed level. In it, he shows why the long-sought goal of river basin-defined "integrated water management" on a global scale is so elusive (White, 1998). Here, as in other water policy areas, a major challenge is the appropriately-scaled application of: (a) sophisticated assessment and monitoring technologies, (b) engineering and planning strategies, and (c) market-related policy instruments in response to place- and society-specific water requirements. The challenge is heightened because such water requirements are shaped by often poorly understood political, social, cultural, and ecological determinants and constraints. For all the multilateral efforts over the past three decades to shape effective global water strategies—as well as more recent NGO forays into ambitious "visioning" scenarios[1]—international and domestic water policy efforts still mainly reflect engineering and economic criteria that are increasingly out of touch with the imperatives of global environmental change, demographic trends, and the disruptive local impacts of globalization (especially in developing rural areas).

The topical chapters of *The World's Water 2000-2001* (on food, desalination, dam demolition, and recycling) each nicely illustrate the soundness of Gleick's approach to the problems of understanding relations between the natural and human dimensions of water supply, distribution, and use. In each case, definition of technical issues and choice of remedy are governed as much by subjective factors (social, cultural, political, and institutional) as they are by engineering and scientific knowledge. For example, Gleick emphasizes the importance of asking how and to what extent water issues bear upon such questions as "how much water is necessary to grow different crops" or "how many crops

can be produced on the land." Through this, he convincingly shows that technical data on land, water availability, and irrigation technology contribute beneficially to policy development only to the extent that they illuminate problems of knowledge communication, institutional constraints, economic efficiency, and ecosystem demands. Ultimately, water policy must be thought of as "the nexus between the science of the world's water resources and the political and social implications of water availability and use" (page 19).

Such questioning of commonly-held methodological and measurement perspectives (and their applications in food production, ecological restoration, recycling, and freshwater recovery contexts) is effectively sustained through the seven substantive chapters of *The World's Water 2000-2001*. But the book also fulfills the responsibility of a survey volume, providing facts and figures on many aspects of water distribution, dynamics, conflict, and use. The second half of the book—"Water Briefs" and a "Data Section"— provides timely, comprehensive, and mostly tabular data on diverse water themes. The "Briefs" section, for instance, looks at arsenic in Bangladesh groundwater, fog collection as a water source, the chronology of water conflict through the ages, and the proliferation of water-related Web sites. The book also has an excellent index and is a pleasure to use.

At the outset of the 21st century, we are confronted with ever more pressing problems of water supply, control, hazard, and conservation. While there has been much progress in understanding the interconnections of water science and technology, we are just beginning to appreciate the extent and complexity of the interplay of social and institutional factors and technical response. *The World's Water 2000-2001* provides a useful introduction to the kinds of questions, concerns, and data that are essential for informed involvement of governments, multilateral bodies, and policymakers in meeting the water challenge. We should look forward with anticipation to Gleick's next biennial review.



Baruch Boxer is professor emeritus of geography and environmental science at Rutgers, the State University of New Jersey, and currently is a visiting scholar in the Center for Risk Management, Resources for the Future, Washington, D.C.

Endnotes

[1] See IUCN (2000).

References

IUCN -The World Conservation Union. (2000). Vision for water and nature: A world strategy for conservation and sustainable management of water resources in the 21st century. [On-line]. Available: http:/www.waterandnature.org /english/WaterAndNature/index_documents.html

White, G.F. (1998). "Reflections on the 50-year international search for integrated water management." *Water Policy 1*, 21-27.

Managing the Globalized Environment: Local Strategies to Secure Livelihoods

Tiia Riitta Granfelt (Editor)

IT Publications: London, 1999. 192 pages.

Reviewed by ***Kelley Sayre***

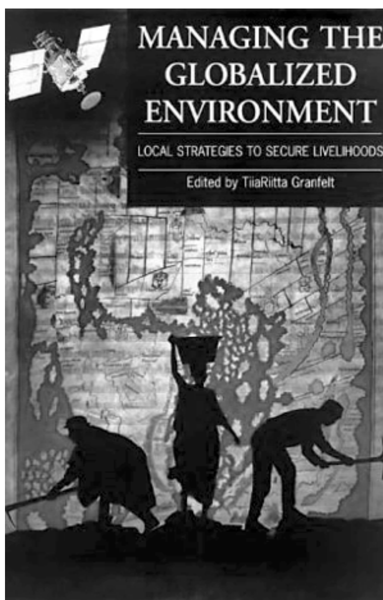
Managing the Globalized Environment: Local Strategies to Secure Livelihoods is a collection of ten essays that explores the human-environment link in a post-Agenda 21 world.[1]

At the heart of the volume is the concept expressed in Anders Hjort-af-Ornäs and Jan Lundqvist's essay "Life, livelihood, resources and security—Links, and a call for a new order." According to Hjort-af-Ornäs and Lundqvist, "it is the access to the flow of resources from natural capital and their conversion through technology to the required goods and services that constitutes the basic life-support and conditions for livelihoods in all communities" (page 2). The concept that *access to adequate resource flows* is crucial to human quality of life undergirds the book's further environmental security discussions.

The human-environment link is undeniably complex. In order to implement Agenda 21's concept of sustainable development, *Managing the Globalized Environment* argues that the global community must take an interdisciplinary approach to creating development policies that balance the environmental and economic needs of the present with the needs of the future. The book also emphasizes that implementing any new environmental policy requires awareness of existing socio-cultural constructs such as governance and cultural norms. Governance and cultural norms are the guidelines that dictate who will have access

to natural resources, and *Managing the Globalized Environment* provides case-study examples of governance and cultural norms that have either aided in equitable resource distribution or prevented it.

The two most prominent case studies (both situated in Africa) involve internal turmoil that is the product of a weak nation-state. In "Ogoni–Oil, resource flow and conflict in rural Nigeria," Okechukwu Ibeanu describes a heavily oil-reliant nation-state whose actions are threatening the well-being of its people. Due to Nigeria's weak constitution—which defines the state as a "means of production" (i.e., a vehicle for promoting profitable resource exploitation rather than a representative and protector of the general interests of its people)—the Nigerian government is especially prone to special interests and thus to political and social conflict (page 12). Ibeanu argues that, with crude oil exports constituting 80 percent of Nigeria's national wealth, oil interests very often prevail over the security concerns of the Nigerian people (page 16).[2] For example, oil extraction activities have degraded the environment of the Ogoni homeland, and the Ogoni have received limited compensation for the oil itself; the result has been a reduced carrying capacity for the Ogoni environment as well as aggravated Ogoni feelings of injustice. In 1992, the Ogoni people ultimately declared to their federal government that "it is intolerable that one of the richest areas of Nigeria should wallow in abject poverty and destitution" (page 19). Ibeanu's case study exemplifies the disparities that can occur when a state both monopolizes its country's resource flows and values special economic interests over the security of its people.



Another example of internal environmental strife resulting from a weak nation-state is the conflict between pastoral rights and wildlife conservation concerns in Tanzania. In "Environmental awareness and conflict genesis—People versus parks in Mkomazi Game Reserve (MGR), Tanzania," Peter J. Rogers and his co-authors detail how changing values have over time altered the uses of the reserve. Due to lack of funding, Tanzania has been struggling to enforce a changing natural resource management scheme from pastoral resource management (state-issued grazing permits) to wildlife conservation and ecotourism. When a grazing permit system broke down in the 1970s, game wardens and conservation officers who were representatives of state authority viewed the result "as a threat to the MGR's natural resources [and] as a threat to the authority of the Tanzanian state" (page 30). Limited quantities of natural resources pit the pastoralists' claim to the human right of the "preservation of their livelihood" at odds with wildlife conservation efforts (page 47). In fact, the eviction of pastorialists from the reserve in 1977 was a direct result from lobbying by the international conservation community, which was concerned about the degradation of wildlife habitat.

In both the Nigerian and Tanzanian cases, weak governance has created environmental stress—environmental degradation in Nigeria and lack of accessibility to grazing pastures in Tanzania. And this stress, according to Ibeanu, has a direct correlation with social stress. Both essays argue that, in order to achieve sustainability, we must find a way to balance environmental and economical interests in pursuit of better livelihoods.

The discussion of sustainable development in *Managing the Globalized Environment* would not be complete without its treatment of the concerns of indigenous people. Two case studies offer different views on how culture affects how indigenous people cope with increasing globalization and the introduction of a market economy. In "Ethnic groups and the globalization process—Reflections on the Amazonian groups of Peru from a human ecological perspective," Maj-Lis Foller argues that the cultural identities of the 65 ethno-linguistic groups who co-exist in la Selva, Peru are often tied to the land. Traditional ways of life (and their resource consumption) are often different from global influences that change land use patterns and the "systematic harnessing of all natural resources for the continual advancement of global industrial production and trade" (page 64). Modernization and globalization are pushing these people away from not only their land but also their culture.

Foller details how, in order to combat this marginalization, indigenous Peruvians are banding together to protect their ethnicity and to work towards "territorial control and access to natural resources…the central focus of indigenous rights throughout the world" (page 63). The Peruvian state did not even recognize indigenous people until 1957. But the cause of indigenous rights has been favored by more recent developments, such as: (a) the human-environment linkages outlined in

Agenda 21, (b) the growing political power of NGOs representing indigenous people, (c) increasing compliance with the fundamental 1948 Universal Declaration of Human Rights, (d) the establishment of a permanent UN forum for indigenous people, and (e) the UN declaring 1995-2004 as the "Decade of Indigenous People." In the wake of these dynamics and new institutions, perhaps Peru's indigenous people will not be pushed into globalization but will instead have the opportunity to choose between a traditional way of life and a modern one.

In the second case study of indigenous people ("Increasing competition, expanding strategies—Wage work and resource utilization among Paliyans of South India"), Christer Norstrom examines how the Paliyan "culture of independence" has served its people well. The Paliyans live in the Eastern section of the Ghats Mountain range in southern India (known as the Palni Hills) where they combine hunting and gathering techniques with periods of employment on plantations or gathering forest products for market. As a result, most Paliyans have a diverse income and prove to be successful either living in the forest or settling in Tamil villages. The cultural norm of "self-reliance" has made it relatively easy for the Paliyans to continue their way of life in the age of increasing modernization and globalization. These case studies make it apparent that the inherent cultures within the group will help dictate how the group will handle the pressures of modern society.

Cultural success stories are also evident in Eduardo S. Brondizio's "Agroforestry intensification in the Amazon estuary" and in Jannik Boesen and co-authors' "Rules, norms, organizations and actual practices—Land and water management in the Ruaha River basin, Tanzania." The agroforestry case study illustrates the value of local knowledge in cultivating a productive plot in the high flood plains of Amazônia. The resulting plots produce goods (acai, rice, maize, etc.) throughout the year for a period of up to twenty years. What is most remarkable is that, as Brondizo notes, "an acai stand resembles (to an outsider) a regular forest and not an agricultural site" (page 108). Local knowledge of cultivation techniques combined with an understanding of the local ecology and markets has made agroforestry successful in this part of Amazônia.

Jannik Boesen and his co-authors explore the effects of formal (government-sanctioned) and customary (informal, flexible to changing needs) law on natural resources use and sustainability in Tanzania. These two co-existing legal tracks create policy difficulties, as again pastoralists clash with wildlife conservationists. One example highlights the most interesting aspect of this case. Under Tanzania's customary law, the owner of a pond has a duty to protect and maintain the pond. Under its formal law, however, that same person would not be obliged to care for the pond, and could therefore let it become polluted or otherwise degraded. Conflicts have arisen with the rise of formal law, as companies gained formal titles to land and began to operate on it while being unaware of the customary law.

Boesen and his co-authors suggest that customary law (unlike formal law) produces policies that mitigate and even prevent environmental degradation, thus benefiting the entire community. They argue that the introduction of formal law in Tanzania has "thrown a wrench" into the country's environmental policymaking machinery, and that its formal law should be remodeled to be more consonant with the flexible and conservationist philosophy of customary law. As with all policymaking, there are no guarantees that this style of governance would be best suited to solve every environmental problem. It does, however, offer a distinct alternative to Western views of environmental policymaking. Both the agroforestry and Tanzania examples illustrate that environmental protection (and perhaps sustainability) can be achieved when cultural norms take environmental factors into account.

The last three essays (Stefan Anderberg's "Sustainable development, industrial metabolism and the process landscape—Reflections on regional material-flow studies"; Goran Hyden's "Environmental awareness, conflict genesis and governance"; and Uno Svedin's "Culture, cultural values, norms and meanings—A framework for environmental understanding") discuss overarching themes. Anderberg provides detailed charts that analyze the flow of natural resources in society; he declares that more research is needed in order to develop a "holistic" view of sustainable development. Hyden reviews the four main schools of security theory (the realist, the moralist, the liberal, and the populist). Decision-makers often hold the view of the dominant realist theory (which studies "threat, use, and control of military force") (page 154). Hyden suggests that the real challenge is "how to make environmental and other concerns an integral part of the realist equation" (page 155). Lastly, Svedin states that culture is a driving force of human behavior and defines the different permutations of the "cultural perception of nature," ranging from nature being hailed sacred to nature being viewed as profane. Svedin further suggests that those who wish to work towards developing sustainable practices must look to culture for guidance on how to influence human behavior.

In conclusion, *Managing the Globalized Environment* utilizes an interdisciplinary approach that is a model for how decision-makers should approach the creation of policies that will help the global society reach Agenda 21's goal of sustainable development.

Kelley Sayre is an intern for the Environmental Change and Security Project. She has also worked for the National Wildlife Federation and the U.S. Department of State.

Endnotes

[1] Agenda 21, in the words of the United Nations, "is a comprehensive plan of action to be taken globally, nationally and locally by organizations of the United Nations System, Governments, and Major Groups in every area in which human impacts on the environment. Agenda 21, the Rio Declaration on Environment and Development, and the Statement of Principles for the Sustainable Management of Forests were adopted by more than 178 Governments at the United Nations Conference on Environment and Development (UNCED) held in Rio de Janerio, Brazil, 3 to 14 June 1992" (UN, 2001).
[2] See also Ibeanu (2000).

References

Ibeanu, Okechukwu. (2000). "Oiling the friction: Environmental conflict management in the Niger Delta, Nigeria." *Environmental Change & Security Project Report 6*, 19-32.

United Nations. (1993). GA48/163 (48th General Assembly, Resolution 163: The Declaration of the IP Decade). New York: United Nations.

United Nations. (2001). *Agenda 21*. [On-line]. Available: http://www.un.org/esa/sustdev/agenda21.htm

The Third Force: The Rise of Transnational Civil Society

Ann M. Florini (Editor)
Tokyo: Japan Center for International Exchange; and Washington, DC: Carnegie Endowment for International Peace, 2000. 292 pages.

Reviewed by ***Stacy D. VanDeveer***

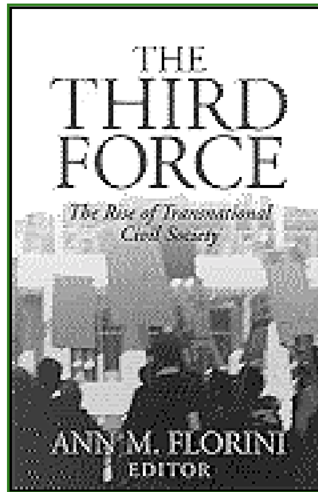
The Third Force is an insightful, well-organized, and inspiring book. Florini and her collaborators explore the goals and activities of transnational civil society actors and networks, which they call an "emerging third force in global politics" (after states and private- sector actors).

The book includes an introductory chapter by Florini and P.J. Simmons, a conclusion (by Florini), and six well-written and detailed case studies of the influence of groups and networks in international civil society. These case studies cover: (1) the anti-corruption activities of Transparency International (written by Fredrik Galtung); (2) debates and action around nuclear non-proliferation and the Test Ban Treaty (Rebecca Johnson); (3) organizing around big dams (Sanjeev Khagram); (4) transnational networks and campaigns for democracy (Chetan Kumar); (5) activism around the International Campaign to Ban Landmines (Motoko Mekata); and (6) transnational activism and implementation of human rights norms (Thomas Risse). *The Third Force* also includes an exceptionally useful and comprehensive annotated bibliography (prepared by Yahya A. Dehqanzada) of related literatures. Readers interested in traditional and environment-related security concerns will find all six cases interesting. In particular, the cases of civil society activities around non-proliferation, the landmine ban, and big dams have direct connections to important on-going security and environmental debates.

Perhaps the book's greatest contribution is the authors' repeated demonstration that the interaction between civil society actors and various state actors is essential (and common) for effective transnational cooperation. Too often in international relations and NGO literatures these groups are simply juxtaposed. In cases such as the ban on landmines, transnational anti-corruption efforts, and the domestic implementation of human rights norms, civil society actors could not have accomplished their goals without close cooperation with particular state actors. Had the authors used counterfactual analysis a bit more explicitly, they might have demonstrated this more forcefully. In particular, Thomas Risse's chapter on the domestic internalization of human rights norms shows the central importance of both iterated dialogue and debate between state and non-governmental actors. For Risse, effective transnational politics move over time from nearly exclusive confrontation between NGO and state actors to the diffusion and implementation (by state and non-state actors) of transnational human rights norms.

The case studies in *The Third Force* also demonstrate that the international community does not change state policies and practices directly or alone. These case chapters detail the struggles and activism of domestic groups and individuals (inside and outside of the state) in their efforts to use transnational groups and norms to change domestic politics, policies, and societies. This book

is not about imposing agendas from above or from "'outside'" of national politics. Rather, it is about the dynamic interaction of transnational activism with domestic actors and politics. Florini and her colleagues demonstrate that transnational civil society groups can encourage and enhance domestic political debate and dialogue—not just attempt to dictate them.



Some of the usual criticisms of research about NGO activism and transnationally-networked actors apply to this book, however. For example, because of its lack of attention to cases in which activists failed to influence international agendas, *The Third Force* gives readers little about why and how civil society actors can be marginalized by state actors or ignored by policymakers and societies. Regarding the transnational networks, it also remains very difficult to determine where their boundaries are—the book's authors never really reflect on whom, exactly, is connected to whom (and how).

In addition, the boundaries between civil society and state and private actors are considerably less clear in practice than they are in theory. For example, is a state official who cooperates with NGO activities in the civil society network? Or is she best thought of as a state actor? Does it matter? Lastly, not all transnational civil society groups act as the "global conscience" that Florini and Simmons posit them as (page 4). Not all such actors are quite so civil, for example. NGOs and civil society networks (and some of the individuals within them) have pathologies as well as virtues. Research on NGOs and civil society remains generally silent about the less virtuous goals and tactics of some actors. Are we to believe, for example, that civil society actors are entirely altruistic? Are we to assume that they never bend or break laws—or use coercive force—to achieve their goals?

But in sum, Florini's *The Third Force* is strongly recommended for all those interested in transnational activism of individuals, NGOs, networks, and policymakers. The book is an excellent addition to undergraduate and graduate syllabi. It encourages students and other citizens to engage international politics with a dynamic and effective combination of idealism and pragmatism.

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How Americans View World Population Issues: A Survey of Public Opinion

By David Adamson, Nancy Belden, Julia Da Vanzo, and Sally Patterson
Santa Monica, CA: RAND, 2000. 123 pages.

Reviewed by ***Simona Wexler***

Through its *Population Matters* project, RAND has published this intriguing survey of how Americans view demographic issues and trends in the context of U.S. international aid. While the sample of individuals interviewed for the project is fairly small (about 1,500 people), *How Americans View Population Issues* nonetheless provides useful insights into how much Americans know and care about population issues. The questions of the survey were targeted at (a) the general views on U.S. international economic assistance and its recipients, (b) general knowledge about population issues such as demographic trends, and (c) specific issues such as family planning and abortion.

According to this survey, 59 percent of Americans support international economic assistance—the highest level since 1974. In particular, Americans consider humanitarian programs and health-related programs addressing environmental, children's, women's, and human rights issues to be particular priorities. Slowing the birth rate in the developing world, however, seemed to respondents not as important an issue: only 22 percent of the respondents felt it was of critical concern.

One of the most interesting findings in *How Americans View Population Issues* is the lack of knowledge Americans have about the world's demographic trends. Only 14 percent of the interviewees were aware that the world population reached the six billion mark, and roughly 40 percent did not know the current size of the world's population. Furthermore, many respondents did not seem to be able to correctly estimate the rate of population growth. In fact, almost half predicted world population will double in the next 20 years, far sooner than the estimated prediction of 50 years. However, the survey indicated that Americans do believe the world is overpopulated. While they do not perceive rapid population growth to be as severe a problem as hunger or disease, 27 percent of the individuals surveyed believe it contributes to other problems such as environmental

degradation, civil unrest, and slow economic growth.

Family planning was a major focus of the survey. Fully 92 percent of Americans favor both (a) the right of an individual and a family to decide the number of children they will have in their lifetime, and (b) that information to achieve that goal should be available to all. Abortion, however, remains controversial and divisive for Americans, who seem evenly split on this issue. Almost half of those interviewed for this survey opposes abortion except when rape, incest, or danger to the mother's life are involved. The other half does support unfettered legal access to abortion. However, the survey seems to indicate that abortion is not a black and white issue, and that many Americans approve or disapprove of it depending on the circumstances. Supporters of legal abortion believe that the procedure can save women's lives, while opponents are convinced that women use it as a contraceptive method and that its legality promotes sexual promiscuity among teenagers and unmarried couples.

However, the survey also found that two-thirds of the interviewees that oppose abortion *approve* of funding family planning programs. In fact, one of the most interesting findings of the survey is the confusion among the respondents about the term "family planning." While 46 percent believes that the term includes abortion, 52 percent believes it does not. Attitudes of the American public regarding congressional actions on international family planning also reflect a deep divide. While 50 percent did approve of the 1996 congressional vote to reduce funding for family planning, 51 percent disapproved of Congress denying funding to family planning organizations that provided abortions (despite the fact that no U.S. "family planning" assistance funding goes to support abortion).

One of the most interesting findings in *How Americans View Population Issues* is the lack of knowledge Americans have about the world's demographic trends.

Despite the relatively small number of the people interviewed for it, *How Americans View Population Issues* is a well-conducted survey that sheds light on the views and attitudes many Americans have on U.S. international economic assistance. While the majority of Americans do support economic and family planning assistance to the developing world, it is clear that most Americans are not highly informed on a variety of issues regarding the topic. The survey also highlights important findings for the policy community, which should pay close attention to some of its more perplexing findings. Few of those

Contagion and Stability: An ECSP Policy Brief

The Environmental Change and Security Project is publishing a policy brief based on findings and recommendations from "Contagion and Conflict," a two-day simulation conference in May 2001 that explored what a massive plague outbreak in India would mean for regional and international security.

Sponsored by ECSP, the University of Michigan Population Fellows Programs, and the U.S. Army War College at Carlisle, Pennsylvania, "Contagion and Conflict" attracted representatives from the U.S. government, foreign embassies, and nongovernmental organizations as well as leading scientists, scholars, and researchers. Among the participants were Helene Gayle of the Centers for Disease Control and Prevention, Charles Jess of the U.S. State Department, and Ajai Malhotra of the Embassy of India. Participants divided into teams (representing India, the United States, international organizations, and nongovernmental organizations) to formulate and negotiate responses to a scenario of pneumonic plague outbreak in the Indian state of Andhra Pradesh—an outbreak that spreads because of migration and threatens to destabilize the region.

The policy brief will be published in autumn 2001. To request a copy or for more information, please contact ECSP at ecspwwic@wwic.si.edu or call 202/691-4130.

questioned, for instance, are aware about growth and population size despite the focused international attention on the "Day of Six Billion" in October 1999. From the survey it also emerges that the general public has yet to make the important connection between population issues and environmental degradation. And while there is strong support for the funding of international family planning, half of the respondents did not object to congressional cuts for family programs in the developing world. While this opinion may be due to the fact that most Americans overestimate what the U.S. government contributes to foreign aid, it is clear that the public should be better informed about the subject. Policymakers should also prioritize educating the public about the benefits of providing family planning—which (among other things) has decreased the number of abortions in countries such as Russia, Bangladesh, Hungary, South Korea, and Kazakhstan. Finally, it is plain from the survey that a clear definition of "family planning" is much needed, and that Americans are uncertain whether or not the term encompasses abortion.

Simona Wexler is a former project associate for the Environmental Change and Security Project.

Urbanization, Population, Environment, and Security: A Report of the Comparative Urban Studies Project

Christina Rosan, Blair A. Ruble, and Joseph S. Tulchin (Editors)
Woodrow Wilson International Center for Scholars, Washington, D.C. 2000. 98 pages.

Reviewed by Richard Thomas

The 21st century is taking shape as the urban century. The consensus among demographers is that more than half of the world's population now lives in urban areas, and both the United Nations and the World Bank predict that by 2050 that figure will be above 85 percent. Urbanization is already an important security concern and will only become more so as the balance of the world's population is born in or migrates to the cities.

The Comparative Urban Studies Project at the Woodrow Wilson Center was founded in 1997 with the purposes of (a) identifying factors that make cities centers of violence and poverty, and (b) proposing policy recommendations for making urban areas more secure and sustainable. In *Urbanization, Population, Environment, and Security*, the Project presents articles by three experts that examine a range of urban issues—including resource and environmental degradation, population growth, violence, and international crime.

Ellen M. Brennan-Galvin, Chief of the Population Policy Section at the United Nations Population Division (and a Fellow at the Woodrow Wilson Center starting this fall), opens the report with an engaging analysis of the dynamics of megacities—those cities whose populations exceed ten million. The number of megacities is growing, the size of these cities is becoming larger, and most of them are in the developing world. Brennan-Galvin describes general trends in the development of the megacity phenomenon since 1950 and briefly examines various concerns and factors involving this development. She argues that, while large cities generally save resources relative to small cities, they also bring with them a host of environmental difficulties contributing to water and air contamination as well as solid waste management problems.

Michael Renner of the Worldwatch Institute follows by examining the causes of worldwide migration to cities. He cites environmental degradation, economic scarcity, and social inequality as the primary drivers. Starting with environmental stresses, Renner defines water scarcity and describes its causes, from increased demand on groundwater to climate change. He then describes how water scarcity pressures people to abandon rural areas in favor of cities. He also discusses economic equity and land distribution as a contributing factor. Citing specific examples of massive wealth concentration in the developing world, Renner explores the compounded environmental effects of peasants being forced to exhaust marginal lands through farming. Going further into wealth distribution inequalities, Renner details how unemployment and economic inequity impel migratory pressure. Finally, he concludes with a treatment of the ready availability of light weapons, which encourages greater violence by increasing the potential force available to the poor and dislocated.

Alan Gilbert, a professor of geography at University College, London, argues in the report's final article that there is no verifiable link between urbanization and security. He attempts to debunk what he terms eight "myths" regarding urbanization. These "myths" are: (1) migration to urban areas creates social ills by condemning migrants to live in poverty and mental dislocation; (2) impoverished shantytowns are breeding grounds for radicalism; (3) runaway demands for social services and

infrastructure in growing cities produce political polarization, urban social movements, and revolution; (4) austerity riots are a new urban social movement; (5) urbanization encourages democracy; (6) urbanization reduces living standards; (7) urbanization increases crime; and (8) large cities magnify every kind of problem.

Although primarily concerned with urban growth as it relates to violence and poverty, Gilbert does touch on environmental themes. In terms of environmental impact, Gilbert argues against any conclusive connection between mere urban growth and environmental degradation. He uses the example of air pollution, pointing out that some large cities have an air pollution problem while others do not. Gilbert asserts that cities with air pollution problems have obvious contributive factors other than sheer size—such as climate factors, large manufacturing sectors, or the substantial burning of coal for energy.

The report also is introduced by a series of policy briefs. The most interesting of these policy briefs (written by Peter Rogers of Harvard University, Hynd Bouhia of the World Bank, and John Kalbermatten of Kalbermatten Associates) outlines solutions to the scarcity of clean drinking water faced by many cities in the developing world. These solutions include: (a) reducing water-system loss through increasing distribution efficiency and eliminating theft; (b) increasing prices to discourage wasteful water use and encourage user efficiency; and (c) diverting water from highly wasteful irrigation to municipal use. Rogers, Bouhia, and Kalbermatten also explore the various obstacles that have prevented widespread implementation of what they consider to be these basic problem-solvers.

Urbanization, Population, Environment, and Security is a good report, presenting several views on the problems of global urban growth as well as describing in general and approachable terms the facets of this complicated issue. It serves as an excellent springboard for (a) those who are interested in learning about the consequences of accelerating urbanization in the near future, or (b) those already educated on the matter and interested in a review of current scholarship.

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Environment Matters: Conflicts, Refugees, & International Relations

By Shin-wha Lee

World Human Development Institute (WHDI)
Seoul and Tokyo: WHDI Press, 2001. 225 pp.
Email: whdi8802@hanmir.com

In *Environment Matters*, Shin-wha Lee attempts to raise environmental and human security issues as a major research agenda in international relations. In this comprehensive and in-depth study, Lee focuses specifically on the environment-conflict linkage instead of the more general relationship between environmental decline and negative political and social consequences, in order to more convincingly illustrate that environmentally-induced conflicts ("eco conflicts") are a major threat to security.

The goals of the book are: (1) to provide a clearer conceptual idea of what environmental security actually means; (2) to add, through case study analysis of environmentally displaced persons in Sudan and Bangladesh, to the short-supply of quantitative empirical evidence supporting the interrelationship of population, the environment, and conflict; and (3) to assess the role of international cooperation for environmental protection initiatives and opportunities to promote regional international security and peace.

Forthcoming Volume from the Woodrow Wilson Center Press

Environmental Peacemaking

Ken Conca and Geoffrey D. Dabelko, Editors

Can environmental cooperation be utilized as a strategy to bolster regional peace? A large body of scholarly research suggests that environmental degradation may catalyze various forms of intergroup violent conflict. In contrast, there is almost no systematic research on an important corollary: that environmental cooperation may be a useful catalyst for broader processes of regional peacemaking. Yet there is a strong basis in theory to think that environmental problems can be exploited to make peace through several channels: enhancing trust, establishing habits of cooperation, lengthening the time horizons of decision-makers, forging cooperative transsocietal linkages, and creating shared regional norms and identities.

> We have little knowledge of how to tailor environmental cooperation initiatives to speak specifically to the problem of violence. Even more importantly, we may be missing powerful peacemaking opportunities in the environmental domain that extend beyond the narrow realm of ecologically induced conflict. We know that international environmental cooperation can yield welfare gains. But can it also yield benefits in the form of reduced international tensions or a lesser likelihood of violent conflict? Such benefits could be a potentially powerful stimulus to environmental cooperation, at a time when such a stimulus is badly needed.

—Ken Conca, "The Case for Environmental Peacemaking"

This volume examines the case for environmental peacemaking by comparing progress, prospects, and problems related to environmental initiatives in six regions. Although the regions vary dramatically in terms of scale, interdependencies, history, and the essence of insecurities, each is marked by a highly fluid, changing security order—creating potential space for environmental cooperation to have a catalytic effect on peacemaking. Among the volume's key findings are the following: that substantial potential for environmental peacemaking exists in most regions; that there can be substantial tensions between narrower efforts to improve the strategic climate among mistrustful governments and broader trans-societal efforts to build environmental peace; and that the effects of environmental peacemaking initiatives are highly sensitive to the institutional form of cooperative activities.

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