that is problematic. Where Remaking Micronesia is historically descriptive and explanatory, it is usually for the wrong reasons.

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Recent Books on Environment, Conflict and Security

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Homer-Dixon, Thomas and Jessica Blitt (eds.). 1998. Ecoviolence: Links Among Environment, Population, and Security. Lanham, MD: Rowman & Littlefield. vi, 238 pp.

Homer-Dixon, Thomas. 1999. Environment, Scarcity, and Violence. Princeton: Princeton University Press. xvi, 253 pp.

Naqvi, Nauman (ed.). 1996. Rethinking Security, Rethinking Development: An Anthology of Papers from the Third Annual South Asian NGO Summit.
Islamabad: Sustainable Development Policy Institute. xi, 317 pp.

Poku, Nana and David T. Graham (eds.). 1998. Redefining Security: Population Movements and National Security. Westport: Praeger. xv, 245 pp.

During the Cold War, a small number of scholars - including Lester Brown (1977), Richard

Ullmann (1983) and Jessica Mathews (1989) - argued that the concept of security should encompass more than military threats and associated vulnerabilities. These scholars were concerned about the volume of public resources being devoted to a very narrow, military understanding of security, in comparison to what was being targeted to address other types of insecurity. Given the experience of two world wars, it is not surprising that preventing nuclear war was generally seen to be far more urgent and important than anything else one might do to promote security at home or abroad. But, this handful of thinkers argued, we inhabit a world increasingly characterized by transnational, interconnected, non-military problems, such as the rapid expansion and movement of populations, the grinding poverty affecting billions of individuals, an explosion of new and resurgent infectious diseases, and diverse forms of environmental degradation. These threats to human welfare, social stability and progress deserve attention as issues of national and international security.

At first this argument provoked little interest. The problems it highlighted seemed to many observers remote, or manageable through the "low" politics of trade and diplomacy. But the end of the Cold War provided an opportunity for much of the world, and especially the West, to reconsider the most fundamental questions of security. Simultaneously, the 1992 Earth Summit underscored the unprecedented extent of human-generated environmental change, change that many believed had dire consequences for current and future generations of humankind. Scientific evidence continued to uncover environmental problems - such as global climate change, ozone depletion and biodiversity loss - that were often communicated to the public through bold and alarming reports. For all of these reasons, a window opened for the world. The concept of "environmental security" appeared to many observers to offer an important perspective, one that would be folly to ignore. During the past decade a veritable flurry of research, debate and policy activity have taken place under the broad label of "environmental security." In this review, four recent contributions to this sub-field are summarized and evaluated.

When the security window was thrown open in the wake of the Cold War, a young Canadian scholar at the University of Toronto was quick to leap into view. In 1991 Thomas Homer-Dixon published a seminal article entitled "On the Threshold: Environmental Changes as Causes of Acute Conflict" in the journal International Security. Three years later his work was the subject of a dramatic Atlantic Monthly cover story, "The Coming Anarchy," authored by Robert Kaplan. According to Kaplan, Homer-Dixon was laying out the analytical framework that would allow us to understand environmental change and conflict, and hence respond to what was destined to become "the national security issue of the twenty-first century." Kaplan's article spread across an arid Washington, its pundits thirsting for a new focus for security policy, like brush fire. Within months, friends of environmental security had been mobilized, agendas were hammered out, and policy processes were set in motion throughout the defense and intelligence communities, and in several other government agencies and departments.

Encouraged by an escalating demand for more information, Homer-Dixon directed three prolific research projects throughout the 1990s. Over the years, his theory became increasingly parsimonious and robust; his body of empirical evidence expanded steadily; and his work elicited an enormous - and mixed - response in the field. Recently the scholarly fruit of a decade of research, involving scores of contributors from around the world, has been summarized in two texts, one written by Homer-Dixon, the other edited by him and Jessica Blitt.

Environment, Scarcity, and Violence is a well-written, systematic and important book. Homer-Dixon begins by explaining and defending his research problem and the methodology he has adopted. In Chapter 2, he provides the reader with a concise summary of his argument. Chapter 3 reviews two centuries of debate among neo-Malthusians, economic optimists and distributionists; Chapter 4 examines in great detail the diacritical concept of "environmental scarcity;" and Chapter 5 reviews the various ways in which scarcity affects societies. Much of the explanatory value of Homer-Dixon's work lies in his arguments about the supplies of technical and social ingenuity that societies rely on to adapt to environmental scarcity. After presenting

these in Chapter 6, Homer-Dixon focuses in Chapter 7 on the pathways from environmental scarcity to violence, pathways he contends are most likely to appear when ingenuity is in short supply. The book concludes with a brief summary of his position.

This is a wonderfully conceived book, and without question it is essential reading for anyone interested in the putative relationships between environmental scarcity and conflict. Homer-Dixon writes in a direct, uncluttered and authoritative prose; he takes care to explain how to read a systems diagram and what he understands by the concept of causality. Readers familiar with his three major articles, published between 1991 and 1995, may not find much new here, but the models have been refined, many lines of criticism have been addressed, and the key findings of the three projects have been assembled in a very cogent manner. So, now that it has been rendered in its most polished form, how does the argument look?

Homer-Dixon's central findings have remained remarkably constant over the years. They are well-summarized in his concluding chapter: "what I call environmental scarcity... can contribute to civil violence, including insurgencies and ethnic clashes.... [T]he incidence of such violence will probably increase as scarcities of cropland, freshwater, and forests worsen in many parts of the developing world. Scarcity's role in such violence, however, is often obscure and indirect. It interacts with political, economic, and other factors to generate harsh social effects that in turn help to produce violence." [177]

The argument that leads to these conclusions is straightforward. Resource scarcity is the product of an insufficient supply, too much demand, or an unequal distribution that forces some sector of a society into a condition of deprivation. These three sources of scarcity are in turn caused by variables such as population growth, economic development and pollution. They interact in various ways - for example, declining supply can prompt one group to seize control of a resource, simultaneously forcing another group onto an ecologically marginal landscape.

Faced with growing scarcity, societies may experience health problems, social segmentation and declines in agricultural and economic productivity. People may be compelled to move, often intensifying ethnic and other group identity tensions. Demands on government may increase while tax bases are being eroded. Violence may ensue or, if already present, worsen.

It is in this volatile, interactive and complicated context that environmental scarcity can be described as a cause of conflict. Scarcity is not, Homer-Dixon stresses, likely to be a sufficient or necessary cause, but its growing presence in the causal network that generates violence is, he believes, clear and growing clearer. Where is this the case? It is likely, Homer-Dixon contends, that developing countries with small supplies of social and technical ingenuity will prove most vulnerable to the negative effects of environmental scarcity. Unless we find ways to increase their amount of ingenuity (that is, "ideas for new technologies and new and reformed institutions" [180]), we can expect more of this type of violence in the years ahead.

At first blush, this is quite a compelling image. It seems reasonable that environmental scarcity may have some sort of positive relationship to conflict and violence in countries with scant technical and social capacity, especially if they are already riven by ethnic or other tensions. The claim is clearly reasonable--but how significant is it? Throughout the 1990s, Homer-Dixon's work has been criticized for expending considerable resources to demonstrate the obvious: under conditions that are difficult to specify, environmental scarcity may be linked to social violence. A typical complaint is that he focuses on the wrong question. "Can the sources and nature of the conflict, I ask, be adequately understood without including environmental scarcity as part of its causal story?" [7] He focuses on this question "to avoid entangling myself in the metaphysical debate about the relative importance of causes." [7] What many want, however, is a theory, supported by empirical evidence, that addresses the relative importance of causes. The question many people care about is not, does the environment matter, which Homer-Dixon answers convincingly, but how much does the environment matter, which he avoids.

Causal stories are often complex. No one expects social science theory to provide definitive accounts or explanations. Nonetheless, social science risks being uninteresting when it is excessively cautious. And Homer-Dixon's work has become rather cautious.

There are other methodological concerns worth mentioning. Homer-Dixon wants to establish that environmental scarcity is playing a growing role in certain types of violent conflict. His concept of environmental scarcity includes unequal distribution of resources as one of three forms. This makes it difficult to assess whether environmental change is becoming more salient to conflict or whether the world is plagued by a lot of inefficient and inequitable distribution systems. Although environmentalists argue that everything is connected to everything, the distinction seems important insofar as what one hopes for from Homer-Dixon is to have the conventional work on distributive schemes and conflict processes enriched with insights about how environmental change is now affecting the picture. We want to learn something new about the ways in which social and ecological systems interact. By treating environmental and distributive issues in a single concept of scarcity, Homer-Dixon makes it less clear what we are learning from his work.

There is another aspect of the concept of environmental scarcity that is unsettling. It is not very clear what it means. No doubt it would be difficult, perhaps impossible, to set standards - to say, for example, that scarcity occurs when the per capita supply of resource X is 30% less than in comparable countries, and the deficit cannot be made up through trade or substitution. But without something like this, one worries about the extent to which the dependent variable may be shaping the definition of the independent variable.

Finally, in reading this book I was struck by the succinct and accessible manner in which Homer-Dixon has used systems modeling techniques to make his case. None of the other major environmental security research projects have produced such elegant and useful models. In fact, for the most part, they have not done much more than reiterate Homer-Dixon's original position. Some scholars have tried to incorporate more variables into their models. Others have contended that cooperation might be the final outcome far more frequently than violence. But on the whole these have been modest revisions to Homer-Dixon's theory, even though their policy implications might be great.

Developing variations of the basic Homer-Dixon model is not without value. But what would be truly useful is to ratchet the model up a level or two. The utility of systems analysis lies largely in its potential for (a) revealing important balancing and reinforcing feedback loops, (b) demonstrating how a small change in one value can affect the entire system in a dramatic way, and (c) assisting policy makers by incorporating time sensitivity into the network of variables that are being modeled. When these are done, even in a fairly preliminary way, it becomes possible to discuss how and where funds and expertise might be most effectively applied to change a causal pattern. Absent this information, and one can get the impression that systems modeling does not do much but produce nice images of processes that are simultaneously vague and rather obvious.

For example, it might not be difficult to impart some sense of the time sensitivities. Things like forests, cropland, fish stocks and freshwater are diminished and restored in time frames that can be calculated with reasonable accuracy. The times required to modify agricultural practices or implement new technologies can also be estimated. Building these into the models might make them more valuable as explanations and policy tools. Systems modeling is not well-established in the field of international relations. Scholars have tended to rely on a combination of rigorous logical theory, case studies, and quantitative analysis. By using this approach, and by presenting it in a very accessible way, Homer-Dixon does a tremendous service to the field. One feels, however, that even he might have pushed his models further along than is the case.

The strengths and weaknesses noted above are equally evident in the volume edited by Homer-Dixon and Blitt, which presents five case studies culled from a much larger set generated during the 1990s. This book begins with a very concise overview of Homer-Dixon's theory. It then presents case studies of environmental scarcity and conflict in Chiapas, Mexico; Gaza; South Africa; Pakistan; and Rwanda. It ends with a summary of the general conclusions reached by Homer-Dixon's research teams.

In addition to reiterating the theoretical problems noted above, the case studies raise some new concerns. In particular, they are very narrowly focused. Perhaps, rather than fitting together

stories that more or less confirm the theoretical model, a more convincing approach would have been to show how this perspective on events supplements or improves upon alternative explanations. For example, to what extent can violence in Gaza and South Africa be explained in terms of a long struggle between rival groups to retain, expand or obtain political power? Is this conventional interpretation wrong? How does the concept of environmental scarcity correct or add to stock views on what has happened in these regions? This approach might have been more effective in making the case for taking environmental scarcity seriously. Absent the comparison to alternative explanations and it becomes easy for the reader to start to question the stories being told here on the grounds that they exclude too much.

For example, I spent part of 1999 in northern Pakistan studying conflict. The case study of Pakistan omits several factors that seem to me quite fundamental for understanding the processes of violence and conflict in that country. In particular:

- the British set up a system of administration based on bribery and designed to extract resources that has not yet been fully dismantled and reconstructed;

- change has been slow in part because Pakistan was hobbled at birth. When pulling out of the region, the British drew borders to divide Hindu and Muslim, borders that produced a Pakistan composed of two parts separated by a thousand miles of hostile territory;

- shortly after this contentious matter was resolved through the creation of Bangladesh, the Soviet Union invaded Afghanistan, sending as many as 3.5 million poor, heavily armed refugees into Pakistan. In a remarkable display of humanitarianism, the Pakistani people welcomed this huge number of refugees, but over the past twenty years the strain of this rapid influx of people has become evident in many sectors, including the environment;

- with the refugees came a large quantity of small arms. And at the same time, the northern part of Pakistan became a major producer of heroin and an integral part of the global drug trade increasing the potential for violence there while reducing world support for the country;

- in recent years, a heavy debt burden, nuclear testing and allegations of government corruption have combined to reinforce a rather negative international image. Aggressive structural adjustment policies have been put into place, and significant amounts of foreign aid have been withdrawn;

- a range of internal problems have combined with this onslaught of external pressures to create a very volatile country with a remarkably weak economy. A high birth rate has contributed to a very young population. Large numbers of armed, frustrated, unemployed youth have been receptive to forms of ideological extremism.

The point is that a huge amount of information not included in the case study is important in understanding the levels and forms of violent conflict experienced in Pakistan. Knowing this, the argument seems much less convincing than it otherwise might be. One wants to see the relationship between environmental scarcity and conflict weighed and assessed against the relationships of other factors.

These two books are not flawless; they are essential reading for anyone interested in the sub-field of environment, conflict and security. Insofar as higher education is concerned, every graduate student in international relations should devour both books; they make a nice module for an undergraduate or graduate course; and they might easily be used as the basis of an upper level seminar. Policymakers who want to learn about environmental security ought to start here.

Interested parties in countries where this research agenda has not yet developed will find these two books a wonderful introduction. In staking out his position, Homer-Dixon has provided valuable input into general discussions about the changing nature of security that have quickened since the end of the Cold War, and he has contributed to the expansion of environmental sensibility and activity that has taken place for almost forty years. In the final analysis, these are important works, works that helped shape the character of the post-Cold War decade, and they are destined to be widely cited for many years.

As influential as Homer-Dixon has been, his work explores only one approach to linking the environment and security. Throughout the world, this linkage has been made in a variety of ways.

An alternative perspective is offered in the diverse collection of essays edited by Nauman Naqvi. Rethinking Security, Rethinking Development gathers together highly readable papers presented by academics and activists at a South Asian NGO Summit held in Kathmandu in 1995. The focus of this volume is "human security." The authors are critical of the ways in which state and international practices have ransacked natural environments, concentrated power, perpetuated injustices, and generally forced many individuals and communities to live in conditions of great deprivation and insecurity. The writing is often passionate and even angry, but it does not sacrifice analytical rigor to emotional rhetoric. Many of the pieces are remarkable clear, persuasive and memorable.

Among the numerous themes treated in this volume, several play a unifying role:
- South Asia's new states have failed many of their citizens insofar as development, justice and security are concerned; the international system bears much of the blame for this: it is often exploitative and unjust, and its Northern elites are aggressively recolonizing parts of the developing world; in spite of its diversity, South Asia possesses a certain cultural integrity that has been distorted by national borders imposed on it by the rest of the world, borders that have weakened the region; under these conditions (quasi-states, interventionist external forces, dividing borders), development has often failed - environments have been degraded and people have been rendered destitute and highly insecure; thus there is a need for new forms of development, and a pressing need to determine these by rethinking what development and security are and should be, and how they are and should be related; and, fortunately, a vibrant array of new non-governmental organizations may be able to play an important role in this regard.

To flesh out these several themes, the volume is divided into seven parts. Part One, Introduction, consists of two brief, clever and powerful addresses given by Tariq Banuri and Anil Agarwal, in which ways of rethinking environment and security are discussed. Part Two, Ecological Security and Natural Resource Management in the Age of Globalisation, includes four papers that place environmental degradation in South Asia in the context of both international and domestic economic processes. In fact, these chapters often go beyond discussion of environmental change with varying degrees of success.

Part Three, Political Security, will be of particular value to readers interested in the traditional security concerns of the region, and especially those related to the ongoing tensions between Pakistan and India, and the development of nuclear weapons capacity in both of these countries. The four chapters of this section look at some of the costs associated with traditional, military notions of security and question their appropriateness to South Asia. It is time, Zia Mian argues, "to extend the traditional notions of development and security in a radical way." [107] In these chapters the importance of reconsidering basic concepts is argued quite effectively by demonstrating the enormous negative impact conventional defense attitudes and activities have had on the environment and people of the region. Day by day, people have been made increasingly insecure, and resources have been wasted in service to ideals that are neither appropriate nor feasible.

The fourth section of the book, The Pathologies of Development and the Question of Human Security, explores the failures of development efforts in South Asia. Urban slums, ethnic rivalries, and religious and political extremism, not to mention the destruction of indigenous communities and lifestyles, are some of the outcomes traced to recent development programs. Part Five, Local Institutional Development, seeks to sketch an alternative by examining the sustainable development strategies of NGOs acting to empower local communities. These success stories are in sharp contrast to the dramatic failures of the mega project approach, as the three chapters of Part Six, Mega-Projects and Local Resistance, demonstrate. The volume concludes with a single chapter by Ashis Nandy entitled "Alternatives to Development," which is a brief reflection on what an alternative to the very concept of development might require. Among other things, Nandy brings attention to the way histories have been rewritten from a Western development perspective, creating a very limited and damaging approach to ordering and evaluating different societies.

It would be of little value to discuss the methodological and theoretical shortcomings of what is, in essence, the published proceedings of a conference. The volume is uneven in many regards, but what makes it invaluable to those interested in environmental security is that it offers a thoughtful perspective developed outside of the Western world. With its radical tendencies; its stream of insights into the political life of Bangladesh, India, Nepal, Pakistan, and Sri Lanka; its astute commentary of the problem of human security; and its attention to social justice, community empowerment, and new ways of doing things, it makes a wonderful contribution to the sprawl of Western writing currently grappling with the challenge of rethinking security and development in the post-Cold War, or post-modern, world. After witnessing the vitality of this writing, one wonders if Homer-Dixon has erred in arguing that ingenuity is lacking in much of the developing world. Perhaps it is from the developing world, rather than from the status quo-oriented West, that the larger innovations that will reshape civilization in the centuries ahead will come. Pushed into higher and higher levels of vulnerability, it may be the people of South Asia who will have the incentive and need to rethink social practices, values, institutions and beliefs in the context of global environmental change and local community, thereby developing new and environmentally sustainable approaches to political and economic life.

Redefining Security: Population Movements and National Security, edited by Nana Poku and David T. Graham, attempts what is surely a logical next step in this literature - bringing together individuals from around the world to focus on specific aspects of rethinking security. In this case, the selected topic - population flows - has tremendous appeal. The eleven chapters of this book seek to thicken a new understanding of security by examining the implications of different forms of population movement in different parts of the world. Conceptually, this is a wonderful idea; its execution, however, has a hasty and even ill-conceived character that diminishes what might have been a powerful and influential volume.

The book begins with a theoretical chapter that makes the conventional observation that security is being reconceptualized. The authors miss their opportunity, however, to clarify the contribution they propose to make to this process. After a few brief comments about sovereignty, the state and traditional military views of security, the authors, citing Andrew Linklater, make what could be a very important point: at the core of much of this "rethinking" activity is concern about the problem of community and morality in our end of the millennium world. But they do not develop, or even explain, this observation. They do not relate it to population flows or security. They do not put any part of this topic into a broad historical context, although they do make a suggestive comment about the "resumption" of history. [2] In short, what this volume is all about, what holds its various chapters together, and what perspective it adds to the current debate, are not explained.

There may be good reasons for the brevity of the introduction, because it is very difficult to see what does hold the various chapters together. After the introduction, the book reads like a random collection of texts on population issues. Five chapters on legal and illegal migration rehearse conventional wisdom and prejudice about some of the problems to which migration flows are linked. Much of the data has a stale quality; the writing is rather journalistic; the arguments are perfectly conventional - in short, it is not clear that anything is being rethought here. Other chapters on tourism, refugees and the health concerns associated with population movements also do not seem to add much to any contemporary debate on the concept of security. In conclusion, the idea behind this volume is excellent, but the various chapters do not really redefine security in any consistent or innovative way. Perhaps the problem lies in the title of the book, which promises more than is delivered.

The end of the 1990s has seen a flood of books on the theme of rethinking security, many of which adopt or at least include an environmental perspective. The four books reviewed here provide a reasonable snapshot of this literature. The problem they raise - a lot of people are threatened by an astonishing and growing array of interconnected, transnational forces against which strong militaries may not have the day--is a valid and even urgent one. In light of the billions of people who live on the threshold of starvation, around the corner from a war zone, or in

the heart of a disease curtain, one hopes that efforts to reduce their insecurity will continue to attract the attention of diverse and thoughtful scholars, policymakers and activists. One suspects, however, that for much of humankind the next century will hold its full share of threat.

How to Create and Nurture a Nature Center in Your Community by Brent Evans and Carolyn Chipman-Evans, (1998) Austin: University of Texas Press, xv, 250 pp.

Reviewed by Matthew Oppenheim, Burbank, CA.

This book, a visual as well as a spiritual and intellectual delight, gathers the collective wisdom gained from nature centers across the U.S. It is a "how-to" book for developing the activism and administrative expertise to successfully start a nature center. It weaves into this practical discussion reflections from Native American traditions and from naturalists such as John Muir, as well as countless inspiring stories by visitors and avid volunteers who have been transformed by their experiences of nature. The authors interject their own personal experiences from the Cibolo Nature Center - near the Texas Hill Country town of Boerne - which they helped create in 1988. The visual experience of the nature center is always close at hand in this book, conveyed through photos of activities and graphics from building floor plans and detailed drawings of native flora.

The authors claim that the awakened consciousness from the nature center experience can lead to sustainable planetary change. Yet the link between a small local nature sanctuary and the remedy to rapid environmental degradation is not clearly established. While enjoying the this book's inspiring and richly realized stories, we also must look critically to see whether and to what extent the nature center is indeed a pivotal local response to the need for encompassing change.

The book begins with a quote attributed to Chief Seattle - "and what is there to life, if a man cannot hear the lonely cry of the whippoorwill . . ." - and the personal experiences of the authors that inspired the vision and sense of mission for the book. They tell the story of their own Cibolo Nature Center, followed by short descriptions of what they consider to be sixteen of the more successful nature centers across the country. Whether Chief Seattle actually spoke the words later attributed to him is open to question, but their invocation here capitalizes on the popular view that privileges indigenous ecological wisdom.

The book then considers the mission and purpose of nature centers: "A nature center protects a piece of ground that can both inspire and teach." The authors discuss the interdependent issues of conservation, education, and recreation, and quickly move on to pragmatics. Facilities are discussed first, from designing buildings and trails to live animal enclosures and botanical centers. Then come "Program Possibilities." We learn about "maple sugaring" projects, "Enchanted Halloween" parties, as well as more traditional activities, from nature walks to wildlife seminars. There are tips for presentations and details of the Cibolo education program. A more lengthy discussion of the process of creating your own center follows. As always, the chapter starts with an inspiring quote, this time from Margaret Mead: