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ENVIRONMENTAL CHANGE & SECURITY PROJECT REPORT



Jane Goodall on Population and Conservation

Jeffrey D. Sachs, et al.: Is Global Poverty a U.S. National Security Issue?

The Future of Megaconferences

Population and Environment Funding

Poverty and Environmental Insecurity in South Asia

Water and Power in Southern Africa

Homer-Dixon, Peluso, and Watts on *Violent Environments*

Reviews of New Publications

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environmental change & security project

ENVIRONMENTAL CHANGE AND SECURITY PROJECT REPORT

EDITOR

Geoffrey D. Dabelko

MANAGING EDITOR

Robert Lalasz

PRODUCTION EDITOR

Richard E. Thomas

CONTRIBUTING EDITORS

Dina Abbas

Nelia Forest

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Jennifer Kaczor

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Population growth. Water scarcity. Degraded ecosystems. Resource depletion. Forced migration. Pandemic disease. Since 1994, the Environmental Change and Security Project has explored the connections among these major challenges as well as their links to conflict, human insecurity, and foreign policy. Through its meetings, its publications, its comprehensive Web site, and the original research carried out by its staff and scholars, ECSP serves as an information clearinghouse on these issues, and creates special programming and publications and encourages dialogue among scholars, policymakers, and nongovernmental organizations. Its two annual journals, *The Environmental Change and Security Project Report* and *The China Environment Series*, are read by over 7,000 policymakers, practitioners, journalists, scholars, and interested citizens. ECSP is directed by Geoffrey D. Dabelko and is housed in the Wilson Center's Division of International Studies, headed by Robert S. Litwak.

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Environmental Change and Security Project
The Woodrow Wilson Center
One Woodrow Wilson Plaza • 1300 Pennsylvania Avenue, NW
Washington, DC 20004-3027
Tel: 202-691-4130 • Fax: 202-691-4184
E-mail: ecsp@wwic.si.edu
Internet: <http://www.wilsoncenter.org/ecsp>

FOREWORD

By **Geoffrey D. Dabelko, Editor**

Our academic training, our policy offices, our NGOs, and our academic departments reward narrow expertise and single-sector programs. These same communities also penalize interdisciplinary and integrated policy efforts. Yet understanding connections among the social, natural, and physical sciences is crucial both to analyzing some of the most imposing issues of our time and to addressing those issues effectively. This ninth issue of *ECSP Report* is about these linkages, especially among non-traditional security issues such as population dynamics, poverty, water, and environmental change.

Pieces by Jane Goodall, Frederick A.B. Meyerson, and Susan Gibbs take different approaches to the ways population dynamics and environmental degradation interact. In the 1980s, Goodall took a flight above the Gombe National Park in Tanzania and saw how refugee immigration and unsustainable development were destroying the park, a renowned habitat for chimpanzees and a rich variety of other wildlife. Goodall details how The Jane Goodall Institute began to address the livelihoods of people around the park as well as in Central Africa as a whole. Such programs are a prime example of how conservation cannot work in isolation from questions of development and population dynamics.

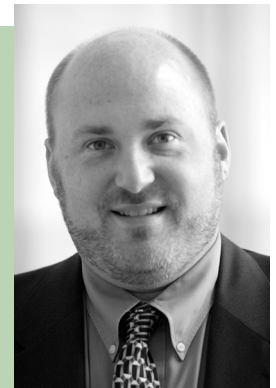
Meyerson and Gibbs look at population-environment (P-E) from an institutional vantage point and see challenges ahead for this young and promising field. For Meyerson, the future of international megaconferences such as the Johannesburg World Summit on Sustainable Development is in trouble—from “summit fatigue,” persistent gaps between rhetorical commitments and actionable resources, and attacks on gains already made at prior conferences such as ICPD in Cairo and the Rio Earth Summit. But such ennui and hostility, he argues, has obscured real global progress in P-E and development action. Gibbs systematically analyzes ongoing changes in public and private giving to P-E programs. While recent foundation losses have affected these programs, Gibbs asserts that population-environment provides a unique, synergistic bounty to donor aims in the developing world.

How poverty might exacerbate national and regional insecurity remains a fertile topic of discussion in some policy circles in the wake of September 11. Indeed, President Bush and U.S. Secretary of State Colin Powell have both stated that poverty in the developing world should be a security concern for the United States. Some analysts, however, feel that the wars in Iraq and Afghanistan have diverted resources and focus away from new efforts against global poverty. Meanwhile, the debate on poverty as a cause of conflict—let alone terrorism—continues to unfold. In “Should Global Poverty Be Considered a U.S. National Security Issue?” commentaries by Vincent Ferraro, Carol Lancaster, Per Pinstруп-Andersen, Jeffrey D. Sachs, and John Sewell provide a rich basis for further discussion of these crucial questions.

From a South Asian perspective, Adil Najam then argues that poverty and good governance are the crucial and long-neglected factors in analyzing the links between environmental stress and violence. For Najam, the focus of most environmental security literature on violent conflict has obscured the far more lethal interactions between poverty and environmental issues.

Finally, Anthony Turton presents the intimate interplay between water and Southern Africa security. In this region of routine interbasin water transfers, increasing water scarcity, and disparate institutional capacities across national boundaries, water has the potential to contribute to regional tensions. Turton stresses that culturally-sensitive capacity building and good governance (based on sound and transparent data) are key to turning potential conflict into cooperation over water.

Some aspects of past issues of the *ECSP Report*—the bibliography; updates on NGO, foundation, research, and government activities; and Internet links are now available on the Project’s Web site at www.wilsoncenter.org/ecsp. The site also has more extensive official statements and summaries of ECSP’s 40+ meetings each year. Reviews of current literature remain both in the *Report* and online and contain some of the *Report*’s liveliest writing.



Geoffrey D. Dabelko

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COMMENTARIES

BRIDGING THE CHASM: HELPING PEOPLE AND THE ENVIRONMENT ACROSS AFRICA

By *Jane Goodall*

About the Author

Jane Goodall began her landmark study of chimpanzees in Tanzania in June 1960, under the mentorship of anthropologist and paleontologist Dr. Louis Leakey. Her work at the Gombe Stream Chimpanzee Reserve would become the foundation of future primatological research and redefine the relationship between humans and animals.

In 1977, Goodall established the Jane Goodall Institute (JGI), which continues the Gombe research and is a global leader in the effort to protect chimpanzees and their habitats. JGI is widely recognized for establishing innovative community-centered conservation and development programs in Africa and the Roots & Shoots education program in more than 70 countries.

Dr. Goodall's scores of honors include the Medal of Tanzania, the National Geographic Society's Hubbard Medal, Japan's prestigious Kyoto Prize, and the Gandhi/King Award for Nonviolence. In April 2002, Secretary-General Annan named Dr. Goodall a United Nations "Messenger of Peace."



Jane Goodall

When I first went to Africa to study chimpanzees, I had to learn to look at the world—as best as I could—through their eyes. I came to realize that we humans are not separated from the rest of the animal kingdom, that there is not an unbridgeable chasm between us and them. The chimpanzees reach out across this perceived chasm and demand that we accept them into our world or that we join them in theirs. They have taught us that we are not the only beings on this planet with personalities, minds, and above all, emotions.

Once we admit that we are indeed a part of the animal kingdom, we will have a new respect for the other amazing animals with whom we share the planet. And we become increasingly shocked when we look around the planet and see what we have done to the environment. We see that our actions have destroyed the homes and the lives of countless millions of animals. And we are ashamed and shocked when we think of the way that we treat so many animals in our daily lives.

In 1986, I went to a conference with other scientists who had been studying chimpanzees in different parts of Africa. The conference

had a session on conservation, and it was absolutely shocking to see that the forest habitat of chimpanzees was disappearing rapidly across the whole continent. That conference motivated me to explore what I could do to help conservation in Africa's chimpanzee-range countries (21 countries across what used to be the Equatorial Forest Belt of Africa, which is now an increasingly fragmented patch of forest). And I began to realize that so many of the problems of Africa are due to the unsustainable lifestyles of the elite communities around the world, as well as the way we are exploiting the continent's last remaining resources.

One of the things which particularly shocked me occurred about 15 or 16 years ago, when I was flying over the Gombe National Park as part of a film team that wanted to get aerial shots. The flight made it very clear to me that deforestation around the Gombe Park was very extensive. The forest had once stretched around 300 miles of the lake, as well as inland away from the lake to the east as far as the eye could see. Indeed, there had been more or less unbroken forest when I had first arrived in 1960. And now,

that forest had disappeared.

It was also very clear that there were more people living on the land around Gombe than the land could possibly support. At only 30 square miles, Gombe is the smallest national park in Tanzania, and the park is also in a part of Tanzania that is very economically poor and overpopulated. The local human population has grown, as it has around the world, since 1960. But there the indigenous Tanzanian population was under tremendous stress from refugees fleeing from troubled Burundi in the north and from what was then Zaire during the conflicts and the ethnic cleansings in that part of Central Africa. UNHCR had set up refugee camps, but many of the refugees had relatives around Gombe, so they instead settled in and around local villages. Those refugees coming over from Zaire brought with them a culture of eating primates—a custom that didn't exist in Tanzania—and they began a small bushmeat trade around Gombe National Park.

Outside the park, the situation was very grim. The people struggled increasingly as each year passed because the land became more infertile as the forests were destroyed. Without trees, the soil was washed down the steep, rugged hillsides and into the lake each rainy season, clogging up the fish-breeding grounds. The lake, which was crystal clear in 1960, is now very murky during the rainy season because of this deforestation.

Developing the TACARE Program

This was the point at which we at The Jane Goodall Institute (JGI) conceived the TACARE program. Because how could you even try to save the chimpanzees when the local people were just trying to survive? Right from the beginning, TACARE sought to address the various needs of the people living around Gombe. It began by emphasizing the creation of tree nurseries by providing tree seedlings to residents.

At the same time, JGI vice-president George Strunden put together a team of

Tanzanians who knew the local languages and were skilled in forestry, agroforestry, and health issues. The team began going into the villages around Gombe National Park and talking to the village elders about the kinds of things the elders would like to see improved. Unlike many other well-meaning aid programs, TACARE was not a bunch of white people sitting down around the table working out the best thing for people living in a situation, and then going into that situation and introducing a program. That type of strategy has very often not worked. Many well-meaning attempts to help people have absolutely failed because they did not take into account the needs, the wants, the expertise, and the wisdom of the program's beneficiaries.

TACARE staff members laid out to residents around the park the kinds of things the program might be able to do in collaboration with them. After days of discussion, the residents decided that they really wanted to work with us to improve their lives. Some of the elder village leaders said to George, "Well, yes, we want this program, when can you deliver it to us?" And then George or one of his staff members would say: "Well, we're not going to give you anything." "Well, then why are you here talking about these things?" the elders would reply. "Because we'll help you to do it," George told them, "but we won't give it to you."

The people bought into the idea of collaboration between themselves and the program. They understood that, although we would help supply finance, they would be the ones who would make sure money was used in a wise way. I am most proud of the fact that TACARE started with a very small amount of money. It's still a very small program, but that means that \$1 can do the work of \$5; whereas in so many other aid programs, you find that \$5 does the work of \$1.

Today TACARE has incorporated aspects

Editor's Note

This commentary is an edited transcript of an address Dr. Goodall gave to a Washington policy audience at the Woodrow Wilson Center on 3 April 2003.

such as AIDS prevention and microcredit programs. The program also has experts on forestry and agro-forestry, who were helpful in our initial emphasis on establishing tree nurseries and planting trees to regenerate some of the forest that had been destroyed, which had led to such terrible conditions. Lush forests had been turned into barren, stony desert. Initially, residents wanted trees that would grow quickly and give them some immediate benefits—fruit trees, for instance, or fast-growing species for use as building poles, firewood, or timber. Gradually, the idea of indigenous trees was introduced. In particular, we focused on trees that served residents, such as medicinal plants or trees they could use for weaving ropes.

We have also introduced woodlots into all 33 villages that are a part of TACARE, so that women can avoid long trips to collect wood. And recently, with UNICEF's aid, the program is emphasizing freshwater wells and establishing some solar pumps helping to provide water to the villages.

TACARE Grows

TACARE has grown gradually. Right from the beginning, JGI planned that the program would not simply emphasize agro-forestry. We realized that the community's needs are greater, so the scope of the program gradually increased.

As I indicated earlier, more people live around Gombe than the land can possibly support, even if the refugees there were to return to their homes. Given the dire situation, TACARE began to emphasize expanding women's educational opportunities. When women who are living in poverty have increased opportunities for education, their self-esteem increases and they are often held in higher regard by the men in the village. And family sizes typically drop as well.

TACARE has also introduced family-planning information. I happened to be in Kigoma the day that our team set out for the first time to visit all the villages to talk about family planning. The area is predominately Muslim, but there are also Catholics, Seventh-day Adventists, and other religions, so team members were unsure of how their message would be received. I also happened to be there

when the team members came back, and they had huge smiles on their faces. They said: "Every single village said to us, 'Why didn't you come before? We need this information.'" These highly intelligent people have welcomed family-planning and AIDS-prevention information because they know that they can no longer support large families—and because the information was introduced by local people to local people.

So many of Africa's problems are due to the unsustainable lifestyles of the world's elite communities as well as the exploitation of the continent's last remaining resources.

—Jane Goodall

TACARE also formed a relationship with Family Health International (FHI), a clinic that provides contraception. In a four-year period, FHI has seen quite a difference in attitudes toward contraception among residents around the park. Initially, women could only come in with their husbands for family-planning information. They had to get permission. After four years, women were coming in and making those decisions for themselves. This development is very encouraging for those of us concerned about growing population levels around the world.

We have also begun offering women a menu of environmentally sustainable development programs. We introduced the microcredit concept in order to enable residents to start these small development projects. While training people in the Grameen Bank system, we have established microcredit banks that are working wonderfully well and have proven to be very successful.

Youth education about the importance of a healthy environment is also a component of these programs, and one that is very dear to my heart. A JGI educational program that began in Tanzania but which is now in 70 countries around the world is Roots and Shoots. Roots and Shoots, which began with 18 high school students in Tanzania in 1991, now has about 4,500 active groups of young

people from pre-school through university. Every group is tackling at least three projects: one aimed at improving the world for animals (including domestic animals); one for their own local community; and one for the environment. The imagination of the projects is terrific.

The TACARE program also still places a huge emphasis on tree planting and care, but

There has been a conspiracy of silence about the bushmeat problem in the countries of the Congo Basin.

—Jane Goodall

it also teaches the best farming methods suitable for the very steep terrain of the region. Participants are also learning—perhaps for the first time—about humane concern for animals. They get information on chimpanzees and are occasionally able to see and interact with these animals. The participants are also learning about the world outside through partnerships with children in other countries or other parts of Tanzania.

Now the local people are our partners in protecting Gombe National Park. They are proud of the park and they know that people come from all over the world to visit it, bringing in much needed foreign exchange. The people have in essence become stewards of the park.

The success of the TACARE program—which was initially funded by the European Union and now has support from many other organizations, including UNDP, UNICEF, and the Packard Foundation—has now attracted the help of other organizations. With this help, JGI has built an amazing education center in Kigoma, the first of its kind. The center is going to educate children from all over the region to learn about the environment. We have been told the center is one of the best in Africa, and with the additional financial support we are now ready to replicate it.

The Bushmeat Trade and the Congo Basin

JGI's other area of grave concern—largely because of my initial involvement with chimpanzees—is the Congo Basin. The Congo

Basin is one of the most important habitats in all of Africa. The Congo is the weather machine for Africa. You can track the state of the Congo Basin itself by following the state of the monsoon season right up to the north of Africa. If the situation is bad in the Congo, arid regions to the north of the Congo will suffer from intensified drought and flooding.

It is a pretty grim situation across Africa, because much of the continent is dependent on the health of the Congo Basin and the basin is being destroyed. More importantly, the animals of the Congo Basin are being destroyed. Many logging companies came into Africa during the 1980s after being driven out of South America, Asia, and Europe. Even if these logging companies are practicing so-called sustainable logging (which in the case of some companies is very questionable), they open up the forests that were once impenetrable to the commercial hunters and the bushmeat trade.

The bushmeat trade is not the kind of sustainable hunting that has been going on for hundreds and hundreds of years. It is a new kind of hunting, made possible by the roads and the logging trucks that provide transport. The hunters are going into the forest from the towns and camping at the edge of the logging road for several days. These hunters shoot everything: elephants, gorillas, and chimpanzees. They shoot monkeys. They shoot antelopes. They shoot endangered and threatened species and eventually everything right down to birds and bats. This meat is usually smoked and then loaded onto the trucks and taken into the towns where the wealthy and elite urban communities will pay more for a piece of bushmeat than they will for chicken or goat.

This hunting practice is absolutely not sustainable, but there is a tremendous amount of money involved. The income for the government can be huge for places like Congo and Cameroon, so it is an extremely difficult situation with which to come to grips. And the problem does not stop with the logging companies and their roads and the hunters coming in and selling in the towns and exporting to exotic restaurants overseas. The Pygmies are also being given money and ammunition to buy food and to shoot food for the logging camps themselves. There may be as many as two or three thousand loggers

and their families—immigrants to the area—who have come in search of good pay and better living conditions. These people want meat, and they are being fed on bushmeat.

There has been a conspiracy of silence about the bushmeat problem in the countries of the Congo Basin. (Those foreign NGOs that are concerned about the bushmeat trade have basically been told by their indigenous contacts and associates: “You better not say anything, it’s too sensitive, you’ll be thrown out of the country.”) But the first residents to understand the extent and consequences of the bushmeat problem are the village women who operate the markets. JGI has worked extensively with these women, helping them to set up cooperatives to give licenses to hunters so that the trade is monitored by the people themselves. Because the women are smart and they have to feed their families, they keep a very keen eye on what is going on. They know that some animals (including all of the great apes) are not seen anymore simply because they have been driven to the verge of extinction.

The bushmeat trade is a very difficult situation that has fortunately been coming more and more into world prominence. At the World Summit for Sustainable Development in Johannesburg, the U.S. State Department announced a \$60 million three-year initiative to try and address the bushmeat problem and the problems in the Congo Basin. The European Union more or less matched that sum, and some of the major conservation groups have also contributed. JGI hopes to use some of the funds in our programs in the region.

Because of JGI’s experience on the ground, we are being seen as an important partner in this growing coalition to save the Congo Basin, which consists of NGOs on the ground as well as other interested NGOs. The only way we can hope to save the basin and many other areas under threat worldwide is

by forming coalitions. We need to talk to the logging companies and the mining companies about how to ensure their roads are not used for the illegal transport of animals. Of course, we must also establish partnerships with the local governments and central governments and with organizations such as the World Bank and USAID.

One way that we hope to influence the Congo Basin project is by introducing our TACARE model there. While JGI would not replicate the Gombe Park program, we would incorporate the same process of going to the villages and finding out what their needs are—how they feel they would like to move into their own future—and then supporting them in any way that we can. Often, of course, we would provide schools and dispensaries or help with medical problems. The most important thing is to find out what residents need and then to create productive partnerships to meet those needs and save the environment.

As we develop the TACARE program around Africa and become more knowledgeable about different aspects of family planning and AIDS education and development, we must keep our eyes on where we are going and not allow ourselves to get distracted by what’s going on in the world right now. We must remember a great quotation of Mahatma Gandhi, who said if you look back through human history, you find every evil regime is overcome by good. Beyond the evil in the world, there will be peace, and we need to be ready for it. We need to redouble our efforts. The work is much harder but also much more vital, so we need extra energy and we need to support each other and encourage each other. If groups want to go two slightly different ways—as long as that divergence is not going to hurt anything—they should go in two slightly different ways. It is most important for everyone to aim for the same goal. **W**

BURNING THE BRIDGE TO THE 21ST CENTURY: THE END OF THE ERA OF INTEGRATED CONFERENCES?

By **Frederick A.B. Meyerson**

About the Author

Frederick A.B. Meyerson, Ph.D., JD, is an ecologist and demographer who specializes in the interactions between population and the environment. He has taught at Yale and Brown Universities and is a Public Policy Scholar at the Woodrow Wilson International Center for Scholars, where he is writing a book on American population policy.

This is an exciting time—when science may be on the verge of merging diverse disciplines and datasets to achieve an understanding of the complex interactions among population, development, and the environment. Unfortunately, we appear to be moving backwards in terms of the political will for multilateral actions and integrated international conferences. Prior to the 2002 Johannesburg World Summit in Sustainable Development, its chairman Emil Salim remarked that the Summit would likely be the last of its kind. Others in the U.S. government, foreign governments, and the NGO community made similar assessments after the close of the conference.

In June 2003, the United Nations General Assembly voted to end the automatic five-year review of UN conferences, moving instead to a system in which both the format and timing of these conferences will be decided on a case-by-case basis. The rationale is that these large events should be more strategic and less routine. It remains to be seen whether this significant change will increase the conferences' efficiency and effectiveness, or instead make them more likely to be held hostage to the prevailing political winds. While global environmental and population challenges are clearer and more pressing than ever, the international community seems less capable of constructive agreement. There has been a lot more talk than action.

Climate and Biodiversity: An Unimpressive Record

On the climate front, there is finally near-universal agreement among scientists that the earth's surface temperature is warming significantly, that the warming is likely due to human activity, and that this warming will have a substantial negative impact on humans and other species (IPCC, 2001). Yet the Kyoto Protocol—a political tightrope of an agreement with limited goals—has been watered down, burdened with fuzzy math, and rejected by the United States. To date, Kyoto has had a negligible effect on emissions and atmospheric concentrations of greenhouse gas.

Only a handful of countries are on track to meet their Kyoto obligations. Many of those nations have achieved that status more as a by-product of economic problems and fortuitous circumstances than environmental policy. A dozen years and hundreds of climate conferences and meetings involving long-term investments by thousands of academics and policymakers have yielded disappointing results. A recent WorldWatch paper concluded that “the gap between climate science and policy has widened, rather than narrowed, since Rio” (Dunn, 2002). In a move that at least hints of resignation, the most recent round of climate talks in New Delhi in October 2002 shifted the emphasis away from preventing climate change to ways to adapt to it.¹

Editor's Note

This commentary has been updated and expanded from an original version that appeared in the ECSP newsletter *PECS News* 8 (2003, Spring).

After weakening the Kyoto Protocol, the United States, by far the largest greenhouse gas emitter, has essentially walked away from the agreement along with any serious effort to lower U.S. emissions. Average American fuel economy has been worsening in an era when hybrid technology and other advances should point in the other direction. Even William K. Reilly, EPA Administrator under the first Bush Administration, recently chided George W. Bush for not coming back to the table to reshape climate policy and for being “widely seen as unfriendly to the environment” (Reilly, 2003). This impression was reinforced by the Bush Administration’s blatant censorship of climate-change science and analysis in a recent EPA report on the state of the U.S. environment.²

The Convention on Biological Diversity (CBD) is another troubling example. Since the CBD’s birth in Rio, there have been more than fifteen major international meetings under its aegis—but little progress towards either measuring biological diversity declines or slowing down the extinction of species. Again, the United States is one of a tiny handful of countries that have not ratified the CBD; yet it routinely sends large delegations to CBD meetings and tries hard to influence their outcome through direct or indirect means.

At a recent CBD meeting, the United States opposed many aspects of the agreement that would actually protect biodiversity or set standards, apparently out of concern that the CBD might impede the sovereignty and economic free range of America. In fact, it is now often difficult to discern any compass other than economic self-interest guiding U.S. policy towards climate and biodiversity. The State Department under the Bush Administration has exercised increasingly rigid control over U.S. delegations and has reduced the role and independence of scientists on those teams.

The Preemptive Repression of Cairo +10?

A related paralysis and malaise may now be affecting international population policy. The 1994 Programme of Action at the United Nations International Conference on Population and Development in Cairo set forth bold goals for universal access to reproductive health by 2015. Cairo +10,

originally scheduled for early 2004, was to be a reaffirmation of those goals and assessment of progress to date. Ministerial-level population conferences have been held every ten years since 1974, and prior to that, there were international technical conferences in 1954 and 1965.

However, it now appears that there will be no Cairo +10 in 2004, at least not at the intergovernmental level. The official events are likely to be limited to an informational reaffirmation of the 1994 agreement, with no

We appear to be moving backwards in terms of the political will for multilateral actions and integrated international conferences.

—Frederick A.B. Meyerson

new actions or pronouncements. International Planned Parenthood Federation and other NGOs are organizing a series of related events, but these meetings will focus on the status of intergovernmental reproductive-health efforts rather than altering or improving the underlying agreement.

Fear of the United States is considered to be one underlying reason that the Cairo document will not be actively reconsidered in 2004. Some family-planning advocates are concerned that, given the opportunity, the United States would pressure the UN into a complete review of the Programme of Action with the goal of severely weakening it. Indeed, statements by U.S. delegations at recent international conferences have been worrisome. For instance, the American delegation to an October 2002 Bangkok population conference suddenly announced that the United States would not reaffirm its support for Cairo unless the terms “reproductive-health services” and “reproductive rights” (which the United States construes as including abortion) were removed from the text (Dao, 2002).

The United States might be chastened by its 32-1 and 33-1 defeats at the December 2002 Pacific and Asian Population Conference, where it unsuccessfully attempted to convince other parties that previously negotiated reproductive-health language in some way promoted abortion and underage sex. However, more observers think that the

United States would pull out all the stops to significantly weaken a reopened Cairo agreement. The United States has already cancelled its contribution to UNFPA on the flimsiest of grounds. Cairo agreement

Observers think that the United States would pull out all the stops to significantly weaken a reopened Cairo agreement.

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supporters therefore feel that there might be a lot more to lose than there is to gain by opening this particular Pandora's box.

Proponents of international family-planning programs have consequently adopted a minimalist approach to Cairo +10. In April 2003, the International Planned Parenthood Federation (IPPF) released a statement that “any intergovernmental negotiation of previously agreed—and indeed reinforced—commitments to ICPD goals is neither appropriate nor useful at this time” (IPPF, 2003). In the current climate, many international family-planning advocates consider that the best function of any Cairo +10 events will be to analyze and critique successes and failures since 1994. This may be accomplished by “report cards” on the ICPD goals for reproductive and maternal health; HIV/AIDS; unsafe abortion; empowerment of women; adolescent pregnancy; and national financial commitments, ranking both developed and developing countries by relative performance. Population Action International (PAI), Family Care International (FCI), the London School of Tropical Medicine, and other NGOs are also planning activities along those lines.

However pragmatic this minimalist course of action may be, the diminution of Cairo +10 is an unfortunate outcome. While the ICPD agreement is essentially a sound instrument, it undoubtedly could be improved, and even small substantive adjustments could reenergize the global community towards achieving the Cairo goals. If the international community were on track to fulfill these goals, a subdued 2004 conference would not be of great concern and perhaps even appropriate.

In reality, however, almost all donor countries have fallen far short of their Cairo

commitments. Global international population assistance dropped from \$2.6 billion in 2000 to \$2.3 billion in 2001 (the most recent years available)—a figure that represents only 40 percent of the \$5.7 billion target agreed to in Cairo.³ U.S. international family-planning contributions have fallen by about 35 percent in constant dollar terms since 1995, so that the United States is providing less than half of its estimated Cairo share. The international donor community actually supplied fewer condoms in 2000 than it did in 1990 (950 million vs. 970 million), at a time when the need for condoms is expected to rise from 8 billion to 18.6 billion between 2000 and 2015 (UNFPA, 2002). An estimated 14,000 people become infected with HIV every day, many of them for want of a condom that can be produced for three cents.

Some observers have also suggested that the UN is taking a low-profile approach to Cairo +10 because the organization is now focused on the Millennium Development Goals. Those goals—which include maternal health and child mortality reductions—pointedly do not include one of the main goals of Cairo: full and complete access to sexual and reproductive health. But according to Steven Sinding, Director-General of IPPF, “fulfillment of the Cairo goals is absolutely fundamental to every one of the Millennium Development Goals” (Sinding, 2002).

Unmet Needs—Counting Unhatched Chickens?

Complicating the issues surrounding Cairo +10, the UN Population Division (UNPD) recently released its 2002 revision of global population projections. Using new lower assumptions about future fertility in the developing world, the report suggests that the world will rapidly move beyond the era of population growth into a period when aging and dependency ratios are the primary global concern (UNPD, 2003). Some family-planning proponents feel that UNPD's continuous lowering of global population projections is irresponsible and creates a false sense of optimism about population trends. Recent population declines, attributable in part by mortality related to AIDS and other problems, obscure the role and efficacy of reproductive-health programs. Many donor countries—particularly some European

nations—are concerned that a shift of focus may divert attention and resources away from still-pressing international family-planning needs that will last for decades. For example, governmental resolve and support for reproductive-health programs appears to be faltering in Peru and the Philippines.

In fact, there is still a great deal of unmet reproductive-health need, not only in many parts of the developing world but also here in the United States. Over one hundred million women in developing countries have little or no access to family planning services. Some progress has been made in reducing that number since Cairo, but not at a pace that will achieve the ICPD goals by 2015. Moreover, there is a growing gap between reproductive-health service needs in developing countries and the international financial resources devoted towards meeting those needs.

Closer to home, while almost all U.S. women have at least theoretical access to reproductive-health services, the United States has an unintended pregnancy rate substantially above that of Canada and most European countries (Belanger & Ouellet, 2003). The United States trails many countries in terms of the kind, quality, and breadth of family-planning services and education that would reduce its unintended pregnancy (and therefore abortion) rates. A 1980s study, for instance, found that the average American woman had 1.4 unintended pregnancies in her lifetime, compared to only 0.1 for the average Dutch woman (Belanger & Ouellet, 2003). Approximately half of unintended pregnancies in the United States result in abortions.

The Death of a Brief Golden Era?

Perhaps conference fatigue has overcome both the UN system and the international community, which have staged many large events and entertained ambitious ideas that have not always reached fruition. Peter Haas has described global conferences as “momentary media events that provide sound-bite opportunities without lasting effects on policies or the quality of the environment.” But Haas also admits that these conferences also “provide indirect effects that may be beneficial for inducing states to take more progressive steps toward governance and

sustainable development” (Haas, 2002).

The 1972 United Nations Conference on the Human Environment in Stockholm provides a classic example of the significant indirect effects of international gatherings. When Brazil’s delegate to the conference (Henrique Brandao Cavalcanti) returned home, he convinced his government to create a Secretariat of the Environment—an action that permanently improved the prospects for protection of Brazil’s vast biological resources. Population conferences have had a similar effect in spreading information and practices around the world. Even in the Internet era,

A ceremonial Cairo +10 agenda is likely to completely omit environmental issues.

—Frederick A.B. Meyerson

critical ideas are most effectively delivered in person, as demonstrated by frequent diplomatic forays of American presidents to the Middle East. But there is also evidence that the freshness, excitement, and big ideas of early conferences can be rapidly overtaken in later conferences by the staleness and inertia that often characterize much of the diplomatic world.

Another dream that may be dying in this increasingly unfavorable atmosphere for international conferences is the possibility of linking population and the environment politically and diplomatically as well as scientifically. Both Cairo and the 1992 Rio Earth Summit held out the promise that these relationships might be prominent enough at the follow-on 2002 and 2004 conferences to shape policy on both fronts. Instead, population and reproductive health were almost absent at Johannesburg, reduced to what Bob Engelman of Population Action International described as “sideshows at a circus” (Solomon-Greenbaum, 2003).


And a ceremonial Cairo +10 agenda is likely to completely omit environmental issues. What this marginalization means from a practical perspective is that there will be little progress on improving the substance of either international environmental or population agreements for as much as another decade when in theory the next round of conferences

should take place. Surprisingly, the population-environment community seems to be relatively complacent about this turn of events. If anything, the trend has been towards placing less emphasis on the links between population and environmental change.

We may well look back at the last three decades of the 20th century as a brief golden era of international cooperation on environment, population, and development. Stockholm 1972 and the World Population Conference at Bucharest in 1974 ushered in an era of constructive, high-level engagement between governments and the scientific and NGO communities. The stalemate of the Cold War and the lull afterwards produced a calm that may have facilitated the extraordinary results of Rio, Cairo, and their predecessors. Whatever the cause of this success, now that we have crossed the bridge to the 21st century, we may wish that we could go back. We should at least try to keep the bridge from burning.

Three recommendations come to mind with regard to population and environment issues. First, the Cairo goals—particularly the

reproductive-health goals—should be more specifically referenced and reaffirmed in the UN Millennium Development Goals process. Second, Cairo +10 should offer the opportunity for governments, scientists, and the NGO community to jointly explore national and international successes and failures since 1994, and to revise the strategy for reaching the Cairo goals as appropriate.

Finally, countries should use the Cairo +10 events to take a thoughtful look ahead to the next series of international conferences. Side events could develop ways to integrate the Rio, Cairo, and Johannesburg nexus between population and environmental goals, and to harmonize and coordinate those goals. This effort would require the meaningful inclusion of the environmental science and policy community as well as the creation of a true two-way street between population and environment research and action. In an era when science is being fully integrated elsewhere, we should not allow another critical policy decade for population and environment to slip by. 

Notes

¹To review these talks, see <http://unfccc.int/cop8/index.html>.

² See Revkin (2003) and Symons (2003).

³ For more details, see <http://www.unfpa.org>.

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Should Global Poverty be a U.S. National Security Issue?

Vincent Ferraro
Carol Lancaster
Per Pinstруп-Andersen
Jeffrey D. Sachs
John Sewell

The 2002 *National Security Strategy of the United States* (NSS) was a watershed document in a number of ways—including its assertion that addressing global poverty is important to U.S. national security.

For example, the NSS Introduction by President George W. Bush stated that, while poverty does not directly lead to terrorism, “poverty, weak institutions, and corruption can make weak states vulnerable to terrorist networks and drug cartels within their borders.” The NSS went on to highlight the importance of African development for U.S. security as well as to argue that, while freedom “has been tested by widespread poverty and disease...humanity holds in its hands the opportunity to further freedom’s triumph over...these foes,” and that “[t]he United States welcomes our responsibility to lead in this great mission.”

In addition, U.S. Secretary of State Colin Powell wrote in a separate July 2002 article that “sustainable development is a security imperative. Poverty, destruction of the environment and despair are destroyers of people, of societies, of nations, a cause of instability as an unholy trinity that can destabilize countries and destabilize entire regions.” Yet at the 2002 Johannesburg World Summit on Sustainable Development, the United States delegation made little mention of either terrorism or how addressing poverty and its attendant issues might fit into an overall security strategy. The Bush Administration has also been accused in many quarters of underfunding both its own Millennium Challenge Account initiative as well as the Global Fund to Fight AIDS, Malaria, and Tuberculosis.

Given these policy tensions, ECSP invited analysts to address whether global poverty should and can be a U.S. national security issue. Is poverty alleviation crucial to national and global security—and if so, which policies should be highlighted? Or would “securitizing” such efforts weaken both the drive against poverty and the drive for security? And can poverty be linked to anti-terrorism efforts? The commentaries below provide an excellent and overdue entrée into these debates.

Globalizing Weakness: Is Global Poverty a Threat to the Interests of States?

By Vincent Ferraro

About the Author

Vincent Ferraro is the Ruth C. Lawson Professor of International Politics at Mount Holyoke College in South Hadley, Massachusetts, where he has taught courses on world politics, international political economy, and American foreign policy since 1976. He has written on issues of global poverty, the debt crisis, and the international trading system.

The “Global Poverty Report” issued at the G8 Okinawa Summit in July 2000 noted that eliminating global poverty “is both a moral imperative and a necessity for a stable world” (World Bank, 2000, page i). The first

concern is incontestable: global poverty is a moral abomination of the highest order. Indeed, this moral argument motivates invaluable personal and non-governmental behavior: literally thousands of private

organizations work tirelessly and with great effect to reduce global poverty. But these private efforts cannot, by themselves, overcome the problem; nor can such efforts operate outside of the political and economic context maintained by the system of states. States remain the most organized and powerful agents in the world today, and their support is necessary to alleviate global poverty substantially.

States, however, are not motivated by moral concerns for non-citizens—altruism is a rare consideration in the world of international relations. States are obliged to protect their national interest. So was the Global Poverty Report correct that poverty reduction is also a prerequisite for a stable world? And is that objective compatible with the national interests of states?

Reformulating National Security

At its most basic level, the national interest has historically been defined in straightforward terms: the territorial integrity of the state and its political autonomy are the *sine qua non* of statehood. Without these two attributes there can be no state, and the protection of territory and autonomy from foreign threats is therefore the state's highest priority.

Global poverty does not obviously constitute a threat to the national interests of states defined in these terms. Generally, poor states are militarily weaker than richer states, and few poor societies can directly challenge the territory or autonomy of rich states. Absent a direct threat from poor states, rich states can and will assert that their resources should be directed toward other issues—generally issues of a more immediate and unambiguous character. The alleviation of global poverty is therefore a low priority for most rich states.

Is this traditional interpretation of the national interest relevant to today's circumstances? When Thomas Hobbes first articulated the security dilemma of states in the 17th century, there was no overarching power to guarantee the security of states, and each state had no choice but to develop its own power for self-protection. In developing that power, however, every state exacerbated the feeling of insecurity in its neighbors, who

would in turn have little choice but to expand their power as well. This cycle of escalating power and anxiety generated a relationship among states that mimicked the classic Hobbesian description of those lives lived without the protection of a sovereign: “solitary, poore, nasty, brutish and short” (Hobbes, page 186).

For years, however, many scholars have argued for a redefinition of national security, contending that the world has changed

Rich and poor nations are locked together in a mutual hostage situation.

— Vincent Ferraro

dramatically since Hobbes. For example, Richard Ullman offered this alternative understanding of national security twenty years ago:

A more useful (although certainly not conventional) definition might be a threat to national security is an action or sequence of events that (1) threatens drastically and over a relatively brief span of time to degrade the quality of life for the inhabitants of a state, or (2) threatens significantly to narrow the range of policy choices available to the government of a state, or to private, nongovernmental entities...within the state (Ullman, 1983, page 133)

Ullman's conception does not replace the historical definition of national security; rather, it expands that definition to include less direct, immediate, or intentional threats to a citizenry. While the Ullman formulation fails to capture the sense of urgency usually necessary to induce citizens to pay for the costs of security, it nevertheless more accurately reflects citizens' actual security interests.

Many states have recognized (at least rhetorically) this expanded appreciation of what constitutes a threat to the nation. For example, President George W. Bush expressed little doubt in the 2002 *National Security Strategy of the United States* (NSS) about the changing nature of threats facing the United

States after September 11:

Defending our Nation against its enemies is the first and fundamental commitment of the Federal Government. Today, that task has changed dramatically. Enemies in the past needed great armies and great industrial capabilities to endanger America. Now,

The weaknesses of poor states could destabilize the entire international system.

— Vincent Ferraro

shadowy networks of individuals can bring great chaos and suffering to our shores for less than it costs to purchase a single tank. Terrorists are organized to penetrate open societies and to turn the power of modern technologies against us. (NSS, 2002, page 1)

In the aftermath of September 11, few Americans would have contested this claim.

But not surprisingly, the NSS analysis of immediate threats to the United States undermines the traditional definition of the national interest. By asserting that the tactic of terrorism is to “penetrate” open societies, the NSS suggests that the conventional distinction between “foreign” and “domestic” is no longer as useful as it has been in the past. The erosion of that distinction arises from the changed circumstances of living in a globalized world, raising serious questions about whether the focus on an exclusive “national” interest remains useful, appropriate, or even meaningful.

Secondly, the 2002 NSS characterization of the threats posed to the United States deliberately depreciates the conventional military threats of the past, most likely because there are no powerful states at the moment that seem willing or able to contest American power. The attacks of September 11 did not jeopardize the territorial integrity or political autonomy of the United States. What these attacks did appear to threaten was the quality of life of American citizens: most specifically, the ability of Americans to live free of fear. In other words, the relatively obvious and

transparent traditional markers for the national interest seem to have been replaced in the NSS by a concern for a more amorphous set of considerations.

The NSS in fact explicitly proclaims these changed conditions at its very outset: “America is now threatened less by conquering states than we are by failing ones” (NSS, 2002, page 1). Curiously, however, while the document identifies a rather dramatic change in the character of the states posing threats to the United States (from strong to weak), it does not really identify a change in strategy to deal with these new threats. A state protects itself from a strong (“conquering”) state by building up the capability to deter, contain, or conquer, and typically these measures include a heavy reliance on military capability. But how does a state protect itself from a weak (“failing”) state?

One can only answer this question by raising a prior question: what types of security threats do poor states pose to powerful ones?

Global Poverty as a Threat to the National Interest of Global Stability

Powerful states have a vested interest in the stability of the international system, and one cannot overestimate the significance of global order to a powerful state. Through their power, these states have shaped the political, economic, and cultural rules and norms that maintain the system as a whole and have taken steps to assure that those rules and norms conform to their interests. American foreign policy since 1945 is a good example of the process: the United Nations system roughly reflects the republican form of representative democracy in the United States, and the Bretton Woods system (the International Monetary Fund, the World Bank, and the World Trade Organization) defends the rules of market capitalism.

There have been intentional challenges to this arrangement, most notably by the former Soviet Union. The United States interpreted this challenge as a national security matter of the utmost seriousness, and made strenuous efforts to reduce the Soviet threat. Since the Soviet collapse in 1991, no organized state has challenged the American system. Indeed, at the beginning of the 21st century, that system’s framework seems nearly universal. There are virtually no national

economies that exist outside of global markets, and few states fail to pay at least lip service to the idea of democracy or self-determination. Some analysts have interpreted these developments as a final triumph for liberal values, but such a conclusion is premature. It is safe to say, however, that at this particular moment in history, liberal values have attained a degree of universality that is both distinctive and powerful.

The United States has a strong self-interest in the perpetuation and maintenance of this system, which has as its dominant feature a dynamism that is usually referred to as globalization. About one-quarter of U.S. economic growth in the 1990s was derived from exports, and by virtually any measure the economic interests of the United States are now substantially coupled with the interests of other economic powers in the world. This interdependence is neither predetermined nor historically unique. It has, however, heightened the importance of global stability as a national interest of those states that are tightly integrated into the system.

Poor states are threatening to rich states because the weaknesses of poor states could be globalized, thereby destabilizing the entire international system. What is new and different about this threat is that, with few exceptions, it is not an intentional strategy. Poor states are not “enemies” of the international system, although the ramifications of their condition may undermine both the system as a whole and the quality of life in rich states in profound and potentially catastrophic ways. The threats posed by poor states are environmental, economic, and political.

Environmental Threats

The environmental threat posed by global poverty to the stability of the international system is obvious, direct, and dangerous. The NSS, however, mentions this threat only once and only peripherally. Both rich and poor states contribute to this stress, and rich states remain the primary offenders to the global ecosystem. But poor states contribute to environmental degradation in particular ways that reflect their constrained economic choices. The fundamental difference between rich and poor states is that some rich states lack only the will to address the problem; many

poor states lack both the capability and the will.

For example, deforestation, a serious global problem, is particularly acute in poor tropical countries. The causes of deforestation are directly related to poverty, either because poor populations cut down trees to clear land for agriculture or habitation, or because a poor state cannot resist the short-term economic advantages of selling wood products to rich countries. Even the most stringent domestic or international regulations cannot protect the world's forests as long as poverty

The greatest danger to globalization comes not from its opponents, but from its erstwhile supporters.

—Vincent Ferraro

restricts the ability and the will to focus on a long-term perspective. The same dynamic applies to almost every other environmental issue from global warming to resource depletion to water quality.

Poverty imposes a tyranny of the short-term perspective. While there is no necessary trade-off between economic growth and environmental protection in the long run, a poor state needs significant outside resources to realize both objectives simultaneously. This situation will only worsen over time, as poorer and more populated states become more integrated into the global economy and adopt the industrial techniques of the richer states. We already are witnessing the impact of Chinese industrialization on the availability of petroleum, and shall soon witness the effects of increased Chinese petroleum consumption on the global environment.

Indeed, the inability of poor countries to address environmental issues poses a serious threat to the quality of life, not just within the poorer countries but within richer countries as well. If, as many suggest, a global warming threatens potentially catastrophic consequences, then all nations will be affected, not just the people in countries that have been unable to reduce their emissions of greenhouse gases or to protect their forests serving as carbon sinks. More importantly, even heroic efforts on the part of some

countries to control their emissions will not substantially delay a possible disaster if a number of other countries refuse to cooperate.

States that do not include the environmental interests of all states within their understanding of their national interest cannot succeed in defending their national interest. Environmental issues transcend the distinction between global and national interests, almost to the point of rendering it meaningless. To ignore global environmental security is to sacrifice national environmental security.

Economic Threats

Similarly, globalization has succeeded in economically integrating a large number of countries—rich and poor—into world markets. Proponents of globalization assert that the process benefits all who participate, and there is little question that globalization stimulates widespread economic activity (Maddison, 1995, page 19). Increased global economic activity, however, has been accompanied by a dramatic worsening in global income inequality. The OECD study of the world economy from 1820-1992 and its data on GDP per capita growth led it to conclude that

the overall long run pattern of income spreads has been strikingly divergent...In 1820 the intercountry range (the distance between the lead country and the worst performer) was over 3:1, in 1870 7:1, in 1913 11:1, in 1950 35:1, in 1973 40:1, in 1992 72:1 (Maddison, 1995, page 22).

This pattern is increasingly unstable. High levels of economic activity are not sustainable in the face of dramatically escalating income inequality. As economic activity becomes ever more concentrated and larger populations are excluded from that activity, there are both short- and long-term risks to the global economic system.

The frequent debt crises since 1982¹ document the short-term risks of this growing inequality between rich and poor states. The total external debt of developing countries in 2001 amounted to about \$2.3 trillion (World Bank, 2003, page 221), of which about 40 percent was owed to private lenders. These

debts will never be repaid fully, and the rich countries have seemingly accepted this likelihood. But the debts cannot be completely forgiven without inflicting irreparable damage to the future integrity of the international financial system. Similarly, outright defaults on these loans would perhaps fatally undermine confidence in global capital markets and critically weaken specific banks with substantial outstanding loans.

Rich and poor nations are thus locked together in a mutual hostage situation. The economic security of rich countries requires a degree of economic development within poor countries to insure a sustained commitment to some level of debt repayment. The poor countries cannot honor this commitment without substantial support from the rich. Paradoxically, however, the problem of debt repayment has become so large that the rich states are more vulnerable to a default by a major debtor than the poor states are at risk of not being able to repay the debts. Rich states stand to lose more than just the interest payments on their loans if growing poverty in debtor nations forces a major default.

O'Rourke and Williamson assess the longer term risk of growing inequality in terms of a reaction against globalization itself. In assessing the dismal economic collapse of the 1930s, these scholars concluded that:

....a political backlash developed in response to the actual or perceived distributional effects of globalization. The backlash led to the reimposition of tariffs and the adoption of immigration restrictions, even before the Great War. Far from being destroyed by unforeseen and exogenous political events, globalization, at least in part, destroyed itself (O'Rourke & Williamson, 1999, page 287).

The current evidence of such a backlash is suggestive, but inconclusive. There is, of course, a broad-based anti-globalization movement. But the greatest danger to globalization comes not from its opponents, but from its erstwhile supporters.

For example, when the Bush Administration imposed steel tariffs in 2001, the action signaled a rather dramatic change in its stated policy of free trade. The imposition

of tariffs was a concession to the American steel industry, which had argued that competition from abroad (from both rich and poor countries) was crippling its viability. One can more broadly interpret the action, however, as a decision by the U.S. government to transfer the economic weakness of its steel industry to other states. Similar actions in the areas of trade, capital flows, foreign investment, and immigration are underway in a large number of countries in the world. We do not know the point at which these actions may translate into a genuine economic contraction. But states that adopt a sustained commitment to a policy of contracting demand are acting contrary to their long-term economic interests.

A more productive approach would be to stimulate demand for troubled products. There are about two billion people in the world who cannot participate in any meaningful way in the global economy. There is a clear national interest in deepening the process of economic integration to include the global poor.

Political Threats

The NSS discusses to some degree the political threat posed by the poor. Its argument is familiar: poor people will resort to violence (either in the form of terrorism or through other criminal activities like drug smuggling) to change the political and economic system that they believe is responsible for their poverty. World Bank President James Wolfensohn also drew an explicit link between poverty and violence in 2001 when he spoke of the war on terrorism:

It is hard to say when the war will be won. Getting our hands on Osama bin Laden or installing a new government in Afghanistan will only be the start of the process. The war will not be won until we have come to grips with the problem of poverty and thus the sources of discontent. Not just in Afghanistan, but also in the neighboring regions, in many other countries. This war is viewed in terms of the face of Bin Laden, the terrorism of Al Qaeda, the rubble of the World Trade Center and of the Pentagon, but these are just symptoms. The disease is the discontent seething in Islam and,

more generally, in the world of the poor (World Bank, 2001).

While this political explanation of violence has a grain of truth, overall it is both misleading and dangerous. It is misleading because genuinely poor people do not themselves have the time nor the means to pose significant security threats. One of the

The illusion of hermetically-sealed and self-reliant security is naïve and dangerous.

— Vincent Ferraro

greatest ironies of poverty is that being poor constitutes more than a full-time job: poverty dictates almost total attention to subsistence and no time for either leisure or plotting. Poverty is unquestionably a conditioning factor in resorting to violence—poverty itself is a ubiquitous form of violence. But the link between poverty and terrorism is, at best, tenuous. Terrorist leaders are rarely poor. Perhaps poverty may inspire willing foot soldiers for terrorist leaders, but terrorist organizers generally have their own agendas which have little to do, except rhetorically, with the alleviation of poverty.

The danger in identifying poverty as a cause of political conflict is that states will more likely respond with military or police force to eliminate threats, rather than initiating a more difficult and complex economic response to mitigate the source of those threats. States prefer to exercise their more traditional role as provider of physical security instead of intruding on the market with redistributive measures. Politically, it is far easier to pass appropriation bills for the military than to fund foreign aid.

Posing the poor as a military threat also plays into the hands of the state, which has its own reasons for retaining and enhancing its monopoly on violence. Moreover, this tactic reduces profoundly whatever sympathy those who are better off may have for the poor. These outcomes are dangerous. After the collapse of the Soviet Union, the mission of the U.S. armed forces became opaque. Recent attempts to clarify that mission have all centered around vague and ill-defined threats from: (a) “rogue” or failed states; or (b)

terrorist groups, all of whose members purportedly come from poor states like North Korea, Iran, and Iraq. Unquestionably, these states and groups have interests in changing the current global distribution of power. That all of these interests are primarily rooted in the desire to eliminate global poverty is nonsense. The poor are everywhere and they are numerous. If we allow their very existence to be used as a justification for increasing the coercive power of the state, then no action or capability will be denied to the state. Global poverty is undoubtedly a source of great instability in the world, but it is probably far better and more accurate not to emphasize that link in military terms.


The real political threat is that the deepening divide between rich and poor states creates the illusion of separate worlds, one in which genuine cooperation among states becomes impossible. Poverty undermines the political legitimacy of the richer states: expressions of concern for political freedoms within poor states ring hollow as long as desperate economic conditions fail to elicit concrete action.

Conclusion

The national interests of states are no longer “national.” September 11 underscored the realities of a globalized world: that security can no longer be guaranteed by a strong military, and territorial borders are highly permeable and increasingly trivial when defending the quality of life for domestic populations. This commentary has examined

only three examples of how the national interests of rich states are fundamentally compromised by the weaknesses of poor states, even in the absence of any intention to threaten harm. The list could be easily expanded to include questions of corruption, disease vectors, migration, and the like. Rich states cannot afford the indulgence of pretending that poor states are not an integral part of the world system. The unforgiving imperatives of poverty can no longer be sealed off from the welfare of all.

A reformulation of the national interest to include global interests is necessary because our world scarcely resembles that of 17th century Europe, when the global population was less than a billion, the overwhelming human activity was agricultural, and few people ever traveled more than ten miles from their birthplace. Territorial integrity and political autonomy will always be important to states, but the threats now facing states do not respect or even acknowledge those parameters. The processes that have made human activity more integrated have led to both good and bad outcomes, the worst of which was the creation of global poverty and the explosion of the number of people who live in these circumstances.

Rich states no longer can ignore this truth. Hobbes needs to be updated: the life of states may still be poor, nasty, brutish, and short, but it is no longer solitary. The illusion of hermetically-sealed and self-reliant security is naïve and dangerous. 

Notes

¹ For example, Mexico in 1982, Mexico again in 1995, several Asian countries in 1997, Russia in 1998, and Argentina in 2002.

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Poverty, Terrorism, and National Security

By **Carol Lancaster**

About the Author

Carol Lancaster is a professor in the School of Foreign Service of Georgetown University and a Visiting Fellow at the Center for Global Development. Her public service has included positions as Deputy Administrator of USAID, and Deputy Assistant Secretary of State for Africa. She is the author of *Aid to Africa: So Little Done, So Much to Do* (University of Chicago, 1999) and *Transforming Foreign Aid: U.S. Assistance in the 21st Century* (Institute for International Economics, 2000). She is currently writing a book entitled *Fifty Years of Foreign Aid: Policies, Purposes, Results*.

Imagine the following advertisement for Al Qaeda: "Wanted: Educated individuals (preferably with a graduate degree in a technical field) who have foreign-language skills (preferably fluency in English) as well as a deep antipathy to their own and others' political leaders. Must be comfortable with violence and available for training and important assignments in foreign countries during a period of months or years."

The terrorists of Al Qaeda were educated, from well-off families, and mostly from countries that have long ago graduated from the category of the world's poorest. It was not poverty that motivated them. Indeed, we do not know for certain what led them to terrorism—perhaps disgust with their own often-corrupt governments; a sense of humiliation by the West; religious fanaticism, boredom, and alienation; or perhaps dim prospects for a fulfilling career. But their motivation was not fighting poverty. Nor, as far as we know, were they reacting to the vast disparities (both in wealth and in numbers) between the very poor and the very rich either in their own societies or in the world at large. The poor do not have the time, the resources, or often even the physical health to get an

education, to experience ennui, or to fly airplanes into tall buildings. For the just over one billion people who each live on \$1 per day, it is simply often an exhausting task to get an adequate meal or two every 24 hours.

Poverty does not produce terrorists. And eliminating poverty—something dearly to be desired by all civilized beings—is not likely to eliminate terrorism. Consider some of the world's well known terrorist groups in recent years: the Irish Republican Army; the ETA in Spain; the Red Army and Aum Shinrikyo in Japan; the Bader-Meinhof Gang in Germany; Timothy McVeigh and militia groups in the United States; Hamas in Israel and Hezbollah in Lebanon; the FARC in Colombia; the Tamil Tigers in Sri Lanka; the Pakistanis in Kashmir; and the Chechens in Russia. Few if any of these groups are rooted in poverty or have the goal of its elimination. In some circumstances, reducing poverty could well *increase* the pool of potential terrorists—if educated young people who are angry because they lack job or life prospects buy into ideologies or religious movements that urge them to violence.

This commentary first considers the causes of terrorism in the world today. Then

it inquires into the precise relationship between poverty and terrorism. Finally, it asks what we can do to eliminate terrorism and insecurity.

Causes of Terrorism

The three elements common to all terrorism are: (1) a grievance that the terrorists are protesting and perhaps trying to resolve; (2) an ideology or set of beliefs that identify and explain the grievance and what to do about it; and (3) a belief that terrorism can contribute to that grievance's

Not all cases of civil violence and state collapse occur in the poorest countries, and not all poor countries suffer from such violence.

—Carol Lancaster

solution. (I am including neither criminal and drug networks nor warlords in my collection of terrorists. Although categories may blur at times, these latter groups operate primarily for their own gain rather than to address a real or perceived societal wrong.)

Terrorist *grievances* are often over land, assets, or other resources—in essence, who should control them. Grievances can also be over values—for example, the perception that an ethnic, religious, or political organization is encroaching on others' rights or that a society is flawed in some fundamental way and must be reformed. These grievances may be real (as in Kashmir or Israel) or imagined (as in the case of Timothy McVeigh or Aum Shinrikyo).

Terrorist *ideologies* may be based on ethnicity, nationalism, religion, or the worldview of a charismatic terrorist leader. And terrorists *act* because they think they can achieve their goals—usually in the hope that the state in which they act will be too weak to apprehend them or prevent such acts in the future.

Poverty and Terrorism

Despite the assumptions often made in the wake of the attacks of September 11 that world poverty was somehow a source or motivation for those attacks, terrorist grievances almost never include poverty.

Others (especially in Europe) argue that poverty breeds the discontent that leads to terrorism. This argument is much like one heard during the Cold War—that poverty bred discontent and discontent increased the allure of communism, or led to chaos that opened opportunities for communist gains. Eliminating poverty was, therefore, important to eliminate the causes of discontent, violence, radicalism, and (now) terrorism. But if either of these causal chains were true, much of the world would surely now be communist-dominated or engulfed by terror and violence.

So the relationship between poverty, terrorism, and ultimately U.S. national security is not a simple and direct one. Might there be more subtle and indirect ties between poverty in the world and security in the United States? Certainly, the vast differences in wealth, education, health, and life prospects among and within countries can feed a general sense of social injustice and righteous anger on the part of those—often youth—who are sensitive to such issues. But while this sense of social injustice may trigger anti-globalization protests, it does not appear to be sufficient by itself to promote organized violence against symbols of wealth.

In some cases there does appear to be an indirect relationship between poverty and the poor governance (corruption, exclusion, and repression) that can lead to civil violence and state collapse. These conditions, in turn, can spread throughout a region, producing widespread insecurity and possibly creating havens for terrorists or criminals who can organize and attack targets elsewhere, including in the United States. These conditions of civil violence and state collapse do tend to concentrate in poor countries (especially in Africa) such as Somalia, Liberia, Sierra Leone, the Democratic Republic of the Congo, and Sudan. However, not all cases of civil violence and state collapse occur in the poorest countries (see Colombia, Algeria, and Chechnya), and not all poor countries suffer from such violence—suggesting that poverty is far from being a direct trigger of these problems.

But it may be difficult to hold governments accountable in places where populations lack education and information

and poverty is widespread. Such countries are vulnerable to crime and thuggery, to the evaporation of rule of law and political institutions, and to the repression of dissident groups (which are often ethnically or religiously distinct)—all factors which may provoke internal violence and chaos. Reducing poverty and improving education, health, and the economic well-being of a population may, all things being equal, lead to better governance over time and fewer opportunities for terrorist or criminal elements to operate in these countries. But there is still much we do not know about the interrelationships between poverty, governance, civil violence, and international terrorism and criminality.

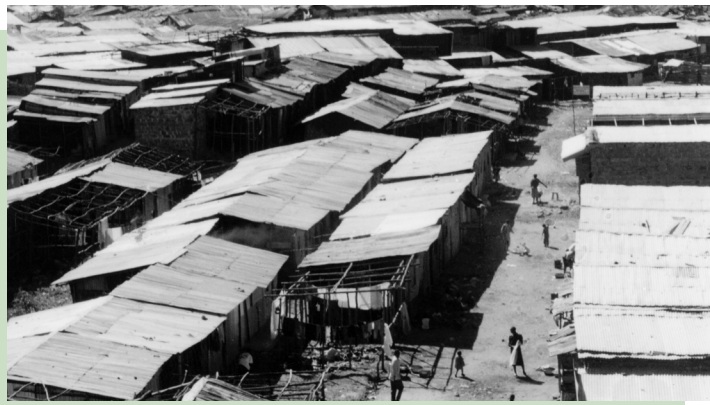
The risk in justifying U.S. global anti-poverty policies and programs as anti-terrorist or as in the interests of national-security initiatives is that such labeling could ultimately be counterproductive for those policies and programs. If the United States spends more on foreign aid to help reduce poverty in the world in order to reduce terrorism and the threat of terrorism fails to abate, support for foreign aid (which can help promote growth, poverty reduction, and many other desirable changes) could well erode in Congress and among the public.

So if poverty is not a major or direct cause of terrorism, and if eliminating poverty will not eliminate terrorism, is there anything outside of military or intelligence options that the United States *can* do to fight terrorism?

Alternative Options for Addressing Terrorism

Short of the use of force, policymakers have several options for addressing the underlying conditions that feed terrorism. The first is to address the disparate issues that are triggering terrorist activities. The United States and other countries can act as mediators for agreements between governments and discontented ethnic, religious, and other groups (as in the case of Northern Ireland). But such diplomatic efforts take time, energy, and resources—items things in scarce supply for United States and other governments.

A second approach is to press and persuade governments to relax their repressive policies, eliminate corruption, open up their



The sprawling Mathare slums in Nairobi, Kenya.

Credit: Africa Alive!/CCP, courtesy of Photoshare.

political processes, and finance activities aimed at strengthening the rule of law, civil society, democratic political institutions, and elections. If this sounds like pie in the sky, it was U.S. policy in Central America during the 1980s—and that policy now appears to have contributed to improved security and human rights in the region. But policies promoting democratization and improved governance also take time, patience, and resources.

A third approach is to help strengthen the internal security of countries plagued by terrorist activities. It is clear, unfortunately, that no country is immune to such activities—not even the United States with its home-grown, violence-prone groups such as the Aryan Nation. When such groups sense that security is inadequate, they will act. Of course, when a government's own corruption and repression has provoked civil violence and terrorism, strengthening the security forces of that government can exacerbate the underlying causes of dissent. But fortifying national security forces in selective cases can be an important and effective way to fight terrorism.

One further approach to reducing the underlying causes of terrorism and insecurity involves addressing stalled *development* instead of poverty per se. Societies that educate their youth but cannot provide them with jobs or the possibility of fulfilling lives create pools of vulnerable young men (and in some cases, young women) who can be drawn into

terrorist networks. Algeria is an excellent example of this problem: while that country has made impressive strides in educating its young people, decades of economic mismanagement have resulted in large-scale youth unemployment. Other countries in the Middle East, Asia, Africa, and Latin America show similar problems. All they lack are militant ideologies that might energize youths without purpose to violence. Policies and programs aimed at steering the educated-but-unemployed young—both in poor and not-so-poor countries—toward productive

activities must be part of the strategy against terrorism. But Western governments and development agencies are in only the earliest stages of thinking about what these policies and programs should be.

In sum, the United States should and must work to eliminate poverty in the world. But U.S. policymakers and citizens should not fool themselves that reducing poverty will eliminate terrorism. Attacking terrorism is another important task we must address—but it is not the same task as poverty reduction.



Eradicating Poverty and Hunger as a National Security Issue for the United States

By Per Pinstруп-Andersen

About the Author

Per Pinstруп-Andersen is the H.E. Babcock Professor of Food, Nutrition and Public Policy at the Division of Nutrition, Cornell University. He is also professor of development economics, The Royal Veterinary and Agricultural University, Copenhagen as well as a Distinguished Professor, Wageningen University, the Netherlands. Pinstруп-Andersen was also the 2001 World Food Prize Laureate and past director-general of the International Food Policy Research Institute (IFPRI).

Widespread poverty, hunger, and inequality contribute to instability at the local, national and international levels and create national security risks for the United States. Failure to deal with these problems will render current military efforts ineffective in dealing with the threat of terrorism against the United States and other high-income countries. It is also ethically and morally wrong that a large share of the world's population suffers from poverty and hunger in a world as rich as ours. In addition, global poverty and its consequences are a tremendous human waste, reflected in reduced economic growth and development for all—poor and non-poor.

No society—national or international—will be secure when material inequalities and material deprivations are as extreme as they now are. People without hope and with little or nothing to lose have little stake in the status quo. They are susceptible to terrorist appeals. As stated by U.S. President George W. Bush: “A world where some live in comfort and

plenty while half of the human race lives on less than \$2 a day is neither just nor stable” (Office of the Press Secretary, 2001).

We must try to understand the frustration, hopelessness, and anger of the many millions of people who are poor, hungry, and without opportunities to escape poverty. We must then tailor our efforts to assure a stable and secure world accordingly.

The State of Poverty, Hunger, and Inequality

Poverty, hunger, and inequality cause serious deprivation for more than 20 percent of the world's population. More than one billion people earn less than a dollar a day. Eight hundred million people suffer from hunger and food insecurity, and one-third of the preschool children in developing countries suffer from malnutrition—causing the death of 5–10 million of these children every year.

The current level of global effort will meet neither the World Food Summit goal of reducing the number of hungry people from

800 million to 400 million by 2015 nor the Millennium Development Goal of cutting in half by that year the percentage of the population that is hungry. Outside China, the number of hungry people in developing countries increased by 40 million in the 1990s. During the same decade, the number of hungry people increased in more than one-half of all developing countries—and only one-third of these countries experienced an improvement (FAO, 2002). A continuation of recent trends will result in more rather than fewer hungry people in the world outside China.

As for global inequality, the richest one percent of the world's population earns as much as 57 percent of the rest (UNDP, 2002). And relative global income distribution is getting worse. In 1960, average per capita incomes in industrialized countries were nine times the average per capita income in sub-Saharan Africa. Today, they are 20 times greater. Between 1990 and 2000, per capita incomes increased by close to \$5,000 in high-income countries, but by only \$40 in low-income countries. Per-capita incomes *decreased* by about \$20 over the same decade in sub-Saharan Africa.

Links to Instability

There is much evidence that poverty and inequality contributes to national instability and armed conflict (Messer et al., 2001). Large numbers of people who are hopeless and have nothing to lose provide the foundation and the perceived justification for crime, unrest, and other forms of instability—perhaps even revolution, and certainly terrorism. Social injustice provides the foundation or the perceived justification and passion for developing the infrastructure to support terrorism. It is true that terrorists generally are not poor—but they receive their justification and support from widespread human misery and hopelessness, and they thrive in collapsed states.

The worldwide urbanization of poverty also accelerates the risk of instability. Widely dispersed poor people in rural areas are much less likely to consolidate their power and anger to threaten stability than are high concentrations of urban poor. The urban population of developing countries will double



A young boy rummages through a dustbin for food in Kenya.

Credit: RUINET, courtesy of Photoshare.

during the next 20 years, and poverty will increasingly move from rural to urban areas (Rosegrant et al., 2002). The relationship between poverty and inequality (on the one hand) and instability and crime (on the other) is already well known in urban settings, and well-off residents of these cities have been spending rapidly increasing amounts of resources on protection over the last 10 to 20 years. For example, some members of São Paulo's upper class have developed "fortified enclaves"—privatized, enclosed, and monitored spaces for residence, consumption, leisure, and work (Caldeira, 2000). But such behavior attacks the symptoms rather than the causes of social injustice and instability.

Similarly, mobilizing the military in response to international terrorism without at the same time making major gains in the war on poverty, hunger, and related human misery addresses symptoms rather than causes. As illustrated by the atrocities of September 11, it is unlikely that rich societies can insulate themselves from the consequences of collapsed states and extreme human misery and hopelessness elsewhere (Gray, 2002).

Globalization is upon us for good or evil. With globalization of information, poor and

hungry people in developing countries are becoming more aware of how the non-poor in the industrialized countries live. Failure to deal with poverty, hunger, and inequality may push rich countries to adopt measures similar to those adopted by rich people in poor countries—resulting not only in “cities of walls” but “countries of walls.”

The richest one percent of the world's population earns as much as 57 percent of the rest.

—Per Pinstrup-Andersen

The Lack of Accountability

One important reason for increased global instability is that globalization has proceeded faster than the development of appropriate global institutions, leading to international accountability problems. National governments are generally accountable—if at all—only to national constituencies. However, as globalization proceeds, national policy decisions will have increasing and increasingly significant international implications and effects. Weak international democratic processes and poor representation of population groups in these processes add to the lack of international accountability, as does the fact that many national governments do not represent poor people in their own countries.

Poor countries are also inadequately represented in international institutions such as the WTO and the World Bank. Global institutions to help assure accountability of multinational corporations and nongovernmental organizations across national borders are also urgently needed if globalization is to reduce poverty, hunger, and global instability. Street violence is not an effective substitute for such institutions.

Lack of international accountability is reflected in other ways. For example, targets agreed upon in international declarations are not being met or even taken seriously by many national governments. An ongoing review I am currently doing with the International Food Policy Research Institute (of targets agreed upon at 23 international

conferences related to food, agriculture, gender, poverty, population, and the environment) shows that virtually none of these goals is being met.

What to Do?

First, we need institutional innovation in the international arena that will help assure accountability, participation, and empowerment of the poor. We must also deal effectively with the international spillovers of national actions in such areas as trade, environment, health, security, poverty and hunger, labor and capital flows, technology, drugs, and terrorism.

Unilateral behavior by nations is incompatible with mutually beneficial globalization. The failure of the United States (and other countries) to join the Kyoto Protocol on climate change and to ratify international treaties on land mines, the international criminal court, chemical and biological weapons, and nuclear proliferation makes it very difficult to achieve international accountability by national governments.

This lack of international accountability is exemplified by the trade-distorting agricultural policies in the United States, the European Union, and Japan. These policies have severe effects on developing countries. Tariffs and other import barriers as well as export subsidies, excessive food aid, and other surplus-disposing and price-depressing mechanisms limit the access of developing countries to industrialized country markets and damage agricultural markets in developing countries. Since 75 percent of the world's poor and hungry people reside in rural areas of developing countries and depend mostly on agriculture (either directly or indirectly), such trade-distorting agricultural policies contribute to the continuation of poverty, hunger, and hopelessness.

Agricultural subsidies currently amount to roughly \$1 billion per day—of which 80 percent is spent in industrialized nations. These subsidies are linked to quantity produced or area used for production—resulting in expanded production and further downward pressures on prices, which in turn lead to trade-distortion. Industrialized nations who wish to transfer income from taxpayers and consumers to farmers and other rural residents should do so in a way that does not distort

trade. Alternative approaches include direct payments to rural residents and payments to improve natural resources and rural landscapes.

Second, developing countries—particularly low-income ones—desperately need to (a) expand investment in the creation of public goods, and (b) improve governance.

The creation of public goods is key to successful private-sector development, economic growth, and the eradication of poverty and hunger in low-income developing countries. Public investment in agricultural research is especially and urgently needed in these countries. Productivity increases in agriculture are critical for both poverty alleviation and sustainable management of natural resources. Developing countries spend only 0.6 percent of the value of the agricultural output on agricultural research, compared to 5 percent in the United States. While private-sector agricultural research is gaining increasing importance in industrialized countries, public investment is needed to generate the public-goods technologies needed for small farmers in developing countries.¹

Investments are also urgently needed in the rural infrastructure of developing countries, particularly but not exclusively for rural roads. The development of common standards and measures, enforcement of contracts, and a number of other institutional developments are needed to make private markets work in rural areas. In addition, developing countries desperately need to make larger investments in health care, education, and clean water.

Such investments in the development of the human resource should also be accompanied by policies to assure access by the poor to land, credit, and employment. Results from recent research in China and India conclude that public investment in rural roads, agricultural research, and primary education yielded the highest economic returns as well as the largest impact on poverty alleviation (IFPRI, 2002).

In addition, good governance is of critical importance to the eradication of poverty and hunger. A move to good governance would include the elimination of corruption and the development of participatory decision-making approaches as

well as enhanced political will to deal with the problems of the poor and hungry. Policies to assure property rights and to promote collective action in rural areas are also crucial; such policies help assure that the rural poor have access to land and other natural resources.

Third, policies and public investments are needed to help people out of hunger and poverty in the short run.

Such policies should include targeted subsidies and safety nets. Low-income people have very little buffer in the face of adverse developments such as drought, loss of employment, large drops in the prices of the commodities they produce, and illness. Coping mechanisms—such as credit and savings

Imagine how U.S. exports and employment could benefit from rapid growth in Africa.
—Per Pinstrup-Andersen

institutions, public works, and other institutions—should be designed and implemented with due consideration to existing social capital. Successful efforts include microcredit schemes for the rural poor in Bangladesh and many other developing countries and food and cash distribution programs in Mexico and several other developing countries.

Fourth, development assistance must be expanded—primarily to assist the poor and hungry to improve their situation, but also to improve national and international stability and to reduce the risk of future terrorism. As former U.S. Secretary of State Madeleine Albright testified recently before the Senate Foreign Relations Subcommittee on International Operations and Terrorism: “Our international assistance programs are not money down a rat hole. They are poison down the snake hole of terrorism; helping to choke off the hatred, ignorance, and desperation of upon which terrorism feeds.”

More development assistance will also expand mutually beneficial trade. Experience from Southeast Asia shows that rapidly growing developing countries provide very strong markets for U.S. agricultural and nonagricultural goods and services. One can only begin to imagine how U.S. exports and employment could benefit from rapid growth

in Africa.

Unfortunately, when measured as a percentage of national income, development assistance given by the United States trails all other OECD countries. While these countries agreed many years ago to provide development assistance in the amount of 0.7 percent of national incomes, the United States currently provides one-tenth of that level. This corresponds to an annual development assistance of \$36 for each American citizen. The recent announcement by President Bush to increase development assistance by US\$5 billion per year—equivalent to a little less than \$18 per American citizen—should be welcomed, and effort should be made to assure that these additional funds (if approved by Congress) will be appropriately targeted for the benefit of the poor and hungry.

Future development assistance must be targeted on improving the human resource, on increasing productivity in agriculture, on improving rural infrastructure, on access to land, improved governance, and on reducing armed conflict and instability both nationally and internationally. Development assistance

should help guide national policies for increased efficiency and improved social justice, and strong efforts should be made to create national institutions that correspond to the needs of true international accountability and participation within a more globalized world.

Conclusion

Military might alone will not eradicate the threat of terrorism. But removing root causes of instability such as poverty, hunger, and social injustice will reduce the risk of future conflict and terrorism. Dealing effectively with these issues is also the right thing to do from both a humanitarian and an economic point of view.

If the root causes of instability are not effectively dealt with, we will need to invest increasing amounts of money to build both real and virtual walls around us to protect ourselves, much as the rich try to do in São Paulo. But no wall will be high enough or strong enough to assure stability in an unjust world. **W**

Note

¹ In some cases—such as the rapid expansion of the use of Bt cottonseed in China, India, and South Africa—technology produced by the private sector for use in industrialized countries may be readily adaptable to the production by small farmers in developing countries. However, this adaptability is likely to be the exception rather than the rule.

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The Strategic Significance of Global Inequality

By Jeffrey D. Sachs

About the Author

Jeffrey D. Sachs is the director of The Earth Institute, Quetelet Professor of Sustainable Development, and professor of health policy and management at Columbia University as well as a research associate of the National Bureau of Economic Research. He is also Special Advisor to United Nations Secretary-General Kofi Annan on a group of poverty reduction initiatives called the Millennium Development Goals.

While the United States enjoyed rapid economic growth during the past 20 years, many poor countries, including some of the world's poorest in sub-Saharan Africa, experienced a generation of outright decline in living standards. And while private consumption-spending per capita in the United States rose by 1.9 percent per year from 1980-1998, such spending declined on average by 1.2 percent per year in sub-Saharan Africa (World Bank, 2000). Is there a "strategic significance" to global inequalities in income levels and economic growth? And, if so, which policies might the United States pursue to address those strategic concerns? Focusing on the scope and limitations of U.S. foreign assistance as a policy instrument to address global income inequalities is illuminating.

The economic success of developing countries enhances the well-being of the United States, which has and should more actively deploy policy instruments to help support economic success abroad. National

interests in successful economic growth abroad are multifaceted. Some of these interests are basically economic: the economic success or failure of developing countries determines the gains from trade and investment that the United States reaps in its economic relations with those countries.

However, the ramifications for the United States of good or bad economic performance among poor countries go beyond direct economic returns. As a general proposition, economic failure abroad raises the risk of state failure as well. When foreign states malfunction (in the sense that they fail to provide basic public goods for their populations), their societies are likely to experience steeply escalating problems that spill over to the rest of the world, including the United States. Failed states are seedbeds of violence, terrorism, international criminality, mass migration and refugee movements, drug trafficking, and disease.

If poor countries had reliably stable and functional state institutions, global poverty

would remain a powerful humanitarian concern but would probably not be a strategic priority of the United States. Alas, poor economic performance abroad has the potential to translate into state failure that, in turn, jeopardizes significant U.S. interests. If the United States wants to spend less time responding to failed states, as the Bush administration has stated, it will have to spend more time helping them achieve economic success to avert state failure. The United States has certain (albeit limited) economic policy instruments at its disposal to help prevent state failure abroad. Foreign assistance can play an important role in certain contexts, but the United States has not used it well for decades.

Foreign Economic Performance and U.S. Strategic Interests

Americans would dearly love to believe that the United States can be an island of stability and prosperity in a global sea of poverty and unrest. History, however, continues to prove otherwise. One common occurrence has been that economic crisis abroad leads to a collapse of a foreign state's authority abroad, which in turn has adverse consequences for the United States. The examples are legion. The rise of the Bolsheviks to power in 1917 took place in the wake of an economic collapse of wartime czarist Russia. The rise of Hitler in 1933 occurred in the midst of the Great Depression, which affected Germany especially hard because of its large foreign debt. More recently, Yugoslavia disintegrated into regional war not only because of interethnic conflicts, but also because of an economic collapse and the descent of the former federal state into hyperinflation in the late 1980s. In turn, political adventurers such as Slobodan Milosevic used the economic collapse to grab power. Iraq's declining economic fortunes and rising debt burdens following the Iran-Iraq War of the 1980s prompted, at least in part, Saddam Hussein's invasion of Kuwait in 1990.

In the 1990s, most of the world's violent conflicts, which have been related in one form or another to deep economic crises and their attendant state failures, have occurred in Africa.¹

I do not want to commit the elementary fallacy of attributing all political failures to economic crises. The shah of Iran was knocked from power in 1979 in the midst of an oil boom. Tracing the rise of Lenin or Hitler to power on the basis of economics alone would be fatuous. Yet, in practice, economic failure abroad undoubtedly matters greatly and can translate into very large costs for the United States in many spheres.

The most comprehensive study of state failure, carried out by the State Failure Task Force established by the Central Intelligence Agency in 1994, confirms the importance of economic underpinnings to state failure (State Failure Task Force, 1999). The task force gave formal definition to state failure (as a case of revolutionary war, ethnic war, genocides or politicides, or adverse or disruptive regime changes) and counted all cases during 1957-1994 in countries of 500,000 people or more. The task force identified 113 cases of state failure. Of all the explanatory variables examined, three were most significant: (1) *infant mortality rates*, suggesting that overall low levels of material well-being are a significant contributor to state failure; (2) *openness of the economy*, in that more economic linkages with the rest of the world diminish the chances of state failure; and (3) *democracy*, with democratic countries showing less propensity to state failure than authoritarian regimes.

The linkage to democracy has another strong economic aspect, however, because other research has shown strongly that the probability of a country being democratic rises significantly with its per capita income level (Barrow, 1999). In refinements of the basic study, the task force found that in sub-Saharan Africa, where many societies live

Editor's Note

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on the edge of subsistence, temporary economic setbacks (measured as a decline in gross domestic product per capita) were significant predictors of state failure. The task force also found that “partial” democracies—usually in transition from authoritarian to fully democratic institutions—were particularly vulnerable to collapse. Similar conclusions have been reached in studies on African conflict, which find that poverty and slow economic growth raise the probability of conflict (Collier & Hoeffler, 2000).

Types of Economic Failure

Distinguishing several kinds of economic failure abroad and then tracing their various strategic implications for the United States is useful and will assist later discussion about whether the United States has policy instruments to address the root causes of foreign-state collapse or whether we must satisfy ourselves with treating the outcomes instead. Four types of economic failure that lead to widening income inequalities between rich and poor and to serious strategic concerns for the United States are described below.

Poverty Trap

A poverty trap is a condition, seemingly paradoxical, in which a poor country is simply too poor to achieve sustained economic growth. Many countries in Africa are in this situation. Economic growth depends on minimum standards of health, education, and infrastructure in order to attract the new investments and technology that in turn are needed to raise income levels. Some impoverished countries are too poor to provide the basic public goods of minimally acceptable health and education, much less physical infrastructure. In these settings, the state cannot fulfill its basic tasks of helping to keep the population safe, healthy, and educated.

Why do some poor countries succumb to such a trap and others do not? Physical ecology probably plays a role. Africa is uniquely hampered by extreme conditions of disease and low food productivity that in turn prevent its societies from managing to achieve the minimum necessary conditions for growth.²

State Bankruptcy

State bankruptcy is the condition in

which the state cannot service its current debts. Bankruptcy almost always results from indebtedness to foreign rather than domestic creditors of the state, because domestic debts denominated in the national currency can generally be serviced through printing money. In this case, high inflation (rather than a debt-servicing interruption) is the consequence.

State bankruptcy has powerfully destabilizing effects on society, more destabilizing than almost any other peacetime

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economic malady. State bankruptcy has repeatedly contributed to revolutions (France in 1789); loss of sovereignty (Egypt in 1882); collapse of empires (Ottoman Empire in 1875 onward; the Soviet Union in 1991); innumerable coups (Ecuador in 1999); and internal violence. Bankrupt states cannot provide basic public goods (such as health, education, courts, or police); maintain troop loyalties; use state revenues to buy off political opposition figures; or make budget transfers to keep allied parties or regions within a governing coalition. States lack the international equivalent to Chapter 9 of the U.S. Bankruptcy Code, in which a municipality can win a time-out on debt servicing, followed later by a write-down of debts, with the U.S. Bankruptcy Court protecting the municipality during this period against a disruption of public services.

Liquidity Crisis

A liquidity crisis is a sudden reversal of capital flows—usually short-term private sector loans—that leads to an intense contraction of the economy despite long-term solvency and generally adequate fundamental economic conditions. The so-called emerging markets experienced repeated liquidity crises in the 1990s (Mexico in 1995; Indonesia, Korea, and Thailand in 1997), causing extremely abrupt and deep declines of gross national product (GNP) and, at least in the case of Indonesia, provoking a dramatic

regime change and internal violence. These crises were difficult to predict in part because they did not have obvious roots in state-sector weakness, although they contributed to state instability after the fact.

Transition Crisis

The fourth major cause of economic failure that can lead to state failure is a crisis

Amazingly, the United States gives only a pittance to the poorest countries for the support of basic health and education.

—Jeffrey D. Sachs

of transition, when political and economic regimes are making a fundamental institutional change. Examples include the transition from communism in Eastern Europe and the former Soviet Union; recovery from war (especially from defeat); transition from colonial rule to state sovereignty; transition from authoritarian rule to democratic rule; and succession struggles after the collapse of long-standing regimes (such as the fall of Suharto after 32 years in power). These transitions destabilize societies directly in myriad ways, but also indirectly by sundering usual paths of economic exchange.

Almost all transitions are characterized by extreme uncertainty about the future and therefore an absence of consolidation of any particular set of institutional arrangements. When the future is “up for grabs,” moreover, self-fulfilling expectations can play a dominant role in determining the future path of developments. A regime expected to succeed can thereby succeed, as supporters flock to the “winner.” A regime expected to fall can fall because of the reticence of potential supporters to rally to the cause of a “loser.” The State Failure Task Force found that, in Africa, the most dangerous political condition leading to future state failure was indeed a state of transition. “Partial” democracies were more likely to fail than authoritarian or fully democratic regimes.

Ramifications of State Failure for U.S. Strategic Interests

Economic failure abroad that leads to state failure significantly affects U.S. interests in

military, economic, health-related, and environmental areas. Although a thorough accounting of these ramifications would fill volumes, mentioning some examples is worthwhile.

National Security

If we compare the dates of U.S. military engagement with the timing of state failures according to the State Failure Task Force, we find that virtually every case of U.S. military intervention abroad since 1960 has taken place in a developing country that had previously experienced a case of state failure.³ (For these purposes, military intervention includes any use of U.S. troops abroad, whether for direct combat, peacekeeping, evacuation of civilians, protection of U.S. property, and so forth.) In many cases, the linkages from economic collapse to state failure to U.S. military engagements could not be clearer. Yugoslavia collapsed in part because of dire macroeconomic instability at the end of the 1980s, a point noted recently by the U.S. ambassador at the time, Warren Zimmerman (Zimmerman, 1999). Of course, security considerations now include much more than the engagement of military forces to encompass terrorist threats and arms proliferation.

Economic Losses

Adam Smith noted more than two centuries ago in *Wealth of Nations* that a country’s prosperity benefits directly from the prosperity of other nations (Smith, 1776, page 520). The United States has huge economic stakes in the developing world that are jeopardized by state failure abroad. The U.S. Commerce Department estimates the market value of U.S. foreign direct investments to be \$2.1 trillion, of which \$500 billion is in developing countries. Around 41 percent of U.S. exports in 1999 went to developing countries, up from 35 percent in 1990. Exports to developing countries grew by 8.5 percent during 1990–1999, compared with 5.9 percent to industrialized countries.

Business operations abroad are heavily affected by host-country instability, poverty, and even disease. A *Business Week* profile of ExxonMobil gives several examples of that company’s projects facing significant local complexities and decades-long delays in

Russia, China, Indonesia, Angola, and Chad, among other places (Bianco, 2001).

International Crime and Drug Trafficking

State failure is both a cause and consequence of international criminality, including money laundering and international drug trafficking. Failed states are easy prey for criminal groups that seize widespread control of drug smuggling operations, and some states (such as Colombia) have lost control over internal territories to insurgencies supported in part by proceeds of the drug trade.

Environmental Degradation

Economic collapse and state failure are major contributors to environmental degradation of strategic concern to the United States. For example, tropical deforestation with serious consequences resulting in loss of biodiversity and long-term climate change is caused in part by population pressures in poor agrarian regions that lead to clear-cutting of forests to make way for peasant agricultural sites (Cincotta et al, 2001). Most of the clear-cut land, alas, is unsuitable for intensive agriculture and is quickly abandoned, with devastating long-term ecological consequences. Because of state failure, and the lack of viable economic alternatives in these economies, environmental regulations are generally not enforceable or are easily corrupted. And some of the earth's most important zones of high biodiversity are at extreme risk because they lie precisely within failed states.

Infectious Disease

Many of the poorest countries in the world, and especially societies with state failure, are subject to horrific conditions of disease. Like international crime, the disease burden is both a cause and consequence of economic and political failures. A heavy infectious-disease burden, such as year-round transmission of malaria, causes a sustained reduction in economic growth for many reasons: individual workers are less productive, children are much less likely to finish school and to reach their cognitive potential, sectors such as tourism and agriculture are directly affected, and foreign investors are deterred.

State collapse feeds these problems

because failed states lack the financial and institutional means to deliver vital public-health services. The AIDS pandemic has ravaged sub-Saharan Africa in part because no African government has the means to fight this scourge with its own resources, and donors have generally not provided sufficient resources. As a 2000 National Intelligence Estimate on the global infectious disease threat clearly indicated, the United States stands at risk as a result of the uncontrolled spread of infectious disease in the poorest countries and failed states (National Intelligence Council, 2000). Risks to the United States include direct financial costs as it responds to the epidemic crises abroad; destabilization of foreign societies as a result of the crippling disease burden; and the spread of deadly pathogens, including multi-drug-resistant strains, across international borders. The 2002-03 outbreak of SARS provided a dramatic illustration of how quickly such diseases can spread, how costly they are to fight, and how necessary transparent international cooperation is to effectively contain them.

Notably, Europe has already spent billions of dollars combating "mad cow" disease and foot-and-mouth disease in European cattle and sheep. AIDS, of course, illustrates a newly emergent pathogen that arrived from Africa and has caused immense suffering and economic loss in the United States (although only a small fraction of the human devastation that has occurred in Africa itself). One can only wonder whether better public health surveillance and medical treatment, along with a healthier general population in Africa, might have controlled the epidemic much earlier, and either slowed or stopped its introduction to other parts of the world.

Addressing Foreign Economic Failure

Surprising as it may seem, the United States lacks a policy framework for translating its strategic interests in foreign economic performance into foreign policy actions. Because foreign economic failure leads to state failure that in turn has adverse implications for national security, trade and investment, international crime, drug trafficking, and infectious disease, one might suppose that the United States would have developed policy instruments to address preventable or remediable cases of foreign economic failure.

One would hope that economic, security, and foreign policy considerations would also be well integrated in national foreign policymaking. In fact, U.S. economic policymaking vis-à-vis the developing world has largely operated outside any long-term foreign-policy framework.

A proper policy framework must start with a hard-nosed assessment of what the

response from the United States. Consider the problem of a poverty trap, for example, as it afflicts much of sub-Saharan Africa. Economic growth does not occur because these countries do not achieve the minimal standards of health, education, and infrastructure. A valid policy instrument, in that case, is a set of large-scale and sustained income transfers from the United States and other rich countries targeted on the interlocking crises in health, education, and basic infrastructure.

Amazingly, however, the United States gives only a pittance to the poorest countries for the support of basic health and education. In 1999, for example, the United States gave the sub-Saharan African countries (49 countries with a combined population of 643 million in 1999) around \$78 million for health and \$63 million for education in official development assistance, according to the data of the Organization for Economic Cooperation and Development. Total donor aid (from all donors) to sub-Saharan Africa was \$836 million for health and \$999 million for education, or little more than \$1 per person in each case. In short, the rich countries did nothing significant to help the poorest of the poor in Africa break out of the poverty trap. The results were expected: continued economic failure, massive state failure, collapsing public health, and pervasive adverse consequences for the United States.

The Bush Administration's new Millennium Challenge Account (MCA) initiative—scheduled to begin in 2004 with \$1.3 billion in funding and then slated to rise to \$5 billion per year by 2006—is a welcome development. But the MCA initiative is still very small relative to U.S. GNP as well as to the needs in the poorest countries. The extra annual \$5 billion of the MCA (if actually delivered) would bump up U.S. Official Development Assistance (ODA) a mere 0.05 percent of GNP to 0.15 percent—still leaving the United States below the aid levels of all other donor countries.

State bankruptcy, on the other hand, must be handled in a completely different way. Giving short-term transfers to an already bankrupt state is fairly useless, as one failed International Monetary Fund (IMF) program after another has sadly demonstrated. When a state is buried by external debt, the debt must be reduced for the state to function properly.

In many cases, the linkages from economic collapse to state failure to U.S. military engagements could not be clearer.

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United States can and cannot accomplish in support of economic development abroad. For example, as rich as the United States is, direct income transfers from the United States to poor countries can make relatively little difference to the per capita income levels of those countries. To illustrate this statement, if the United States decides to spend another \$20 billion per year on aid for the 2.4 billion people in low-income countries, that act would amount to less than \$10 per person in the recipient countries. Because GNP per person is around \$37,000 per year in the United States and only \$400 per year in low-income countries, sizeable income transfers would just be a drop in the bucket of the income gap.

Nonetheless, foreign assistance can be decisively significant if it helps to unleash long-term economic growth, for example, by helping a country escape from a poverty trap or by helping a country in institutional transition to consolidate its economic and political reforms. Such uses of foreign assistance depend on a strategic view of the use of such transfers; that strategic sense has been largely missing in practice during the past 20 years. Foreign assistance has been poorly targeted (mostly to countries not in a poverty trap, so that added assistance has made little difference to their long-term growth prospects) and poorly timed (often arriving too late to help fragile economies in transition).

Each of the sources of economic failure—poverty trap, state bankruptcy, illiquidity, and transition crisis—requires a distinctive policy

Both the reality and expectations of continued weakness in a failed state make it impossible for its government to achieve political stability when overwhelmed by debt. The outright cancellation of debt becomes imperative. Of course, the United States might resist debt relief in the case of a hostile debtor state, but if the United States is truly attempting to foster economic recovery abroad, it should regard debt cancellation as a necessary part of its foreign policy arsenal, similar to the situation of a bankrupt municipality under the U.S. bankruptcy code. The poorest countries need debt relief, but debt cancellation could also help middle-income countries facing fiscal insolvency (e.g., Argentina as it moves to resolve its current banking and fiscal crises).

In the case of illiquidity, the key step is not debt cancellation but a postponement or “timeout” on debt servicing. The continued hemorrhaging of debt service payments during a liquidity crisis can cause an extremely sharp collapse of economic output. For example, the East Asian emerging markets experienced GNP declines of 6 percent or greater during 1998 not because their economies had suffered a collapse of fundamentals, but because these economies were subject to a brutal squeeze on access to short-term working capital. The IMF did little to relieve the short-term credit squeeze because it was reluctant to insist on a time-out on debt servicing. When that happened as a force majeure as in Korea in late 1997, economic recovery began sooner.

The main lesson about transitions is that small amounts of help at crucial moments can tip the balance toward successful outcomes. A new government might consolidate its democratic gains, or it might collapse into a new authoritarian regime. If the transition gains momentum in one of these directions, political forces often rush to the seemingly victorious side, and a self-reinforcing process takes over. Because expectations of the direction of change also cause political forces to align themselves one way or another, the paths of transition regimes are subject to self-fulfilling prophecies of success or failure.

All of this analysis underscores one essential point: when the United States is dealing with a transition government, time is of the essence. A key use of aid should be to support the consolidation of the new regime,

and that goal requires timeliness. Foreign assistance should be used to bolster the political authority of the new government, to remove impediments (such as an overhang of foreign debt), and generally to build signals of the long-term durability of the new government.


Toward a Strategic Use of Foreign Assistance

The United States has rarely wielded foreign assistance as an effective instrument of U.S. foreign policy. During the Cold War, a considerable proportion of foreign assistance was simply a transfer to U.S. allies as a kind of “thank you” for continued political support that often was not forthcoming. The aid was

U.S. economic policymaking vis-à-vis the developing world has largely operated outside any long-term foreign-policy framework.

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not well directed toward solving development challenges, and in any event the “thank you’s” were often followed by state collapse. Since the early 1980s, and especially since the end of the Cold War, the levels of U.S. donor assistance have in fact plummeted. The United States now spends only 0.1 percent of GNP in foreign assistance, and only 0.02 percent of GNP in assistance for the poorest countries. The United States has become by far the stingiest of all rich countries in donor aid. The consequences of this miserliness are undermining the long-term vital interests of the United States.

It is time to reconstruct a strategy of foreign assistance that is commensurate with U.S. strategic interests. The United States should urgently lead an international effort to help sub-Saharan Africa escape from a poverty trap that has led to a downward spiral of disease, falling living standards, and increased conflict during the past 20 years. More generally, the United States should harmonize the decision-making of different parts of the U.S. government, including the Departments of Treasury and State as well as the Office of the U.S. Trade Representative, to rebuild our national capacity to support economic development abroad as a vital component of U.S. foreign policy. 

Author's Note

The original version of this commentary was written before September 11, 2001, but it points out many of the risks that we are now considering. Quite a few ill-informed articles deny a link between terrorism and economics, arguing that the terrorists themselves are often middle- or even upper-class citizens. This article, however, points out that terrorists prey on failed states, and state failure is closely related to economic failure, as the CIA's State Failure Task Force has shown. Moreover, the task force recounts that U.S. military interventions are themselves closely tied to state failures. Therefore, the record of state failures (and the economic underpinnings which contribute to these failures) must be of profound concern for U.S. foreign policy, especially in today's post-September 11 world.

Notes

¹ For more on conflict and economics in Africa, see *Journal of African Economies* 9(3), 235–409.

² See Bloom & Sachs (1998) and Sachs et al. (2001).

³ In chronological order, cases of military intervention following state failures are (the first date in each case refers to the military intervention, and subsequent dates refer to state failure): Cuba (1962, 1956–1961); Thailand (1962, 1957); Laos (1962–1975, 1960–1979); Congo (1964, 1960–1965); Vietnam (1964–1973, 1958–1975); Dominican Republic (1965, 1961–1966); Congo (1967, 1960–1965); Cambodia (1970, 1970–1979); Cyprus (1974, 1963–1968, 1974); Vietnam (1975, 1958–1975); Lebanon (1976, 1965–1992); Korea (1976, not applicable); Zaire (1978, 1977–1979); Iran (1980, 1977); El Salvador (1981, 1977–1992); Libya (1981, not applicable); Lebanon (1982, 1965–1992); Honduras (1983–1989, 1978–1990 state failure in Nicaragua); Chad (1983, 1965–1996); Liberia (1990, 1989–1997); Zaire (1991, 1991); Sierra Leone (1992, 1991–present); Somalia (1992, 1988–present); Bosnia-Herzegovina (1993, 1992–1996); and Somalia (1993, 1988–present). The dates for state failure are taken from the State Failure Task Force data-set (State Failure Task Force, 1999); the dates of U.S. military intervention are taken from Collier (1993).

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The Realpolitik of Poverty

By John Sewell

About the Author

John Sewell is a Senior Scholar at the Woodrow Wilson International Center for Scholars. He is a former president of the Overseas Development Council.

Most hard-headed policy analysts consider poverty a "soft," low-priority issue—if they think of it at all.

These analysts are wrong. Eliminating absolute poverty worldwide would help meet a number of American interests in the 21st century. And if global absolute poverty persists, the cost to the United States over the next decades will grow. Eliminating absolute poverty, therefore, is not just an *ethical* but an *instrumental* issue for U.S. policymakers.

Why Global Poverty is Bad for the United States

Absolute poverty usually is defined as the number of people living on less than \$1 a day. By that measure, nearly 1.2 billion people were living in absolute poverty in 1998. The global percentage of people in this category dropped from 28 percent in 1987 to 23 percent in 1998. However, because of population growth, the *number* of very poor people remained roughly the same. And if we use an income of less than \$2/day as the measure of poverty, more than 2.8 billion human beings are impoverished—again, roughly the same number as in the 1980s.

What is your life like if you are in absolute poverty? For starters, you lack the basic skills and minimum capacities needed to control your own life, much less take advantage of globalization. You are most likely illiterate. You might very well be malnourished. You are almost certainly suffering from at least one debilitating disease (such as malaria or HIV/AIDS), which saps

your energy and diminishes your productivity. You probably lack assets (such as land and capital) that would enable you to invest in your future. And in many countries, you are at the bottom of the social ladder—a victim of discrimination, ignored by social programs that reach other groups.

But why should the United States care? Because the world won't work well—even for the United States with its vast wealth and power—if poverty remains at a high level. Take trade. Trade is an important *strategic* arena because it can play a critical role in expanding the number of prospering, stable, and democratic states. Done right, trade can be an important engine to developing-country domestic growth—which, in turn, will provide reforming countries with resources needed to address poverty and other problems. (For that reason, successive American presidents—both Republican and Democrat—have strongly emphasized promoting open markets and open economies.) Global poverty, however, cripples global trade potential and hence ultimately global security.

Trade is also now an increasingly important contributor to America's economic growth. In the last four decades, exports have tripled their portion of the U.S. gross domestic product (GDP). And developing countries now have emerged as major trading partners for the United States: nearly 42 percent of U.S. exports went to developing countries in 1999. A measurable part of that export-market growth came in Asian countries—

growth directly attributable to those countries' heavy investments in health and education, which dramatically reduced absolute poverty and increased worker productivity (WHO, 2001).

U.S. exports are particularly sensitive to rates of growth in developing countries. When growth slows (as it did during the debt crises of the 1980s and during the recent Asian financial crisis), American exporters and their employees feel the impact directly. And in the longer run, absolute poverty is a drag on world trade expansion: it slows growth and limits the size of the global market.

Much the same case can be made for international health—where problems have direct costs to American interests. Since 1973, at least 30 previously unknown diseases such as HIV/AIDS, hepatitis C, and Ebola have emerged, most of them in the developing world. (SARS is only the latest example.) In addition, new drug-resistant strains of tuberculosis and malaria have emerged and are now appearing in the United States. As the National Intelligence Council's report *The Global Infectious Disease Threat and Its Implications for the United States* puts it:

New and reemerging infectious diseases will pose a rising global health threat and will complicate U.S. and global security over the next 20 years. These diseases will endanger U.S. citizens at home and abroad, threaten U.S. armed forces deployed overseas, and exacerbate social and political instability in key countries and regions in which the United States has significant interests (NIC, 2000, page 5).

Many of these diseases—such as malaria and cholera—are first and foremost diseases of poverty. Others have emerged in countries that are too poor to have public-health systems to both treat new diseases and to warn the outside world when they emerge. And in all cases, people living in poverty are too poor to afford treatments even when such treatments are available.

Creating effective public-health institutions in developing countries could both help people deal with major diseases of poverty such as malnutrition and malaria as

well as new challenges such as HIV/AIDS. Such health institutions could also provide a global early-warning system for the inevitable new major health threats. Yet by all agreement, global health does not receive anywhere near the policy attention and funding that its importance demands.

The relationship of poverty to conflict is more complex. Poverty by itself does not cause conflicts; it is only one in a long list of factors (including ethnic disparities, social and economic inequalities, resource disputes, demographic pressures, environmental degradation, and urbanization) that work in different combinations in different situations to prepare the ground for conflict.

However, it is the poorest countries (those with stagnant or declining economies and a dependence on exports of raw materials) that seem to be most prone to violent conflict. Conversely, those that are developing rapidly suffer many fewer violent conflicts.¹ And while most of the costs of violent conflict are borne regionally, the costs to US interests (and to the international community) also are considerable. For instance, there is credible evidence that the initial spread of HIV/AIDS in Africa was speeded by the conflict between Tanzania and Uganda, and then by troops sent to keep the peace in West African conflicts. And HIV/AIDS is not the only disease spread by conflict. The World Bank estimates that for every 1000 refugees, there are nearly 1500 new cases of malaria in neighboring countries, simply because people have moved from an area where they have acquired immunity to one where different strains of the disease are prevalent.

The direct costs of ending active conflicts are also high. A study prepared for the Carnegie Commission on Preventing Deadly Conflict estimated that the costs of dealing with seven major conflicts in the 1990s was around \$230 billion. The study's authors estimate that a preventative approach stressing earlier intervention would have saved the international community almost \$130 billion (Brown & Rosecrance, 1999).

Moreover, the drug trade, international crime, and terrorism are also associated risks of conflict. According to the World Bank, some 95 percent of global production of opium takes place in countries with civil wars,

and the channels of distribution and storage flow through conflict countries. And while terrorists are usually not impoverished, conflict does provide an environment (such as Afghanistan) in which terrorists can operate. Illegal trade in raw material and drugs—notably, diamonds in West Africa and opium in Afghanistan—have sprung up in conflict areas, profiting both terrorist and criminal groups.

Finally, there is an important relationship between poverty and the sustainability of the earth's environment. Both economic growth and affluence and persistent poverty are pushing against the earth's limited carrying capacity. Energy is a central issue. Currently, most of the energy used by poor people is produced in ways that are highly inefficient, generate enormous amounts of pollution, and are generally unhealthy. Most people living in poverty use wood and other plant matter for cooking, and kerosene for lighting. Both sources of energy consume more energy than other fuels and produce smoke and particulates that worsen human and environmental health (UNFPA, 2001).

The challenge—which is again in the interests of the United States—lies in finding some way for the rich countries to lessen their consumption of energy without reducing well-being, and for poor countries and poor people to escape poverty without stifling needed economic growth or destroying the environment on which they too depend. For poor people in rural areas, solar power already is cost-effective when compared with extending electric grids, and subsidies and low cost credit could help poor people obtain more efficient stoves.

Can It Be Done?

Relative poverty probably never will be eliminated: the current gap between rich and poor countries is just too wide to close in the foreseeable future. But it is possible—and well before 2050—to cut dramatically and even eliminate the number of people living in *absolute* poverty. Achieving such a goal, however, will take more than rhetoric from both developing and developed countries.

In fact, the percentage of people living in absolute poverty has already been reduced, and all social and economic indicators show

major improvements since the 1960s. Per capita developing-country GDP nearly tripled between 1960 and the late 1990s; life expectancy has jumped from 46 years to 65 years; birth rates have dropped dramatically in almost every country (from over six births per woman in the 1950s to 3.6 births, and still declining), with the prospect that, by the

The world won't work well—even for the United States with its vast wealth and power—if poverty remains at a high level.

—John Sewell

middle of this century, the world's population could be stabilized at lower levels than previously projected; and world food production has increased dramatically, and many more countries are now capable of feeding themselves. In India—the “basket case” of the 1970s—food production has quadrupled. Other indicators tell the same story.

Nevertheless, major problems persist. The *distribution* of this progress has been very uneven. Mass poverty persists in a number of countries and has even increased as a result of financial crises. Developing countries are vulnerable not only to natural disasters and low prices for their primary commodities, but now also to instability in the international financial system brought about by globalization. Most noticeably, sub-Saharan Africa has made virtually no progress against poverty.

Fortunately, policymakers and specialists in the last three decades have arrived at detailed strategies for development that promote growth and reduce poverty—strategies that incorporate the following conclusions:

- Liberalized trade and economic openness have a beneficial impact on growth.
- Growth is important, for its own sake and for reducing poverty. It is not sufficient, however, to eliminate poverty.
- Measures to directly address poverty also are important for their own sake, and if done right they enhance economic growth. In addition, participation by people in the

development decisions that affect their lives is critical to the success of programs.

- Similarly, good governance and democracy are important for growth and also goals in their own right.
- Investment in poor people—increasing their access to education and health, redistributing productive assets (credit and land),

Eliminating absolute poverty is not just an ethical but an *instrumental* issue for U.S. policymakers.

—John Sewell

supporting small-scale rural and urban enterprises—is critical.

An international consensus—codified in the Millennium Development Goals—has emerged around the necessity of eliminating poverty.² Commitments by *developing* countries are critical in the effort to meet the Goals. Governments and their constituents are going to have to make tough choices in balancing economic efficiency, political openness, social progress, and equity—all while protecting the environment. This will mean commitments to adopt growth-oriented economic policies, to cut wasteful military expenditures, to redirect current social programs away from the middle class, to end all-too-prevalent corruption and to transfer resources to poor people and poorer areas.

Commitments by *developed* countries also are critical to eliminate absolute poverty. The most important step is for these countries to drop high market barriers to products in which developing countries have a natural comparative advantage—particularly agricultural products and labor-intensive manufactures. Developed-country tariffs and subsidies cost developing countries far more than the annual foreign aid these countries receive from the industrial countries.

The World Bank estimates that if both industrial and developing countries drop existing trade barriers, developing countries would gain an additional \$1.5 trillion of income—which could result in 320 million people escaping poverty (and fewer infants dying before their fifth birthday) by 2015

(World Bank, 2002, page 176). Trade liberalization discussions now underway provide an excellent opportunity for the developed world to remove market barriers to those products with which poor countries already are competitive.

Developed countries should also commit the financing needed to meet the Millennium Goals. Money matters if poverty is to be eliminated—but currently, total flows of Official Development Assistance (ODA) from developed countries to poorer ones are totally inadequate to support the programs and policies needed to meet the Goals. ODA flows in 2000 totaled \$53.7 billion—or just over 0.02 percent of the OECD-country gross national income. (The official target, honored by only a few countries, is 0.07 percent). If the Goals are to be achieved, the best estimates show that an additional \$50 billion a year in ODA will be needed.³

The issue is urgent. Currently, substantial parts of the world are not on track to reach the Goals by 2015. More than 100 million school-age children remain out of school. In some twenty countries, more than 1,000 women die for each 100,000 live births. In some countries, infant mortality is on the rise.

There is still some time for debate and policy invention, but it is not unlimited. Postponing these decisions for too long runs the risk on some issues of incurring higher costs to deal with problems that have become larger.


Fortunately, the broad shape of the world at mid-century is discernable, at least in terms of population. Population growth has slowed dramatically, although the momentum of past growth will continue for several decades. The UN's annual population projections show that, if current trends continue, the world's population could stabilize in 2050 at around 9 billion people, a figure far lower than once feared.

Most of these people will be living in developing countries. They will also be living in cities and not in the countryside. In fact, as early as 2015, more than half the world's population will be living in urban areas. The populations of the industrial countries, on the other hand, will be much older and dependent on an increasingly smaller group still in their productive working years. The impacts will

be complex and little understood. It is possible that the bulge of working-age younger people in the developing world could provide a huge stimulus to global economic growth. On the other hand, if jobs are not created, the potential for instability and even conflict will only grow. But meeting the challenge will be made much more difficult if absolute poverty is not eliminated well before mid-century.

Given these demographic trends, the challenge for policymakers is to think in terms of “managing” a world with 50 percent more people than at the beginning of the 21st century. Over 95 percent of that population growth will occur in the developing world. In 2050, one in four people will be living in countries facing chronic or recurring shortages of water, and the world will have to double food production as early as 2025 simply to meet the needs of people who will

then be alive. Furthermore, the age distribution of global population will also be quite different than today’s population profile. The populations of most developing countries will be younger, and the need to provide gainful employment for these youth cohorts will be immense.

Many in the policy community still think of these issues as very long term. But 2050 is not that far away, and many now alive in the United States will still be living, including the children of those leaders now in power. Decisions taken—or not taken—in this decade will have a major impact on the shape of their lives. From this perspective, eliminating absolute poverty becomes very important. It is not only ethically right for its own sake; it also promotes fundamentally American interests. 

Notes

¹Much of this section is drawn from World Bank (2003).

²For a list of and details on the Goals, go to <http://www.developmentgoals.org/>.

³See UN (2001) and Devarajan et al. (2002).

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China Environment Series 6

ECSP's China Environment Forum has published its sixth issue of the *China Environment Series (CES)*. An annual journal for policymakers, researchers, educators, and environmental nongovernmental organizations (NGOs), *CES* features articles, commentaries, and meeting summaries that examine environmental and energy challenges facing China. *CES* also explores creative ideas and opportunities for governmental and NGO cooperation.



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*Foreign Technology in China's Automobile Industry:
Implications for Energy, Economic Development, and Environment*
Kelly Sims Gallagher

*One Country, Two Systems, One Smog:
Cross-Boundary Air Pollution Policy Challenges for Hong Kong and Guangdong*
Lisa Hopkinson and Rachel Stern

Navigating the Policy Path for Support of Wind Power in China
Roger Rauber and Wang Shujuan

*Bamboo Sprouts After the Rain:
The History of University Student Environmental Associations in China*
Lu Hongyan

*Governing Marine and Coastal Environment in China:
Building Local Government Capacity Through International Cooperation*
Sulan Chen and Juha I. Uitto

Commentaries/Notes from the Field:

Sue You Sue Me Blues—Michael Ma • *Learning How to Ride the Wind: The Disappointments and Potential of Wind Power in China*—Joanna Lewis • *Weaving a Green Web: The Internet and Environmental Activism in China*—Guobin Yang • *Water Dispute in the Yellow River Basin: Challenges to a Centralized System*—Wang Yahua • *A Multi-Stakeholder Watershed Management Committee in Lashi Watershed: A New Way of Working*—Kate Lazarus • *E-Waste Recycling in China*—Luyuan Li • *More Players on the Stage: New Trends in Shanghai's Water Pollution Control Policies*—Seungho Lee • *Community Forestry in Yunnan Province*—Kenji Kitamura and Guangxia Cao • *Coastal Zone Management in the People's Republic of China: A Unique Approach?*—Maren Lau • *What if All China Golfed? Prospects for an Environmentally-Friendly and Conflict-Free Golf Industry in China*—Timothy Hildebrandt • *The Zhangjiajie Phenomenon*—Huang Liangbin • *Why Industry's Environmental Performance Doesn't Count*—Joakim Nordqvist and Gabriel Somesfalean

CES 6 includes summaries of China Environment Forum meetings as well as an updated and expanded "Inventory of Environmental Projects in China," which describes projects conducted by U.S. government agencies, U.S. universities, professional associations, and NGOs. This year's Inventory includes a significantly longer section on Chinese NGOs and environmental initiatives by other governments in China.

To obtain a copy of China Environment Series Issue 6 or inquire about contributing to future issues, please contact ECSP Senior Project Associate Jennifer L. Turner by email at chinaenv@erols.com or phone at 202/691-4233. Copies may also be downloaded from the ECSP Web site at www.wilsoncenter.org/ecsp.

SPECIAL REPORT

POPULATION AND ENVIRONMENT: A REVIEW OF FUNDING THEMES AND TRENDS

By Susan L. Gibbs

About the Author

Susan L. Gibbs is an independent consultant and advises foundations and nonprofits on global population, health, and environmental issues and opportunities. She has held grant-making positions with The Summit Foundation, The Pew Global Stewardship Initiative, and The Pew Charitable Trusts.

In June of 2002, the David and Lucile Packard Foundation commissioned the following report reviewing the “state of play” in population and environment (P-E) funding.¹ The Packard Foundation had recently expanded its own P-E grants portfolio and was interested in identifying broad trends in the field as well as promising investment opportunities. This report explores several key questions, including:

- How much funding is currently being invested in P-E? Is P-E receiving increasing or decreasing attention from donors? Why?
- How do key donors define and prioritize P-E? How do key grantees define and prioritize P-E? Is there a match between current funding flows and the interests and concerns of the field’s main actors?

The review was based on over 50 interviews conducted during the summer and fall of 2002 with current and former foundation officials active in P-E funding as well as academic experts, staff members from multilateral organizations such as the World Bank and the United Nations Population Fund, and staff members from nonprofit organizations active in P-E. Interviewees were assured that their comments would be used on a not-for-attribution basis. The review also drew upon the foundation grants database compiled by the Funders Network on Population, Reproductive Health and Rights.²

Background on Key Terms

It is difficult to review P-E funding trends because there is no single or simple definition of the P-E field or even of the basic terms of “population” and “environment.” Funders active in this area approach the nexus from many different directions and perspectives. In addition, the core population and environment program interests of these same donors also diverge widely. This report focuses on the P-E priorities and programs *as defined* by the field’s key funders and grantees. These definitions are not uniform, and this variation makes it difficult to generalize about key themes and trends.

Defining terms and distilling trends at the P-E nexus is particularly complicated because the population and environmental fields themselves are so complex. On the population side, funders’ mandates have expanded considerably over the past decade. While demographers maintain that population officially encompasses the three processes of fertility, mortality, and migration, donors have historically directed the majority of their funding toward lowering fertility rates, particularly in the parts of the world with the most rapid rates of population growth. However, the 1994 International Conference on Population and Development (ICPD) shed a spotlight on the importance for both social development and women’s empowerment of stabilizing world population growth, and donors have responded accordingly.

The environmental arena is equally expansive. The field has evolved from a focus on single issues such as water pollution and species extinctions to a more holistic approach that emphasizes the importance of maintaining ecological processes and global ecosystem integrity. The environmental community's early emphasis on direct protection through parks, reserves, and protected areas was supplanted during the 1990s by a social-development push, illustrated by the proliferation of integrated conservation and development projects. Habitat fragmentation, human domination of natural systems, and an ambitious trend toward larger landscape-scale interventions have led the environmental community straight into the same social-development challenges as the population field. It is at this nexus that the young field of population-environment is emerging.

Assessing P-E funding priorities and patterns is challenging because, in the words of one program specialist with experience in community-based P-E work, "population-environment is a misnomer on both sides." P-E activity typically falls under broader labels such as "population, health and environment" or "population and development" or simply "poverty alleviation." At the community level, population interventions cannot be separated from broader health needs, and natural-resource management strategies are linked and indeed are often synonymous with economic

development and livelihoods efforts. Because of this complexity and range of terminology, a review of P-E funding themes and trends is destined to be subjective and exclude some P-E activity.

How Much Foundation Funding Has Targeted Population-Environment?

What is the recent history of foundation funding for population and environment? This report reviews aggregate P-E grant totals awarded by U.S. foundations over a recent three-year period (1999–2001). Foundation funding totals were drawn primarily from the Funders Network on Population, Reproductive Health and Rights' grants database, supplemented by independent research on recent foundation investments in this area.

Foundation Funding: The Current State of Play

A survey of P-E funding awarded by U.S. foundations during 1999–2001 revealed the following:

- **Foundation funding in population-environment more than doubled over the three-year period.** Foundation grant totals showed a steady increase, from almost \$8 million in 1999 to \$15.7 million in 2000, and \$17.5 million in 2001. This trend can be compared to findings in an earlier report

Table 1. Top Funders in Population-Environment, 1999-2001

	1999	2000	2001
The Packard Foundation	\$1,560,000	\$9,800,000	\$9,100,000
The Hewlett Foundation	\$485,000	\$1,000,000	\$4,400,000
The Summit Foundation	\$1,150,000	\$849,400	\$939,000
United Nations Foundation	NA	\$855,000	\$500,000
Anonymous Funder	NA	NA	\$481,316
The Turner Foundation	\$400,000	\$500,000	\$370,000
The Geraldine R. Dodge Foundation	\$575,000	\$495,000	NA
The Compton Foundation	\$1,250,000	NA	NA

on foundation funding trends in P-E (Gibbs, 1998), which concluded that U.S. foundations invested over \$25.4 million in support of P-E activities during the four-year period spanning 1993–1996. Funding levels were quite stable from year to year, with an average annual outlay of \$6.3 million during this period.

- **P-E funding totals represent only a tiny percentage of population and environmental funding levels overall.** P-E grants represented only 2.4 percent of the total grant dollars awarded in population and reproductive health and rights in 2001³ and only 2.2 percent of the 2000 total. It is impossible to express P-E funding as a percentage of environmental funding because aggregate international environmental funding data has not been systematically compiled.⁴
- **The growth in P-E funding was fueled by only a handful of foundations.** With its contribution of almost \$9.1 million in 2001, Packard emerged as the lead funder of P-E issues. Note that Packard's grant totals include over \$8 million invested over the three-year period in support of the PLANet Campaign and related public education and mobilization efforts.⁵ Even excluding this cluster of grants, Packard would still rank as the most active P-E funder, with \$6 million invested in P-E in 2000 and roughly \$5 million in 2001. The top funders in P-E during the last three completed years can be seen in Table 1.⁶

How Much Future Funding is Anticipated in Population-Environment?

All of the leading funders in population-environment anticipate reductions or have already reduced their funding in this area. The survey revealed that *half of the top funders planned no future P-E funding at all*. The Summit, Dodge, and Turner Foundations as well as an anonymous funder plan to leave this funding area altogether. The Compton, Packard, Hewlett, and United Nations Foundation anticipate funding declines. Weak market trends and drops in the values of foundation endowments have afflicted foundations across the board. It is impossible

to know if P-E funding has been hit harder than other funding clusters, but the numbers are indeed ominous. Taken together, future P-E funding will almost certainly be markedly lower than the high-water mark set in 2001.

Why Is Population-Environment Funding So Challenging?

Before looking closely at specific clusters of P-E funding activity, we should identify

That the P-E field cannot be labeled with precision and is full of ambiguities, questions, and even tensions does not diminish its importance or potential.

some of the broad challenges confronting donors as they attempt to achieve impact in this area:

- **Cross-program funding is particularly vulnerable when belts are tightened.** In an era of falling endowments, cross-program funding initiatives such as population-environment can be particularly vulnerable. These initiatives may not have as strong an internal constituency: program staff may view them as sources of “extra credit” and as topics that, while intellectually stimulating and affording of creative opportunity, are not areas of core accountability and job definition. Drops in funding can also lead to competition among program areas for increasingly scarce grant dollars and a growing reluctance to divert core program funds to interdisciplinary or experimental ventures.

In addition, when resources are limited, it becomes tempting to view funding on the “other side” as more secure. Population funders have long envied what they perceived as a much larger and more diversified donor pool addressing environmental issues. International biodiversity funders are equally envious of the large national health budgets in some of their priority countries. These perceptions can discourage core program areas from parting with their precious grant dollars.

- **The trend toward program specialization can make collaboration more difficult.** As foundations seek to more clearly articulate their targets of intervention and measures of success, interdisciplinary areas such as P-E can become harder to justify and operationalize. For example, a population foundation's funding of advocacy in support of U.S.

The field of population-environment is emerging at the nexus of environment, population dynamics, and social-development challenges.

public funding for international population assistance provides a plausible point of entry for engagement with environmental groups. However, when the goal is further refined to emphasize strengthening the global supply chain of reproductive-health supplies, the value-added through enlisting the support of environmental organizations and constituencies becomes more tenuous.

- **Foundations seeking to link population and environment funding typically pursue this strategy after their core population and environment program goals are already in place.** Retrofitting integration only after core program agendas have already been developed can be difficult. As one former foundation program officer explained in an interview for this review, "Our population and environment programs were developed independently. If we'd picked our program priorities collaboratively in the first place, we could have worked on integration in a way that made sense. For example, a focus on water might have made more sense than trying to link climate change to adolescent livelihoods."
- **The trend toward place-based strategies can both enhance and diminish prospects for meaningful P-E program development and funding.** Within some foundations—even those with a professed receptivity to exploring P-E linkages—population and environment programs have selected completely different geographic targets, rendering meaningful program collaboration very difficult to accomplish. When more than one program area is trying to achieve impact in a specific region, place-based grounding can facilitate dialogue and collaboration. Shared site visits can foster learning and problem solving across program specializations. When grounded in specific settings, the connections among population, development, and conservation dynamics can be more concrete and more compelling.
- **The connections between population and environment are indirect, making the P-E area more complicated to describe and defend.** The relationship between population and environment is explained by academics as "multivariate and highly interactive." The linkage is mediated by many intermediate variables, including political institutions, social structures, and economic and technological developments. This complexity challenges researchers just as it complicates advocacy strategies and public education messages. It also makes the area tougher to show and sell to foundation boards.
- **P-E projects are hard to fund because there are relatively few of them.** In the words of one foundation executive, "we receive relatively few good proposals in this category. Many of the projects we have funded in this field we have had to co-create." Overall funding in this area is limited because good P-E work can be so labor-intensive for foundation staff members, who typically face steady pressure to get money out the door.
- **Foundation program staff members specializing in population see the world differently from foundation staff members on the environmental side.** Differences in staff training, motivation, expertise, and experience can complicate cross-program collaboration. Population proponents sometimes express suspicions that their conservation colleagues don't appreciate the centrality of the struggle for gender equity and social justice. Environmental staff can be equally passionate in their conviction that the demise of natural systems imperils the future of the world as we know it. These alternative frames of reference and core values are as evident within grantee organizations as they are among foundation staff.

U.S. foundations have employed a range of strategies to address P-E linkages. This report will now review recent activity in three strategic clusters: (1) *public education and advocacy*; (2) *field-based programs*; and (3) *research and training*.

Funding Population-Environment Public Education and Advocacy: Challenges and Opportunities

Supporting public education and advocacy on P-E issues has long been a popular target for funders. In my previous review of P-E grantmaking (Gibbs, 1998), public education and advocacy represented the largest percentage of total grant funds awarded during 1993–6, reaching almost 64 percent of the funding total.⁷ During the past three years, U.S. foundations have continued to emphasize this area, investing roughly 50 percent of all P-E funds in support of public education and advocacy approaches. If one includes Packard’s investments in the PLANet Campaign in these grant totals, public education and advocacy funding is even more dominant.

The largest cluster of P-E advocacy funding still originates from the population side, as population funders seek to harness the environmental constituency in support of population policy aims. In particular, resource mobilization has received much attention. Based on the premise that growing demand for family planning and reproductive-health services cannot be satisfied without mobilizing significant funding, funders have targeted the appropriations process with the goal of bolstering—or at least sustaining—U.S. government dollars for international family-planning assistance. Other policy priorities have included overturning the “gag rule”⁸ and working to restore the U.S. contribution to the United Nations Population Fund (UNFPA). A number of population funders have seen strategic value in enlisting the large memberships, activist networks, and perceived policy clout of the national environmental organizations in support of these policy goals.

Challenges

- **The current political climate in Washington is hostile to the core**

policy agendas of both population and environmental activists. This hostility has lowered expectations for policy wins and has contributed to significant battle fatigue in both camps—which helps explain why population advocates are able to declare victory when they “only” lose by four votes (as in the case of a 2002 gag-rule vote in the House of Representatives) or feel relief that the U.S. government’s contribution to international family-planning funding survived at \$368.5 million in 2002, a quarter less than 1995 funding levels.⁹

In this climate, it becomes harder to make the case that it is politically expedient to link population and environment advocacy. Advocates are desperately

“If we’d picked our program priorities collaboratively in the first place,” said one official, “we could have worked on integration in a way that made sense.”

defending their core positions and are typically reluctant to complicate or compromise their messages and strategies. Several international conservation lobbyists noted that, while international conservation may not be high on the priority list of lawmakers, it has not attracted the opposition endured by population advocates.

- **International population and environment issues are low on the legislative totem pole.** Ongoing challenges in Iraq, mounting costs for homeland security, and persistent economic woes continue to preoccupy lawmakers and the public. Previous polling shows wide public support for international family-planning assistance; however, the salience of the issue—whether or not linked to environmental concerns—is generally low. As one veteran P-E activist acknowledged, very few people would “drive for an hour and stand in the rain” to press for international population or environmental assistance.

September 11 has had complex and contradictory impacts on P-E funding. On the one hand, the American public is more aware of the world. National borders are seen as more permeable, and polling shows

new public concern over the impoverished conditions in developing countries. On the other hand, preoccupation with mounting threats to our national security and economy can completely overshadow any attempts to address social and environmental issues overseas.

- **Abortion dominates population politics and complicates efforts to link population and environmental advocacy successfully.** Despite the broad

The nexus between AIDS and the environment is just beginning to receive attention from the international conservation community and is likely to grow in importance.

scope of population concerns, it is often reduced to one hot-button issue—abortion—in the U.S. policy context. Some population policymakers voiced the view for this study that environmental and security arguments in support of population assistance could potentially gain steam post-September 11 and help steer the policy debate away from its exclusive focus on abortion. However, abortion continues to trump all other issues in domestic family-planning debates, with the Bush Administration more than willing to placate social conservatives by supporting restrictive policies overseas.

- **Funders and grantees alike have sometimes confused policy and capacity-building goals.** There is a difference between more forceful activism on P-E policy and real institutionalization of P-E within organizations. Foundations have not always been clear about which piece they have been trying to buy. Some have funded capacity building and organizational development, but then expressed disappointment when the grantee has not delivered policy impact. Some have celebrated short-term policy wins and then have been thrown off course when the issue disappears from the organization's radar screen the moment the grant period ends.

However, other funders are maturing in their strategies and developing more realistic expectations about when

organizational change is possible and when grant dollars are unlikely to ever achieve it. In the words of one donor long active in P-E advocacy funding, there are some environmental groups “we just aren’t going to get. You only need nine men on the field; it doesn’t matter how deep the bench is.”

- **P-E advocacy tends to be a one-way street.** The P-E policy nexus has not been embraced in reverse: there do not appear to be any examples of funding being directed to population/reproductive health advocates to stimulate targeted advocacy on environmental policy priorities. This lack of reciprocity can limit the potential of ongoing policy collaboration.
- **Evaluating the impact of funding P-E advocacy remains challenging.** Funders struggle to assess and measure advocacy across all sectors, and P-E is no exception. As one funder noted, “It is difficult to defend this portfolio because these grantees can never take credit for anything.”

Opportunities and Openings

- **The FY2002 and FY2003 Foreign Operations Bills contained new language on the use of family-planning funds in environmentally threatened regions.** The 2002 bill stated that, under the Child Survival and Global Health Fund, “\$368.5 million [be allocated] for family-planning/reproductive health, including in areas where population growth threatens biodiversity or endangered species.”¹⁰ While this language did not represent an explicit funding earmark, it did provide a mandate to the U.S. Agency for International Development (USAID) to emphasize P-E linkages in its funding allocations. USAID continues to actively seek guidance on how best to pursue opportunities in this area and is eager to collaborate with private funders.
- **The Millennium Challenge Account may offer new resources for international development assistance generally and population-environment activities specifically.** On March 14, 2002, President Bush announced that U.S. foreign assistance to developing countries will grow by 50 percent over the

next three years, resulting in a \$5 billion annual increase over current levels by FY 2006. This increased assistance will go to a new Millennium Challenge Account (MCA) established to fund initiatives to improve the economies and standards-of-living in qualified developing countries. The goal of the MCA is to “reward sound policy decisions that support economic growth and reduce poverty,” with an emphasis on countries committed to good governance, health and education, and “sound economic policies that foster enterprise and entrepreneurship” (USAID, 2002). While it is not at all clear how these post-September 11 resources will be allocated, the expanded foreign assistance pie will change the political and economic dynamics around foreign assistance.

- **Environmental organizations have coalesced into an effective subgroup of the International Family Planning Coalition.** The International Family Planning Coalition, an alliance of advocacy and service-delivery organizations, has played an important role in promoting funding for international population assistance. In previous years, tensions sometimes flared between environmental advocates within the Coalition and some reproductive-health and -rights groups over how hard to push on abortion issues. Some reproductive-rights advocates accused some environmentalists of giving lawmakers an easy out by allowing them to vote for family-planning funding but remain neutral on gag-rule issues. However, with Coalition support, the Coalition’s environmental organizations—the National Wildlife Federation, National Audubon Society, Sierra Club, Izaak Walton League, and Population Action International—have now developed an effective subgroup, signing on to joint letters to legislators and coordinating visits to Capitol Hill.
- **The environmental angle on population assistance appears to resonate with key swing legislators.** A report commissioned by the Summit, Hewlett, and Packard Foundations concluded that environmental outreach to a small number of pro-life legislators may have helped tipped their votes in favor of family



Children on Guimaras Island, the Philippines, where a University of Michigan P-E program with Save the Children-Philippines cultivated acceptance and adoption among fisherfolk of both reproductive-health and sustainable coastal resource management practices.

Credit: Robert Layng

planning in several House votes on international family-planning assistance in 1997 and 1999 (Wilson & Kehoe, 2000). The report noted that, because the House was so evenly divided on this issue, these votes were key.

While subsequent Congressional elections (not to mention a new Republican administration) have reshuffled the political deck, strategic targeting remains a solid approach to P-E advocacy. Limited resources and competing policy priorities will likely preclude an effective a large-scale mobilization of the general public. Strategic targeting of key “swing” lawmakers will likely provide a “bigger bang for the buck,” although this approach requires “inside the beltway” savvy and a long-term commitment to the fiscal health of key Washington advocacy groups such as Population Action International.

- **Funders have progressed in understanding and evaluating advocacy.** Obviously the foremost criterion for measuring the success of any advocacy effort is whether or not the ultimate policy aim was achieved. However, assessing the merits of advocacy funding should utilize more

subtle measures. For example, the Turner Foundation had begun to develop a broader approach for assessing the merits of advocacy funding. Some additional measures Turner explored include:

- 1) *Building the movement.* Did the advocacy strategy enlist new activists? Reinvigorate old activists? Pull in new constituents?
- 2) *Gaining public attention.* Did the advocacy strategy attract press?
- 3) *Bringing out weaknesses or hypocrisy in the opposition.* Did the mainstream message of the advocacy strategy guide the debate?
- 4) *Demonstrating the political muscle of groups.* Did policymakers rely on the funded organizations for support and advice?

While Turner did not systematically apply this approach to its P-E grantees, the framework could be developed and refined for this purpose.

Population-Environment Field-Based Programs: Challenges and Opportunities

Of all of the clusters of P-E funding first reviewed in my 1998 report, field-based integrated population and environment programs saw the largest increase in foundation support. This cluster represented only around 8 percent of total P-E funding during 1993-1996, but grew to almost a third of the total (or almost \$4.5 million) in 2001. Funding in this area has largely been directed to partnerships between specialized health/family planning and environmental groups that respond to local communities' needs for improved reproductive-health services and sustainable livelihood alternatives.

These interventions typically target remote and marginalized populations, often living in the buffer zones of protected areas or other areas of high conservation value. These projects are generally based on two premises: (1) that providing women and their families access to quality family-planning and health services will help local communities manage their resources more sustainably, and

(2) that supplying health and family-planning services to residents in and around protected areas will help alleviate population pressure on these fragile landscapes over the long term.

A growing body of literature and field reports extols the virtues of integrated P-E projects. These projects are said to achieve greater sectoral impacts than stand-alone interventions, bridge community gender barriers, enhance project sustainability, bolster community self-sufficiency, reduce community vulnerability to shifting political winds and changes in government personnel, secure stronger community buy-in, and conform more holistically to community needs. In the words of one World Bank official, "Throughout my career I have found that the closer projects are to the field, the better they work. Training foresters to talk about family planning is so innovative. The simple reason for this is that life comes in an integrated fashion. The higher up you go, the more these programs are corrupted by administrative boundaries."

It is difficult to tell whether the number of integrated P-E projects has increased in recent years. A 1998 tally of community based P-E projects compiled by Population Action International (PAI) remains the only inventory compiled to date (Engleman, 1998). PAI subsequently carried out preliminary research in an effort to update this listing. Of the 60 integrated P-E projects in PAI's initial database, 20 were found to be still ongoing, 20 had ended, and information was unavailable on the final 20. PAI also identified ten new projects.

PAI is still refining its criteria for inclusion, and now acknowledges that some of the projects contained in its initial listing would not "make the cut" in a second survey. However, based on the increase of foundation funds flowing into this area, we can surmise that the number of P-E project beneficiaries is on the rise. Whether this is attributable to growth in the number of projects or just growth in the size of a small number of large flagship projects is harder to say.

Challenges

- **"Mission drift" is a real worry.** While virtually all of the major environmental organizations identify population dynamics

as one of the key drivers or root causes of biodiversity loss, these organizations are not unanimous in embracing population as a primary—or even secondary—concern. Despite the relevance of population pressures and trends for conservation, and despite links between environmental factors, sexual and reproductive health, and quality of life, these linkages are not easy to operationalize. Even those organizations committed to working at the P-E nexus have struggled to respond effectively outside their area of specialization. The local communities targeted by P-E projects have a wide range of needs—including basic education, employment, communications and transportation infrastructure, primary health care, and good governance. Administrators of integrated projects sometimes struggle with where to draw the line.

- **Political sensitivities still simmer.** Population growth and unsustainable consumption patterns are both implicated in global environmental degradation. But the degree to which each factor is to blame—and therefore should be targeted by policy efforts—is subject to intense debate. In the absence of a shift in unsustainable consumption patterns in the United States, policymakers from the developing world understandably resent the emphasis some Northern NGOs give to population policies. In addition, a legacy of earlier “population control” approaches (some of which were overly zealous in their quest to recruit contraceptive “acceptors”) contributed to a powerful backlash against these approaches and a renewed emphasis on women’s reproductive health and rights.
- **Governments in the world’s poorest countries are strapped and stretched, and they are not always able to partner effectively.** While conservation, health, and population NGOs can succeed in establishing partnerships to initiate or improve family-planning service delivery and natural-resource management practices, governments are also typically needed to take this work to scale and sustain it over the long term.

It has occasionally not been enough for NGOs to advocate for government services

in these settings. Rather, NGOs have had to step in to offer technical assistance, training, and collaboration with local government agencies so as to ensure that services attain sufficient quality. Such a role is more ambitious and time-intensive, and not all NGOs have been willing or able to take on the burden.

- **It is difficult to achieve economies of scale.** Efforts to integrate natural-resource

Even those organizations committed to working at the P-E nexus have struggled to respond effectively outside their area of specialization.

management with health and family-planning services have been dynamic and effective in responding to community needs in specific sites. However, there are still only a few models for scaling up these efforts regionally, eco-regionally, or nationally. Because most integrated projects tend to be small, the number of beneficiaries is limited and project costs are often high.

- **Field staff members are often overworked, overwhelmed, and unenthusiastic about embarking on new initiatives outside of their core specializations.** As with advocates, researchers, and even donors themselves, field staff members have very few incentives to add new tasks to their daily to-do lists—particularly when the additional work is so challenging. Community needs can be so manifold and poverty so pervasive that field staff members feel tremendous pressure to pick certain interventions in which their projects’ value-added can be measured.

Openings and Opportunities

- **Major environmental organizations voice deep concern about the implications of demographic trends on their missions and mandates.** Some of the world’s highest fertility rates and areas of greatest poverty overlap with some of the most environmentally fragile and biodiversity-rich areas. Population growth in tropical wilderness areas is growing at an average rate of 3.1 percent—over twice



Working through existing conservation and development programs, University of Michigan P-E Fellow Dan Whyner helped introduce family-planning services in communities near areas of rich biodiversity in rural Madagascar.

Credit: Dan Whyner

the world's average rate of growth. The Nature Conservancy has calculated that rates of population growth in some of its target areas exceed nine percent annually, meaning that these populations will double in less than eight years.¹¹ More than 1.1 billion people live within the 25 global "Biodiversity Hotspots" targeted by Conservation International.¹² These demographic realities have not gone unnoticed by the conservation community and offer an important opening for exploring P-E work.

• **National environmental funds offer a source of leverage for P-E projects that has not yet been fully exploited.**

Notwithstanding the organizational and political tumult within Tany Meva, Madagascar's national environmental fund, such national funds offer opportunities for scaling up P-E interventions and enhancing their sustainability. The Summit Foundation supported some preliminary work in Mexico in collaboration with the Mexican Fund for Nature and began initial conversations with The Bhutan Trust Fund for Environmental Conservation about possible work in this area. However, Summit's funding woes limited follow-up on these initiatives. In light of the ebbing fortunes of private foundations, national funds clearly offer local P-E funding

alternatives with the potential for more staying power in their local regions. The newly formed Conservation Finance Alliance could be a useful resource and potential partner in exploring further opportunities in this area.¹³

• **New training and fellowship initiatives are helping to build capacity overseas for advancing community-based P-E work.**

The University of Michigan's Professional Exchange For Applied Knowledge (PEAK) Fellows Program, launched in 2001 with support from the Compton Foundation, provides a valuable new source of funding and technical support for developing-country practitioners to receive training in P-E programming. Another promising initiative is the Population and Environment Resource and Training Center being launched by the National Wildlife Federation (NWF) and Pronatura Península de Yucatán. This planned center, to be based in Calakmul, Mexico, will be used to train local promoters and other community members from the area on P-E issues. The Packard-funded Ashoka fellowships have offered yet another important resource for practitioners pursuing P-E linkages in the field.

However, the majority of these fellowships were awarded to "social entrepreneurs" working on the environment or population, but not necessarily the nexus between them. While these initiatives represent important opportunities for developing-country practitioners, demand for support far outstrips supply.

• **Important monitoring and evaluation initiatives are underway and will yield valuable data.**

Evaluation is particularly challenging in cross-program areas, when indicators in more than one field are required. The population field has a number of measures used to track progress such as changes in "total fertility rates," "contraceptive prevalence rates," and "couple-years of protection." While the small number of integrated project evaluations shows gains in these measures, measuring conservation impact has been trickier. Often the adoption of sustainable resource-management practices has been used as a proxy for demonstrating

biodiversity gains. Rigorous evaluation of conservation and population impacts continues to test both of these fields individually—so it is no surprise that when these fields meet, these difficulties are magnified. The hypothesis underlying many linked P-E projects is that integrated program strategies yield a bigger pay-off than stand-alone initiatives—in essence, that the project components equal more than the sum of their parts.

Research and program work underway in Madagascar and in the Philippines should shed new light on this perennial question.¹⁴ The Packard-funded Integrated Population and Coastal Resource Management (I-POPCORM) project underway in the Philippines will compare the effects of three different intervention packages: reproductive health only, coastal resource-management only, and integrated coastal resource-management and reproductive health. The project will measure the number of municipalities and *barangays* with “environmental management plans that include reproductive-health strategies.”

More ambitiously, the Packard project will collect outcome data on such variables as changes in contraceptive prevalence, unintended pregnancies, numbers of marine protected areas, fish abundance and coral coverage, and percentage of households with underweight preschool children. This research design represents a breakthrough in that it attempts to measure actual biodiversity impacts.

- **The nexus between HIV/AIDS and conservation is emerging as a growing area in need of exploration and response.** Conservation organizations, particularly in Africa, are beginning to realize that capacity for conservation is increasingly limited as AIDS takes its mounting toll. This shrinking capacity is manifested in various ways, such as: an increase in land-grabbing (since the growing number of orphaned children cannot legally inherit land); a growing demand for wild foods because of the contraction and instability of the rural labor force; and even the accelerated depletion of turtle eggs (believed to be a cure for AIDS). The nexus between AIDS and the environment is just

beginning to receive attention from the international conservation community and is likely to grow in importance.

- **The Community Conservation Coalition is beginning to provide important technical and moral support to headquarters-based staff members addressing P-E linkages.**

Founded in 1999, the Community Conservation Coalition brings together a diverse group of organizations working on international conservation, population, health, and human development. Its mission is to contribute to the conservation of biological diversity by fostering communication, collaboration, and institutional change within member organizations and their partners about the linkages among conservation, population dynamics, health, education, and the economy.

Current Coalition members include Conservation International the Environmental Health Project; International Resources Group, Ltd.; Population Action International; Population Reference Bureau; The Nature Conservancy; the WIDTECH Project; and World Wildlife Fund-US. The Coalition is playing an increasingly important role in disseminating lessons learned about P-E interventions.

Population-Environment Research and Training: Challenges and Opportunities

Aggregate foundation funding for population-related research, training, leadership development and curricular development jumped from a little over \$1 million in 1999 to over \$6 million in 2001, according to the grants database of the Funders Network on Population, Reproductive Health and Rights. However, only \$800,000 of this total was directed to universities, confirming that most donors in this area tend to support activist and service-delivery organizations rather than academia, even when addressing research and training. According to some donors, the high price-tag of wielding leverage within university settings as well as the glacial pace of change

within academic bureaucracies have limited the flow of funding into the academic sector.

Has P-E matured into an academic field? The consensus of scholars interviewed for this report is that the P-E academic field is “emerging” rather than “established.” While P-E specialists are split on how much consolidation the field has achieved, they all agree that there is urgent work to be done. In the words of one prominent P-E researcher, P-E will “get more important because these links are increasingly important in the real world. The problem is just how to get an analytical handle on it.” Despite recent advances in research and training in P-E, progress has been impeded by (a) a continuing shortage of professionals with training across the population/health and environmental disciplines, (b) a limited number of interdisciplinary academic programs, and (c) a shortage of funding opportunities for integrated research.

The one major foundation-initiated P-E research initiative has been the two-year research-grants program launched in 1999 by the MacArthur Foundation that focused on population, consumption, and environmental issues in coastal regions.¹⁵ This program awarded over twenty research grants to teams from U.S. and developing-country institutions for research into “interactions among demographic changes, consumer demand, and environmental factors in tropical coastal and marine areas.” When asked about lessons learned from this initiative, MacArthur staff members emphasized how expensive it is to fund quality research in the P-E field. They stressed the benefits of narrowing the scope of research rather than sticking broadly to global population and environmental connections. MacArthur staff members also emphasized the high quality of developing-country researchers and the cost-effectiveness of funding research through developing-country institutions rather than those in the United States.

Several important research and training initiatives are now underway and are helping to build critical mass in the field. These initiatives include:

- **The University of Michigan’s Population-Environment Fellows**

Program. This effort, launched in 1993 as an offshoot of the Population Fellows Program, has placed 43 early- and mid-career professionals in two-year placements with nonprofit organizations and government agencies. Total program expenditure has been estimated at \$7.62 million. Michigan P-E Fellows pursue projects that “combine assistance for threatened environments with attention to the population dynamics and reproductive health needs of the communities living within them” (University of Michigan, 2001, page 6). The program pursues the dual goals of building a cadre of future P-E leaders as well as providing technical assistance to host organizations.

- **The Population-Environment Research Network (PERN).**

PERN, an academic and Web-based information source on current population and environment research worldwide, is a collaboration between the International Union for the Scientific Study of Population (IUSSP), the International Human Dimensions Programme on Global Environmental Change, and Columbia’s Center for International Earth Science Information Network (CIESIN). PERN’s main activities include: a resource database of gray literature, publications, projects, conferences, data sets, software, course syllabi, and other resources for research on P-E dynamics; cyber-seminars on P-E research topics; and a P-E cyber-newsletter. PERN’s Web site is playing a very important role in building a stronger sense of community among P-E scholars.

- **Global Science Panel on Population and Environment.**

In 2001, ISSUP, the International Institute for Applied Systems Analysis (IIASA), and the United Nations University started a joint initiative to prepare a comprehensive scientific assessment of the role of population in sustainable-development strategies, geared toward producing a science-based policy statement that was presented at the 2002 Johannesburg World Summit on Sustainable Development. Plans are now underway to establish a major global research and training network on population in sustainable development to follow up on the

Global Science Panel's initial work.

- **National Council for Science and the Environment's Report on "Population, Environment Science and Policy: Forging a New Agenda."** A Packard planning grant to the National Council for Science and the Environment resulted in an internal review of "population-environment linkages science" and the development of ten potential follow-on projects to "advance science-based decision-making on population and environment linkages" (NCSE, 2002, page 3). These recommendations ranged from launching a prestigious award for P-E research to forming a blue-ribbon commission to explore P-E linkages to bolstering on-line dissemination of P-E research. Because these proposals were based on extensive consultations with academic specialists in P-E-related disciplines, they could help to prioritize future investments in the field.

Challenges

- **The P-E "field" spans a wide array of academic disciplines and departments, making it difficult to distill and assess academic trends.** While there are various undergraduate and graduate courses offered at U.S. universities focused specifically on population and environment, cutting-edge research is scattered across a wide range of academic disciplines, departments, and programs. P-E themes are explored in courses spanning anthropology, public health, economics, geography, rural sociology, development studies, environmental management, international agriculture and rural development, natural-resources management, demography, environmental health, gender studies, forestry, wildlife ecology and conservation biology, epidemiology, urban and regional planning, international affairs, and other disciplines. Very few mechanisms exist to connect the dots between the various pockets of academic interest and activity.
- **P-E research is complex and expensive.** Interdisciplinary research in general—and P-E work specifically—is challenging to carry out. Research encompassing time-series analyses and multi-country comparisons requires

substantial investments of time and money. Academics are typically rewarded by achieving depth in a particular discipline, and most tenured faculty positions are within specific academic departments and divisions.

The National Council for Science and the Environment summarized this challenge succinctly in its interim report on its Packard planning grant: "Because the

The complexity of P-E challenges researchers, complicates advocacy strategies, and makes the area tougher to show and sell to foundation boards.

scientific community is organized largely along disciplinary lines and traditionally gets the most robust results from a reductionist approach focusing in on individual interactions, bringing together teams of scientists to address highly integrated issues poses unique challenges" (NCSE, 2002, page 5).

- **Field-based training opportunities in P-E are not easy to come by.** Graduate funding for studies in P-E is difficult to obtain. While funding is typically awarded for only two years to master's degree candidates, a third year of study is typically needed to achieve adequate mastery of P-E's requisite disciplines.

The University of Michigan's Population-Environment Program (PEFP) represents one of the only funding mechanisms for field-based training in P-E. However as an applied program, PEFP Fellows are explicitly discouraged from using their placements to pursue advanced academic research. In addition, the PEFP faces ongoing challenges in developing enough solid placements for its fellows. Typically, host organizations seek support from the PEFP, as they are in the early stages of launching P-E initiatives. These organizations have not always fully embraced the P-E agenda, and it is not uncommon for the P-E fellow's immediate supervisor to be the issue's biggest—or even only—proponent within the organization.

- **There remains a tension between research and program/policy needs.**

Tensions between researchers and policymakers characterize all disciplines. Too often, research is divorced from needs on the ground, and these perennial tensions are evident within the P-E community.

The Population Reference Bureau has been conducting important work with P-E scholars to bolster the policy relevance of their research and to communicate it more effectively to policymakers and the media. However, more could be done in this area. An example of this tension between research and policy was cited by a UNFPA staff member who attended a seminar on P-E research that focused on how people adapt to their increasingly degraded environments. The staff member lamented: “How will these findings help me do my job better? How will they help us address environmental degradation in the first place?”

Openings and Opportunities

- **P-E coursework appears to be expanding among U.S. universities.**

Population-environment has achieved “critical mass” at a growing number of institutions, including Yale University (Schools of Forestry and Public Health); the University of California at Berkeley; Duke University; Brown University; the University of Michigan; Tulane University; and Indiana University’s Center for the Study of Institutions, Population and Environmental Change. Several leading institutions (such as Columbia University’s new Earth Institute) are pledging growing support for interdisciplinary research and training. Several years ago, the University of Michigan compiled a guide to graduate coursework in P-E studies that profiled at least some activity in 30 different schools. While this review has not been updated, University of Michigan staff members express the view that curricular offerings have expanded.

- **New models are building analytical rigor in this complex interdisciplinary field.** Led by IIASA, scholars have been developing and refining “population-development-environment” models that play out alternative sustainable development paths based on various assumptions up to the year 2050.¹⁶ Proponents of these

approaches argue that these simulation models can help raise awareness of key trends and the relationships among key variables. According to IIASA, these models “can also be used as an “effective translation tool” to “close the gap between scientific and political language.” However, others point out that these models are only as robust as the data entered into them, and that quantitative methodologies have their limits because so many different dynamics are going on at so many different scales.

- **U.S. public funds continue to support P-E research.**

Various National Institutes of Health (NIH) agencies and centers plan to continue to co-fund interdisciplinary research, including the Fogarty International Center (FIC), the National Institute of Environmental Health Sciences (NIEHS), the National Institute of Child Health and Human Development (NICHD), the National Institute on Drug Abuse (NIDA), and the Office of Behavioral and Social Sciences Research (OBSSR). According to the NIH Health, Environment and Economic Development Web site, such funding will “encourage developmental and exploratory research and research capacity-building in developing countries on topics that combine the issues of health, environment and economic development in order to improve scientific understanding of the relationships among those factors, and suggest guidance for policy.”¹⁷ Indeed, NICHD funding has represented one of the very few sources of funding for P-E research since 1994 and has supported a number of the field’s leading scholars.

Concluding Comments

In recent years, U.S. foundations have infused new energy into the nascent P-E field, and P-E advocates have achieved cohesion and impact in Washington, where USAID has ramped up its P-E commitment. Environmental organizations, long a target of population funders for their potential contribution to international population advocacy, have also now formed an effective working coalition on population issues. And anecdotal reports from college and university campuses suggest growing student and faculty

interest and involvement in P-E research and training. Major projects are also underway in Africa, Asia, and Latin America that seek to demonstrate the synergistic effects of population, health, and environmental interventions at various scales. While it is unlikely that the stars will ever fully align in such a complicated field, a great deal of progress has been achieved during the past several years.

Unfortunately, just as momentum seems to be building in the P-E field, the foundation community is reeling from declining endowments. Half of the eight foundations most active in P-E plan to cease all activity in this area, while the other four are figuring out how to implement funding cuts. While some of this work may be picked up by USAID and other bilateral and multilateral agencies, some of it will inevitably cease.

The withdrawal of funding from the P-E field is a major loss, and not only because the trend imperils many worthy projects bridging population and environment issues around the world. Effective grantmaking also requires the right mix of attention to “process” and “product.” The internal-process mechanisms that foundations have initiated in order to advance thoughtful grantmaking on P-E issues are perhaps as important as the end products of that grantmaking—and these mechanisms now are also in danger of being lost.

Declining endowments have also led to the loss or redirection of those foundation staff members with expertise in population-environment. Unless foundations assign staff members to stimulate and encourage P-E activity, the initial investments in this field might not be fully leveraged. Linking population and environment is just too hard—and the pressures of specialization too strong—for this work to succeed without designated staff members to steward it.

Indeed, a key question for the P-E field remains how to translate its complexity into priorities that can guide research, programs, or policy. The world’s health, environmental, population, and economic problems cannot be successfully addressed by using the tools of a single discipline. That the P-E field cannot be labeled with precision and is full of ambiguities, questions, and even tensions does

not diminish its importance or potential. In an era of declining resources, experimental and exploratory funding mechanisms are needed more than ever. Private foundations—accountable to integrated and idealized world visions rather than the demands of shareholders or taxpayers—seem uniquely suited to experiment with such cross-program

While it is unlikely that the stars will ever fully align in such a complicated field as P-E, a great deal of progress has been achieved during the past several years.

collaboration.

In practice, however, foundations have struggled to institutionalize interdisciplinary and cross-program commitment. It is incredibly difficult to constructing grantmaking programs that truly bridge the distance and differences between program areas and disciplinary specializations. Current funding shortfalls are more likely to unleash in both programs and foundations the centripetal forces of specialization and an even tighter grip on “core” program goals and metrics. Human and ecological health are intimately intertwined—but this fact does not help activists to formulate advocacy strategies, community-based organizations to prioritize their service delivery interventions, or foundation program staff members to pitch specific funding recommendations to their boards of trustees. Will P-E ever offer more than an unconventional means to move towards conventional ends (such as biodiversity protection or fertility decline)? Will it ever be an end in itself—and if so, how will the new end be defined and measured?

Other hurdles are also formidable. Most of the major funders pursuing P-E in recent years have been carrying out this work with a certain point of view, insisting that population receive its due. This insistence has helped focus P-E activities, but it has also caused some tension. The field has developed within a particular political context, one in which reproductive health and rights have been under siege. This barrage has

contributed to a passionate and defensive stance among many population activists and funders—i.e., that if development interventions fail to highlight population, the omission reflects political cowardice rather than benign neglect.

But some environmentalists have expressed irritation or impatience with what they perceive as population crusaders' single-issue preoccupation. These environmentalists argue that population is only one of sustainable development's many interconnected components and does not warrant such exclusive emphasis. Population activists reply that if population is not at the top of the development agenda, unsympathetic forces will conspire to drive the issue underground.

The donor community has come a long way on P-E, although there is some distance still to travel. Early assumptions about how relatively small grants would be able to completely integrate population sensibilities into large environmental organizations have been replaced with a more sober and

sophisticated understanding of how hard it is to effect organizational change. There is no boilerplate formula on how to change organizations—whether by fiat, infiltration, or the trickle-down effect. However, foundations and their grantees are continuing to mature in their understanding and approaches in this complex area.

In short, the funding woes experienced by many of the major foundation donors active in P-E have come at an inopportune time. The field is beginning to get traction; important field projects are just in mid-stream; networks of researchers, practitioners, and advocates are just beginning to form; and global population and environment trends continue to grow in importance. As endowments slide and pressure mounts on foundations to pick clear, clean, and winnable funding targets, population-environment can appear downright messy as a funding area. However, it is the messy and complicated areas that have the most to teach us. **W**

Notes

¹ Special thanks goes to Wendy Philleo at the Packard Foundation for commissioning this review and guiding it toward completion.

² The Funders Network for Population, Reproductive Health and Rights' grants database is comprised of self-reported and self-classified grants data for the years 1999-2001, submitted voluntarily by the Funders Network's membership. Foundations were able to classify grants as addressing "population, consumption and environment," and this grouping captured the majority of relevant grants. However, this data has some limitations. Foundations were inconsistent in classifying general support grants to organizations such as WorldWatch Institute and Population Connection as "population, consumption and environment" investments. In addition, as environmental health was not offered as an alternative classification, some foundations included their environmental health grants under the "population, consumption and environment" header. (However, because there were so few of these grants, their impact on the grants total was negligible.) While the category purported to include funding in sustainable consumption, only a small number of Funders Network members included consumption-related grants in this population and reproductive-health database (presumably because these grants typically flow from environmental funding programs rather than population programs). Finally, some foundations active in P-E funding did not submit grant information to the Funders Network. I attempted to identify these foundations and add their investments into this report's final funding tallies.

³ The Funders Network on Population, Reproductive Health and Rights reports that its membership collectively awarded \$716 million in support of all population and reproductive-health and -rights issues in 2001 and \$714 million in 2000.

⁴ The Foundation Center reports that the 1,015 largest U.S. foundations awarded \$987.4 million in support of "environment and animals" in 2000, meaning that P-E funding constituted only an imperceptible percent of that total. However, it should be kept in mind that Foundation Center grants data is largely domestic, while grants addressing P-E are almost exclusively international.

⁵ The PLANet Campaign was envisaged as a five-year effort to raise public awareness of the connections between international family planning and the health of women, children, and the environment. The Campaign involved major Packard grants to the Campaign's key partners including Save the Children, CARE, the

Communications Consortium Media Center, National Audubon Society, Planned Parenthood Federation of America, Population Action International, and DDB Bass and Howes. An assessment of the PLANet Campaign was not included in the terms of reference for this review.

⁶ Note that these listings of the top funders in P-E only include foundations that have identified P-E as a priority and awarded at least two grants in this area in any given year. The Gates, Ford, and Rockefeller foundations each awarded a single large grant classified as P-E during this period. However, none of these funders identified the P-E arena as an area of ongoing interest or exploration.

⁷ Of this total, 52 percent targeted U.S.-based public education and advocacy, while only 11.6 percent focused on policy work overseas.

⁸ One of George W. Bush's first acts as president was to reinstate the global "gag rule." This controversial legislation disqualifies overseas family-planning organizations from receiving U.S. funds if they use their own funds to engage in services or policy outreach on abortion.

⁹ The ICPD funding gap remains wide. The Cairo Programme of Action stipulated that the world's donor governments needed to contribute \$5.7 billion in 2000; only \$2.1 billion was pledged that year.

¹⁰ This funding level remained constant in the FY 2003 bill.

¹¹ These rapid rates of population growth are due to very high fertility levels and, in some sites, to high rates of in-migration.

¹² For more information on Conservation International's "Biodiversity Hotspots," see <http://www.biodiversityhotspots.org/xp/Hotspots/>.

¹³ For more information on the Conservation Finance Alliance, see <http://www.conservationfinance.org/>.

¹⁴ On Madagascar, see Kleinau & Talbot (2003).

¹⁵ MacArthur-funded research findings were recently published in *Ambio* 31(4), 264-383.

¹⁶ For examples, see Lutz et al. (2002).

¹⁷ For more information on the Health, Environment and Economic Development (HEED) research grants program, see <http://www.fic.nih.gov/programs/HEED.html>.

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China Environment Forum Publications



The following is a list of publications available from ECSP's China Environment Forum:

■ ***China Environment Series 1-6***

China Environment Series annually examines environmental and energy challenges facing China as well as ideas and opportunities for government and NGO cooperation on these issues. *CES* features articles, commentaries, and meeting summaries that are tailored for policymakers, researchers, educators, and environmental NGOs. It also contains an extensive inventory of environmental protection and energy efficiency projects in China.

■ ***Crouching Suspicions, Hidden Potential: U.S. Environmental and Energy Cooperation with China***

China's energy and environmental policies have an enormous and growing impact on the United States and the rest of the world—yet energy and environmental issues have not played a prominent role in U.S.-China relations. This 2002 ECSP/China Environment Forum publication succinctly summarizes U.S.-China cooperation in the areas of energy and environmental protection. It highlights opportunities for U.S. policymakers, businesses, and NGOs to further such cooperation; it also analyzes barriers to such efforts.

■ ***Green NGO and Environmental Journalist Forum: Conference Proceedings***

Bilingual proceedings for an April 2001 Hong Kong forum cosponsored by ECSP's China Environment Forum and Hong Kong University that gave 65 environmentalists and journalists from Mainland China, Taiwan, and Hong Kong an opportunity to discuss improving both the capacity of the region's environmental NGOs and the quality of Greater China's environmental reporting.

■ ***Climate Action in the United States and China***

A 1999 bilingual pamphlet that sets the context and summarizes significant actions taken by the United States and China to address the threat of global climate change.

These publications are available in PDF form on the ECSP Web Site at www.wilsoncenter.org/ecsp. For hard copies, e-mail a request to ecsp@wwic.si.edu.

THE HUMAN DIMENSIONS OF ENVIRONMENTAL INSECURITY: SOME INSIGHTS FROM SOUTH ASIA

By **Adil Najam**

Abstract

This article presents the key insights that emerge from a regional research project that explored environment and security links in the context of South Asia. The project resulted in the recently published volume *Environment, Development and Human Security: Perspectives from South Asia* (Najam, 2003). This article focuses on what the South Asian experience can contribute to the larger literature on environment and security and, more particularly, to the literature on human security and sustainable development. It argues that chronic and structural impoverishment—rather than resource scarcity alone—forges the connection between environmental degradation and conflict. It also suggests that poverty and weak institutions of governance are the more immediate triggers of environmental insecurity. As such, analyses of environment and security need to focus more at societal levels and on evidence of social disruption, even where that disruption might not entail violent conflict.

In focusing on South Asia as a region, the article reaches five general conclusions. First, for developing countries in general and South Asia in particular, environment and security are best conceptualized within the context of sustainable development. Second, the challenge of environment and security in South Asia is principally a challenge at the domestic level; but it is a challenge common to the region. Third, the challenge of environment and security in South Asia is, at its core, not only a problem of resource endowments or geography but also a problem of institutions and governance. Fourth, while the prospects of interstate violence in South Asia over environmental issues are slim, the region's history of distrust and dispute suggests that environmental differences can add to existing tensions and apprehensions and perpetuate the general sense of insecurity that pervades interstate relations in the region. Fifth, there is a small potential for a new generation of security relations in the region—relations emerging around the nexus of environment and security and based on the principles of mutual trust, harmony, and cooperation rather than on legacies of distrust and dispute.

In the last half-century, the term “security” was primarily a matter of states and their military alliances and was principally applied to the “security” of borders and institutions from outside threats. The bipolar nature of world dynamics that prevailed during the period intensified the emphasis on external threats. Although this definition of security is considered minimalist by some analysts, many others accept it as valid: military threats to security are easily identifiable and carry clear and often extreme consequences.

In contrast, non-military threats within nations—such as poverty, social vulnerability, or ecological resiliency—are generally not perceived as concrete and tangible. Yet one

could argue that the wrong end of a smoke-stack can be as much of a security concern to humans as the barrel of a gun. A key conceptual difference between the two approaches is that the traditional definition of security presupposes that threats arising from outside the state are more dangerous to the state than threats that arise within it.

Recent debates on whether and how the concept of security might be expanded beyond issues of geo-polity, international power-balance, military strategy, and statecraft have been both intense and rich (Galtung, 1982; Ullman, 1983; Mathews, 1989; Walt, 1991; Dalby, 1992; and Buzan, 1991). One strand of this debate on non-traditional security issues focuses on connections between

environment and security. Scholarly discourse in this area has been prolific, though not always conclusive (Westing, 1988; Gleick, 1991; Libiszewski, 1992; Myers, 1993; Levy, 1995; Homer-Dixon, 1999; Deudney & Matthew, 1999; Dabelko, Lonergan & Matthew, 2000; and Diehl & Gleditsch, 2001).

This article presents the key insights that emerge from a regional research project that explored environment and security links in the context of South Asia (Najam, 2003).¹ The article has neither the space nor the mandate to present the detailed arguments, methodological modalities, or analytical particularities of the various cases; the goal here is merely to highlight the key lessons at a conceptual level. Before presenting conclusions specific to South Asia, however, the article will introduce a conceptual framework for organizing environment-security discussions, a framework that emerged from the project.

This conceptual framework will be followed by a discussion of the nexus between environment, development, and human security in South Asia. South Asia and the nations that comprise it have already been the subject of earlier research on environment and security (Myers, 1989, 1993; Hassan, 1991, 1992; Islam, 1994; Gizewski & Homer-Dixon, 1998). Our focus here is on what the South Asian experience can contribute to the larger literature on environment and security; or, to be more precise, on sustainable development and human security. What are some of the key regional lessons that can be drawn for South Asia as a whole? The article will focus particularly on the currently emerging interest in looking at environment and security issues from the perspective of human security and embedding those issues within the concept of sustainable development.

Broadening the Base: Focusing on Human Security

The literature on environment and security has evolved over the years: from an early focus on incorporating environmental and related concerns into the definition of “security” to a new focus on how environmental change can be a cause or amplifier of violent conflict. An emerging trend within this evolution has been a move toward greater emphasis on the concept of *human security* (Dabelko, Lonergan, & Matthew, 2000; Elliott, 2001).

Human security is not in opposition to the earlier trends of redefining security or of mapping the environmental roots of violent conflict. In fact, it is an outgrowth of these trends. Indeed, many early attempts to broaden the definition of “security” used language very similar to that found in today’s discussions on “human security.” For example, consider the following definition from Norman Myers’ *Ultimate Security*:

... security applies most at the level of the individual citizen. It amounts to human well-being: not only protection from harm and injury but access to water, food, shelter, health, employment, and other basic requisites that are the due of every person on Earth. It is the collectivity of these citizen needs—overall safety and quality of life—that should figure prominently in the nation’s view of security (Myers, 1993, page 31).

Those analysts who have focused on explicating the environmental causes of violent conflict have also brought the debate closer to the notion of human security—most noticeably by focusing on intrastate (and often

About the Author

Adil Najam is an associate professor of international negotiation and diplomacy at the Fletcher School of Law and Diplomacy, Tufts University. He holds a Ph.D. and two master’s degrees from MIT and has published widely on international negotiation, environmental policy, nongovernmental organizations, international trade, global governance, and human development. He is co-author of *Civic Entrepreneurship: Civil Society Perspectives on Sustainable Development* (Gandhara Academy Press, 2002) and editor of *Environment, Development and Human Security: Perspectives from South Asia* (University Press of America, 2003), on which this article is based.

local) insecurities. In sum, they have each pushed the debate towards

the concept of “human security” [which] offers a third perspective that allows us to move beyond conventional security thinking, appreciates both the local and global dimensions of the many insecurities experienced by real individuals and groups, and identifies useful ways of linking security and development policies (Dabelko, Lonergan, & Matthew, 2000, page 48).

While the concept of human security has earlier roots, its recent prominence comes from the 1994 *Human Development Report* (UNDP, 1994) of the United Nations Development Programme (UNDP). Suhrke (1999, page 269) points out that, “while offering an imprecise and controversial definition, [UNDP’s starting point was] poverty rather than war—but ‘security’ suggested an escape from both.” The currency of the human security concept was further advanced by the importance given to it in the report of the Commission on Global Governance (CGG, 1995). Both reports tried to shift the direction of the security discussion by focusing on issues of human life and human dignity rather than on weapons and territory.

Lorraine Elliott points out two dimensions of the human security paradigm that are of particular relevance:

The first is that the concept of “human security” provides an antidote to the more conventional focus on states, borders and territorial integrity. The answer to the question “security for whom” is not the state but the individual and communities, which suggests that even when a state is secure from external threats or internal instabilities, security for its people is not guaranteed. Protecting individuals and communities from the consequences of environmental decline (in this case) is therefore a security issue. The second dimension is that human insecurity (which includes equity, gender, human rights and identity concerns) is a central factor in social tensions and political instabilities

and conflicts that can...become a feature of state insecurity....If peoples and communities are insecure (economically, socially, politically, environmentally), state security can be fragile or uncertain. Environmental scarcity becomes a distributive equity problem rather than one simply of market failure, externalities or zero-sum calculations about access to resources and environmental services (Elliott, 2001, page 449).

The primacy of state security is very

The wrong end of a smokestack can be as much of a security concern to humans as the barrel of a gun.

closely associated with the notion of sovereignty. In its historic meaning, sovereignty implied the security of the sovereign, or the “Prince.” The emergence of the democratic polity and the transfer of primacy from the “Prince” to the “Citizen” have implied a rather interesting twist for our understanding of state security. With sovereignty now residing with the Citizenry rather than just the Prince, the notion of security must also be broadened to include the security not only of the apparatus of the Prince (i.e., the state), but the everyday survival of the Citizen.

Such a conceptual schema does not deny the importance of state security, but it does highlight the need to broaden the concept. It is no longer sufficient to define the security of the state in terms of territoriality (i.e., the purview of the Prince), because the state is no longer defined simply by the Prince or his territoriality. Rather, state security must now also secure the well-being and livelihoods of the Citizen, who is the ultimate custodian of sovereignty in the modern state.²

Indeed, as Elliott (2001, page 449) recognizes, the human security paradigm “turns the conventional security aphorism—secure states means secure people—on its head.” Dabelko, Lonergan, and Matthew (2000, pages 48–49) add that the concept also “helps [us to] understand the complex interactions that determine the relative

Figure 1. Organizing the Environment and Security Discussion

		Source of Insecurity	
		<i>Violent Conflict</i>	<i>Social Disruptions</i>
Unit of Analysis	<i>State-Centered</i>	Focus on Interstate War	Focus on Institutional Failure
	<i>Society-Centered</i>	Focus on Civil Strife	Focus on Human Security

distribution of security and insecurity.” They point out that, “under certain conditions, such as war, the distribution and composition of force may be the most important determinant of security and insecurity.” However, “in many other situations, security and insecurity will be most closely related to poverty or resource scarcity or social discrimination.” Importantly, this formulation leads to the conclusion that, “in these cases, traditional security institutions may have only a minor contribution to make, or none at all.” Indeed, most of the chapters in Najam (2003) validate this finding.

While Dabelko, Lonergan, and Matthew also point out the similarity between the goals of enhancing human security and sustainable development, they are likely to agree with Astri Suhrke (1999) that a key relationship exists between the concepts of “human security” and “human development.” For the *Human Development Report* (UNDP, 1994, page 23) itself, “human development is a broader concept, defined as a process of widening the range of people’s choices. Human security means that people can exercise these choices safely and freely.” Suhrke also argues that this relationship is more important to understanding the concept of human security:

There are two possible starting points for exploring the substantive core of “human security.” One is in relation to the security of states, the other in relation to human development....The major contribution of the 1994 UNDP report was its attempt to define human security

and human development, and sort out their relationship. The result, however, was confusingly circular. “Human security” was presented both as an end-state of affairs—“safety from such chronic threats as hunger, disease and repression”—and a process in the sense of “protection from sudden and hurtful disruptions in the patterns of daily life”....Human security was seen as essential for human development; without minimal stability and security in daily life, there could be no development—human or otherwise. But the obverse was true as well. Long-term development that improves social and economic life would produce human security, the UNDP report concluded. In this reasoning, there is no difference between development and human security, or between process and end-state (Suhrke, 1999, pages 270-271).

In trying to place this emerging interest in human security within the context of the evolution of the environment and security debate, one might propose a simple heuristic. Simplifying for the purpose of exposition, Figure 1 conceives of an environment and security “space” that is defined on one axis by the unit of analysis (ranging from state-centered to society-centered) and on the other by sources of insecurity (ranging from violent conflict to social disruptions).

As we have already discussed, the early literature on the subject was concerned predominantly with state-centered discussions. While that literature did flirt with expanding

the traditional discussion of insecurity to also include social disruptions, it was mostly focused on interstate conflict (since its audience was mostly restricted to the traditional security community). Hence, the emphasis of the environment and security analysis very often turned to discussions of whether or not *interstate war* was a likely outcome (e.g., Westing, 1988). The “second wave” of the literature also emphasized the environment’s possible role in violent conflict, but made its focus of analysis more society-centered. Emphasis thus moved to whether and to what extent environmental change was a trigger for *civil strife* (e.g., Homer-Dixon, 1999).

The new focus on *human insecurity* is also society-centered, but is more concerned with social disruptions than with violent conflict as the principal source of insecurity (e.g., Suhrke, 1999). One of the key benefits of using such a heuristic is that it begins to point us towards other formalizations of the environment–security problematique that are not yet dominant in the available literature. For example, Figure 1 points out the insecurity that emerges from social disruptions at the level of the state rather than the level of society. Based on the conclusions reached by our chapter authors from South Asia (Najam, 2003), one posits that such insecurity is most likely to manifest itself as *institutional failure* and to be best understood through a focus on the mechanisms of societal governance.

While Figure 1 does not imply that any one kind of insecurity is any more or any less important, it clearly conveys that the environment–security problematique is composed of *multiple* forms of insecurity. Although the heuristic illustrated in Figure 1 is exploratory and demands further empirical validation, it provides us with one way to organize and understand the discussion. Interestingly (but not surprisingly), the conclusions emerging from country-focused as well as issue-focused studies from South Asia (Najam, 2003) lie very much in the right-hand half of Figure 1, and predominantly in the bottom-right quarter. These conclusions very much emphasize environment-related insecurities as manifest in social disruption rather than in outright conflict. The categories of Figure 1 are of

course very broad, with hazy (although recognizable) lines between them. The purpose here is not to pigeonhole scholarship, but to suggest that the space within which

South Asian countries are not only significantly behind the world as a whole, but also well behind developing countries as a group.

environmental insecurity manifests itself is rather wide and broad and needs to be recognized in its entirety.

In order to begin understanding how and why issues of institutional failure and human insecurity are more immediate to the concerns of South Asians, let us quickly review what this region looks like.

South Asia in Context: Poverty as the Key Link Between Environment and Insecurity

Home to nearly a fourth of all humanity, the South Asian subcontinent is a region where histories, geographies, and politics are truly intertwined. Although we define the region by membership in the South Asian Association for Regional Cooperation (SAARC)—which was formed in 1987 and includes Bangladesh, Bhutan, India, Maldives, Nepal, Pakistan and Sri Lanka—the roots of the region’s distinct identity predate the histories of any of the countries that now constitute it. The region has been home to great indigenous empires as well as prey to outside empires. It is a region that has been familiar with insecurities of all kinds throughout its rich and tortured history—a familiarity that still holds true today. The 1997 *Human Development in South Asia* report (ul Haq, 1997) described South Asia as “the most deprived region” in the world. Certain elements of the rather depressing picture of the region that the report painted are worth repeating here:³

- South Asia is **the world’s poorest region**, with a per capita GNP below even that of sub-Saharan Africa (which is home to 40 percent of the world’s poor and to over 500 million people below the absolute poverty

line).

- South Asia is **the world's most illiterate region** and home to nearly half of all the illiterates in the world. There are more children out of school in this region than in the rest of the world combined. Two-thirds of this wasted generation is female.
- South Asia is **the region with the highest levels of human deprivation**: 260 million people lack access to basic health facilities, 337 million are without safe drinking water, 830 million are without rudimentary

The critical difference is not resource endowment but resource management, which is directly related to institutions for resource governance.

sanitation, and 400 million people go hungry every day.

South Asia may also be among the most militarized regions in the world. India and Pakistan have both declared themselves nuclear powers. They have fought three full-scale wars and continue to have near-constant skirmishes on their borders, especially over the disputed region of Kashmir. Given their monumental development challenges, neither India (\$15 billion annually) nor Pakistan (\$3.5 billion annually) can afford its massive military expenditures. The other countries of the region, while nowhere near as committed to large militaries, are also burdened by military expenditures greater than they can afford, often because of internal threats.

Table 1 presents a brief profile of the five largest countries of the region. It is clear from the table that, for all the variables presented (except population and area), South Asian countries are not only significantly behind the world as a whole but also well behind developing countries as a group (measured here as the average of all low- and medium-income countries). These variables are the roots of human insecurity in the region and end up having significant implications for the environment. Table 1 also highlights that, although there are important differences within the region (for example, in terms of education), the development profiles of the

region's countries are uniform.

Table 1 helps us make three important points about South Asia. First, this is very much a region that *can* be studied as a region—not only in terms of its historical legacy, but also in terms of its current developmental predicament. Second, this is a region that *should* be studied: the region's acute developmental deprivations point towards the potential for equally acute and even violent human insecurity in the future. Third, given this context, it is not surprising that the predominant South Asian concerns about environment and security are really about human security.

This last point—stressing the connections among environment, development, and human security—deserves more elaboration and becomes clear by reviewing the key conclusions from various chapters in Najam (2003).⁴ The new research from South Asia validates and advances new nuances to two key findings from the larger literature:

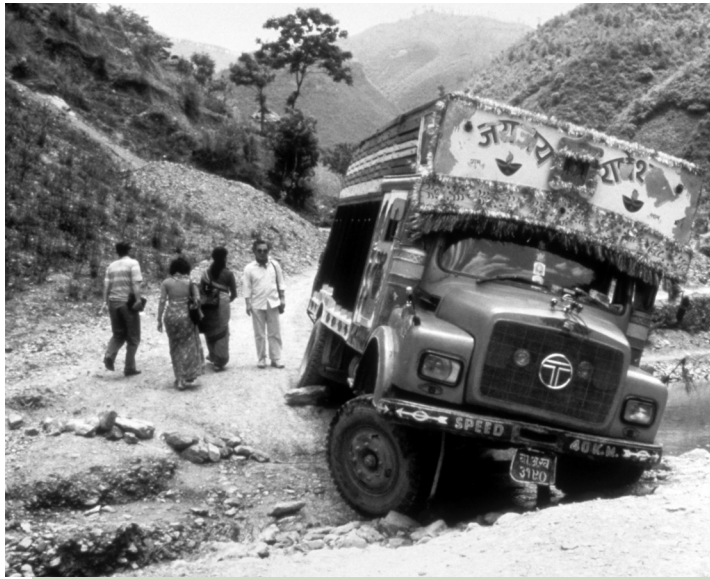
First, the research substantiates one of the conclusions that Dabelko, Lonergan, and Matthew (2000, page 56) reach in their major environment-and-security literature review: “research on environment and security often strengthens the conclusion that poverty is a key factor in causing tension, unrest and, eventually, conflict.” All across South Asia, poverty emerges as the key variable—both for defining environmental degradation and outlining human insecurity. Importantly, poverty is both the causal motivator of environmental stress as well as the most important manifestation of human insecurity. Not only is poverty one of the key elements exacerbating the causal chain that can lead from environmental degradation to violence and insecurity—but research from South Asia suggests that poverty can play a more central role in this chain of causality than much of the literature seems to acknowledge. Poverty, not scarcity, is driving environmental insecurity.

Contrary to the thrust of the mainstream literature—which struggles (and often unconvincingly) to express the environmental problematique in the language of state-centric “national” security (e.g. Mathews, 1989; Deudney, 1990; Homer-Dixon, 1991; Myers, 1993; and Gleditsch, 1998)—this discourse

Table 1. South Asia's Many Roots of Insecurity

	Bangladesh	India	Nepal	Pakistan	Sri Lanka	Developing Countries	World
Area '000 square km (1999)	144	3,288	147	796	66	101,487	133,572
Population Millions (1999)	128	998	23	135	19	5,084	5,975
Population Growth Rate Annual (1990-99)	1.6	1.8	2.4	2.5	1.2	1.9	1.7
GNP Per Capita US Dollars (1999)	370	450	220	470	820	1,240	4,890
GNP Per Capita PPP ⁵ Dollars (1999)	1475	2,144	1,219	7,757	3,056	3,410	6,490
Under-5 Mortality Per 1,000 (1998)	96	83	107	120	18	79	75
Life Expectancy M/F (1998)	58/59	62/64	58/58	61/63	71/76	63/67	65/69
Adult Literacy % of the Population 15 and above M/F (1998)	49/71	35/57	43/78	42/71	6/12	18/33	18/32
Urban Sanitation % with access (1990-96)	77	46	34	53	33	-	-
Children 10-14 in Labor Force % of age group (1999)	29	13	43	16	2	13	12
GINI Index ⁶ (1995-97)	33.6	37.8	36.7	31.2	34.4	-	-
Public Spending on Education % of GNP (1997)	2.2	3.2	3.2	2.7	3.4	4.1	4.8
Public Spending on Health % of GDP (1990-98)	1.6	0.6	1.3	0.9	1.4	1.9	2.5
External Debt % of GNP (1998)	22	20	31	41	41	-	-

Source: World Bank (2000).



Truck stalled in a creek, Nepal.

"South Asia is the region with the highest levels of human deprivation."

Credit: Ricardo Wray/CCP.

from South Asia is predominantly in the language of society-centric "human" security. In addition, the chapters on Bangladesh, India, and Pakistan all stress the importance of livelihoods insecurity as the source of pressure on natural resources. The local case studies from these countries highlight how poverty manifested in livelihoods insecurity—not resource insecurity in and of itself—leads to pressures on resources such as fisheries (Bangladesh), forests (Pakistan), biodiversity (Sri Lanka), and land (India) and hence on to security. Poverty exacerbates resource degradation, which in turn exacerbates poverty in a vicious cycle.

The research in Najam (2003) that draws from Northern Pakistan, Bangladesh, and India also shows that restrictive resource conservation policies such as forest enclosures can aggravate insecurity rather than relieving it *unless* these policies are rooted in the larger goal of poverty alleviation. The "human-elephant" conflict in Sri Lanka highlights another aspect of this point. Policies made to restrict the use of certain areas in order to provide passage to elephants precipitated conflicts, because the expansion of elephant

habitat served to restrict the human habitat.

Second, the new South Asia research also provides fresh insights on the environmental security models proposed by Thomas Homer-Dixon and his colleagues (see Homer-Dixon, 1991, 1999; Homer-Dixon, Boutwell, & Rathjens, 1993; Homer-Dixon & Blitt, 1998). An abridged version of the argument of this body of literature is presented in the introduction to the Homer-Dixon's book *Ecoviolence*:

...[S]evere environmental scarcities often contribute to major civil violence. Poor countries are more vulnerable to this violence, because large fractions of their populations depend for their day-to-day livelihoods on local renewable resources....Moreover, poor countries are often unable to adapt effectively to environmental scarcity because their states are weak, markets inefficient and corrupt, and human capital inadequate (Homer-Dixon & Blitt, 1998, page 15).

As already discussed, the findings of our study emphasize the importance of livelihoods insecurity to the causal chain leading to conflict. In other cases, however, the most important factor is not poverty but *institutional failure* in the form of resource capture. This conclusion seems to be the lesson from the water sector as well as parts of the forestry sector in Pakistan. The capture of precious forest resources by the so-called "forest mafia" in Pakistan has resulted not only in resource scarcity but also in the exclusion of communities that were traditionally dependent on this resource—thus placing even greater pressure on the resource. Ultimate responsibility, however, lies with the institutional and governance structure that originally enabled the resource capture and eventually failed to check the violence by not providing civil means of dispute resolution.

As illustrated in our research, various irrigation projects in Nepal strikingly illustrate the critical role of weak institutions of governance as the precursor (and sometimes trigger) of conflict over environmental resources. While the importance of resource scarcity in Nepal cannot be denied, the weakness of state institutions there and their inability to accommodate community

institutions led to a near permanent conflict among these community institutions—which, in turn, spilled into occasional conflicts among stakeholders. All three sector papers in Najam (2003)—on energy, land, and water—strongly suggest that institutions are viable only when all stakeholders consider them legitimate. Such institutional legitimacy may well be a necessary condition for good resource management, and thus for the avoidance of conflict.

Regional studies of energy and land institutions across South Asia emphasized that resource security in both these areas is more often a case of institutional stability than of simple resource scarcity. For example, a surprising finding of our chapter on energy is that, by all measures available, both Bangladesh and Sri Lanka have been more energy resilient than Pakistan (methodologically, this analysis maps the trends in energy efficiency, energy dependence, and environmental impacts of energy use in each country of the region). This finding is surprising because Pakistan has relatively more abundant energy resources than either Bangladesh or Sri Lanka. Our analysis demonstrates that the critical difference here is not resource *endowment* but resource *management*, which is directly related to institutions for resource governance. This dynamic, of course, has a direct bearing on environmental insecurity as well as conflict over resources. The evidence suggests that robust institutions of governance can limit (even if they might not eliminate) the likelihood of such conflict. For instance, regional institutions for water management—particularly the Indus Water Accord between India and Pakistan—have remained remarkably stable even in the face of persistent and frequently spiking regional tensions.

Linking the two insights described immediately above, our research strongly suggests that chronic and structural impoverishment forges the connection between environmental degradation and violent conflict. Such a conception itself leads to a focus on: (a) social disruptions at the level of society, not the state; and (b) conceptualizations related to human insecurity. Indeed, others who have also looked at the myriad security threats faced by South Asians have come to similar conclusions—most notably, Dr. Mahbub ul

Haq in launching the *Human Development in South Asia* reports:

Security is increasingly interpreted as: security of people, not just of territory; security of individuals, not just of nations; security through development, not through arms; security of all people everywhere—in their homes, on their jobs, in their streets, in their communities, and in the environment (ul Haq, 1997, page 84).

While environmental degradation is *more likely* to lead to violent conflict in poor countries, poverty—in terms of economic, social, or political disenfranchisement and

Democracy counts, transparency counts, culture counts, decentralization counts, and (most importantly) participation counts.

vulnerability—may be a *required* condition for this connection to be made. The poverty connection requires more empirical research, but it might have the potential to untie many of the convoluted knots of environmental security debates. And shifting the focus of the discussion from resource scarcity to the motors that cause such scarcity—including poverty and the institutions of governance—provides us with defined areas of policy intervention. Unlike resource conservation, both poverty and governance are areas of high policy salience in most developing countries and certainly in all South Asian countries. Environmental security flows best out of policies that target poverty and governance; it also is more synergistic when built on existing priorities instead of on resource conservation, which competes with other policy demands.

Five Key Lessons

The new research from South Asia under discussion also highlights a handful of broad lessons that are more specific to the region and its constituent countries. The following five broad lessons are of particular importance because they have the potential to add to our understanding of environment and security

at the regional level. These lessons, of course, should be understood in light of the need to focus on poverty as a primary but not sole motor of human insecurity.

Lesson 1: For South Asia in particular and developing countries in general, environment and security are best conceptualized within the context of sustainable development. Not only does it make sense to broaden the notion of “security” into one of “human security,” it makes sense to understand the human-security framework within a sustainable-development

Poverty, not scarcity, is driving environmental and human security in South Asia.

context. Indeed, human security can be viewed as a fundamental requirement for the achievement of sustainable development. This connection is not entirely a surprise: the World Commission on Environment and Development (WCED, 1987) had itself made that connection explicit sixteen years ago. However, so much of the literature on environment and security tends not to highlight the importance of sustainable development.

Placing the environment and human-security problematique within the sustainable-development complex has at least two important implications. First, such a conceptualization allows us to articulate issues related to environment and security at the level and in the language of policy and practice. Second, it contributes towards a better understanding of what sustainable development means in practice. Such a conceptual focus broadens the scope of the enquiry: from a focus on how environmental degradation might lead to societal and state insecurities to a broader focus that includes how human insecurities influence (or are influenced by) accelerated environmental degradation.

Imperfect as it might be, sustainable-development policy becomes a potential means of addressing the twin challenges of environmental degradation and human insecurity; it works best, however, when both challenges are taken as serious and neither is deemed subservient to the other. Security is

intricately related to the issue of livelihood and cannot be delinked from concerns about the content and context of the development experiment. Indeed, debates regarding human and environmental security are in themselves attempts to better understand and operationalize the concept of sustainable development.

The South Asian research being reported here tends to ignore—if not resist and reject—arguments about whether environmental degradation should be an element of “traditional” military- and state-related security concerns.⁷ This elision departs from the norm of the broader environment and security literature. Clearly, the region’s scholars seem more comfortable defining environmental security as one more component of sustainable development rather than as a dimension of “traditional” national security.

Lesson 2: The challenge of environment and security in South Asia is both principally a challenge at the domestic level as well as a challenge common to the region. Dabelko, Lonergan, and Matthew (2000, page 56) have concluded that “the most severe challenges for individual well-being in many parts of the world may not be external (to the country of residence), but internal; although internal problem are likely to be affected in some way by external forces.” The experience from South Asia echoes this finding. Indeed, the new research in Najam (2003) often brings the problem *down* to ground level rather than raising it *up* to national—let alone regional—levels. Regional dimensions are not unimportant, but local challenges are more numerous as well as more profound.

The primacy of local challenges in South Asia indicated by this research is a surprise, given the intensity of the region’s tensions. But that very intensity makes environmental issues unlikely to become significant international security concerns in the region. Countries in the region have so many other and more pressing disputes that environmental issues slip down the list of potential flare-up points. At the same time, such issues can easily become embroiled in existing and unrelated disputes within the region—a possibility explored further below.

Taking a regional perspective is also valid

for another reason. Local environmental and human-security stresses in South Asia are so pressing and so similar that shared knowledge is essential for their solution.

Lesson 3: The challenge of environment and security in South Asia is at its core not just a problem of resource endowments or geography, but quite distinctly a problem of institutions and governance. Institutions and governance are central to the understanding in Najam (2003) of how environment and security are linked in the South Asian context. At one level, the conclusions are not particularly surprising; environmental crises in many developing regions are not just crises of resource scarcity or degradation but are fundamentally tied to fragile environmental governance institutions. However, so much of the literature on environment and security tends to underplay if not ignore the importance of governance in favor of a concentration on resource scarcity and environmental degradation.

The new research from South Asia shows that, in many cases, a lack of appropriate institutions and governance can help explain not only the levels of human insecurity but also the scarcity and degradation of environmental resources. And institutional and governance weaknesses can lead to significant human insecurity even in the absence of severe environmental scarcity or degradation. In addition, solutions to environment and security issues will not come from techno-fixes and mega projects that might somehow “override” the forces of geography and nature; the solutions are more likely to come from institutional and governance reform. The lesson from South Asia seems to be that democracy counts, transparency counts, culture counts, decentralization counts, and (most importantly) participation counts: all can become the basis of social justice and are ultimately tools for managing and even avoiding conflict. Resource scarcity does not simply turn into conflict—it turns into conflict when there is an institutional failure because democratic, transparent, culturally appropriate, localized, and participatory means of managing resources and dealing with disputes are either not available or are systematically sidelined.

By broadening the focus beyond resource



A mother's group meeting in Nepal discussing community sanitation.

“Eight hundred-thirty million people in South Asia are without rudimentary sanitation.”

Credit: Ricardo Wray/CCP.

scarcity and degradation, we raise some conceptual issues for the environment and security literature. An earlier generation of scholars had been preoccupied with the effects of security issues (particularly war and preparation for war) on the environment, or more precisely on natural resources (Galtung, 1982; Westing, 1984, 1988; and Renner, 1991). Current interest in environment and security has moved in the opposite direction and tends to focus on how environmental degradation can lead to insecurity and violence (Deudney & Matthew, 1999; Homer-Dixon, 1999; Diehl & Gleditsch, 2001). But both arguments have environmental conservation—not human security—as their core interest. In focusing on sustainable development as the metric of analysis and placing human security more centrally in the discussion, we highlight the importance of looking at both linkages together. How does insecurity at *any* level impact the environment? And how does environmental scarcity and degradation impact insecurity at any level?

Such a formulation also allows us to move away from the more restrictive notion of “acute violence” to the more encompassing concept of insecurity, particularly human insecurity. The finding from across South Asia

is that even where environmental variables do not directly cause conflict, they can increase insecurity by accentuating the variables that can precipitate conflict.⁸ Other

The broader sense of insecurity that defines the region's interstate relations could be exacerbated by environmental concerns.

forms of insecurity can also accentuate the conditions conducive to environmental degradation, thereby increasing eventual environmental insecurity. The key to understanding the link between environment and security in any given context may not lie in variables directly related to either (such as scarcity or war). It may lie, instead, in issues that impact but are not directly related to either—such as failure of institutions and governance.

Lesson 4: The prospect of interstate violence in South Asia over environmental issues is slim. However, given the region's history of distrust and dispute, environmental differences could add to existing tensions and apprehensions and perpetuate the general sense of insecurity that pervades interstate relations in the region. Unlike others who have studied environment and security in South Asia and who tend to consider the region as a prime “action theatre” for environmental conflicts (Myers, 1989, 1993; Hassan, 1991, 1992), the set of studies from all over South Asia in Najam (2003) is far more careful about painting doomsday scenarios. Indeed, our authors are unanimous that the prospects of outright war in South Asia over these issues are not high. Arguably, there are far more immediate causes of interstate tension in the region. And despite fractious relations, even India and Pakistan (for example) have demonstrated a remarkable degree of cooperation and even occasional goodwill in the shared management of a precious resource such as water: the Indus Water Treaty remains one of the few areas of sustained cooperation between the two countries. This cooperation has been severely tested in recent months; but fragile as it is and despite much saber rattling, it remains intact.

But the authors also suggest that, given

existing regional security tensions and apprehensions, the broader sense of insecurity that defines the region's interstate relations could be exacerbated by environmental concerns. In his study of environment and security in South Asia, Norman Myers (1993, page 117) posits a fundamental question: “How can we realistically suppose that environmental problems will not exert a substantial and adverse influence over the prospects for the region's security throughout the foreseeable future?” It is also quite clear that the ultimate effect of human insecurity and environmental degradation tends to be political instability. As Shaukat Hassan (1991, page 65) puts it, “in South Asia environmental deterioration has a very direct and immediate impact on the economy of the states, which in turn affects social relations in ways detrimental to political stability.”

Lesson 5: There is the potential—albeit small—for a new generation of security relations in the region emerging around the nexus of environment and security. These relations would be based on principles of mutual trust, harmony, and cooperation rather than on legacies of distrust and dispute. Even though security (in the international context) is generally seen as an adversarial concept, the environment demands a politics of consensus and cooperation. A new approach to security would stress the need for cooperative management of shared environments rather than adversarial contests over scarce resources.

We should be cautious, however, about the potential for moving to a new generation of security relations that start from the necessity of cooperation rather than from a history of confrontations. Given the “traditional” security profile of the region, it is unlikely that such cooperation would naturally evolve. Even where the need for such cooperation is self-evident, the hurdles to its establishment are profound. The South Asian Association for Regional Cooperation (SAARC), for instance, has made only minimal efforts to foster regional environmental cooperation. Given the persistent regional tensions in South Asia, establishing meaningful cooperation on the environment will require more than declaratory intent.

Yet some initial steps could begin creating

an atmosphere of cooperation. An important first step could be institutionalizing some level of region-wide information sharing and joint planning for common concerns such as water, climate change, and biodiversity. The sharing of best practices, particularly in the areas of technological and institutional innovations for environmental enhancement, is another obvious step. Expert dialogue needs to be strengthened and deepened at the regional level. Finally, the increasing prominence of global environmental politics and its North-South dimension argues for developing countries as a whole as well as regions such as South Asia to think in terms of coalitional rather than individual environmental politics (Najam, 1995, 2000; Agarwal et al., 1999). The SAARC is well placed to take such steps and should be urged to continue its efforts in

this direction.

The environment has the potential to become an “entry point” for wider regional cooperation. The very nature of the environmental problematique points towards the urgency of adopting a cooperative mindset. And the language of human security at least allows for the potential of focusing on regional security without necessarily regurgitating stylized debates about traditional hurdles to cooperation. Meaningful regional cooperation for improved environmental and human security in South Asia—home to a billion and a half people, including some of the poorest and most vulnerable populations in the world—may well be too much to hope for. But hope we must. **W**

Notes

¹ The more detailed analysis and discussion of the study (which was conducted with Ford Foundation Funding for the Regional Centre for Security Studies (RCSS), Colombo, Sri Lanka) are available in the recently published edited volume *Environment, Development and Human Security: Perspectives from South Asia* (Najam, 2003). The ten chapters of the book—all written by authors from South Asia (three authors each from India, Pakistan and Bangladesh, and two each from Nepal and Sri Lanka)—explored environment and security links in specific countries of the region (Bangladesh, India, Nepal, Pakistan, and Sri Lanka) and also looked at cross-country trends on key policy areas (land and agriculture, energy, and water). This essay builds on the insights from the introductory and conclusion chapters of the book.

² For related discussion, see Najam (1996).

³ Since South Asia is a very large region, it of course has pockets of prosperity. Indeed, in each of the countries of the region, these islands of prosperity (such as, for example, the booming informational technology sector in India) often serve to highlight the human deprivation and misery that surrounds them. For the purpose of this article we will focus on aggregate regional and national pictures rather than the more varied sub-national mosaic. This focus does imply a certain loss of local detail, but it also assists us in getting a composite picture of the region as a whole, which is the point of the article.

⁴ The following discussion builds on the findings of various chapters in the book (Najam, 2003), which will not be individually cited here. The various chapters (and authors) are as follows: Introduction (Adil Najam); India (Vandana Asthana & Ashok Shukla); Pakistan (Shaheen Rafi Khan); Bangladesh (Atiq Rahman, Zahid Chowdhury, & Ahsan Ahmad); Nepal (Ajaya Dixit & Dipak Gyawali); Sri Lanka (Sarath Kotagama); Energy (Kumudu Gunasekera & Adil Najam); Land (Khalid Saeed); Water (Ramaswamy Iyer); and Conclusion (Adil Najam).

⁵ PPP=Purchasing Power Parity.

⁶ The GINI Index measures the extent to which the distribution of income (or consumption) among individuals or households within a country deviates from a perfectly equal distribution. A value of 0 represents perfect equality; a value of 100 percent perfect inequality.

⁷ For examples of these debates, see Mathews (1989); Homer-Dixon (1991); Myers (1993); Levy (1995); and Deudney & Matthew (1999).

⁸ Also see Gurr (1993); Libiszewski (1992); and Dabelko, Lonergan, & Matthew (2000).

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A SOUTHERN AFRICAN PERSPECTIVE ON TRANSBOUNDARY WATER RESOURCE MANAGEMENT

By **Anthony R. Turton**

Abstract

Southern Africa is characterized by a large number of international river basins, inherent climatic variability, and a natural maldistribution of perennial rivers. The region also has a history of political instability, driven by liberation struggles against the former colonial powers and the Cold War. Southern Africa's transboundary rivers and their associated ecosystems could become either drivers of peace and economic integration or sources of endemic conflict. Water scarcity has also placed limits on the future economic growth potential of the region's four most economically developed countries. This situation, combined with the regional development of international and increasingly complex interbasin water transfers, highlights the need to develop appropriate scientific methodologies that can explain and predict future patterns of conflict and cooperation.

Driven in part by the need to develop a new security paradigm in the wake of the Cold War's collapse, many policymakers in the United States and elsewhere have been grappling with the complexities and consequences of environmental security research. These efforts have resulted in a wealth of literature on environmental security, mostly emerging from the developed countries of the North.

Developing regions of the South have placed a different emphasis on environmental security issues. In Southern Africa, for example, there has been renewed thinking about the management of transboundary water resources, particularly with respect to sustaining economic growth and avoiding conflict. This article addresses some of the key issues emerging from some Southern research on these topics. These research developments are also relevant to assessing the viability of the New Partnership for Africa's Development (NEPAD) and the newly created African Union (AU). These organizations have at their very core issues of economic stability, poverty alleviation, and governance—all of which are central to the way that transboundary river basins are managed.

Key Strategic Drivers of Environmental Security in Southern Africa

Mainland Southern Africa comprises eleven countries, some of which are among

the poorest in the world (e.g., Mozambique, Malawi, Zambia) and many of which have suffered from protracted violence (e.g., Angola, Mozambique, Republic of South Africa, Zimbabwe, and the Democratic Republic of Congo¹). The region was an important theater of the Cold War: many of its civil wars during that period were localized manifestations of former superpower rivalries (Turton, 2003a). This history has left modern Southern Africa with a complex mosaic of conflict and tension—a legacy exacerbated by environmental scarcities in one form or another.

Indeed, Southern Africa is characterized by three environmentally and developmentally distinct features that act as fundamental drivers of potential conflict or cooperation:

1) *Climate variability is a key determinant of Southern Africa's ecological dynamics and environmental security.* Drought and flooding are normal events in the region's hydrological context. A number of natural cycles affect the region's rivers: for example, the Okavango River Basin has an 18-year cycle of climate variability, while records from the Zambezi Basin show the existence of an 80-year cycle (McCarthy et al., 2000). Flood pulsing—or the variability between periods of high flow and low or even non-flow periods—is also recognized as a key ecological driver (Junk et al., 1989; Davies et al., 1993; Davies & Day, 1998;

Gumbricht et al., 2002; McCarthy et al., 2000; Puckeridge et al., 1993; and Turton et al., 2003).

Climate variability also has a number of key environmental security ramifications: (a) the long-term impact of global climate change on both water availability and the incidence of extreme events; (b) the impact of growing populations on a relatively finite and variable water resource base; and (c) the existence of a large number of dams in order to store water during the unpredictable and often long dry periods. For example, South Africa and Zimbabwe have 752 large dams between them, while the region's other nine countries have only 55 among them (WCD, 2000). The region's wetter countries (such as Angola, Malawi, Mozambique, Tanzania, and Zambia) have among the lowest densities of dams in the world for non-karstic regions, with annual rainfall in the range of 600 to 2000 millimeters.

2) *International rivers dominate Southern Africa.* The region's eleven mainland countries are traversed by no less than fifteen international river basins (see Figure 1), including such major basins as the Zambezi (which is shared by eight states) and the Limpopo and Orange (which are shared by four states each). As a fundamental element of the environment, water has major strategic significance in Southern Africa.

3) *Development is inequitably distributed across Southern Africa and within separate countries in the region—a maldistribution influenced by environmental factors.* Water scarcity acts as a limiting factor for the economic growth potential of the region, making water and associated ecosystems a key component of sustainable development. Fed by an increasingly complex series of

pipelines and water transfer schemes (which has given rise to the so-called “pipelines of power” thesis²), the dams of the Republic of South Africa and Zimbabwe support a vast array of economic activities (Turton, 2000).

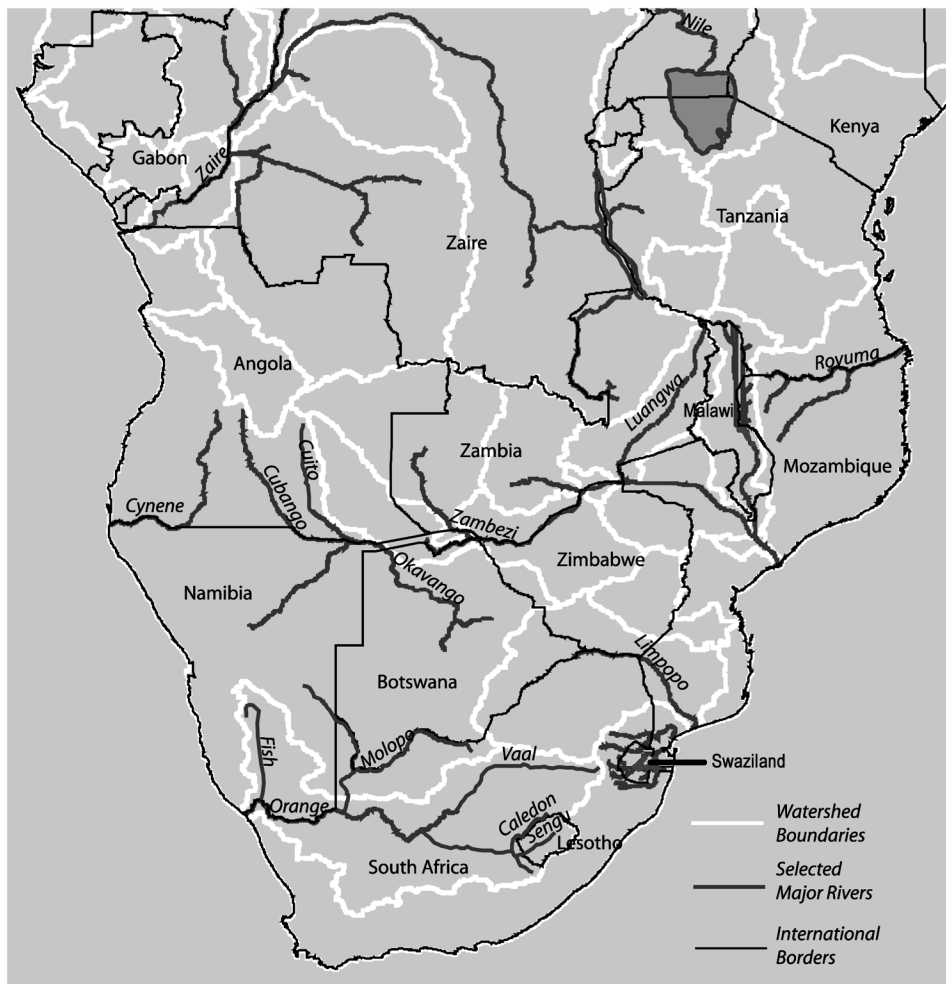
These three fundamental drivers prompt a number of strategic considerations. For example, the four most economically developed states in Southern Africa—the Republic of South Africa, Botswana, Namibia, and to a lesser extent Zimbabwe—also happen to be water-stressed. In fact, these four countries have already reached the limitations of their readily available water resources and now need to develop increasingly sophisticated interbasin transfers of water to sustain their economic growth potential. Below are just a few illustrative examples of such transfers:

- In the Republic of South Africa—the most economically developed state in the Southern African region—interbasin transfers of water across various natural, provincial, and even international borders sustain 100 percent of the Gross Geographic Product³ (GGP) in the Gauteng Province, and are responsible for more than 50 percent of the GGP in seven of the nine provinces (Basson et al., 1997; Turton, 2003). One of the key elements of these transfers is the Lesotho Highlands Water Project (LHWP), which transfers water by gravity to Johannesburg and Pretoria and could also supply water to Gaborone in Botswana if needed.
- Two strategic water transfers currently sustain the Botswana economy: (1) the transfer from the Molatedi Dam in South Africa (Conley, 1995; Heyns, 1995); and (2) the North-

About the Author

Anthony R. Turton is head of the African Water Issues Research Unit (AWIRU) at the University of Pretoria's Centre for International Political Studies (CIPS) and sits in the GIBB-SERA Chair in Integrated Water Resource Management at the Council for Scientific and Industrial Research (CSIR) in South Africa. He is co-editor (with Roland Henwood) of *Hydropolitics in the Developing World: A Southern Africa Perspective* (University of Pretoria, 2002) and co-editor (with Peter Ashton and Eugene Cloete) of *Transboundary Rivers, Sovereignty and Development: Hydropolitical Drivers in the Okavango River Basin* (University of Pretoria, 2003).

Figure 1. Map of Southern Africa, with Major Rivers and Watersheds



Source: ECSP

South Carrier in Botswana, which has a proposed future linkage to the Zambezi River (Heyns, 2002).

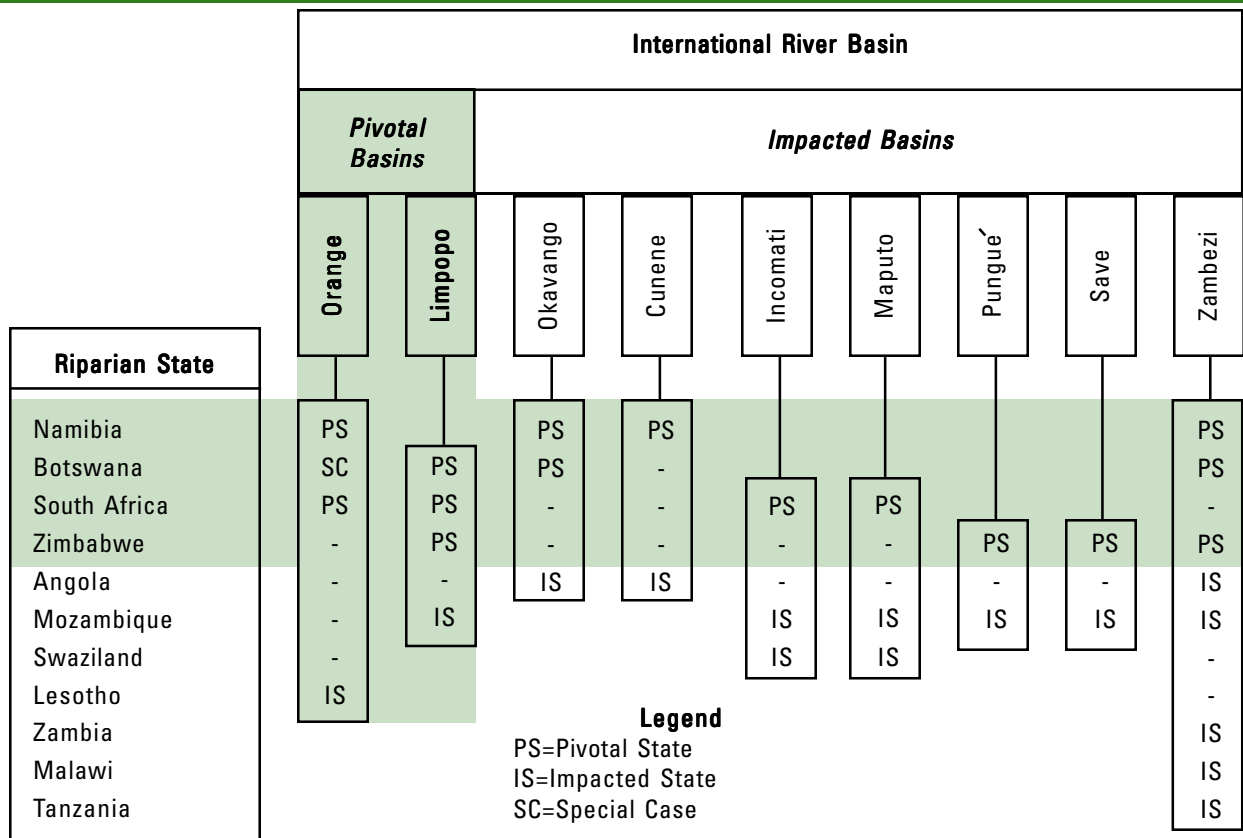
- A pipeline is planned to link the Okavango River in Caprivi Strip with Namibia's Eastern National Water Carrier, which feeds the economic heartland around Windhoek and therefore sustains the Namibian economy (Heyns, 2002; Pinheiro et al., 2003). This pipeline will become a strategic component of the overall water management strategy of Namibia, but is hotly contested by environmental groups in Botswana (Ramberg, 1997; Ashton & Neal, 2003).
- Another planned pipeline would tap the Zambezi River to supply the city of

Bulawayo in Zimbabwe; it could also link into the North-South Carrier in Botswana (Heyns, 2002).

- The possible supply of Zambezi River water to Botswana, Zimbabwe, and Gauteng Province (Pretoria) in South Africa has been under investigation at various times in the past (Borchert & Kemp, 1985; Borchert, 1987; Heyns, 2002; Midgley, 1987; Scudder et al., 1993). However, South Africa is not a Zambezi riparian state and would have to negotiate access through a complex set of diplomatic exchanges before this link could become reality.

All proposals for the diversion of water from transboundary river basins in Southern

Figure 2. The Southern African Hydropolitical Complex



Source: Turton et al (2003).

Africa are subject to the consultation and decision-making processes provided under the 1995 Protocol on Shared Watercourses in the Southern African Development Community (SADC, of which all mainland regional countries are signatories), or the Revised Protocol of 2000 when it comes into force. If Botswana negotiates a Zambezi River supply that is under its direct control, then it will evolve from being a relatively weak riparian in the Orange and Limpopo Basin to a strong position vis-à-vis South Africa and indeed Zimbabwe.

In addition, the region's four most economically developed countries share two common river basins (the Orange and Limpopo), both of which have reached the limit of their reliably available supply. The Orange River is already in deficit, and further opportunities for its development are limited (Conley, 1996; Conley, 1995). The Limpopo is highly developed: it has 43 large dams and another three currently under investigation

(Heyns, 1995), pushing the basin close to deficit (Conley, 1995). In short, there is simply no more water available in these two river basins. Alternatives need to be found as a matter of strategic importance. This scarcity is compounded by the natural maldistribution of water in Southern Africa: the absence of perennial rivers in both Namibia and Botswana as well as in parts of the Republic of South Africa.

Transboundary Water Resource Management and Regional Security

The heavy reliance on water by Southern Africa's most economically developed states leads one to consider the strategic ramifications of transboundary water resource management. Indeed, water should be regarded as a critical element of the "Southern African Regional Security Complex" as originally defined by Buzan (1991). Buzan's formulation was further developed by Schultz (1995), who identified the existence of what

he called a “Hydropolitical Security Complex,” comprising the riparian states of the Tigris and Euphrates River Basin. Turton (2003c; 2003d) has subsequently used this concept (in a slightly modified form) to develop a hydropolitical model for Southern Africa.

Turton’s Southern African hydropolitical model consists of two key elements: (1) the Southern African Regional Security Complex, and (2) a sub-component called the Southern African Hydropolitical Complex. Turton has dropped the word “security” from the second formulation⁴ because water resource management can either be *securitized* or *desecuritized*. Water resource management can become *securitized*—as in the case of the Tigris and Euphrates—where national security concerns become linked to the management of transboundary river basins (Schultz, 1995). With securitization, low-politics issues such as water resource management become linked with the high-politics issues of national survival, potentially begetting a rapid spiral of conflict that would be difficult to predict or manage. (This cycle has not yet occurred in Southern Africa, so the management of transboundary water resources there cannot yet be considered to be part of a mature hydropolitical security complex.⁵) Under such conditions, water resource management structures remain stunted, and hydrological data becomes classified as secret and thereby removed from the public domain.

On the other hand, water resource management can become *desecuritized* (or politicized) when all interested parties are able to collect, store, and access basin-wide data. Desecuritization tends to place water resource management in a political domain—where it can be debated—rather than in a security domain where security specialists deal with it in a closed and non-transparent manner. The most likely outcome under these conditions is a positive-sum configuration, which is more favorable to regional peace.

Indications are that water resource management in Southern Africa is becoming desecuritized⁶ but remains strategically important to selected states in the region. Hence, it is most appropriate to situate a “hydropolitical complex” as a component of

the larger “regional security complex.” Figure 2, which deals with nine of the region’s fifteen international river basins, shows this conceptual nesting.

The Southern African Hydropolitical Complex has four key elements: Pivotal States, Pivotal Basins, Impacted States, and Impacted Basins:

Pivotal States: There are four Pivotal States within the Southern African Hydropolitical Complex—the Republic of South Africa, Botswana, Namibia, and Zimbabwe. Pivotal States meet the following criteria:

- They have a high level of economic development⁷;
- They are highly reliant on shared river basins for economically strategic sources of water supply.

Pivotal Basins: There are two pivotal river basins within the Southern African Hydropolitical Complex—the Orange and the Limpopo. Pivotal Basins meet the following criteria:

- They have economically strategic importance to any one (or all) of the four pivotal states;
- They are “closed.” River basins that are closed have no utilizable outflow of water (Seckler, 1996) or no more water that can be allocated to productive activities (Svendsen et al., 2001).

Both Pivotal States and Pivotal Basins can be considered independent variables, acting as fundamental drivers of hydropolitical interaction (1) among the riparian states, and (2) between each riparian state and the Regional Security Complex.

Impacted States: There are at least seven Impacted States in the Southern African Hydropolitical Complex—Angola, Mozambique, Swaziland, Lesotho, Zambia, Malawi, and Tanzania. Impacted States meet the following criteria:

- Their economic development is founded on water from either a Pivotal Basin or an

Impacted Basin;

- Their current (or future) economic development has been or is likely to be limited by a Pivotal State with which they are co-riparians.

Impacted Basins: There are at least seven Impacted Basins in the Southern African Hydropolitical Complex—Zambezi, Kunene, Okavango, Incomati, Maputo, Pungué, and Save. An Impacted Basin meets two criteria:

Interbasin transfers of water are responsible for more than 50 percent of the GGP in seven of South Africa's nine provinces.

- A Pivotal State relies on the water from the Impacted Basin for current (or future) economic development;
- The development options of the Impacted State within the Impacted Basin have been or are likely to be limited by the actions or plans of the Pivotal State.

The interconnectedness of these concepts is self-evident when one assesses the implications of existing and planned interbasin transfers of water in Southern Africa.

Conflict or Cooperation Within International River Basins?

What are the possible strategic ramifications of the South African Hydropolitical Complex model and its fundamental drivers? Specifically, what are key areas in which policy interventions would be appropriate regarding these dynamics?

Since the economic growth potential of any state impacts deeply on the welfare of its citizens, economic growth acts as a powerful political driver in its own right. This driver is even more important when the state in question has (a) a high need for economic development as the result of rapid population growth, and (b) limited options for mobilizing secure water supplies. Such is the situation in Southern Africa, particularly for its Pivotal States and Pivotal Basins.

Under these conditions, one would

intuitively expect a high level of conflict potential as each state competes for a dwindling share of what is at best a variable water resource. The situation's level of complexity increases substantially, however, when one factors in the unknown effects of global climate change, which could either result in (a) more precipitation in the form of extreme events, or (b) a greater oscillation between very wet and very dry climatic cycles.

The author's current research shows that *institutional development* is a key mitigating factor in the potential for conflict over water, at least in the Southern African case.⁸ Central to an understanding of the processes of institutional development are certain critical concepts:

First-Order/Second-Order Resource: A first-order resource is a *natural* resource (such as land or water); it can either be abundant or relatively scarce. A second-order resource is a *social* resource—specifically, the ability of societies, administrative organizations, and managers responsible for dealing with first-order (natural-resource) scarcities to find the appropriate tools for dealing with the consequences of that scarcity (Ohlsson, 1999). Current research has tentatively shown that the relative availability of second-order resources in developing countries generally dictates their hydropolitical outcome (Turton, 2002a; Turton & Warner, 2002).

For example, Botswana and Namibia are both water scarce, yet their capacity to negotiate with neighbors (even with the more powerful South Africa) and the relative sophistication of their institutional arrangements have enabled the countries' economies to grow in spite of their endemic water scarcity. South Africa provides another example of the importance of second-order resources: sweeping water-sector reform there has resulted in the development of sophisticated policy instruments that are improving incentives for the more efficient use of water nationally.

Ingenuity: Homer-Dixon (1994; 2000) has developed a conceptual distinction between what he calls "technical ingenuity" and "social ingenuity." The former is needed to develop coping strategies, such as a new set of agricultural and forestry techniques in order

to compensate for environmental scarcity (Homer-Dixon, 1994). As such, technical ingenuity seems to focus on first-order resources because it deals specifically with the manipulation of the environment in order to mobilize more water (Turton, 2002b).

Social ingenuity is needed to create institutions and organizations that buffer people from the effects of (first-order) natural-resource scarcity and provide the right incentives for technological entrepreneurs to develop appropriate solutions (Homer-Dixon, 1994). As such, social ingenuity focuses on second-order resources because it deals with appropriate development, reform, or adaptation of water management institutions (Turton, 2002b).

Applying these new concepts to environmental security discourses reveals a previously hidden dimension of analysis. For example, the concepts make evident that the development of appropriate institutions is a key intervening variable in whether transboundary river basins are marked by conflict or cooperation. Central to this is the notion of adaptive institutions that has been developed by Molden et al. (2001) and Molden & Merrey (2002). Stated simplistically, as water resources are developed within a given river basin, the institutional arrangements needed to manage those developments also change over time. Initially, these arrangements are relatively simple and focus only on engineering issues—a first-order resource focus (Turton, 2002b).

But as the basin becomes more developed, riparian states encounter increasing levels of complexity, and their focus shifts to institutional development and transformation—a second-order focus (Turton, 2002b). This complexity includes the need to manage intersectoral allocation of water and, in the case of international river basins, to negotiate the allocation of water or benefits between riparian states—an activity that has an inherently high degree of conflict potential.

The role of *data* is central to understanding conflict mitigation. Conflict is often linked to the securitization of water resource management, a process in which data are classified and removed from the public domain. Within a hydropolitical complex, Pivotal States will use their control over data as a tool to ensure their strategic access to the

river basin in question. Impacted States that are economically underdeveloped will lack the capacity to generate independent data and thus must rely on data provided by the Pivotal State. This data imbalance increases the power disparity within the river basin, acting over time as a fundamental driver of conflict potential.

A current example is in the Incomati and Maputo River Basin, where the South African monopoly over the capacity to generate data created such discomfort with downstream Mozambique that what was known as the Piggs Peak Agreement broke down. Mozambique used this period of negotiation impasse to start developing its own data. Significantly, the recently signed Incomaputo

There is simply no more water available in the Limpopo and Orange River basins. Alternatives need to be found as a matter of strategic importance.

Agreement (Treaty, 2002a, 2002b) contains joint data-management as a key element. Conversely, situations in which data have been collected jointly (such as the Orange River and Upper Limpopo Basin) have always demonstrated a low potential for conflict.

The author's recent research (Turton, 2002a; 2002b) has isolated two key factors with respect to data's influence on hydropolitical dynamics. First, disparities among states' capacity to generate data seem to be dependent on states' disparate levels of technical ingenuity. Pivotal States have a higher capacity to generate data than Impacted States. This disparity becomes a key factor in the hydropolitical dynamics of these states' shared river basins.

Second, disparities among states' (a) capacities to legitimize data, (b) methodologies used to collect and interpret those data, and (c) use of those interpreted data to develop management strategies seem to be dependent on the states' disparate levels of social ingenuity. Pivotal States have a higher capacity to mobilize the appropriate form of social ingenuity with regards to water resource data; these states use this social ingenuity in negotiations over water resources to favor

their own interests. Conversely, Impacted States have a lower capacity to mobilize the appropriate form of social ingenuity, which is one of the reasons why these states remain in a hydropolitically vulnerable position.

Data imbalances increase power disparities within river basins, acting as fundamental drivers of conflict potential.

Policy Implications

This research has a number of policy implications. First, dominant environmental security discourses generally tend to ignore the importance of what Ohlsson (1999) calls second-order resources and what Homer-Dixon (1994; 2000) calls ingenuity. But current research in Southern Africa suggests that second-order resources are the critical independent variable in mitigating resource conflict in industrialized economies—in particular, those second-order resources found in formal water management institutions (Turton, 2002a).

The identification of second-order resources also leads to two other subtle but important policy implications. First, *the capacity of a riparian state to generate hydrological data is critical*. Where uncontested basin-wide data is missing (as in the cases of the Okavango River Basin) or incomplete (as in the case of the Incomati, Maputo, and—to a lesser extent—the Limpopo River), transnational institutional development is likely to remain stunted.⁹ This institutional underdevelopment leads to high potential for conflict in those river basins, particularly during times of regional drought—a natural recurring phenomenon likely to become more acute as global climate change takes effect.

Second, *the capacity of a riparian state to legitimize data via negotiations is also crucial*. Where a riparian state is unable to perform such legitimization, it will probably always remain vulnerable to the manipulation of data by more powerful co-riparians. Even in the absence of manipulation, these Impacted States may feel suspicious that manipulation and/or deception has taken place, and thus be unwilling to enter into an agreement that

may actually be advantageous to them. The latter suspicion is often expressed in Southern Africa, and may derive from the root word in Latin for “rival”—*rivalus*, which literally means “to share a river.”

Seen in this light, data becomes knowledge by means of the process of legitimization. Knowledge in turn is institutionalized, and allows for the respective water management institutions to adapt over time. Institutional adaptation is merely an empirically verifiable manifestation of institutional learning, which in turn is a manifestation of the healthy interaction between technical and social ingenuity, both of which are forms of second-order resources.

From a policy perspective, developed countries such as the United States should take these processes into greater consideration when designing foreign-policy interventions in the developing world. While technical ingenuity is relatively easy to mobilize (because engineers and scientists can be trained and assisted by developed countries), social ingenuity cannot as easily be artificially stimulated, as it is to a large extent culture-bound.

For example, the social ingenuity inherent in the Khoi San culture manifests itself in oral histories, traditional knowledge, and cultural practices—aspects that are highly suited to life in the variable climatic conditions of Southern Africa’s semi-arid regions. Such ingenuity is not easily transplanted into industrial or post-industrial society. Conversely, the Dutch—as a people that grew up in the shadow of flooding—have developed social adaptations to this eventuality in the form of *waterschappen* (or local water boards), which eventually became the very foundation of modern Dutch democracy. Such ingenuity is also not easily transplanted into any other cultural setting where those fundamental drivers do not exist. In sum, policy prescriptions that work well in one national setting may not necessarily work well elsewhere. This complication has profound relevance to foreign-policy interventions in arid countries.¹⁰


The difference between technical and social ingenuity also has significant implications for the initially mooted International Shared Water Facility (ISWF), which was proposed by Nicol et al. (2001)

for consideration by the Swedish Foreign Ministry and which now exists as the Water Cooperation Facility embracing the World Water Council, the International Court of Arbitration, and the Universities Partnership for Transboundary Waters under the overall management of UNESCO. The ISWF runs the risk of being dominated by Northern, developed-country technocrats with a bias towards technical solutions, which would deemphasize indigenous forms of knowledge that are alive and well in some social settings in the developing South. One example of such indigenous knowledge is the *natural capacity* that water has as an element of cooperation in the semi-arid regions of Southern Africa. In Botswana, for instance, the local currency is called the “Pula,” which literally means “rain” but culturally means “may you have the abundance associated with rain.” The ISWF must be able to take these local nuances on board if it is to remain a true partnership amongst equals. But if the ISWF evolves into just another Northern-dominated institution, then it runs the grave risk of becoming delegitimized in the developing South.

Impacted States also need process financing in order to negotiate equitable water sharing agreements in Pivotal or Impacted Basins. In this regard, it is now possible to develop a more nuanced approach to understanding the hydropolitical dynamics in contested developing-world river basins in the developing world—the very basins that are the target for foreign-policy intervention by developed countries.

Conclusion

Categorizing resources as first and second-order contributes a new and nuanced analytical tool to environmental security debates. If further research validates the concept of a Southern African Hydropolitical Complex, then the concept could help develop a more detailed understanding of the strategic drivers of environmental scarcity, particularly as they pertain to Southern Africa.

Such an understanding would also impact the efforts of NEPAD, which seeks to promote economic development and to strengthen the fledgling democracies in Africa. NEPAD aims to fast-track African development at the continental or regional level by coordinating actions and strategies among governments, the private sector, and civil society. At its very core, NEPAD is about alleviating poverty, inculcating a political culture of responsibility and accountability, and stimulating good governance as a norm. Yet the architects of the NEPAD process have not yet incorporated consideration of water resource development—inarguably a key component of its goals. Similarly, the AU’s architects seem to have ignored the importance of trans-boundary river basins as possible drivers of regional economic integration, instead focusing on symbolic rather than substantive issues. Additional research is needed on these questions, with cooperation between developed and developing countries likely to be highly fruitful.¹¹ 

Notes

¹ While the Democratic Republic of Congo (DRC) is not usually included among the eleven countries that comprise Southern Africa (Angola, Botswana, Lesotho, Malawi, Mozambique, Namibia, South Africa, Swaziland, Tanzania, Zambia, and Zimbabwe), the DRC is relevant to this discussion for three reasons. First, the DRC is a member of the Southern African Development Community (SADC). Second, it has been a longstanding source of regional instability, having drawn in armed forces from various states in Africa. Finally, the DRC has been suggested as a possible donor in various ambitious water transfer schemes. See Heyns (2002) for more details.

² The “pipelines of power” thesis holds that there is a spatial and temporal variation in Southern Africa between areas where water is naturally available and areas where it is needed for economic development. These areas have been linked by water transfer schemes, which in turn translate into economic and political power. This process has resulted in skewed development in Southern Africa, particularly inside South Africa. South Africa’s 1998 National Water Act seeks to redress this historic imbalance. (To read the text of the Act, go to http://www.thewaterpage.com/south_africa.htm.)

³ The GGP is equivalent to Gross Domestic Product but applies to a specific geographic area that is sub-national in size, usually a province.

⁴ Earlier research by the author used the term “hydropolitical security complex” (Turton, 2001; 2003a; 2003b). However, water per se is insufficient to be the sole focus of the security complex—an important factor for Southern African regional security, but not the major driver.

⁵ On the other hand, South Africa has historically securitized its water resources, particularly under apartheid rule. After the 1976 Soweto riots, linked to the contemporary liberation of neighboring Mozambique and Angola, the South African government published its White Paper on Defence—a document that became the founding rationale for the South African State Security Council and for a mobilizing ideology called the “Total National Strategy.” This ideology involved a two-pronged approach to all regional political affairs: (1) the “carrot” of economic development, offered to neighboring states as an inducement for cooperation; and (2) the “stick” of military action as a disincentive for non-cooperation with Pretoria. Every existing international treaty involving South Africa and water resource management can be traced back to this period. See Turton (2003a) and Turton (forthcoming) for more details.

⁶ This process of desecuritization has occurred in the post-Cold War and post-apartheid eras. The SADC Protocol on Shared Watercourses is an example of desecuritization.

⁷ One reviewer of this article has helpfully suggested that military power should also be a criterion for the label “Pivotal State.” Indeed, all four pivotal states have demonstrated such military capacity. Both Namibia and Zimbabwe are militarily involved in the current DRC conflict, while South Africa and Botswana have both become embroiled in what became known as Operation Boleas in Lesotho. See Turton (2003a) and Turton (forthcoming) for more details.

⁸ One of the ironic outcomes of the securitization of water resources outlined in Note 5 is that these transboundary river basins now have a high level of institutional development. See Turton (forthcoming) for more details of this development. This development is a positive outcome from what was actually a dark period of tension and uncertainty. The institutions were created to reduce the range of options open to each state at the time, thereby decreasing the level of uncertainty for both states. Significantly, co-riparian states seemed to have benefited from this arrangement, provided that two conditions were met: (1) that the non-hegemonic state couched their perception of the problem in non-ideological terms, and (2) that the non-hegemonic state viewed the possible advantages strictly in terms of national self-interest (Turton, 2003d). A positive outcome developed under these conditions. But a negative condition developed when the non-hegemon viewed the problem in terms of ideology and consequently failed to think of the possible advantages of institutional development in terms of national self-interest.

⁹ The popular media refers to “contested” hydrological data in the Okavango River Basin. This definition is not strictly true, as data for the basin do exist and the riparian states agree on these data. The data have large gaps, however, particularly from Angola and attributable in part to that country’s civil war. Some NGOs also contest the Okavango data. Whether data are “contested” or not depends on one’s perspective (see Turton et al., 2003).

¹⁰ The global discourse on transboundary river management commits this mistake by holding up so-called success stories (such as the Danube and Mekong) as examples of how all developing countries should approach water resource management. Such a “one-size-fits-all” message fails to take into consideration the historic experiences and the cultural settings of those specific cases.

¹¹ The recently founded Universities Partnership on Transboundary Waters (see http://transboundary_waters_partners.geo.orst.edu/) will play a key role in this new research direction.

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Forthcoming from ECSP: “HIV/AIDS in Developing-Country Militaries”

While African and other developing-country nations are being decimated by the HIV/AIDS pandemic, militaries in these countries are estimated to suffer from HIV infection rates even higher than those for their civilian counterparts—ultimately posing a threat to force readiness and national and even regional security. Yet those developing countries with vigorous defense-sector programs of HIV/AIDS-prevention education have shown remarkable results in restraining the pandemic across all sectors, civilian as well as military.

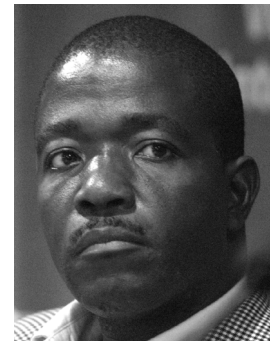
In Winter 2004, ECSP will publish a collection of articles on the ramifications and possible strategies for addressing HIV/AIDS in developing-country militaries. Contributors will include:

- **Stuart Kingma** and **Rodger Yeager** (Civil-Military Alliance to Combat HIV/AIDS Program) on program imperatives and policy issues in civil-military relations;
- **Johanna Mendelson Forman** (UN Foundation) and **Nancy Mock** (Tulane University) on using militaries as a component of national health services and as a broader instrument of social change to manage the HIV/AIDS threat;
- **Roxanne Bazergan** (UNDPKO) on HIV/AIDS and UN peacekeeping;
- **Captain Stephen Talugende** (Ugandan People's Defense Forces) on combating stigma against HIV/AIDS-positive soldiers;
- **Major General Suebpong Sangkharomya** (Royal Thai Army Medical Department) on Thailand's efforts against HIV/AIDS and how they could serve as a model for other developing countries.

The publication will also be launched at a Woodrow Wilson Center meeting with the authors. If you wish to receive a hard copy of the publication, please email ecsp@wwic.si.edu.



Nancy Mock



Stephen Talugende

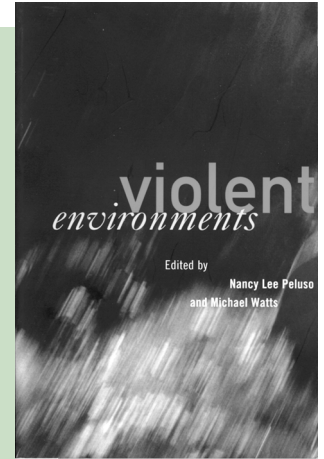
EXCHANGE

THOMAS HOMER-DIXON, NANCY PELUSO, AND MICHAEL WATTS ON *VIOLENT ENVIRONMENTS*

Co-edited by Nancy Peluso and Michael Watts, *Violent Environments* (Cornell University Press, 2001) provided a scathing critique of influential approaches to environmental security as well as an alternative to those approaches based in political ecology. In particular, Peluso, Watts, and their authors targeted the influential neo-Malthusian writings of three figures: journalist Robert Kaplan; Günther Baechler, the leading European researcher of the Environmental Conflicts Project (ENCOP); and Thomas Homer-Dixon of the University of Toronto.

As Colin Kahl put it in his review of *Violent Environments* for *ECSP Report 8*, “Peluso and Watts criticize the current neo-Malthusian literature for its tendency toward environmental determinism...First, the authors [of *Violent Environments*] claim that neo-Malthusians (Homer-Dixon in particular) tend to advance models that describe automatic and simplistic causal linkages between resource scarcity and violent intrastate conflict...Second, Peluso and Watts accuse Homer-Dixon of arguing that scarcity is the only cause of violence.” Indeed, as Kahl put it, Homer-Dixon’s work “receives the lion’s share of attention” by both editors and authors of *Violent Environments*.

ECSP invited Homer-Dixon, Peluso, and Watts to engage in a dialogue about how *Violent Environments* characterized Homer-Dixon’s work as well as the future of environmental security research. Because of logistical constraints, the exchange was ultimately limited to one posting from each side. Below are the postings.



Debating *Violent Environments*

By Thomas Homer-Dixon

In the first two chapters of *Violent Environments*, Nancy Peluso, Michael Watts, and Betsy Hartmann assert that I am a sloppy and dishonest scholar with a grudge against the poor whose research has no theoretical cohesion and whose findings have little empirical basis. They also strongly imply that my research has links to the military and is intended to provide theoretical and ideological cover for continued large military budgets.¹

These authors launch a severe critique of work that I carried out—in close collaboration with a large number of other researchers, specialists, and experts—under the auspices of the University of Toronto, the American Academy of Arts and Sciences, and the American Association for the Advancement of Science.² Although *Violent Environments* includes several chapters severely critical of this work, and although I strongly disagree with much of this criticism, due to

space constraints here I will focus on the first two chapters.

In *Violent Environments*, Peluso, Watts, and Hartmann repeatedly misrepresent my work, take my arguments out of context, and misquote me. They make factual mistakes about the nature of the research projects I directed and about the theory developed to explain the relationship between environmental scarcity and violent conflict. They use straw-man argumentation, they represent research hypotheses as empirical findings, and they take little account of my previous and widely-cited rebuttals of criticisms similar to theirs.³

What emerges is a grotesque caricature. The errors and misrepresentations of this book have the effect of portraying my arguments as far less nuanced and subtle than they actually are. On occasion, Peluso, Watts, and Hartmann are right in their criticisms, and

they are right in important ways. But their wholesale rejection of our work leaves little room for dialogue.

At the University of Toronto, we have always welcomed debate and criticism, because we want to promote the accumulation

In *Violent Environments*, Peluso, Watts, and Hartmann repeatedly misrepresent my work, take my arguments out of context, and misquote me.

—Thomas Homer-Dixon

of knowledge. In the course of our research in the 1990s, we sought out people with a wide range of scholarly backgrounds and ideological perspectives to ensure that our conclusions were well-grounded and thoughtful. Indeed, Nancy Peluso attended and participated in one of our workshops. We have also tried to promote a dialogue with—and support the research of—our acknowledged critics. For this reason we opened our extensive archives of correspondence, research results, databases, and financial records to Hartmann when she was studying the origins and development of the environment-conflict research program. (Surprisingly, this support is nowhere acknowledged in Hartmann’s chapter in *Violent Environments*.) Unfortunately, the authors of *Violent Environments* never once contacted us for our comments, suggestions, or responses.

Such an exchange could have significantly improved the book. Here are some examples of errors we could have flagged:

- Peluso and Watts say that I propose “automatic, simplistic linkages” (page 5) between increased environmental scarcity, decreased economic activity, migration,

weakened states, and violence. They say I argue that “conditions of resource scarcity...have a monopoly on violence” (page 5), which implies that I believe scarcity is a necessary and/or sufficient condition for violence.

I argue nothing of the kind. Here’s what I actually wrote in the opening pages of *Environment, Scarcity, and Violence*: “Environmental scarcity is never a sole or sufficient cause of large migrations, poverty, or violence; it always joins with other economic, political, and social factors to produce its effects” (Homer-Dixon, 1999, page 16). And in the book’s conclusion, I write: “[E]nvironmental scarcity produces its effects within extremely complex ecological-political systems. Furthermore, environmental scarcity is not sufficient, by itself, to cause violence; when it does contribute to violence, research shows, it always interacts with other political, economic, and social factors. Environmental scarcity’s causal role can never be separated from these contextual factors, which are often unique to the society in question” (Homer-Dixon, 1999, page 178).

- Peluso and Watts misquote me in a way that reinforces their assertion that my argument is strongly deterministic. In the concluding chapter of *Environment, Scarcity, and Violence*, where I commented on the future likelihood of violence in which environmental scarcity is a contributing cause, I wrote: “[I]n coming decades the incidence of such violence will probably increase” (Homer-Dixon, page 177). In their reproduction of this quotation, Peluso and Watts drop “probably” (page 12 of *Violent Environments*).
- Peluso and Watts present a causal diagram extracted from the Rwanda case study by Valerie Percival and me (Percival & Homer-Dixon, 1998). This diagram, they write, is a good example of our “naïve and static”

About the Author

Thomas Homer-Dixon is associate professor of political science and director of the Centre for the Study of Peace and Conflict at the University of Toronto. He is the author of *The Ingenuity Gap* (Knopf, 2000); *Environment, Scarcity, and Violence* (Princeton University Press, 1999); and co-editor (with Jessica Blitt) of *Ecoviolence: Links Among Environment, Population, and Security* (Rowman & Littlefield, 1998).

conception of social structure (page 20). Yet, in our Rwanda case study, this diagram did not represent a research finding. Rather, it represented a particular *hypothesis* about the relationship between environmental scarcity and violence in Rwanda. Moreover, Percival and I argued *against* this hypothesis (Percival & Homer-Dixon, 1998).

- Peluso and Watts write that “[t]oday, environmental security as an institutional project is truly global, with academic centers in Toronto, Zürich, Oslo, Cambridge, New York, and Paris. All have garnered significant foundation support, and many are linked to national militaries” (page 10). They provided no evidence for this extraordinary claim about military links. Certainly the research carried out at the University of Toronto received no funding from the military, nor did it have any formal or informal links to any military research, intelligence, or policy activities. I believe this is also true for most of, if not all, the other environment and conflict research projects on their list.
- Peluso and Watts present a straw-man account of my argument about the role of ingenuity in society’s adaptation to environmental scarcity. They assert, for example, that my concept of ingenuity is “synonymous with technological innovation” (page 22 of *Violent Environments*). Yet in *Environment, Scarcity, and Violence* I wrote at length that technological innovation is insufficient by itself and that societies need copious “social ingenuity,” which is “key to the creation, reform, and maintenance of public and semipublic goods such as markets, funding agencies, educational and research organizations, and effective government” (Homer-Dixon, page 110).
- Peluso and Watts say that the environment, in my analysis, is a “trigger” of violence (pages 5 and 22 of *Violent Environments*). However, in *Environment, Scarcity, and Violence* I argued explicitly against a trigger model of environmental scarcity’s role as a cause of violence. I propose instead that environmental scarcity is best seen as a deep, “tectonic” stress that can have multiple, long-term effects on a society’s economy and political stability (Homer-Dixon, 1999,

pages 18, 106, and 177).

- Hartman says that, in my analysis of deforestation in the Philippines in *Environment, Scarcity, and Violence*, I neglected to note that “under the Marcos dictatorship fewer than two hundred wealthy individuals controlled a large fraction of the country’s forests” (page 51).

Actually, however, I wrote: “The logging industry boomed in the 1960s and 1970s and, following the declaration of martial law in 1972, President Ferdinand Marcos handed out concessions to huge tracts of land to his cronies and senior military officials. Pressured to make payments on the foreign debt, the government encouraged log exports to the voracious Japanese market. Numerous companies were set up with exclusive opportunities to exploit forest

The tone of *Violent Environments* suggests that all perspectives other than those based in Marxian political ecology are by definition theoretically incoherent.

—Thomas Homer-Dixon

resources, and they rarely undertook reforestation” (Homer-Dixon, 1999, page 66).

- Later in her chapter of *Violent Environments*, Hartmann suggests that Valerie Percival and I manipulated the findings of our Rwanda case study for essentially political reasons—in particular to avoid any association with “environmental determinism and racial stereotyping of Africans” (page 58). She provides no evidence for this serious charge of scholarly misconduct.

Given these examples, I would maintain that *Violent Environments* occludes rather than encourages dialogue.

In the interests of promoting such a dialogue, let me identify what I think are the three key issues at the heart of our disagreement. First, Peluso, Watts, and Hartmann use Marxian political ecology as a theoretical framework to guide their analysis of environmental problems in the South. I agree that such a perspective on processes of


production, accumulation, and distribution can generate critical insights. It can help fill some of the serious gaps in our analysis—especially, for example, our relative neglect of the powerful influence of the capitalist global economy and Northern consumption patterns on environmental scarcity in the South.

But other theoretical tools are often useful too, including, for instance, the theories of relative deprivation, social identity, civil violence, and endogenous economic growth that I use in my work. Unfortunately, the tone of *Violent Environments* suggests that these other perspectives (and indeed all perspectives other than those based in Marxian political ecology) are by definition theoretically incoherent.

Second, we do sharply disagree about the role of population size and growth as a cause of environmental scarcity. In *Environment, Scarcity, and Violence*, I provided abundant evidence that population pressures—when combined with certain social, economic, and political factors—can make environmental problems far worse.

Third, while I believe that nature can

have an independent or exogenous influence on a society's political affairs and trajectory of development, Peluso, Watts, and Hartmann do not allow for this influence as a possibility. Here lies, I think, our sharpest and most important disagreement. In *Environment, Scarcity, and Violence* I argue at length, and with numerous detailed illustrations, that sometimes our natural environment has an independent causal role. I support Daniel Deudney's call to "bring nature back in" (Deudney, 1999)—to expand our explanatory repertoire from strictly "social-social" theory (theory that posits only social causes of social outcomes) to include "nature-social" theory (theory that posits nature as a cause of certain social outcomes). This is not "naturalizing violence" as the authors assert; rather, it means improving our understanding of the causal role that nature can sometimes play in spurring violence.

Despite our critical differences, there is room for us to learn from each other and to build on each other's insights. I hope this exchange can be the first step in a dialogue that pushes forward our understanding of these complex interactions. 

Notes

¹ For example, on pages 10 and 11 they write that "[Many environmental security projects] are linked to national militaries" and that the environmental security "industry" has arisen in "the context of a distinctive set of geopolitical conditions: the end of the Cold War [and] the need of overfunded militaries to legitimize their existence in the face of clamoring for the 'Peace Dividend,'..."

² See, for example, <http://www.library.utoronto.ca/pcs/eps.htm> or <http://www.library.utoronto.ca/pcs/state.htm>.

³ See, for instance, Schwartz, Deligiannis, & Homer-Dixon (2001); Homer-Dixon (1996); and Homer-Dixon (1995/96).

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Violent Environments: Responses

By Nancy Peluso & Michael Watts

About the Authors

Nancy Peluso is professor of society and environment and director of the Berkeley Workshop on Environmental Politics at the University of California, Berkeley. **Michael Watts** is director of the Institute of International Studies and professor of geography at the University of California, Berkeley as well as a 2003 Guggenheim Fellow. They are co-editors of *Violent Environments* (Cornell University Press, 2001).

Tad Homer-Dixon claims that we (and Betsy Hartmann, whom we will let speak for herself) have slandered his academic reputation, grossly misrepresented his ideas, engaged in intellectual dishonesty and caricature, and charged that he actively dislikes the poor. He says that he and his Toronto group have always stood for openness and dialogue, even inviting one of us into his coterie. These would be serious charges were they not completely unrelated to what we have actually written. They are also consistent, in our view, with his narrow reading of the field of environmental politics.

Although we disagree with many of the underlying assumptions of Homer-Dixon and the Swiss group under Günther Baechler as well as how they frame their conclusions, it should be said that in *Violent Environments* we identified their work as the most important and influential (yet obviously different from our) models within the environmental security field. In the book, we provided a careful account of their arguments (and a diagrammatic reformulation) based on their central works. We will not exhaust our limited space here in a "he said-we said" defense. However, let us as an example examine Homer-Dixon's opening salvo above on his use (and our interpretation) of the relationship between resource scarcity and violence.

We (and James Fairhead in another

chapter of the book) point out in *Violent Environments* that "resource abundance" could serve a more relevant analytical function than does "scarcity" in analyzing environmentally related violence. Moreover, we strongly disagree with the heavily Malthusian cast Homer-Dixon admittedly gives to what he calls scarcity and violence. We argue that, rather than presuming or starting with scarcity (or abundance), analysis of these cases of violence should begin with the precise and changing relations between political economy and mechanisms of access, control, and struggle over environmental resources. Scarcity and abundance are historically (and environmentally) produced expressions of such relations, and as such should not be the starting point of an analysis.

Nevertheless, given its centrality to his analysis, Homer-Dixon's notion of scarcity is surprisingly untheorized. Of course we understand that he says environmental scarcity "interacts" with "complex-ecological-political systems," the latter providing a "context" for violence. But what are the theoretical power or precise causal claims (or powers) residing within such a vague and woolly notion of "context"? "Scarcity" and "context" and "social relations" each become their own sorts of black boxes, bereft of any analytical or social specificity and susceptible to being defined and deployed in a

bewildering array of ways as the analyst or reader sees fit.

Our concern in our introduction to *Violent Environments* was to look carefully at the purported causal mechanisms that Homer-Dixon does deploy—and the connections he purports to make—and to scrutinize them. (Such scrutiny should hold equally for our theoretical apparatus, but there is no such scrutiny in Homer-Dixon's remarks above.) Here we stand by what we said in that introduction. It is one thing to claim that your analysis does "a" and "b"; it is quite another to actually *demonstrate* "a" and "b." Thus, while Homer-Dixon denies the language of "trigger" (a denial we acknowledge as much

Given its centrality to his analysis, Homer-Dixon's notion of scarcity is surprisingly untheorized.

—Nancy Peluso & Michael Watts

in our own chapter), his analyses, in fact, nearly always deploy trigger mechanisms—events that set off violent interactions.

Ultimately, it is not possible to review here all the differences and similarities between our two projects—indeed, that was the intent of our book!! But it might serve readers well to know that, with regard to the Rwanda case to which Homer-Dixon's commentary refers (Percival & Homer-Dixon, 1998), we were raising his (not our) invocation of the term "structure" in his "hypothesis" and examining the way in which it was deployed in his model. Hence, it is beside the point whether his hypothesis is right or wrong.

Further, we did not say the environmental security field is *funded* by the military; we said there were *links*. This can be seen indisputably in a number of publications as well as in the constitution of the networks that link research, policy, the CIA, and the military. Even before its greening, the U.S. military has made use of ideas and scholars within the environmental security field—so such an observation should come as no surprise. Our point was to emphasize not any complicity (though let it be said that there has been no serious genealogical or sociology-of-

knowledge study of the origins and development of environmental security in relation to the military and the state security apparatuses), but rather that there is indeed traffic in ideas and people between the military/intelligence and some key figures in environmental security.¹ For the rest of our many disagreements with Homer-Dixon, we believe that intelligent and discriminating readers can make their own judgments.

We now turn to the three matters of substance that Homer-Dixon raises. The first is his *endorsement* of the insights of Marxian political ecology. But one has to ask: how and to what effect does such an endorsement reveal itself in his work and more generally in the study of environment and conflict? How would such an acknowledgement change his analysis? How, for example, might it provide some analytical bite to his notions of "context" or "scarcity"? Our challenge was to attempt to show that a focus on scarcity does not lead us to a useful understanding of *the relations* between resources and conflict. Indeed, the emphasis on so-called scarce resources occludes the real sources of such problems/conflicts, and in so doing makes them more difficult to resolve.

The best example of this point is perhaps the way Homer-Dixon describes his view of how appropriations of land/resources by elites create scarcity. The focus of his analysis is subsequently on the scarcities produced—not on the mechanisms of appropriation and exclusion from access at the heart of that process. This focus means far more than what he above characterizes as "[his] relative neglect of the powerful influence of the capitalist global economy and Northern consumption patterns on environmental scarcity in the South." By positing a clean separation between "North" and "South" and not recognizing their complex, relational, and contingent qualities—particularly in very globalized "local" conflicts over valuable resources—Homer-Dixon's analysis blots out the sources of scarcity.

The differences between ourselves and Homer-Dixon turn fundamentally on this issue—even though he claims to want to understand how violence is related to resources and environments. The bricolage of potentially incommensurable concepts that Homer-

Dixon cites above as informing his work—“relative deprivation, social identity, civil violence, and endogenous economic growth”—do not make for an alternative theoretical approach to the political ecology that we use. They are not formulated in relation to anything and therefore provide no means for empirical analysis.

The second question Homer-Dixon raises speaks to our self-evident differences of opinion over population size and growth. Here the question is whether any or all of the studies presented in *Violent Environments* deny any role to population in understanding violence, and whether our studies provide counter-evidence to the “abundant evidence” he claims to have marshaled. To take one illustration, Aaron Bobrow-Strain (in his chapter “Between a Ranch and a Hard Place: Violence, Scarcity, and Meaning in Chiapas, Mexico”) takes one of Homer-Dixon’s cases (Chiapas) and subjects it to a devastating demographic critique (Bobrow-Strain, 2001). One would have thought that this critique deserved some response in the latter’s comments, since the population question is so central to his work.

Most of us would not dispute Homer-Dixon’s claim that, under some circumstances, population growth can compound environmental problems. Yet, as Mortimore and Adams (1999) have shown in Kenya and Nigeria, population growth in some circumstances can *ameliorate* environmental problems. Our argument was that Homer-Dixon places much more weight on population growth than he is prepared to admit, and that he reads into scarcity (or abundance) a demographic presence that vastly exaggerates the causal significance of population in conflict and violence.

Homer-Dixon’s third point—that we need to “bring nature back in”—is simply astonishing. What we call “nature’s agency” is something that we have both struggled with in our work over many decades as well as in the Berkeley Workshop on Environmental Politics that we established in 1996. Homer-Dixon commits a truly remarkable *apercu* in asserting that we should now consider embarking on such a project. He might consider reading Nancy Peluso’s article in *Comparative Studies in Society and History*

(1996) or Watts’ piece in *Violent Environments*. Watts, for example, explicitly addresses the biophysical qualities of petroleum and how those qualities shape both environmental dynamics and the conflicts that surround the resource. Peluso’s study is a detailed analysis

**What is there about our approach that denies a commitment to debate and openness?
—Nancy Peluso & Michael Watts**

of the relations between land rights and specific forest ecologies—an analysis in which the trees themselves play a role.

We also explicitly discuss “the difference that nature makes” in our introduction to *Violent Environments*, to which Homer-Dixon restricted his comments. We detail our point of view that the biophysical characteristics and geography of a resource affect the conditions of its extraction, its value, and the means—and scale—by which it can be produced. The strategic value of a resource (or an environment), including its relative scarcity, affects how it will be enclosed, protected, fought for, and so on.


And although Homer-Dixon explicitly says he is only dealing with renewable resources, his theory makes it impossible *not* to take account of non-renewables (oil, minerals, and so on). The importance of nature and geography in conflicts over renewables as well as non-renewables is discussed in examples in our introductory chapter and is central to the chapters in *Violent Environments* by Watts, Vandergeest and Stonich, Neumann, Boal, Garb and Komarova, Kuletz, and others.

Homer-Dixon’s response above seems to assert a typical liberal double standard about any analytical approach associated with Marx: that such approaches imply closure by definition and a lack of willingness to engage in “dialogue.” But what is there about our approach that denies a commitment to debate and openness (and is there anything about the history of Malthusianism that unequivocally endorses open, democratic debate)?

A careful reading of *Violent Environments* reveals both a vital traffic in ideas across the

social and environmental sciences *and* enough internal debate among contributors to belie the very idea of the dead hand of Marxian closure. We focus on the specific institutions and processes of production, accumulation, and resource access as well as the forms that nature and social relations take as a basis for understanding the nature of resource conflict. This perspective ties all of our case studies together, although there is nothing like a unity of vision among the authors. We all engage a variety of theoretical insights and grapple with the strengths and weaknesses of a political ecology model.

Homer-Dixon sings the praise of inclusion for his Toronto group, and bemoans

our unwillingness to send him our manuscript of *Violent Environments* for commentary. And yet one could read his *Environment, Scarcity, and Violence* and never know that there is a huge body of work on resources, environment, and politics—nearly 25 years in the making by geographers, anthropologists, and sociologists—that operates today under the sign of political ecology (see, for example, Tim Forysth’s review in *Critical Political Ecology* (Forysth, 2003)). Is inclusiveness and dialogue to be our burden alone? In the interest of collegiality, if not solidarity, we would be delighted if Homer-Dixon would at some point engage with that body’s research and conclusions. 

Note

¹ Indeed, in editing this response, ECSP Editor Robert Lalasz pointed out that “ECSP, for example, works with Kent Butts at the U.S. Army War College—yet we would strenuously resist the suggestion that there is complicity between what we do and everything the U.S. Army War College does, or the Army, for that matter.” This was precisely our point.

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NEW PUBLICATIONS

Transformation of Resource Conflicts: Approach and Instruments

Günther Baechler, Kurt R. Spillmann, & Mohamed Suliman (Eds.)
Bern, Switzerland: Peter Lang, 2002. 558 pages.

Reviewed by **Jeremy Lind**

T*ransformation of Resource Conflicts: Approach and Instruments* is a rich collection of studies focusing on the resource dimension of conflicts in the Horn of Africa, a region of profound ecological and ethnic diversity and a locus of violent conflict in sub-Saharan Africa. An introductory chapter by the editors establishes the context of this informative contribution to the field of conflict management and resolution in the Horn. The volume is the final report of a research undertaking on “Environmental Conflict Management” (ECOMAN), a project supported by the Swiss National Science Foundation that inquired into the theory and practice of “environmental conflict management” in the Horn of Africa. ECOMAN adapted and built on what the editors refer to as “conflict transformation,” an approach that employs action-oriented research as a way of working through the differences between competing sides in a conflict.

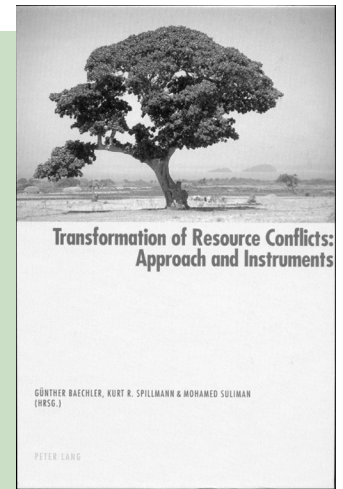
The Local and the Traditional

Following the introductory chapter by the editors, *Transformation of Resource Conflicts* is organized into four parts. The four chapters in Part I (which is entitled “Local Approaches and Strategies to Deal with Scarcity and Degradation of Renewable Resources”) highlight the rich traditions in the Horn of Africa to prevent and resolve conflict. Eva Ludi’s chapter on “Household and Communal Strategies Dealing with Degradation of and Conflicts over Natural Resources” explores a range of adaptive strategies employed by highland peasant farmers in Ethiopia to live with resource shortages. While some strategies do lead to conflict, Ludi shows how many other strategies enlarge the space for farmers to respond to resource uncertainties—thus

helping to avert conflict. While Ludi recommends that these strategies should be the starting point for targeted interventions to manage conflict, she also emphasizes the need to strengthen traditional mechanisms of conflict resolution.

Iyob Tesfu next builds on this suggestion in “Management of Conflicts Arising From Contending Demands for Land, Water, Wood, and Related Natural Resources.” Tesfu examines potential conflicts surrounding the sharing of resources in Ghaletai, a lowland village in Eritrea where many refugees returning from Sudan were settled after Eritrea received independence in 1991. The chapter concludes with a familiar refrain: that further research is required on customary systems for sharing resources.

Mohamed Suliman’s chapter on “Resource Access, Identity, and Armed Conflict in the Nuba Mountains, Southern Sudan” highlights the importance of justice and equity issues in access to natural resources. Suliman illustrates the interdependence that historically exists between Nuba farmers and Baggara herders. In the 1980s, the two groups were drawn into an internecine conflict that Suliman shows was inextricable from the interests of a wealthy merchant class from northern Sudan (the *Jellaba*) and their supporters in the ruling government. The Government of Sudan has supported the establishment of large-scale mechanized farms, most of which are leased to absentee *Jellaba* landlords. Mechanized farming has expanded at the expense of smallholder farming by the Nuba. Suliman persuasively contends that “[t]he only way to resolve the relationship between Nuba and *Jellaba* is to stop the incursion of large-scale mechanized farming into the Nuba mountains and return all stolen land to their original owners, the Nuba” (page



177).

Medhane Tadesse then enlarges the theme of traditional conflict-resolution in “Traditional Mechanisms of Conflict Resolution versus State Intervention,” his case study taken from a pastoralist area of Ethiopia. Tadesse suggests the oft-repeated but always

Policy analysts as well as social scientists with a regional interest in the Horn of Africa will find *Transformation of Resource Conflicts* salient and thought-provoking.

important idea that resolving resource conflicts requires both the political will of authorities and the sustenance of traditional means of resource sharing (in this case, by interacting groups of livestock herders). But the strength of Tadesse's chapter fades with his conclusion that cultural elements of resource conflicts should be solved locally, while political aspects require the intervention of state authorities. In practice, such a neat separation of culture and politics and of local and state is problematic in the least, and in many situations proves impossible. Confirming a key argument made in other circles, however, the chapters in Part I emphasize that the equitable and full development of resources is more important than resource conservation to building long-term peace.

The Role of the State

Part II of *Transformation of Resource Conflict*—on the socioeconomic consequences of resource degradation and conflict management—expands on considerations of traditional conflict prevention and resolution. These chapters emphasize the critical role of the state.

In “Conservation and Development Interactions,” Lia Ghebreab focuses on conflict between the livelihood needs of subsistence farmers and the conservation interests of the state in the Semienawi Bahri region of Eritrea. Ghebreab argues (perhaps too optimistically) that the participation of local communities in the formulation of conservation policies can increase awareness of the benefits of conservation and transform local opposition to state conservation proposals. Seyoum Gebre Selassie and Tesfu

Baraki next argue in “Determinants and Consequences of Environmental Conflict in North Shoa, Central Ethiopia” that the influence of state officials has supplanted the role of tribal leaders in resolving conflicts between interacting groups of farmers, agro-pastoralists, and herders in the North Shoa Zone of central Ethiopia. Selassie and Baraki explain that the socialist regime in the 1980s introduced “peace committees” composed of tribal leaders. However, the success of these committees depended on the strong backing of the central state, thus underlining their important role in reinforcing peace building at the local level.

In contrast, Atta El-Battahani highlights (in “Tribal Peace Conferences in Sudan”) the potentially problematic role of the state in undermining local-level efforts to resolve conflict. El-Battahani dissects the decline of the *Joudiyya*, a complex customary system led by tribal leaders to prevent, manage, and resolve conflict in the Darfur region of western Sudan. He shows how *Joudiyya* became associated with the politics of the nation-state, and how recent Sudanese governments have systematically weakened the capacity of *Joudiyya* in an attempt to consolidate power within a system of decentralized regional government. The central government now appoints tribal elders to *Joudiyya*, even though the government is not perceived as impartial in its efforts to mediate conflicts at the provincial level.

Trying to work beyond the limitations of traditional institutions for conflict resolution such as *Joudiyya*, El-Battahani argues that “[c]onflict resolution is not only a process of traditional power mediation but should also be a multilateral approach capable of mobilizing a range of intervention strategies” (page 383). This process may indeed entail interventions by the state; yet the problem in Sudan is that the central government's explicit involvement in the long-running civil war has compromised its ability to broker peace.

Part III of the book focuses on the issue of water management and conflict transformation. In “Conflict Management over Water Rights in Ethiopia,” Yacob Arsano explores the contradictory role of the state in balancing different uses of water in the Woiyto Valley in southern Ethiopia, where there is no directive water policy. Arsano shows that

when the state supports particular water uses (e.g., by granting concessions to large-scale mechanized farms or by helping up-stream smallholder peasants to expand irrigated plots), it is always taking sides in local resource struggles—inadvertently or not. Then, in “Microdam Water Management and Common Use by Neighboring Villages in the Eritrean Highlands,” Andemichael Misgina and Zerabruk Tesfamariam enjoin Arsano by examining how the state may intervene to mediate between neighboring villages in highland Eritrea that compete for irrigation water from state constructed micro-dams.


A Conflict Transformation Approach

In the book’s concluding chapter, Günther Baechler elaborates the elements of the conflict transformation approach that is the unifying theme of *Transformation of Resource Conflicts*. These elements include a non-adversarial framework, analytical approach, problem-solving orientation, direct participation of conflicting parties, and moderation or facilitation by a trained third party. Baechler devotes a significant part of the chapter to explaining the *interactive problem-solving workshop*, a conflict transformation technique intended to complement official negotiations to resolve conflict. But these sections (while helpful) would be more effectively placed in the introduction, where the conflict transformation approach is first explored. A summary format would be most appropriate for the concluding chapter, drawing together the assorted issues, perspectives, and proposals arising from the individual chapters.

While the title of *Transformation of Resource Conflicts* regrettably does not suggest its regional orientation, the book has many strengths. The greatest of these is the detailed but lengthy narrative explanations of localized conflicts in Sudan, Ethiopia, and Eritrea.

Another strength of the volume is its attention to approaches and instruments that are of immediate relevance to policymaking. And, while many of the chapters have a clear theoretical base in the neo-Malthusian perspective that environmental degradation and population growth might lead to resource scarcity and thus to conflict, the book also uses other valuable theoretical influences (such as political ecology or inquiry into the political sources and consequences of control and use of resources) that add to its explanatory power.

Equitable and full development of resources is more important than resource conservation to building long-term peace.

The book has some weaknesses, however. The narrative explanations lack coherence and editorial consistency as a whole. The inclusion in the introductory chapter of a theoretical section to bring out different perspectives of conflict in the Horn of Africa would make the case study chapters more congruent. Still, these oversights do not devalue the book’s important proposals for redressing conflicts rooted in resource issues. Policy analysts as well as social scientists with a regional interest in the Horn of Africa will find *Transformation of Resource Conflicts* salient and thought-provoking. 

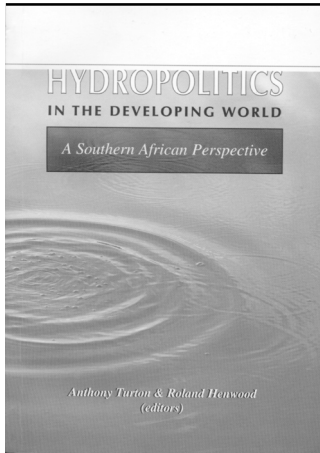
Jeremy Lind is a research associate with the Nairobi-based African Centre for Technology Studies. He co-edited the volume *Scarcity and Surfeit: The Ecology of Africa’s Conflicts* (South African Institute for Security Studies, 2002). His current research focuses on rural livelihoods during conflict in the Horn of Africa.

Hydropolitics in the Developing World: A Southern African Perspective

Anthony Turton & Roland Henwood (Eds.)

Pretoria, South Africa: African Water Issues Research Unit, University of Pretoria, 2002. 269 pages.

Reviewed by **Bill Derman**



H*ydropolitics in the Developing World: A Southern African Perspective* is a valuable volume that contains 17 chapters on water issues. The book is divided into three sections: the first on theoretical issues, the second on legal dimensions, and the last on selected key issues. The chapters deal mostly with Southern Africa, but some also treat the Jordan River basin and international legal issues.

Unfortunately, the book's articles do not directly speak to each other—a fault of many edited books. Thus, the underlying notions of hydropolitics introduced by Anthony Turton at the beginning of *Hydropolitics in the Developing World* find relatively little resonance in most of the book's subsequent text.

Societal Values and Hydrosocial Contracts

Turton here defines the emerging discipline of hydropolitics as “the authoritative allocation of values in society with respect to water” (page 16)—a conceptualization that encapsulates how Turton seeks to move the discussion of hydropolitics beyond cooperation and conflict in internationally-shared river basins to a wider range of issues (including consideration of scale). But the book contains relatively little discussion of “values in society,” since these values tend to be multiple, often conflicting, and resolved through political processes.

Indeed, *Hydropolitics in the Developing World* would be more useful if its editors and authors had viewed “values in society” as sources of contestation and sometimes conflict rather than as dominant and uncontested. For example, the notion of paying for water is highly contested in Zimbabwe (Derman and Ferguson, 2003). But Turton's and Richard Meisner's chapter on hydrosocial contracts (“The hydrosocial contract and its manifestation in society: A Southern African case study”), fails to explore “values in society”—surprising, since “hydrosocial contracts” are essentially broad societal

agreements on water policies.

Turton and Meisner contend that there have been two broad hydrosocial contracts in South Africa. The first, reached in 1903, came about when individuals no longer able to supply their own water needs looked to government “...for the creation of a central authority with the sole task and responsibility of supplying clean water and sanitation services” (page 41). Thus was the “hydraulic mission” of the state born—meaning that the government of South Africa undertook water development on behalf of urban and mining interests but not on behalf of black South Africans.

The second hydrosocial contract Turton and Meisner identify rests upon the racial restructuring of South Africa with the end of apartheid in the 1990s. This contract is based upon a redistribution of power away from a narrow bureaucratic elite and toward the African majority. According to Turton and Meisner, the new water laws reflect this transition. These laws are based upon the notions of supplying clean drinking water to all South Africans, creating an environmental reserve to sustain South Africa's threatened environments, building stakeholder-driven water management institutions, and using water to reduce poverty.

But while it is necessary to simplify this historical change for the purposes of the book, I find it problematic how Turton and Meisner reduce the complexity and variation in South Africa's multiple water-management systems to these two paradigms. In addition, the promise of the second hydrosocial contract does not mean that that contract will be realized, given the vested interests already present in current water management systems.

The Politicization of Water Management

Elsewhere in *Hydropolitics in the Developing World*, Tony Allan's chapter on water deficits and virtual water (“Water resources in semi-

arid regions: Real deficits and economically invisible and politically silent solutions”) continues his pioneering and insightful work on how virtual water has permitted Middle Eastern and North African water-scarce nations to have more or less sufficient water. His perspective rests on the insight that water management decisions are ultimately political ones.

Allan’s argument currently is less applicable to much of Southern Africa because water has been less politicized there than in the Middle East and North Africa. However, this situation is likely to change with the current plethora of water reforms across the subcontinent. Water reform brings to the forefront competing interests over water—specifically, water’s sectoral allocations. In addition, the notion of water as an economic good (i.e., something to be paid for) conflicts with many deeper African ideas of water as sacred, expressed in the belief that water’s availability is due to the maintenance of proper relations between the living and the dead as well as in the performance of rain-making rituals.

In Zimbabwe, for example, both water reform and land reform are taking place simultaneously. Land is being given away for free—taken from the large-scale commercial farming sector (which is primarily white) and distributed to a range of black Zimbabweans. But Zimbabwean water reform is based on the notion of user pays, which is fundamentally at odds with the land reform program. This difference will itself politicize water distribution. Internationally, the use of Lesotho’s waters through the Lesotho Highlands Water Project is also politicizing water.

Next, a second set of chapters in *Hydropolitics in the Developing World* explores legal issues—both national and international—concerning water. These chapters tend to be descriptive rather than analytical or theoretical, dealing with situations ranging from the SADC protocol on shared watercourses to the new water laws of Namibia, South Africa, and Zambia. In sum, the section is a useful introduction to the degree and amount of international law now involved in relations between countries.

However, the authors give less attention

to changes in national water law and their multiple outcomes. Robyn Stein does give a very positive reading to changes in Namibia, South Africa, and Zambia in her chapter “Water sector reforms in Southern Africa: Some case studies.” Her reading emphasizes how Namibia, South Africa, and Zambia all regard water as too important to be treated as only a commodity—water is an essential public good to be used equitably and efficiently for all sectors. As Stein notes, however, it remains to be seen if these nations can deliver on these principles.

The Promise and Challenges of South Africa’s New Water Laws

The last set of diverse chapters in the book deals with selected key issues. First, the tensions, contestations, and possibilities in

“Values in society” need to be viewed as sources of contestation and sometimes conflict rather than as dominant and uncontested.

South Africa’s new water laws and policies are elaborated upon by three chapters: Barbara Schreiner, Barbara van Koppen, and Tshepo Kumbane’s “From bucket to basin: A new paradigm for water management, poverty eradication and gender equity”; David Molden and Douglas Merrey’s “Managing water from farmers’ fields to river basins: Implications of scale”; and Peter Ashton and Bennie Haasbroek’s “Water demand management and social adaptive capacity: A South Africa case study.”

Within the global water context, South Africa takes on particular importance as a leader. It has already provided a legal right to drinking water, set aside a reserve of water for the environment, shifted from supply management to water-demand management, focused on using water management to address poverty issues, and built new water-governance institutions. These are bold steps—but as Schreiner, van Koppen, Khumbane, and others observe here, such steps do not assure access to water for South Africa’s poorest people.

Indeed, the implementation of water

reform can reinforce existing inequalities instead of reducing them. Molden and Merrey emphasize the goal of using water to enhance human welfare, but point to the difficulties prior development of river basins posed in providing water to poor people. They also stress that stakeholders grow in diversity with larger river basins, and that larger horizontal and vertical scales increase

The rural poor of Southern Africa will need more—not less—water, and many will not have either the labor or financial resources to pay for it.

difficulties in communication, transport, information transfer, and participation. In many areas of Southern Africa, transportation infrastructure is poorly developed—making it difficult and quite expensive to bring representatives from large river basins together to examine on a regular basis the basin's management problems.

In addition, the groups involved in a relatively large river basin are far more diverse than the groups involved in a small basin or watershed—making the location of common ground, common interests, and common language more difficult as well. Lastly, as water becomes scarcer, vested and more powerful interests usually become more influential (returning to the theme of hydropolitics). Thus, despite the thrust of the new water laws discussed above, there are no easy answers to increase access for the poor within the context of the African continent in general and South Africa in particular.

Dealing with Demand and Supply

Ashton and Haasbroek as well as Klaudia Schachtschneider's "Water demand management and tourism in arid countries: Lessons from Namibia" promote water-demand management in distinction to water-supply approaches. Poor people, though, have always had to practice water-demand management in the face of limited funds to pay for water, an inability to transport much water, or insufficiency of water supply. These two chapters appear to privilege water managers and current uses rather than the

urgent needs of the poor. Indeed, it is to South Africa's credit that water supply continues to be a high priority for government policy.

In his chapter "Interbasin transfer of water between SADC countries: A development challenge for the future," Piet Heyns follows by promoting interbasin transfer of water as a solution to the greater and more efficient management of water in Southern Africa. Heyns specifies the concerns that need to be addressed in undertaking such activities, including the major uses of hydropower (industrial, agricultural, and domestic).

New water-transfer development criteria, he argues, should include the following: a substantial deficit of water in the recipient basin; adequate present and future supply in the supply basin; a comprehensive environmental assessment to identify impacts in both basins; agreement in both basins that the transfer is acceptable; equal benefits between the two basins; technical, economic, financial, and environmental feasibility beyond a reasonable doubt; and an appropriate legal framework and appropriate water management institutions in place.

However, Heyns does little examination of the environmental consequences of past transfers such as the combination of Kariba and Cahora Bassa Dams on the lower reaches of the Zambezi River. And if the planners had used Heyns' criteria, would these dams ever have been built?

Next, Ashton and Vasna Ramasar provide an important summary of what we do and do not yet know about the interconnections of HIV/AIDS and water in "Water and HIV/AIDS: Some strategic considerations." Ashton and Ramasar first provide a rapid survey of HIV prevalence rates, the Human Development Index, and the patterns of water use in Southern Africa before they turn to the likely consequences of the pandemic upon the human resources of water management.

The authors suggest that HIV/AIDS will cause a growing inability in the region to pay for water; a loss of skilled employees; and a decline in productivity (both industrial and agricultural) as well as an increased vulnerability to water-borne diseases. Ashton and Ramsar also observe that, in general, Southern Africa lacks a systematic and well-

coordinated effort to cope with HIV/AIDS. Their analysis parallels findings in virtually all sectors of Southern Africa.

In fact, the situation is even more difficult than what Ashton and Ramasar suggest because they do not explore how weakened and vulnerable households in rural areas will have difficulty in obtaining sufficient water on a daily basis. Obtaining water—either from wells, boreholes, or streams—becomes an even more arduous chore for those households that AIDS has weakened or left headed by women or children.


In general, this section of *Hydropolitics in the Developing World* ignores the realities of the rural poor in favor of discussions about “productive water,” water-demand management, and other current trends in thinking about water. The rural poor of Southern Africa will need more—not less—water, and many will not have either the labor or financial resources to pay for it. Given the continued rise in AIDS-impacted households in Southern Africa (and, increasingly, throughout the developing world), greater attention needs to be paid to these realities.

Final Thoughts

Turton’s concluding chapter of *Hydropolitics in the Developing World* groups water issues into “clusters,” comprising economic, legal/institutional, and social issues. But it is surprising that this long list does not explicitly address questions related to power.

Who makes decisions about water? Whom do these decision makers represent? How has their power been exercised in Southern African water history?

It is also surprising that a volume on hydropolitics contains no discussion of past and future large regional water projects and if and how past practices regarding such projects should be changed. The book also could have helpfully addressed South African Water Minister Ronnie Kasril’s claim that SADC will be able to avoid conflict over increasingly scarce water resources by increasing cooperation. Perhaps that could have been an alternative conclusion to this significant publication.

But while the overly dense academic language of several chapters will limit the value of the book to those practitioners engaged in water reform, *Hydropolitics in the Developing World* will be of great value to water researchers in diverse disciplines and sectors. To this end, I also urge the publishers to adopt a more reader-friendly format by using a larger font and more space between lines. 

Bill Derman is professor of anthropology and African studies at Michigan State University. His research concentrates on processes of rural transformation; the anthropology of development; and water reform, water use, and rural development projects, including the Mid-Zambezi Resettlement Project in the eastern Zambezi Valley in Zimbabwe.

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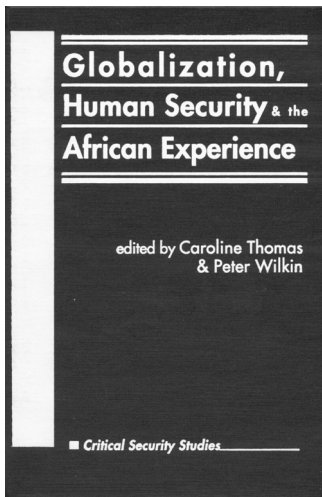
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Globalization, Human Security and the African Experience

Caroline Thomas & Peter Wilkin (Eds.)

Boulder, CO: Lynne Rienner, 1999. 209 pages.

Reviewed by Larry Swatuk



I was awakened this morning at 6:57 A.M. by a distant rumbling that in short order became the earth-shattering scream of two Botswana Defence Force (BDF) F-5 fighter jets on a low-level training mission. They made two passes over the capital city of Gaborone, where I have lived for the last seven years. Ten minutes later, when I decided to get out of bed, my heart was still racing.

These training flights, which occur regularly, never fail to remind me of similar and much more common flights that I witnessed when I lived in Bavaria in the early 1980s. But while these events are separated by 20 years and 10,000 kilometers, my thoughts about them have remained the same: should we equate such tangible demonstrations of technological power with our security? To be sure, Botswana in the 21st century is a very different place than was Germany during the Reagan-era Cold War. But the assumptions on the part of state-makers in both places seem the same: that security can be bought, and that security money is best spent when it builds a military.

Botswana, as many well know, has the highest HIV infection rate in Southern Africa—a region estimated to be suffering from the highest incidence of HIV/AIDS in the world. It is no accident that this historical “transportation corridor,” to use Richard Dale’s still apt description of Botswana, is the crucible of this infectious disease (Dale, 1972). The region’s history of migration to and from the mines and farms of South Africa has built an unfortunate transmission belt for the spread of this deadly virus. The impact of HIV/AIDS here is exacerbated by high levels of human poverty in a region characterized by poor health, urban overcrowding, poor sanitation, and a lack of clean water. Pneumonia and tuberculosis lead too often not just to ill-health but to death. And among its many impacts, HIV/AIDS is creating a new phenomenon: child-headed households. Those least capable of fending are made even more insecure.

Is it fair to juxtapose poverty and HIV/

AIDS with F-5 fighter jets and military power? Some would say no—arguing that, while the former is about developmental deficits within the state, the latter is about secure borders. But infectious disease knows no borders. It threatens everyone. Moreover, it is made worse by rampant poverty and economic migration. No amount of military hardware can secure a border against HIV/AIDS. Yet military spending in the name of “security” can also deprive people of the means to combat the disease, to stop its spread, to save lives. And isn’t security after all about saving lives?

Which brings us to *Globalization, Human Security, and the African Experience*. There are many reasons to read this book. First, it is full of thoughtful essays by well-known scholars of international relations and African politics: each essay is worth reading on its own merit. Another and perhaps more important reason is that this collection of essays can help us think more clearly about the fallacy and consequences of equating F-5s with security, particularly in the context of poverty and HIV/AIDS.

Human Versus State Security

In the book’s introduction, co-editor Caroline Thomas provides a useful primer regarding how a “human security” perspective helps shed light on a plethora of individual insecurities too long held in the dark shadow of traditional approaches to “state security” in an anarchical international system. For Thomas,

[t]he development of human security for Africans (as for all global citizens, for that matter) requires knowledge based on nonstate criteria. Alternative statistical surveys to the orthodox state-centric ones might usefully be conducted along the lines of gender, urban/rural differentiation, class, race, age and so forth (page 8).

In other words, our understanding of “security” changes not only with shifts in the primary referent (e.g., from state to individual or community or river basin) but also with shifts in our focus on those referents’ security practices. A different lens (such as gender or ethnicity) provides different insights.

The balance of Part One (“Concepts”) of *Globalization, Human Security, and the African Experience* follows Thomas’ tack. Peter Wilkin (“Human Security and Class in a Global Economy”) looks at class; Ann Tickner (“Feminist Perspectives on Security in a Global Economy”) looks at gender; Jan Aarte Scholte (“Security and Community in a Globalizing World”) looks at alternative, non-state, social forms as the basis upon which to build security; and Aswini Ray (“Justice and Security”) uses the concept of “justice”—including an interrogation of its meaning—to unpack Western claims regarding the ways and means (i.e. economic and political liberalism) of achieving security in low-consumption countries (to use John Devlin’s term in preference to more common ones) (Devlin, 1994). Taken together, this section presents a critical rereading of orthodox approaches to security focused on states and militaries.

Part Two of the book focuses on what the editors call “African experiences.” However, none of the chapters in this section brings any of Part One’s different approaches to bear in a sustained way. Instead, we find here a series of well-articulated arguments regarding what might be called “the political economy of insecurity in Africa”—Michel Chossudovsky with a rereading of the causes of genocide in Rwanda (“Human Security and Economic Genocide in Rwanda”); Mohammed A. Mohammed Salih on the Horn (“The Horn of Africa: Security in the New World Order”); Max Sesay regarding ongoing crises in West Africa (“Security and State-Society Crises in Sierra Leone and Liberia”); and Ali Mazrui on the erosion of the state and the need for African “self-conquest” (“The Erosion of the State and the Decline of Race as a Basis for Human Relations”). Each author is highly critical of the African state and the international political economic system.

Finding a Locus For Real Security

For me, the strongest chapter in this section is by Anne Guest (“Security in the Senegal River Basin”). The Guest and Scholte chapters together offer a pair of extremely insightful essays regarding not only why the juridical state is most often a source of insecurity in Africa, but also how difficult it is to construct or empower sub- or trans-state social forms that might serve as the locus for human security.

Scholte presents a concise critique of both “communitarian” and “cosmopolitan” approaches to building secure human communities. Communitarian approaches have sought security through violence, exclusion, and “othering”—i.e., in order to

This collection of essays can help us think more clearly about the fallacy and consequences of equating military spending with security, particularly in the context of poverty and HIV/AIDS.

build a “we,” a “they” must first be identified. In his view, communitarianism historically has been a “defensive reaction against imposition of cosmopolitan projects” (page 63), with the nation-state as the result. In contrast, all cosmopolitan approaches to building community rest on an “essential truth” proclaiming the unity of humankind. Yet, in his view, “past universalistic claims have in practice reflected particularistic experiences and interests” (page 63). All contributors to this volume regard neoliberalism as a truth-claim made by a particular group of actors who benefit disproportionately from actions taken in its name.

Scholte argues that alternatives to each of these approaches must consider the following five criteria: (1) they must celebrate rather than fear or seek to oppress differences among peoples; (2) they must rest on person-to-person intimacy (not only face-to-face localism but also new technology-facilitated globalism); (3) they must be based on relations of reciprocity; (4) they must accept responsibility for each other; and (5) there must be a central role given to restraint—

that is, one must practice the politics of persuasion without compulsion (page 68). Finding “solidarity among large, heterogeneous populations in the context of continual social change” is no small challenge—as demonstrated in Guest’s chapter on the Senegal River Basin.

Guest describes the negative impact of both communitarian and cosmopolitan

which in essence meant all the Africans had to make way for Arab settlers.

The displaced Africans crossed the river into Senegal, exacerbating land problems there. Guest describes how none of these governments consulted people living in the valley prior to initiating developments. From the start, it was obvious that state-led “development” compromised the ability of valley dwellers to pursue sustainable livelihood strategies. Powerful forces willfully undermined the security of those living in the valley in pursuit of their own interests—hydroelectricity to power industrialization, large-scale irrigated agriculture for urban and export markets.

Moreover, these activities were supported by a variety of foreign donors as moves to foster “economic diversification.” By the early 1980s, however, these projects had run aground as the world economy entered recession. Neoliberal solutions—which were no solutions at all—were proffered to increasingly indebted governments.¹ In the end, everyone’s security—save for those in the state houses of the region—was compromised.

This is a story often told in the developing world. It helps clarify why African governments continue to privilege military spending over social spending. In short, African state-makers are primarily in competition with each other, and with other and more powerful actors in the global political economy. In a world of states, these statemakers lack power and hence must take decisions to enhance the security of their weak states and, by extension, their positions in power. They take their cues not from rural peoples but from Washington, Bonn, and London. In the main, these leaders are looking after themselves—an activity that usually does not involve concern for the welfare of the state’s “citizens” unless donors deem it necessary. This is the central and unhappy point that emerges from every one of the book’s chapters dealing with “African experiences.”

Unfortunately, the recommendations in *Globalization, Human Security, and the African Experience*—ranging from a moral plea to a demand for international financial institution reform—all ring hollow. Caroline Thomas’s concluding chapter (“Furthering the Debate

African state-makers take their cues not from rural peoples but from Washington, Bonn, and London.

approaches to security—particularly on pre-existing, local communities built largely upon Scholte’s five factors above—among the people of the Senegal River valley. The Senegal River rises in the highlands of Guinea, passes through the far west of Mali, and then forms an 857-kilometer border with Mauritania before entering the Atlantic Ocean at St. Louis. This long middle-valley is the site of a “tightly knit interdependent socio-economic system” which revolves around the “rhythms of the year, especially the availability of water” (page 102). Valley dwellers combine multiple forms of livelihood (e.g., pastoralism, fishing, floodplain agriculture, and petty commodity trade) in pursuit of household security. People there are multi-ethnic (comprising African and Arab racial groups, of which the African groups may be further identified as those centered around farming—Toucouleur, Wolof, Soninke, Bambara—and those around pastoralism—the Peul). Both religious and secular authority is hierarchial and patrimonial (page 103).

Guest shows how this finely balanced community has been undermined by a combination of communitarian projects and cosmopolitan interventions. There is an irony here: beginning in 1972, in pursuit of interstate regional cooperation and security, the governments of Mali, Mauritania, and Senegal entered into a series of agreements to develop the resources of the Senegal River valley. This included the construction of two dams and the introduction of plantation-style rice farming in the area. In Mauritania, anyone without title to land was evicted—

on Human Security”) is least helpful in this regard, issuing such unfortunate statements as the following: “Clearly something has gone wrong with development to date” (page 182). Given the book’s foregoing and carefully articulated argument regarding power and order in the international system, such a conclusion seems intentionally ironic. At the end of the day, Thomas is reduced to saying that “as a central pillar of human security, development must be oriented toward the human security of everyone” (page 183). But “development”—in theory and practice—is a political act, and as such is as much about power as anything else. One need only look to the Persian Gulf for explication of this fact.

Globalization, Human Security and the African Experience is part of a Lynne Rienner series on “Critical Security Studies,” which is edited by Ken Booth. As with each of the studies in the series,² this volume features

contributions that engage extremely important questions about security—what it is, who has it, who does not, and why? While there may be an overwhelming desire to do something—to contribute something practical in the face of so much human misery—this book in its best moments does something important: it speaks truth to power. And that act alone helps all those interested in shifting state spending away from fighter jets toward anti-retroviral drugs, safe water, adequate shelter, and a life worthy of respect for all. **W**

Larry Swatuk lectures in the politics of the environment and natural-resources management at the University of Botswana. He was recently a Senior Ford Fellow in the School of Government at the University of the Western Cape, where he coordinated a project entitled “Security, Ecology, Community: Contesting the Water Wars Hypothesis in Southern Africa.”

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Notes

¹ For details of the impact of structural adjustment policies on African economies, see Sandbrook (2000).

² See, for example, Vale (2002).

Conserving the Peace: Resources, Livelihoods and Security

Richard Matthew, Mark Halle, & Jason Switzer (Eds.)

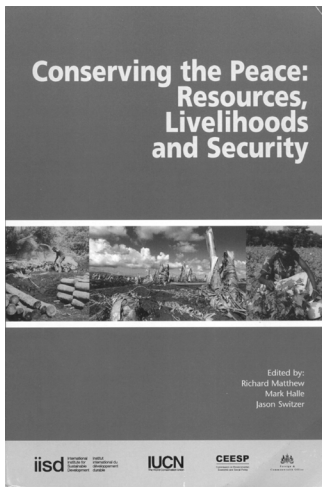
Winnipeg: International Institute for Sustainable Development and IUCN-World Conservation Union, 2002. 428 pages.

Trade, Aid and Security: Elements of a Positive Paradigm: A Working Paper

Mark Halle, Jason Switzer, & Sebastian Winkler

Winnipeg: International Institute for Sustainable Development and IUCN-World Conservation Union, 2002. 24 pages.

Reviewed by Simon Dalby



Conserving the Peace is a collaborative effort involving a multiplicity of agencies and authors (not to mention editors). Billed as the first major publication of the IUCN-World Conservation Union/International Institute for Sustainable Development Initiative (IISD) on Environment and Security, it offers 400 pages and a number of perspectives on the topic of conservation as a potential tool in peacemaking. The project is also supported by the “environmental security team” of the Foreign and Commonwealth office of the United Kingdom government, an office that is involved in environmental aid projects in Asia and Africa. What holds this volume together is the theme of conservation as a tool for peace and various concomitant discussions of environmental management as a way of reducing conflict.

The strength of *Conserving the Peace* is its focus on the ground-level view and the links between livelihoods and security. Unlike more traditional political science perspectives that focus on states, the book’s discussions emphasize the security and vulnerability of people (especially the vulnerability of populations to disasters). The book includes three “overviews,” a number of substantive case study essays, and 14 “environment and security” briefs interspersed throughout the text in odd places.

More specifically, *Conserving the Peace* seeks to answer the question: “Could investment in environmental conservation—more sustainable and equitable management and use of natural resources—offset funds now spent on peacekeeping and humanitarian relief by attacking the roots of conflict and violence, rather than waiting to address their consequences?” (page 5). Not surprisingly

(given the sponsors of this project), the answer is yes—at least to a point.

To make the case for conservation as a catalyst for peacemaking, the editors have assembled a diverse array of case studies that investigate vulnerability and violence and relate them to environmental mismanagement. They have also tried to ensure that many of the experts are from the South—an effort that contrasts with much of the literature on environmental security, in which Northern “experts” pronounce on the fate of the poor and marginal (if not actually constructing the poor and marginal as the problem).

The first overview chapter of *Conserving the Peace*, Jeffrey McNeely’s “Biodiversity, Conflict and Tropical Forests,” suggests that biodiversity has sometimes been richest in boundary areas between peoples with a history of warfare. In areas where war parties are likely to appear, hunting, gathering, and timber cutting is a risky business, and so human activity is minimal. More recent South American conflicts—ones in which states view conservationists and indigenous peoples who straddle borders as threats to national sovereignty and security—have suggested a rather different relationship between ecology, boundaries, and warfare.

War and displacement also directly damage forests in many ways: Vietnam’s forests were denuded by defoliants in the 1960s and 1970s; Myanmar’s forests are suffering from the counterinsurgency campaigns launched against tribal peoples; Central African parks have been damaged by refugees from various conflicts. McNeely includes other examples which all suggest that the relationships between conflict and forests are complex and varied.

Following this overview is the first substantial case study of the book, Richard Matthew's "People, Scarcity and Violence in Pakistan." This material is familiar to readers of *ECSP Report* because it closely follows Matthew's analysis of Pakistan in that journal's issue 7; however, because the article has little to say about forests, conflict, and conservation, it seems misplaced here. Charles Victor Barber's detailed analysis of Indonesia ("Forests, Fires and Confrontation in Indonesia"), the book's next substantial case study, is very much about forests—specifically, their destruction as a result of the policies of the Suharto government and the failure of the post-Suharto regime to deal with illegal logging and related local conflicts. The scale of the destruction and the viciousness of the conflicts Barber details suggest that drastic change is needed in both government and corporate behavior; this detailed 60-page overview also suggests how necessary and how difficult this change will be to bring about.

David Kaimowitz's chapter ("Resources, Abundance and Competition in the Bosawas Biosphere Reserve, Nicaragua") next shows that managing a conservation reserve is less than easy when at least three armed organizations are operating in its territory. The Bosawas Reserve case reinforces the argument that remote regions are both the easiest to designate as reserves and the most likely to have conflict (because of their sparse settlement, rich resources, and poorly defined property arrangements). James Gasana, a former government minister in Rwanda, then analyzes that troubled country in "Natural Resource Scarcity and Violence in Rwanda." Gasana draws on Homer-Dixon's framework and other material to suggest the unsustainability of the "winner takes all" politics of ethnic conflict there. This chapter also points to the urgent need for a Rwandan development strategy that deals with that country's huge dependency on cropland and its limited supplies of fuel wood. (Discussions of Rwanda's famous gorillas and the possibilities of conservation appear separately in this volume in one of its policy briefs.)

The following case study by Ryan Hill and Yemi Katarere ("Colonialism and Inequity in Zimbabwe") investigates the politics of access to agricultural land in Zimbabwe. It

emphasizes the history of colonial inequities of access to land, a lack of substantial land reform, and the current occupation of Zimbabwean conservation areas by people seeking land for subsistence production. These discussions raise crucial questions about the legitimacy of conservation areas that were designated by a colonial power and that excluded consideration of local peoples' views and livelihoods—a point in need of much further elaboration in many of the chapters in this volume.

Contrary to the assumptions of many economic policymakers, aid and trade do not necessarily support either political stability or human security.

Conserving the Peace's second overview paper, "Environmental Degradation and Regional Vulnerability" by Pascal O. Girot, discusses the vulnerability and damage caused in Central America by Hurricane Mitch in October 1988. Focusing on what he calls the "social construction of risk," Girot emphasizes the important point that the powerless and marginal are the principal victims of supposedly "natural disasters." Military misrule, elite control of land, poverty, and rapid urbanization of the poor leave Central American populations especially vulnerable to floods and other hazards. So far, disaster mitigation efforts have failed to do much about the structural problems in these economies and the need for serious environmental management of the rural areas where deforestation and inappropriate land use perpetuate the likelihood of further floods and casualties. Following this, Elizabeth de Sombre and Samuel Barkin (in "Turbot and Tempers in the North Atlantic") discuss the misnamed "Turbot War" between Spain and Canada in 1995. They suggest that natural-resources disputes are not limited to the South, but can also occur between developed states arguing over resources that are quite marginal to their economies.

Judy Oglethorpe, Rebecca Ham, James Shambaugh, and Harry van der Linde's overview ("Conservation in Times of War")

rounds off the substantive contributions to *Conserving the Peace*. Oglethorpe et al. attempt to summarize current such conservation efforts as well as what governments, nongovernmental organizations, and IUCN can do in such situations as those discussed in these case studies. Monitoring and information provision are important, but it is also clear that IUCN is not a peacekeeping organization. Trying to accomplish such an

If the presentation of *Conserving the Peace* is intended as some clever postmodern textual trick to offer material in an innovative manner, it fails miserably.

overview in under twenty pages is most ambitious. So, too, is the editors' attempt to provide conclusions, a summary of findings, and recommendations to the whole volume in the last sixteen pages. And why the last policy brief is situated immediately after the book's conclusion but before the conclusion's endnotes is simply puzzling.

Some of *Conserving the Peace*'s individual chapters are strong and useful analyses, even if they do not share much in terms of approach, conceptual frameworks, or assumptions. However, the most obvious weakness of the book is in the design and layout of its material. Some chapters have references at the end; other sources are presented in cumulatively numbered endnotes that are interspersed at various places in the text. The first two notes are actually footnotes at the bottom of the preparatory pages. But note 3 referring to the opening quote on page 4 in the introduction actually turns out to be endnote 3 on page 24.

The Richard Matthew chapter on Pakistan includes a list of references and selected readings as well as endnotes; but then two "briefs"—which have no apparent connections to Pakistan—are interposed between the references and notes for this chapter. If all this sounds confusing, it is. Some chapters use numbered headings; others don't. These inconsistencies—coupled with multiple fonts, highlighted text to emphasize issues, and a too-frequent use of headers—yield a difficult-to-read volume that dilutes its own message.

The use of issue boxes and summary recommendations at the end of *Conserving the Peace* make its conclusion especially awkward to read at a point where clarity is needed most. Given the difficulties presented by the arrangement of material, an index would also have helped—but none is provided. If the book's presentation is intended as some clever postmodern textual trick to offer material in an innovative manner, it fails miserably. If it is instead an attempt to retain the diversity of perspectives and the original "voice" of the contributing authors, then it is at the cost of coherence in the finished product. *Conserving the Peace* is in stark contrast to the normal clarity of lead editor Richard Matthew's scholarly style and obscures the utility of its case studies—those of Indonesia and Hurricane Mitch in particular—as analyses of the relationships between environment and conflict. If, as the book's conclusion suggests, IUCN and IISD plan subsequent volumes to *Conserving the Peace*, these books will need clear editorial direction and consistency of presentation if they are to be effective at either analysis or policy prescription.

While *Conserving the Peace* is disjointed and focused mostly on the local and the specific, *Trade, Aid and Security* is short, succinct, and deals with the large scale of aid and world trade. Adding security into this topical mix demonstrates that conventional discussions of international trade and aid neglect a number of important considerations.

Contrary to the assumptions of many economic policymakers, aid and trade do not necessarily support either political stability or human security. Illegal trade—such as smuggled timber and other natural resources—sometimes directly supports violence and instability. Aid is still frequently tied to the purchase of goods and services from donor countries; it might also be restricted to large-scale infrastructure projects that disrupt environments and their peoples and lead to insecurity. Small-scale projects that provide social services in unspectacular but substantive ways are frequently much more important in improving the security of poor people in the South than either trade or aid. Halle, Switzer, and Winkler's suggestion that the World Trade Organization should grapple with the security implications of its policies is interesting and useful: such a move would

recognize global political matters in terms now unavoidable after the events of September 11.

This working paper—which might well be termed a policy brief—offers a useful challenge to the simplistic assumption that trade is necessarily beneficial. Neither governments nor conventional trade policy analysts might welcome its advocacy for the extension of security themes into the agenda of trade organizations, but *Trade, Aid, and Security* makes the case for such inclusion in a readable, well-referenced discussion. Future IISD/IUCN collaborations should make

more explicit the link among conservation, security, conflict, and international trade. The growing literature on resource wars in particular makes such discussions timely and necessary if the larger contexts of human insecurity are to be effectively woven into the analysis of environmental security. **W**

Simon Dalby is professor and chair of the Department of Geography and Environmental Studies at Carleton University in Ottawa. He is author of Environmental Security (University of Minnesota, 2002).

Environmental Security

By Simon Dalby

Minneapolis: University of Minnesota Press, 2002. 312 pages.

Reviewed by Keith Krause

Environmental Security, Simon Dalby's most recent book, is an interesting contribution to the ever-expanding debate on the meaning and importance of the environment for contemporary security analysis. However, Dalby's point of departure here is much broader than prominent contributions to the debate by such scholars as Thomas Homer-Dixon (1999) or Jon Barnett (2001), who focus on the links between environmental degradation and conflict or on the way in which state security policies have been reshaped to address environmental concerns.

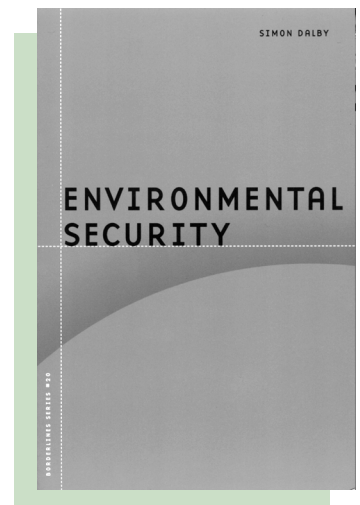
Instead, Dalby's conceptualization of "environment" serves as a device that he uses to interrogate some aspects of the modern condition—specifically, the way humans relate to their natural environment. Dalby also links his reflections on security, identity, environment, and political community to a critique of contemporary security studies as well as international relations in general. As he nicely puts it, the "limitations of international relations thinking are especially acute when matters of global environmental politics and environmental security are addressed" (page xxiii).

Environmental Security tackles these limitations through a series of linked arguments, which include such themes as the impact of imperialism and colonialism on how

indigenous peoples today relate to their environment, the contemporary geopolitical logic underpinning much writing on environment and conflict, or the importance of ideas such as "risk society" for understanding modern productions of threat and danger.

Perhaps the most interesting section of the book deals with the environmentalist's notions of ecological "shadows" and "footprints." The ecological "shadow" cast by a country represents the resources it draws from elsewhere, either from the global commons or other states. The "footprint" refers to the amount of land or resources needed to sustain a given population and its way of life. The Netherlands, for example, needs an area 14 times its size to support its level of consumption—meaning that the country in effect imports its "carrying capacities," including such things as carbon sinks or pollution.

Overall, such analysis leads to the conclusion that the world's current population of more than six billion requires about 3.8 billion more hectares of ecological space than is available on Earth! Moreover, as Dalby points out, any analysis of pressures on the carrying capacity of weak states in the global South (such as in the environment and conflict literature) must take account of the burden



imposed on these states by consumption patterns in the North.

Equally important are Dalby's repeated reminders of the widespread impact of colonialism and "the colonial imagination" on the environment-security nexus. In a quick review of a large literature, he captures under this umbrella of the "colonial imagination" phenomena as diverse as Northern notions of the park and ecotourism, the impact of resource-extraction industries on local political dynamics, and the "colonial

Dalby constantly reminds us that there are not two worlds—a zone of peace and a zone of turmoil—but one world, with its different parts interacting in complex ways.

assumptions" in many environmentalists' vision of indigenous peoples. Dalby's logic is clear and often compelling, although at times one wonders about the adequacy of the idea of "colonialism" as a catch-all for such disparate phenomena.

But in terms of understanding environmental security, Dalby usefully deploys these concepts in order to "globalize" environmental security debates, placing the work of scholars such as Homer-Dixon, for example, within a broader context that links the political economy of African conflicts to Northern lifestyles and choices. "Conflict goods" such as diamonds, coltan, or tropical timber often become the objects of violent contestation in such places as Angola, Sierra Leone, or the Democratic Republic of Congo. "Greed" replaces "grievance" (to use Paul Collier's term) as a motivation for warfare. The greed is linked to specific patterns of global trade, and it also has a destructive environmental consequences. Rampant deforestation in Indonesia—conducted in the name of nation-building—is an excellent example of this dynamic.

Dalby constantly reminds us that there are not two worlds—a zone of peace and a zone of turmoil—but one world, with its different parts interacting in complex ways. Certainly, ecologists and students of globalization would share his view that a state-centric vision of world politics focused on the patterns of conflict and cooperation

between political units (a good description of much of contemporary international relations) misses much of what is important about relations between people and the biosphere, or between societies and the world economy. And what is missed is, according to Dalby, of crucial importance for understanding the more destructive consequences of contemporary patterns of production and consumption.

A book with such a wide scope cannot help but suffer from some simplifications or over-generalizations. At times (such as in Dalby's discussion of ecological shadows and footprints), one wishes for a more systematic canvassing of the implications of his argument: more cases, more research, and a more focused attempt to "test" the robustness of some of his claims. For example, in Chapter Four ("Geopolitics and History"), Dalby notes that environmental historians are suggesting that colonial ecological interventions (which have changed patterns of economic and social life) have had a greater impact than the political dimensions of colonial rule—an interesting claim that could give rise to many doctoral theses! I am not calling for a large-scale conventional research project; but Dalby's work does in many places point the way to a research agenda that could complement much of the current environmental security work that focuses on elucidating causal connections between different variables (e.g., population, conflict, environmental scarcity, and poverty).

Another criticism, perhaps less important, is that the book is really accessible only to someone already well versed in the environment and security literature. At times—such as in Dalby's critical dissection of Robert Kaplan's dystopic vision in *The Coming Anarchy* (Kaplan, 2000)—*Environmental Security* reads as an extended literature review. One struggles a bit to imagine a genuine debate or dialogue between Dalby and his opponents—in part because Dalby is somewhat polemical in his presentation, in part because he uses other authors as jumping-off points for his own reflections, making it difficult to be certain that the sense of these original arguments has been well-captured. The writing, too, at times descends into an overly introverted series of observations that are amplified, then

qualified, and then restated in another form.

But taken as a whole, *Environmental Security* is a serious attempt to grapple with the broader issues that arise from any attempt to understand modern society's relationship to the environment, and to the threats and insecurities emerging from the complex (and misleadingly dichotomous) interaction of man and nature. In the end, one is left pessimistic about the prospects for breaking out of many of the ecological traps Dalby identifies. As he puts it, "accelerating attempts to manage planet Earth using technocratic, centralized modes of control...may simply exacerbate existing trends" (page 145). Perhaps the

Western vision that gave birth to the modern political community—liberal, free, and capitalist—inevitably carries the seeds of its own destruction. **W**

Keith Krause is professor of international politics at the Graduate Institute of International Studies, Geneva, and director of its Programme in Strategic and International Security Studies. He is also co-editor of *Critical Security Studies* (University of Minnesota, 1997) and of *Culture and Security* (Frank Cass, 1999) as well as programme director of the Small Arms Survey (see www.smallarmssurvey.org).

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Environmental Security and Global Stability

Max G. Manwaring (Ed.)

Lanham/Boulder/New York/Oxford: Lexington Books, 2002. 191 pages.

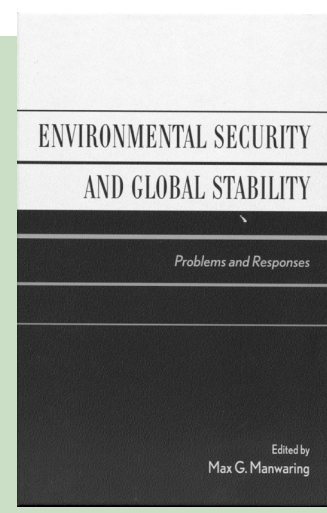
Reviewed by Richard A. Matthew

During the 1990s, the field of environmental security evolved through empirical research that was shaped by a series of discussions about methodological approaches, interpretive strategies, and policy implications. One highly spirited debate developed around concerns over linking environment issues and the military. Would such links—as Daniel Deudney alleged—pose a threat to the open, collaborative, transnational character of the environmental movement (Deudney, 1990)? Would the connection create another justification for intervention by the North into the affairs of the South, as Simon Dalby suggested (Dalby, 1994)? Or might the military, as Kent Butts argued, be greened in its activities and made more sensitive to the changing nature of security in the complex, interdependent world of the late twentieth century (Butts, 1999)?

Environmental Security and Global Stability begins with a preface of bold statements by

retired U.S. Generals Anthony Zinni and Charles Wilhelm that might be used to support any of the above positions. While Zinni states that "when environmental conditions... are destabilizing a region, a country, or have global implications, then there are major security implications" (page x), Wilhelm suggests that "[m]ilitary leaders, planners, and implementers would do well to scrutinize seriously a long list of strategic and operational imperatives that may be derived from the linkages between environmental stressors and violence, conflict, and state failure" (page xi). The work of Thomas Homer-Dixon and the CIA's two task-force reports on state failure have clearly shaped the analyses of these prominent military leaders.

Indeed, the environment-conflict thesis provides much unity to the volume's seven case studies—but it also leaves them open to many of the criticisms that Homer-Dixon has faced over the years. The book's authors



(with one exception) have extensive backgrounds with the U.S. Defense or State Departments. They do not demonstrate much familiarity with the academic literature and make no attempts to respond to familiar methodological concerns about case study selection or competing explanations that emphasize social variables. They cite military leaders such as Zinni and Tommy Franks as authorities, and draw heavily on their own field experiences to make their arguments. As such, the case studies will seem formulaic and uncritical to some readers. But

Manwaring develops a concept of environmental security that reflects the post Cold War perspectives of very senior—albeit now retired—U.S. military personnel.

Environmental Security and Global Stability has another goal than contributing to the academic literature.

In the co-authored introduction to the book, editor Max Manwaring (a retired U.S. Army colonel) and retired ambassador Frank McNeill more or less assume the gist of Homer-Dixon's familiar analysis: that the relationship between environmental stress and conflict is both significant and likely to intensify in the years ahead. As Manwaring puts it in the Preface, "[t]he cumulative political, economic, social, and security costs of environmental degradation...will cancel out the growth from unconstrained exploitation. In the global security arena, the results are tension, instability, violence, and possibly state failure" (page xii).

Manwaring and McNeill do disagree, however, with Homer-Dixon's emphasis on the impending prevalence of diffuse civil conflict, arguing that such a "conclusion, derived from an excess of theory, appears too optimistic. In many places...environmental degradation is in fact applying stress across borders" (page 3). For Manwaring and McNeill, environmental degradation is a source of instability that operates both within and among states. *Environmental Security and Global Stability*, however, is not intended to refine or expand the explanatory power of Homer-Dixon's argument—at least not in an academic sense. Rather, Manwaring's principal objectives are to "move the issue of

the environment from the stage of study and rhetoric to the realm of action" and to "outline a new paradigm...of post-Cold War security... from which policy and strategy might flow" (page 6).

The first case study (Stephen Blank's "Geopolitics, National Security, and the Environment: An Example from the Trans-Caspian Region") examines the prospects for conflict in Central Asia. Blank notes familiar geopolitical arguments about the problems faced by landlocked countries, lists the many sources of instability in the region, and concludes that, "while it would be rash to ascribe pride of place to environmental issues as a factor challenging Central Asian security, their occurrence...heightens the stresses on local governments and peoples" (page 21). McNeill then follows in his chapter ("Security Implications of Asia's Environmental Problems") with a survey of environmental problems in Southeast Asia—based largely on his personal experience—that will be quite familiar to students of this region. He concludes by describing sustainable development as "a political strategy" needed to enhance security in the region.

Aondover Tarhule next offers a survey of West Africa ("A Micro Look at West Africa: Rural Water Resources, Environmental Sustainability, and Security Implications"). Through a series of micro-level mini-cases, Tarhule shifts the book's emphasis back to intrastate conflict—suggesting that a combination of pluralism, "deeply engrained historical ethnic mistrust, and the high dependence on environmental resources" creates a tinderbox for conflict, migration, and violence (page 79). John Warren follows with a case study of Ethiopia ("Environmental Flashpoints in Africa: Ethiopia and the Blue Nile"), a country whose future Warren believes is threatened "by the worsening effects of natural-resource degradation on a massive scale" (page 96). Warren argues that Ethiopians must change their destructive water and agriculture practices—changes, he adds, that need the support of the international aid community.

McNeill's subsequent survey of Latin America ("Security Implications of Latin America's Environmental Problems") is somewhat anecdotal and speculative. McNeill predicts that the region's environmental

degradation will worsen during the next decade; he also suggests that multilateral cooperation will be required to meet the challenges this degradation will create. The very general character of these claims makes them difficult to dispute, but also of little interest to the environmental security community. Darci Glass-Royal and Ray Simmons then add a case study of the Panama Canal watershed (“A Micro Look at Latin America: Security Implications of Panama’s Environmental Problems”) in which they argue that canal expansion is taking a toll on the watershed, which could cause conflict in the future. Glass-Royal and Simmons do not discuss the mechanism for this outcome, however, and hence their conclusion must also be regarded as very speculative.

The final case study (Stephen Kiser’s “Water: The Hydraulic Parameter of Conflict in the Jordan River Basin”) tackles the well-known problem of the Jordan River basin. Kiser is guarded in his analysis, suggesting that “water use is simply one of many tensions between the peoples of the Jordan River basin” (page 149). His analysis tends to confirm the findings of Miriam Lowi, Aaron Wolf, and others who contend that Middle East instability and conflict is largely grounded in historical, political, and social factors. Water problems may complicate matters, or be addressed cooperatively behind the scenes; in either case, however, they are not at the root of the region’s security concerns.

While the case studies do not add to the theoretical framework of the field, Manwaring’s conclusion to the book (“The Environment as a Global Stability-Security Issue”) develops a concept of environmental security that is interesting insofar as it reflects the post Cold War perspectives of very senior—albeit now retired—U.S. military personnel. Manwaring argues that many parts of the world face high levels of instability—a condition, he asserts, that is affected by environmental degradation. And as local, state, and regional instability escalate, Manwaring adds, stability will become a global issue with security implications for every country (especially, given its preeminence on the world stage, for the United States).

In other words, Manwaring moves away from the focus on very localized

manifestations of environmental stress and conflict that are typical of the field, and worries about the environmental dimension of instability at the global level. It is by virtue of its destabilizing *planetary* impact that environmental stress becomes a national security issue for the United States.

At the root of the problem, Manwaring argues, lie the difficulties many states have faced in establishing adequate governance institutions. The absence of these institutions, he asserts, enables environmental degradation and a host of other destabilizing forces to grow. The ultimate solution “is to construct stability and a sustainable peace on the foundation of a carefully thought-out, holistic, long-term, phased planning and implementation process”—which must include addressing environmental problems (page 179).

In short, a world of well-governed, environmentally sustainable states will also be a stable and safe world. But unless the United States leads on this issue, Manwaring concludes, existing problems are likely to persist and increase, leading to even greater instability and conflict than we are experiencing today.

Overall, *Environmental Change and Global Stability* is an interesting window into how the concept of environmental security is being used by some influential U.S. military thinkers. But how central the concept is to the U.S. drive to maintain military predominance in a complex, dynamic, fast-paced world is not clear. At the very least, the spirit of this book—“let’s build a better world”—is at odds with the current U.S. military move towards greater reliance on covert operations and special forces. In any case, the volume will be of interest to anyone concerned with these tensions. As it does not make a significant theoretical contribution to the field and for the most part covers familiar ground, it will be of less interest to a broader readership. **W**

Richard A. Matthew is an associate professor at the University of California-Irvine and director of the Global Environmental Change and Human Security Research Office (www.gechs.uci.edu). His recent books include *Contested Grounds* (SUNY Press, 1999); *Dichotomy of Power* (Lexington, 2002); *Conserving the Peace* (IISD, 2002); and *War’s Hidden Legacy* (SUNY Press, forthcoming).

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State Making and Environmental Cooperation: Linking Domestic and International Politics in Central Asia

By Erika Weinthal

Cambridge, MA: MIT Press, 2002. 274 pages.

Reviewed by Shannon O'Lear

State Making and Environmental Cooperation, the latest in a series of books from MIT on sustainability and institutional innovation, investigates the unexpected cooperation and institutionalization of shared water management among Central Asian states in the Aral Sea basin. The physical water system of Central Asia and the related infrastructure—previously integrated under Moscow's central authority—suddenly came under fragmented ownership when these states became newly independent in 1991. These states also had to contend with the severe environmental disaster left by Moscow's promotion of regional cotton monoculture, which spurred a massive diversion of rivers and degradation of the Aral Sea and its surroundings.

State Making and Environmental Cooperation focuses on the particular aspects of the situation in Central Asia before and after the Soviet collapse. The book is aimed at an audience of scholars of Central Asia and other regions of the former Soviet Union as well as those interested in case studies of international aid and state development.

Weinthal wants to investigate issues such as how states in flux engage in regional cooperation and how states with limited institutional capacity deal with complex issues of political and environmental situations. To move beyond the territorial trap (Agnew, 1994) of approaching states as isolated

"containers" of activity, Weinthal examines two-level games and considers the influential role of third-party actors—international organizations, bilateral aid organizations, and nongovernmental organizations—in the development of regional relationships and state building. The relative political stability related to resource issues she finds in the Central Asian region contradicts predictions in environmental security literature that weak states and scarce resources would normally set the stage for interstate conflict.

Following a general overview, *State Making and Environmental Cooperation* presents several reasons why Central Asian states would have seemed unlikely to collaborate on water issues. First, the potential for cooperation is low when one state can use its disproportionate advantage over another state to leverage a desired outcome. The division of the Amu Darya and Syr Darya water basins separated Central Asian states into upstream versus downstream users, leaving a fundamentally asymmetrical situation. Second, a general uncertainty accompanied each of these states' political, economic, and social re-configurations, dulling the potential for regional collaboration. Finally, Weinthal notes that, as these states sought to distance themselves from Moscow, they reached out to international organizations as a means both to build domestic and international legitimacy as well as to fill the void created by

the Soviet collapse. And as each state pursued unilateral relations with external agents that would lead to independent decision-making, the likelihood of regional collaboration over water management and use declined.

But Weinthal makes the essential point that each of the Central Asian states also made sovereignty bargains (Litfin, 1997) by working with each other and with third-party actors that could bring experience, finances, and technology to their situations. In particular, Weinthal considers the role of side payments to be critical. International organizations made these payments—awards of financial and material benefits—to constituencies in each state that were negatively affected by the shift away from socialism and toward participation with other states. Specific effects of side payments included strengthening sovereignty in the newly independent states, equalizing asymmetries in power between upstream and downstream states, and enabling states to distance themselves financially and ideologically from the previous colonial power.

Weinthal then steps back to explore the significance of Central Asia's cotton monoculture system as a form of social control by the Soviet center. This system led to patronage networks that controlled prestigious political and economic posts within the republics, while Moscow's provision of social protection and employment ensured public compliance with central policies. The system engendered and encouraged (a) corruption; (b) falsified reports of cotton production; and (c) environmental degradation throughout the region, further exacerbating the growing economic crisis in the Soviet Union.

Next, Weinthal examines conditions in Central Asia following Gorbachev's reforms and the Soviet collapse. She specifically focuses on (a) the devastation of the Aral Sea as a point of conflict between the Central Asian states and the Soviet center; and (b) events of eco-nationalism in which Central Asian states sought greater autonomy from the center and increased access to hard currency from cotton sales. *Glasnost* created opportunities for grassroots activism and increased contact with international organizations and western NGOs.

Shortly after independence, Central Asian

states chose inertia over reconstruction of Soviet institutions, but tensions over water in the Amu Darya and Syr Darya river basins as well as in the Ferghana Valley motivated leaders of these states to work together to ensure regional stability. In 1992, the states negotiated an interim water-sharing agreement that enabled water distribution and planting to continue as usual, but the states soon realized they had neither the financial nor technical capacity to enforce this agreement in the long run. Quality of life for citizens regionwide was also steadily decreasing through this period.

***State Making and Environmental Cooperation* investigates the continued legacy of the Soviet system of control and power that was expressed in the dominance of cotton monoculture.**

State Making and Environmental Cooperation then elaborates on ways in which specific agencies engaged with Central Asian states to promote collaboration and ease the process of independence. Weinthal provides a well-researched examination of how western countries and aid agencies viewed the Aral Sea crisis, prioritized Central Asian stability, and placed conditions on aid to the Central Asian states.

For example, although Central Asian states enthusiastically promoted saving the Aral Sea by diverting Siberian rivers or water from the Caspian Sea, the World Bank favored mitigating the effects of damage already incurred, and encouraged decreased regional dependence on agriculture. Weinthal uses this example and others to demonstrate how international aid agencies were able to influence the definition of and solution to problems pertaining to environmental and human damage in the Aral Sea and its tributary watersheds.

Other factors related to water concerns and negotiations that Weinthal documents here include: issues of titular nationalities¹ and their role in negotiating regional agreements; the location of scientific and newly-created institutional offices; and the use of domestic

side-payments and small-scale projects to appease local groups and environmental movements. One of the features most critical to water negotiations is the predominance of the region's long-standing cotton monoculture.

Regional leaders sought to maintain the cotton economy, which entailed well-established systems of political and social control (not to mention the control of physical resources). Efforts to maintain these systems of control led to the selection of secondary or least-best options in negotiations to address problems of the Aral Sea. Weinthal considers three possible strategies that could have been pursued in Central Asia: (1) a focus on water only; (2) a focus on water and energy; (3) or a focus on water, energy, and agriculture. The book's thorough discussion of the advantages and disadvantages of each strategy testifies to Weinthal's extensive empirical work in this area. She concludes that, although the international aid community favored a strategy that included water, energy, and agricultural sectors as the best route to addressing environmental concerns, donors yielded to Central Asian desires to maintain the social and economic structure of its cotton monoculture at the expense of better environmental solutions for the Aral Sea. International aid agencies recognized the value of maintaining political stability in the region and opted to support a solution framed by the water and energy sectors.

The book concludes by summarizing how international aid helped to consolidate Central Asian state sovereignty—internally, by helping states create a myth of statehood and nationhood; and externally, by enhancing their ability to cooperate with other states in the region and to comply with international

values. More than addressing interstate cooperation and the Aral Sea crisis, however, *State Making and Environmental Cooperation* investigates the continued legacy of the Soviet system of control and power that was expressed in cotton monoculture. Weinthal argues that remnants of that system are likely to challenge a smooth implementation of Western ideals attached to aid brought by third-party actors.

A shortcoming of this book—perhaps attributable to the general international relations approach of this book series—is the definition of the region in question. Weinthal acknowledges (page 22) that the upper watershed for the Amu Darya River, a river of primary concern throughout the book, is located in Afghanistan and Iran. Yet she defines her research area as based on former-Soviet boundaries and state entities rather than on the watershed boundaries that would seem key to the environment problems discussed in the book. The question of what would happen if Afghanistan decided to claim the headwaters of the Amu Darya in the interest of reconstruction or economic development is critical in the consideration of political cooperation or conflict in this watershed.²

Although this aspect of environmental management and institutional relations remains unexplored in *State Making and Environmental Cooperation*, the book nonetheless provides a useful documentation of the changing role of international agencies and the emerging nature of statehood and sovereignty in Central Asia. **W**

Shannon O'Lear is a political geographer at the University of Illinois at Urbana-Champaign. Her work focuses on the Caucasus and Caspian Sea regions, resource conflicts, and environmental policy.

Notes

¹ A titular nationality is that ethnic group after which a state is named (e.g., the Turkmen people for Turkmenistan).

² See the report from "Water, Climate, and Development Issues in the Amu Darya Basin—Informal Planning Meeting" at <http://www.esig.ucar.edu/centralasia/summary.html>.

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Human Security and the Environment: International Comparisons

Edward A. Page & Michael Redclift (Eds.)
Cheltenham, UK: Edward Elgar, 2002. 257 pages.

Reviewed by Ted Gaulin

Renowned social scientist Clifford Geertz argued back in the 1970s that many scholarly disciplines progress by refining their debates, not by developing consensus around a set of ideas. Intellectual progress in a discipline, Geertz suggested, takes place when that discipline's arguments become more precise and when the key points of its disputes come more clearly into focus (Geertz, 1974, page 29).

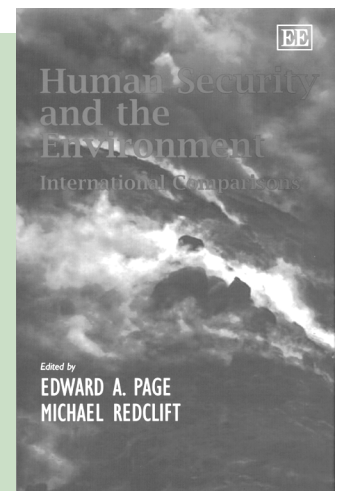
One could argue that the field of environmental security has progressed through just such an intellectual refinement—through works that have presented coherent and compelling arguments about the causes and consequences of environment change. For example, Thomas Homer-Dixon's contention that there are important links between natural-resource scarcity and acute conflict has become sharper over the years as he has responded to his critics (Homer-Dixon, 1999; Homer Dixon & Blitt, 1998). At the same time, Nils Petter Gleditsch and the members of the Oslo School have refined their argument about the potential for environmental change to produce cooperative outcomes (Gleditsch, 1997; Diehl & Gleditsch, 2001). Other scholars such as Nancy Peluso and Michael Watts have elaborated the critique originally articulated by Simon Dalby about the dangerous implications of the language used by researchers in the field (Peluso & Watts, 2001; Dalby, 1999).

More recently, Ken Conca and Geoffrey Dabelko as well as Richard Matthew and Mark Halle have clarified the role that sustainability and conservation practices play

in reducing violent conflict (Conca & Dabelko, 2002; Matthew & Halle, 2002). Finally, the South's perspective on environmental security has become more compelling with work of scholars like Nauman Naqvi, who argues that concerns about environmental security are inextricably linked with issues of social justice (Naqvi, 1996). In summary, the edited volumes that have contributed most have taken one of the key branches of the field and elaborated it in detail.

It is in this respect that Edward Page and Michael Redclift's new volume *Human Security and the Environment* falls short. The book fails to articulate a coherent vision that advances our thinking on environmental security. Instead, it is a hodgepodge of chapters that seem only loosely related. The editors declare at the outset that the book examines "the meaning of 'security' and the 'environment' in the post-Cold War era, and the ways in which the activities of human societies are shifting the balance with nature" (page 1), but the book does not examine any of these areas particularly well.

Indeed, Page and Redclift do not even attempt to define one of their key concepts: human security. The best they can say is that human security is complex and contested—an assertion both true and unenlightening. In fact, the complexity of the term "human security" is well described in a solid chapter here by Steve Lonergan and his colleagues ("Global Environmental Change and Human Security: What Do the Indicators Indicate?"). However, without at least some attempt to



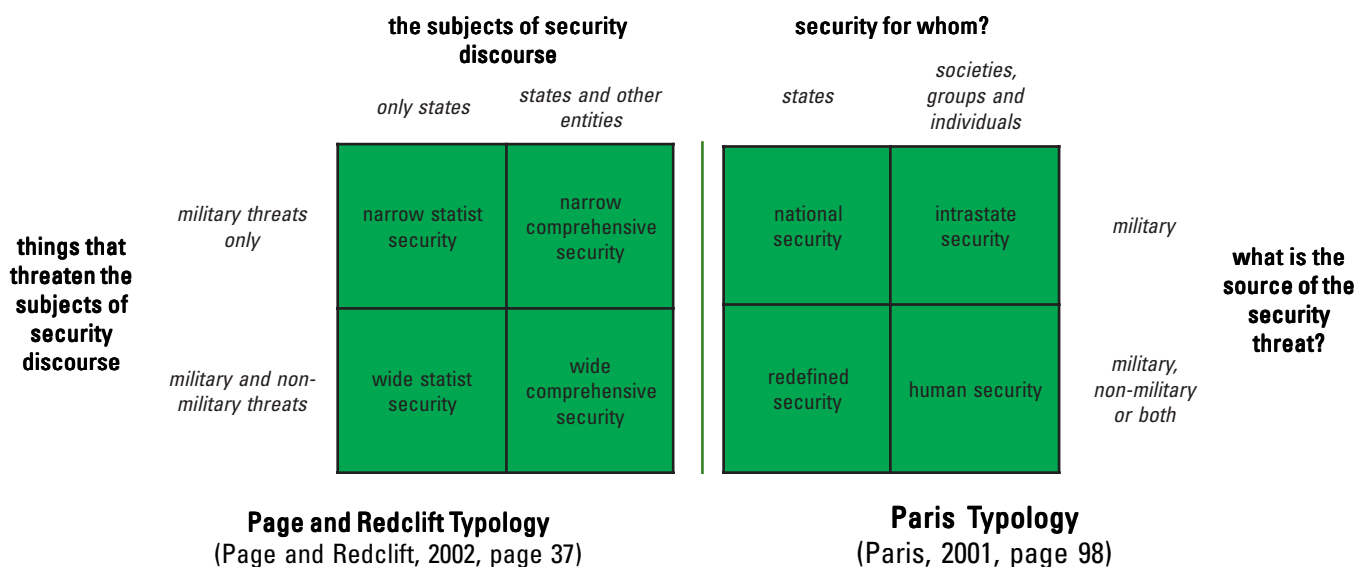
come to grips with their key terms, the editors of *Human Security and the Environment* blunt the impact of the essays that follow. Likewise, without some sort of analytical framework, readers of the book are left to find the connections between these disparate chapters on their own.

Despite this lack of conceptual framing, some of the book's chapters are excellent. For example, in "Democracy and the Environment," Gleditsch and Bjørn Otto Sverdrup present new data to support Gleditsch's long-standing assertion that democracies are more environmentally benign than non-democracies. Gleditsch and Sverdrup argue that, despite the environmentally harmful development policies democracies often pursue, democracies (regardless of their level of economic development) are also more likely to mobilize counter-forces that mitigate these environmental problems. Democracy, according to their analysis, has a palliative effect on deforestation, water quality, biodiversity, and population growth; it also enhances a state's commitment to international environmental agreements. One caveat: the authors obtain mixed results for the effect democracy has on greenhouse gas emissions, leaving open the question as to whether democratic openness can help us solve one of the world's most pressing environmental issues.

Another highlight of *Human Security and the Environment* is Colin Sage's chapter "Food Security." Drawing on research conducted by the UN, Sage notes that 800 million people across the globe—including as many as 30 million in the developed world—suffer from chronic food insecurity. Sage demonstrates: (a) how food security relates to other dimensions of human security; (b) how food security and the environment interact at different geographic scales; and (c) how recent international food security interventions have had only limited success because they were inconsistent with local understandings and beliefs about food security. This is the single best piece on food security I have read.

It is also interesting to juxtapose Richard Matthew's chapter here on environmental security in North America ("Human Security and the Environment: A North American Perspective") with John Vogler's chapter on how the concept has taken shape in Europe ("The European Union and the 'Securitisation' of the Environment"). In North America, environmental security has tended to be framed along traditional security lines: that is, with an explicit focus on environmental change as a source of conflict and a problem to be studied towards the safeguarding of national security. In Europe, by contrast, the concept has been interpreted much more broadly. Environmental security

Figure 1. Comparison of Page and Redclift Typology with Paris Typology



there is less explicitly focused on conflict and more explicitly linked to the notion of sustainable development. The contrast highlights key differences in how these two cultures frame security problems such as Iraq.

Not all the chapters in the book, however, are as compelling. One chapter that disappoints is Page's introductory piece, "Human Security and the Environment," which lays out a typology of the field (see Figure 1).

This typology is worth considering in some detail for a number of reasons. It is virtually identical to a typology employed by Roland Paris in a recent article in the journal *International Security* (Paris, 2001). This similarity may be purely coincidental—the result of two scholars coming to the same conclusion independently. However, Paris gets a lot more mileage out of the same typology than Page. Page uses his typology to compare the views of Richard Ullman to those of Norman Myers, but that is as far as his analysis goes. One wonders where other key figures in the field—Homer-Dixon, Dalby, Miriam Lowi—would be placed in the matrix. Paris uses the same typology to draw lines of distinction between John Mearsheimer and Jessica Mathews, between Mathews and Homer-Dixon, and between Homer-Dixon and Dalby. Page simply hasn't pushed the analysis far enough. Page's typology also fails to situate the essays that follow.

Johannes Stripple's chapter ("Climate Change as a Security Issue") also leaves readers wanting more. Stripple takes a social constructivist approach to climate change, and while constructivism is a useful way to draw attention to the importance of culture, norms, ideas, and assumptions in social scientific analysis, it does not succeed very well here. Stripple presents three rather hackneyed findings. He first contends that security is subjective—that one cannot tell who or what is being secured based on the threat alone. Second, Stripple maintains that what is being secured in the climate change discourse is human health and Western patterns of production and consumption. Third, he argues

that the impacts of climate change are likely to vary not just between states but also within states, with the poor and the marginalized bearing the brunt of the burden. These are hardly novel insights. Any reader moderately familiar with post-structuralism and global

Colin Sage's chapter is the single best piece on food security I have read.

climate change would reach the same conclusions.

A number of other chapters fare equally poorly. For example, Oscar Forero and Graham Woodgate's essay ("The Semantics of Human Security in North-west Amazonia") purports to examine how human security in Colombia is undermined by U.S. foreign policy. But their narrow focus on "the semantics" and "the discourse" of the situation to the exclusion of concrete policy analysis prevents them from establishing a clear connection between U.S. actions and the precarious position of people in the Amazon. Another chapter that promises more than it delivers is Kwasi Nsiah-Gyabaah's piece on human and environmental security in sub-Saharan Africa—essentially a journalistic account of the multifarious and inveterate problems facing the region. Nsiah-Gyabaah presents scant systematic analysis of these problems, and the chapter tells us little that is not common knowledge.

The larger problem with *Human Security and the Environment*, however, is an overall lack of coherence. Page and Redclift do not provide readers an analytical framework with which to stitch this patchwork of essays together. This editorial oversight deadens the impact of the book's good chapters and undermines its contribution to the field. **W**

Ted Gaulin is a Ph.D. student at the University of California, Irvine. His work has appeared in the *Canadian Journal of Political Science*, *Global Environmental Politics*, and *Issues in Science and Technology*.

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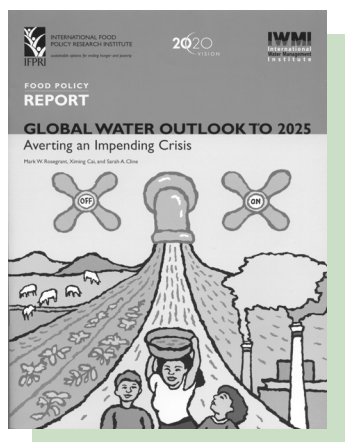
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Global Water Outlook to 2025: Averting an Impending Crisis

By Mark Rosegrant, Ximing Cai, & Sarah Cline

Washington, DC and Colombo, Sri Lanka: IFPRI and International Water Management Institute, 2002. 36 pages.

Reviewed by Paul Simon



Global Water Outlook to 2025: *Averting an Impending Crisis* is a solid analysis of the world we will face if we do not confront our global water quality and equity problems. If anything, the report understates these problems. The authors observe: "Further inattention to water-related investments and policies will produce a severe water crisis" (page v). But *Global Water Outlook* does not go as far as the CIA and other U.S. intelligence agencies in predicting regional wars over water if we do not address global water issues.

The report details in plain language and statistics what is happening with water worldwide. For example, it states that global "withdrawals for domestic and industrial uses quadrupled between 1950 and 1995" (page 2) and projects that "all non-irrigation uses will

increase...by 62 percent from 1995 to 2025" (page 5). And as domestic and industrial demand grows, water for irrigation will become increasingly scarce, "with actual consumption of irrigation water worldwide projected to grow more slowly than potential consumption, increasing only 4 percent between 1995 and 2025" (page 7).

Properly framed statistical analyses such as those in *Global Water Outlook* can help broaden the impact of the message about water's importance as an international issue. But like most such reports, *Global Water Outlook* does not include the stories of real people and the problems they encounter. While such faceless reports buttress the need for policymakers to address global water, the public will not be aroused until they see these problems in terms of real people.

For example, the U.S. State Department asked me to meet with leaders in Jordan and Syria to discuss the possibility of a regional Middle East approach to water. No country in that region—with the possible exception of Lebanon—can solve its water problems alone. When I explain the situation to U.S. audiences, I mention that in Amman—Jordan’s capital and a city of one million people—people are permitted to turn the tap on only one day a week, and that Jordan’s population will grow by approximately one-third in the next 10 years. That grabs attention.

Or another statistic: UNICEF estimates that 14,000 people a day die because of poor-quality water—9,500 of them children. That figure—9,500—is 630 times as many as were killed at Columbine High School in Colorado. We were stunned by that high school tragedy, but each day 630 times that many die because of poor quality water and we hardly pay attention to it. That is also three times as many as were killed in the World Trade Center on September 11.

Global Water Outlook also predicts in the years ahead “steady or declining real prices for cereals” (page 4)—a highly questionable conclusion. Nine pages later, the authors predict increases of 40 to 80 percent, which is probably a much more accurate projection.

Privatization

The authors properly advocate much more efficient use of water and recognize that increases in pricing are the major keys to such efficiency. However, they do not touch the hot button issue of government versus private ownership of water utilities.

My own conclusion about water privatization is that public ownership is preferable if the government entity can operate efficiently, will invest in maintenance of lines and water sources, and has the courage to raise prices to a realistic level. But in some cases, both in the United States and other nations, local governing bodies do not have the courage to charge more for water both to discourage excessive use and to generate adequate funds for maintenance. In these cases, private ownership is the better answer.

However, there are dangers in either approach. In South Africa, many water systems have been sold to private companies,

primarily for the revenue from the sale. But privatization in South Africa has effectively cut off people who cannot afford to pay their water bills, and cholera from the resulting use of untreated water is on the rise. In the United States, Atlanta’s water problems have worsened with privatization. Some cities are asking private companies to manage their water systems, not purchase them. This controversy will grow as water becomes more scarce. Dogmatic answers on either side are wrong.

Our indifference on global water issues is comfortable but dangerous.

Desalination

The huge gap in *Global Water Outlook* is that the report does not mention what must become the major long-term answer to global water problems: desalination. Desalination is clearly the answer in the Middle East and will increasingly become the answer elsewhere. Ninety-seven percent of the earth’s water is salt water; and of the remaining three percent, two-thirds is tied up in icebergs and snow. So we are living on one percent of the earth’s water. Saudi Arabia, which has cheap energy, has the greatest use of desalinated water, and that nation has moved from growing eight percent of its own food to becoming a food exporter!

Tampa is building the largest desalination plant in the United States and has plans for another. City officials there believe the plants will provide water at less expense than traditional freshwater sources. When properly done, desalinating *sea* water has no adverse environmental problems (unlike desalinating *interior* underground waters, which present serious environmental difficulties).

In the meantime, the transportation of water from areas of surplus to areas of scarcity will grow. Such transport is expensive, but unless and until we have scientific desalination breakthroughs, some nations will have no choice. Until its desalination plants come on line, Cyprus is paying for 5.6 million-gallon bags of water that are hauled from Norway. Israel, the Palestinians, and Jordan are soon likely to have to purchase desalinated water from Turkey until the situation in the Middle East stabilizes enough for desalination plants

to be built there. However, it takes approximately three years to move from the planning stage of desalination to actual utilization.

Energy for these endeavors initially will come largely from surplus energy now wasted at utility plants—except for wealthy nations like Saudi Arabia, with its oil resources. Solar energy is also in use, and its utilization will grow dramatically. Most areas with water shortages have a great deal of sunshine. But even areas in less warm climates have enough sunlight to make solar power significant. The Chicago public schools, for example, use solar power in eight schools, saving substantial energy costs—and improving the environment at the same time. Nuclear energy for desalination may also be part of the answer, and a few experiments are taking place.

Research by the United States and other nations on desalination and solar energy should receive a much greater emphasis. My

guess is that there will not be dramatic breakthroughs on desalination, but a series of incremental steps that will make it more and more the primary water source after this decade.

In the meantime, we need clarion calls that warn us of the global water dangers ahead. *Global Water Outlook* is such a call. The report is muffled enough by its statistical approach to limit its impact with the general public, but it is also something I hope at least a scattering of policymakers will read.

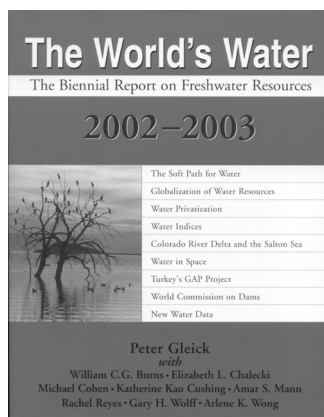
Our indifference on this issue is comfortable but dangerous. **W**

Paul Simon is a former U.S. Senator from Illinois. The author of 16 books, Senator Simon is currently a professor of public policy and journalism at Southern Illinois University in Carbondale, IL, where he heads the Public Policy Institute.

The World's Water 2002-2003: The Biennial Report on Freshwater Resources

By Peter H. Gleick with William C.G. Burns, Elizabeth L. Chalecki, Michael Cohen, Katherine Cao Cushing, Amar Mann, Rachel Reyes, Gary H. Wolff, & Arlene Wong
Washington, DC: Island Press, 2002. 334 pages.

Reviewed by Baruch Boxer



Over the past decade, Peter Gleick's Pacific Institute-based publications have set the standard for comprehensive, accessible, and creative description and analysis of global water issues. They consistently offer fresh and authoritative perspectives on how disputes over shared water resources—disputes that are intensifying in many regions—have national and international security implications. These publications also suggest new ways of approaching interrelated policy remedies for water shortages, declining water quality, and discrepancies between water supply and demand.

In *The World's Water 2002-2003*—the third in “The World's Water” biennial series—Gleick incorporates single and multiple-authored contributions by Pacific Institute colleagues on diverse topics such as the effects of climate change on small, developing Pacific

island countries' water resources; economic, environmental, and water supply implications of the World Commission on Dams Report (World Commission on Dams, 2000); and transboundary water-management issues in the Colorado River delta.

Two of the major strengths of Gleick's surveys have been: (1) their balanced presentation of broad themes that link the technical, economic, and political dimensions of water studies with topical and place-specific assessments of problems; and (2) their review of difficult methodological issues relating to water-supply and -quality measurement, water use, and water conservation. *The World's Water 2002-2003* follows this pattern by maintaining a rough balance between topical and methodological issues.

This volume's mix of individual and collaborative contributions, however, slightly dilutes an important (and usually

underemphasized) point that the earlier and less-diffuse volumes in “The World’s Water” series put forward more directly: that a great deal remains unknown both about natural water processes and how cultures and societies adapt to them—adaptations that shape current and future responses to so-called “water crises.” Gleick’s previous volumes addressed the policy implications of these uncertainties especially well through chapter-length essays that underscored our shortcomings in knowledge about what “water supply” and “optimal water use” in many places really mean.

Indeed, there is at best only a marginal consensus among water scientists, managers, and policy experts worldwide as to how and to what extent nature and humanity constrain the global water supply for drinking, sanitation and health, agriculture and food supply, ecosystem sustainability, waste treatment, and industrial development. We are still far from accurately assessing all the interlocking dynamics of how the earth supplies, transforms, recycles, and redistributes surface and groundwater—both globally and locally. How should national and international water strategies take these uncertainties into account? Will we ever be able to effectively apply the idealized (but seldom-realized) concepts of “water-demand management” and “water sustainability” in diverse geographic and cultural settings?

The structure and content of *The World’s Water 2002-2003* help to clarify the many dimensions of water as a key focus of international attention and concern. Water issues are now a central element in the “sustainable development” dialogue. However, an ongoing series of international water meetings over the past decade has highlighted sharp differences over the efficacy of various engineering and policy solutions to water problems in both rich and poor countries. These meetings often indulge in tired accusations and disputes over institutional, economic, and technical strategies to address global water problems, but few new ideas and practical multilateral strategies have emerged.

In contrast, Gleick’s books provide clear, accessible, politically neutral, and reliable guidance to government and international agency policymakers as well as NGOs, the media, and academic researchers interested in understanding interrelations among

engineering, economic, and social aspects of difficult water problems. These books make a crucial contribution, since the quest for solutions to water issues is frequently distorted by national and international politics.

Soft Paths and New Thinking

To keep its research agenda lively and flexible, Gleick’s group must continually look at long-standing water issues from fresh perspectives while trying to shape substantive new ways of thinking about them. *The World’s Water 2002-2003* achieves this balance nicely.

Its first two chapters (“The Soft Path for Water” by Gary Wolff and Gleick, and “Globalization and the International Trade of Water” by Gleick, Wolff, Elizabeth L. Chalecki, and Rachel Reyes) explore the economic and political dimensions of international trade in water and convincingly appeal for a “soft path for water” in the 21st century. The “soft path” chapter builds on Amory Lovins’ work from the 1970s, which convincingly showed the human and environmental advantages of shifting from a supply-driven energy economy to one that relies more on energy-efficient production (Lovins, 1976). Gleick’s extension of this thinking to the water realm makes excellent sense. He advocates greater investment in decentralized storage, supply, and treatment facilities; in human capital; and in more effective water distribution, water use, and recycling technologies.

For example, investment in decentralized rainwater capture and storage facilities for agricultural irrigation (the largest consumer of water worldwide) is often more cost-effective and reliable than dependency on large dam-impounded reservoirs or expensive permanent distribution systems. Similarly, water needs in poor and rich countries can be better met by matching and efficiently providing water services for specific uses rather than trying to develop new, increasingly limited sources of fresh water. “Demand” (as opposed to “supply”) water management is becoming the rallying cry of wise, economically astute, and socially conscious water managers.

In emphasizing the necessity of a soft-path approach (which challenges the assumed superiority of “rationalized” and “optimized” engineered solutions to problems of water

shortage, surplus, and distribution), Gleick bravely confronts a mostly unconvinced international community of water professionals. His appeals, however, are gaining greater credibility, as the scale, scope, complexity, and intractability of interrelated global water problems intensify.

Next, in “The Privatization of Water and Water Systems,” Gleick, Wolff, Chalecki, and Reyes tackle the complex implications of the recent global interest in promoting market-driven initiatives and mechanisms in water policy development. Can the private sector translate the vague notion of water as an “economic and social good” into more equitable and efficient water supply systems for both rich and poor? The chapter’s thorough discussion of the perils and potential benefits of privatizing water systems is most welcome, since policymakers are only beginning to recognize and acknowledge an inherent, multidimensional conflict between traditional government responsibility to the community for providing clean water and the profit-making objectives of private firms involved in water development, delivery, and quality maintenance.

The Need for Multisectoral and Indigenous Perspectives

Following this foray into a murky and contentious policy arena, Gleick, Chalecki, and Arlene Wong (in “Measuring Water Well-Being: Water Indicators and Indices”) once again convincingly show that we cannot meaningfully assess economic or other strategies for water sustainability without first gaining a clearer understanding of how humans are affected by the availability and shortage of water.

Water indicators and indices provide essential insight into relationships between water availability, water use, and their implications for human and environmental health and well-being. Here, Gleick excels once again at showing how difficult it is to know where we stand in the water picture; he clearly points up the limitations even of common, generally accepted measures of water access and beneficial use.

The chapter also provides an excellent overview of the difficulties faced in constructing water-related indices. Despite

substantial efforts by governments, private groups, and international agencies over the past 30 years to come up with better, more precise definitions of problems and their impacts, we still are struggling to find a common basis for discussing the scope and implications of water problems. As Gleick points out, interconnections of “water well-being” with social, economic, and environmental aspects of the human condition make it difficult to use any single index of quantity or quality, at multiple scales, to facilitate integrated planning and response.

Multilateral efforts over the past thirty years to come up with solutions to global water problems have thus been stymied by two main factors. First, water engineering has achieved theoretical and practical sophistication (as well as relative success) in specific sub-sectoral areas such as wastewater treatment, domestic water supply, irrigation technology, and water-pollution control.

But these engineering achievements have outpaced policymakers’ attempts to implement comprehensive, integrated cross-sectoral water strategies—strategies that require major institutional and financial adjustments that are sensitive to social, cultural, and ecological demands in specific places.¹ Since the 1960s, it has become increasingly evident that environmental, economic, and social-dislocation impacts of large dam and irrigation projects often outweigh flood control, hydropower development, and other benefits.

Indeed, it has proven difficult to translate the benefits of rational structural engineering into programs of remediation and development that are sensitive to the political, cultural, and environmental constraints of different places and regions. Governments and the multinational water engineering community have applied universally accepted, Western-derived financial assumptions, institutional structures, and water engineering practices worldwide—a tendency that has deterred the growth of indigenous water regimes more responsive to local needs, especially in developing countries. Water policies in India, Egypt, and Brazil exemplify this, although China over the past twenty years has been making a strong and sincere effort to integrate foreign and indigenous

engineering, institutional, and water resource management approaches.

Gleick acknowledges the obvious contributions of water science and engineering, but he also calls for new, more humane and environmentally-sensitive ways of thinking about water—given expanding global population, a growing wealth gap between rich and poor, and increasingly severe shortages of clean water for drinking and sanitation, especially in developing countries.

An Invaluable Resource

Finally, the “World’s Water” series has always been distinguished by carefully compiled and very useful supplementary and documentary materials. The “Water Briefs” section of *The World’s Water 2002-2003* (about half the book) includes Gleick’s well-documented “Environment and Security Water Conflict Chronology Version 2002” compilation, which highlights (a) the centrality of water-related disputes in international and regional conflicts, and (b) the importance of recognizing water disputes as a key element in international “security” considerations.

The “Water Briefs” section also includes ministerial declarations from two recent international water conferences and a list of water-related Web sites. Amar S. Mann cites the inevitable harm to ancient archeological sites in eastern Turkey and northern Iraq by ongoing irrigation dam development under the Southeastern Anatolia water project. Chalecki’s piece on “Water and Space” anticipates the increasing value of water in space in support of human exploration. The “brief” provides useful information on potential water sources like “cosmic snowballs,” water-bearing meteorites, interstellar clouds, the moon, and Mars.

The volume’s “Data Section” is especially valuable because it includes twenty-two updated and carefully documented statistical tables on drinking-water access, sanitation access, number of dams, and freshwater supply and withdrawals for countries and national sectors. Each table is also helpfully prefaced

by carefully prepared descriptions of its content and missing information, as well as notes on the limitations of its data because of source inconsistencies, variations in national interpretation of data categories and measurement assumptions, and other issues.

Here, Gleick is emphasizing once again that our knowledge of total renewable freshwater supply is shaky and uncertain, mainly because it is based on national country reports that are notorious for inconsistent assumptions underlying their definitions and interpretation of data sources. Gleick’s assemblage and presentation of data

“Demand” (as opposed to “supply”) water management is becoming the rallying cry of wise, economically astute, and socially conscious water managers.

nonetheless provides an invaluable lens onto the global water situation.

The “World’s Water” series represents a unique contribution to international efforts to understand the extent and implications of pressing water constraints for societies and the global environment. Each of the series’ volumes has presented the most reliable descriptive information of the state of global freshwater; they have also offered restrained but trenchant questioning of the accepted wisdom concerning (a) the application of scientific and technical knowledge in water policy, (b) the viability of current and evolving national and international water-management strategies, (c) the critical role of water in the dynamics of global environmental change, and (d) many other dimensions of this critical topic. Let us hope that Gleick and his colleagues can continue indefinitely to produce their invaluable domestic and international water-related publications. **W**

Baruch Boxer is professor emeritus of geography and environmental sciences at Rutgers, the State University of New Jersey. He is also a visiting scholar at Resources for the Future in Washington, DC.

Notes

¹ For example, large water resources development schemes around the world are still framed and justified as having “multipurpose” benefits, a concept first brought forth in the 1930s by governments and private engineering firms to meet multiple objectives: flood prevention and control; urban, industrial, and agricultural water supply; energy and fisheries development; and water-based recreation.

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State of World Population 2002: People, Poverty and Possibilities

New York: United Nations Population Fund (UNFPA), 2002. 80 pages.

Reviewed by Tom Merrick



Poverty reduction has moved to center stage in the international development arena, and today’s poverty agenda is multi-dimensional—it not only addresses income poverty, but it also recognizes that illiteracy, ill-health, gender inequality, and environmental degradation are aspects of poverty as well. The contemporary commitment of global leaders and international agencies to fight poverty is crystallized in the Millennium Development Goals (MDGs), through which the world’s nations have agreed to specific targets for reduction of both income poverty and other poverty measurements by the year 2015.

The 2002 edition of UNFPA’s annual State of World Population—*People, Poverty and Possibilities*—argues that poverty reduction and achievement of the MDGs will not be possible unless the world also effectively addresses population and reproductive-health issues. This focus is important: for while the MDG process consolidated agreements made at the major 1990s international conferences (Rio, Cairo, Beijing, and Copenhagen) into a set of measurable goals for each of the main dimensions of poverty, the Goals themselves exclude population and reproductive health.

The 1994 International Conference on

Population and Development saw the world set a goal of universal access to reproductive-health services, a goal that was reaffirmed five years later in the five-year ICPD progress review. But universal access to reproductive-health services was eliminated from the MDGs in a concession to a few opponents who found the concepts of reproductive health offensive. Nonetheless, two of the MDGs (reducing maternal mortality and turning back the HIV/AIDS epidemic) are directly related to reproductive health, and two others (gender equity and reduction of child mortality) are closely linked. *State of World Population 2002* spells out these connections and also goes on to show how population and reproductive health affect the other MDGs.

A Window onto World Poverty

State of World Population 2002 is brief, clear, and comprehensive. An opening overview maps paths toward achievement of MDGs and provides a succinct table summarizing specific links between reproductive health, family planning and population, and the eight Goals. Subsequent chapters fill out the story based on key research findings, data on progress toward MDGs, and a rich array of boxes illustrating successful

approaches and case examples. For example, one of the boxes gives an account of how UNFPA support for income-generation activities in Laos (such as cultivation of cardamom, an environmentally friendly and productive cash crop) was combined with reproductive-health information and services to break the cycle of poverty and poor health.

The report's chapter entitled "Characterizing Poverty" also provides a sobering reminder of the dimensions of global poverty—a billion people living on less than a dollar a day, and two more billion living on less than two dollars. Meanwhile, world population is projected to increase from six to nine billion during the first half of this century, with most of the increase occurring in poor countries. Reducing the sum total of poor people will thus be a major development challenge.

State of World Population 2002 also goes beyond mere national averages to illustrate rich-poor differentials within countries for various MDG-related indicators. The report makes good use of a series of charts drawn from special tabulations of data from demographic and health surveys in different regions of the world. Educators may want to download these charts from the electronic version of the report available on UNFPA's Web site.

The Importance of Being Multisectoral

Another valuable feature of *State of World Population 2002* is the way in which it captures the multisectoral dimensions of poverty reduction and the roles that population and reproductive health play throughout those dimensions. The report's chapters on gender, health, and education look not only at the supply of reproductive-health services and information worldwide, but also at the interplay of factors at the household, community, and societal levels that shape development outcomes in specific contexts. For example, Bolivia's adult literacy campaign for the indigenous poor incorporated reproductive-health information in its training materials and, with a trained attendant (one of the key interventions required to reduce maternal mortality), contributed to a doubling of the proportion of deliveries.

Such a multisectoral focus is particularly

important when discussing the links between poverty and reproductive health—links which go beyond mortality and morbidity (although the disease burden of reproductive ill-health is also very high for poor women). Enabling women to decide when and how many children they will bear affects their own chances of escaping poverty as well as the chances of their children and other family members.

The report illustrates the essential multi-

Two of the Millennium Development Goals are directly related to reproductive health, and two others are closely linked.

sectoral approach to poverty reduction with examples of initiatives that empower women by giving them control over productive assets. For instance, Bangladesh's Grameen Bank provides loans to groups of women to enhance mutual support for each debtor; the process allows women to interact with the market and community at large and promotes basic literacy and family planning. Mexico's PROGRESA program also illustrates a successful approach to demand-side interventions aimed at reducing the financial and social obstacles that often prevent poor women from accessing basic social services. PROGRESA provides sustained financial support to poor families along with nutritional supplements, education grants, and a basic health package. As a box in the report notes, "[o]ne of [PROGRESA's] innovations is to provide money directly to women, putting additional resources under their control and giving them greater freedom in their own movements" (page 29).

State of World Population 2002 gives particular attention to the devastating impact of the HIV/AIDS epidemic and its effects on poverty-reduction efforts. Again, the report's approach is multisectoral: the UNFPA authors detail how HIV/AIDS undermines not only health but human development and poverty reduction, especially through its impact on the health and education workforces. Reproductive-health programs—particularly those oriented to youth, among whom half of new HIV/AIDS infections occur—are key

to both prevention and the scaling up of treatment (including testing and counseling).

Conclusions

The concluding chapter of the report focuses on the way forward toward achieving development goals. It reminds readers of the financial commitments made during the 1990s conferences and the disappointing levels of official development assistance actually attained. The chapter also emphasizes the importance of ensuring that population and reproductive-health issues are addressed at the country level in the Poverty Reduction Strategy of the World Bank and IMF process as well as in the monitoring of national progress toward MDGs.

Both these efforts require listening to and involving the community in poverty-reduction efforts and in reforming the way in which social services are financed and managed in order to get more value for the scarce resources invested. These efforts also require improved capacity to measure and monitor

outcomes, so that donors know that their funding is actually helping the poor to escape poverty—whether that poverty is measured in terms of income, health and education, gender equity, or protection of the environment.

Overall, readers will find *State of World Population 2002* a readable and timely review of poverty reduction and the important role that population and reproductive health will play in achieving the MDGs. Both paper and electronic versions of the report can be accessed through UNFPA's Web site (at www.unfpa.org). **W**

Tom Merrick is a program advisor for the World Bank Institute's Population, Reproductive Health and Health Sector Reform Learning Program. From 1992 until his retirement in 2001, he served as the World Bank's Senior Advisor for Population and Reproductive Health. He holds a Ph.D. in economics from the University of Pennsylvania and has published extensively on population and reproductive-health issues.

Six Billion Plus: Population Issues in the Twenty-First Century

By K. Bruce Newbold

Lanham, Maryland: Rowman & Littlefield, 2002. 213 pages.

Reviewed by Joseph Winchester Brown

S*ix Billion Plus* is an insightful and accessible book that provides an overview of global population issues from a geographical perspective. Though the book is a relatively small text, there are three reasons why I believe its impact on the field could be substantial.

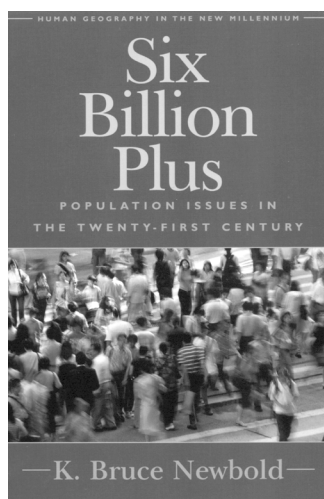
First, the geographical perspective emphasizes migration and population distribution, factors that often receive less attention than fertility and mortality. Second, the book offers an appropriately concerned view of the future without being alarmist. Third, author K. Bruce Newbold introduces to mainstream demography studies the literature on population, resource scarcity, and conflict.

The Geographic Perspective

For a demographer, the idea that

population dynamics occur across space is clearly fundamental. However, most introductory or survey textbooks in demography are built primarily around problems of conceptualizing, measuring, and explaining human fertility. The life table aside, mortality is a critical but usually somewhat secondary concern to the demography student interested in learning the core principles of the field. Migration comes in a distant third.

This hierarchy of content is exemplified in the excellent introductory to the discipline by John Weeks—the standard textbook over the past 25 years. In the 7th Edition of Weeks (1999), a total of 73 pages are devoted to introducing fertility, 45 pages are used to introduce mortality, and 39 pages to introduce migration. Thus, for the social science student taking an introductory course in population studies, the enduring theoretical questions will



relate to demographic transition theory, the analytical tools will largely be based on understanding population projections and the importance of age-sex structure, and the policy questions will most likely be focused on issues of family planning and reproductive-health interventions.

Fertility is the key factor driving all three of these concerns. And while it is true that for most of human history the fate of a population depended more on mortality than on fertility or migration, “modern” population studies has been motivated by the problem of rapid population growth—that global declines in death rates were not immediately matched by global declines in birth rates.

However, in their search for a unifying theory of fertility decline, demographers have developed models that are often eloquent and useful in the general sense but that have serious limitations with respect to specific regions and cultures. Put differently, the role of *space* in population studies has not been a defining feature of the field.

This lack of attention to space contrasts with the geographic perspective, which draws upon an even richer interdisciplinary basis than demography and which goes deeper into the interactions of people and place in order to explain spatial processes. As Alice and Lincoln Day wrote thirty years ago about population density: “Although the inadequacy of population density as an indicator of social conditions has long been recognized by geographers, the concept is still being used for this purpose by various government officials, economists, journalists, and demographers” (Day & Day, 1973, page 1016).

Demographers, of course, have incorporated spatial analysis into their work. An excellent example is found in the Coale & Watkins (1986) summary volume on the landmark Princeton European Fertility Project entitled *The Decline of Fertility in Europe*. One finding from this study was that traditional demographic theory fell short of explaining the pattern and the pace of fertility decline across all provinces in Europe over the period 1870 to 1960.

Rather than attributing fertility variation to socioeconomic variables, *The Decline of Fertility in Europe* suggested that the timing of the decline was closely associated with

linguistic and other cultural groupings. Recognizing that a more integrative (read geographic) perspective was needed to address such cultural variation in fertility behavior, one of the volume’s authors proposed soliciting the help of regional experts in order to better understand the role of culture and context (Anderson, 1986, page 312).

A lack of attention to space and “place” has therefore been an important criticism directed at mainstream demographic theory.

Newbold is right to point out that the apparent “good news” of the United Nations long-term population projections does not mean that we no longer have a “population problem.”

But there is another reason why the geographic perspective, and in particular its emphasis on population distribution, is especially important for current students of population: the global fertility transition is nearly complete. With only a few exceptions, women in most countries of the world are having substantially fewer births than their counterparts in previous generations.

In the 21st century, the most pressing demographic issue will instead be rapid population *aging*. In this context, the role of migration will increasingly dominate difficult questions of social policy. This idea is supported throughout Newbold’s book through his effective use of not only the literature but (more importantly) of case studies.

More specifically, in six out of the seven chapters in *Six Billion Plus*, Newbold clearly and persuasively outlines how the movement of populations within and (especially) across national borders will be the key demographic variable influencing (a) the containment or spread of diseases, (b) the supply of young labor forces in increasingly aged societies, (c) the political reactions to immigrants among host nations, and (d) the extent to which migration could exacerbate environmental degradation. Without sufficient attention to each of these issues, demographers could be somewhat less prepared than their counterparts in geography for the challenges that lie ahead.

Focus on the 21st Century

Throughout *Six Billion Plus*, Newbold emphasizes the extent to which population growth and population distribution create insidious multiplier effects on a range of social and ecological problems. The word “insidious” is important here: what differentiates the Newbold text from others in the field of population studies is that Newbold does not shy away from communicating his political

Newbold’s ability to relate issues of population distribution to the potential for conflict takes *Six Billion Plus* to a new level for demography texts.

or ideological point of view.

But rather than subject the reader to polemic or tiresome advocacy, Newbold has skillfully woven into his analysis the idea that demography’s overarching concern should be to better understand the root causes of inequalities in the world and, by doing so, help to alleviate them. Simple (and perhaps trite) as it may seem, such a “mission statement” is not present in other population textbooks. It is refreshing, for example, to read Newbold on how the richest country in the world (the United States) can have a system of public health and of medical care that is effectively off-limits for a large and growing population of poor and marginalized citizens. In fact, Newbold’s ability to constructively contrast the government programs of Canada and the United States throughout the book is a real plus. His use of political cartoons is also very effective.

Does such a tone constitute a lack of scholarly objectivity? My answer is “no.” Newbold’s discussions are well-informed and draw heavily from the mainstream journals and articles. In particular, Newbold explicitly frames the intellectual boundaries of an analytic issue by presenting a helpful, unbiased review of the relevant scientific debate.

For example, before providing an analytic survey of the relationships between population, resource scarcity, and the environment, Newbold traces the contributions to this complex issue of three different perspectives: (1) *the neo-Malthusians*

(e.g., Rachel Carson, Paul Ehrlich); (2) *the distributionists* (Marxists); and (3) *the economic optimists* (e.g., Ester Boserup, Julian Simon). This intellectual background lets the reader know that issues involving population are sufficiently complex to rule out their “ownership” by any one particular perspective. Moreover, by tracing the evolution of a scientific debate on such an issue as population–environment relationships, Newbold is implicitly pointing out the lack of objectivity that is inherent in any important “scientific” approach.

By the final chapter of *Six Billion Plus*, the reader is fully aware of how Newbold himself views the population landscape of the future, and is ready to accept this viewpoint because of the author’s balanced presentation of the data, of the intellectual debate, and of how particular issues are played out in the context of case studies. In this final chapter, Newbold proposes five demographic forces that will shape the world. The first of these forces is the idea that, despite dramatic declines in global fertility, the world will continue growing because of population momentum and the fact that in several critical countries (e.g., Nigeria and Pakistan) the decline in fertility has not kept pace with the rest of the world.

Whether the population of the world will ultimately reach 9 billion or even more than 12 billion is a question vigorously debated by formal demographers attuned to the methodology of population projections. In fact, the National Research Council’s Committee on Population published *Beyond Six Billion: Forecasting the World’s Population* (2000) to convince policymakers to trust the population projections of the United Nations and the World Bank. Newbold is right to question the assumptions behind the projections (of which the primary assumption is a continuing fertility decline in all countries) and to point out that the apparent “good news” of the United Nations long-term population projections does not mean that we no longer have a “population problem.”

The next demographic force is population decline, and Newbold illustrates the multiple problems that confront a society with a growing proportion of persons over age 65: debilitating economic problems through

larger dependency ratios and the concomitant cost of elderly medical care as well as potentially destructive social and political policies. Again, Newbold's use of the Quebec problem in Canada is effective in highlighting this issue. Newbold then turns to the HIV/AIDS epidemic, followed by international migration and the problem of refugees and internally displaced persons. While the demography of HIV/AIDS is now found in all basic population textbooks, migration and refugees have not—a critical shortcoming.

The Potential for Conflict

But it is Newbold's ability to relate issues of population distribution to the potential for conflict that takes *Six Billion Plus* to a new level for demography texts. The works of Thomas Homer-Dixon and the "Toronto School" have made inroads into mainstream training in demography and population studies, but these roads have not gone very far. To the best of my knowledge, there has yet to be a scientific panel devoted to population and environmental and/or political security at the annual meetings of the Population Association of America, the main conference for demographers. The subject is not found in the newest edition of the Weeks textbook, and one will probably have to wait a long time to see a report or publication on population and conflict/security from the Population Council.

In fact, I can think of only one population textbook that covers the issue of security and conflict: Leon Bouvier & Jane Bertrand's *World Population: Challenges for the 21st Century* (Bouvier & Bertrand, 1999). *World Population* is a book with similar designs on teaching basic concepts of population and articulating an agenda for what lies ahead. The difference is that Bouvier and Bertrand are demographers with strong ties to the policy and programmatic world of family planning and reproductive health. Their treatment of potential conflict is indeed linked to the projected increase in international migration, but they fail to cite Thomas Homer-Dixon even once. Instead, the conflict portion of *World Population* is solely based on the work of Samuel Huntington.

The extent to which the Toronto School and Samuel Huntington diverge on this issue

is beyond the scope of this review. However, at the risk of misrepresenting one or both points of view, it strikes me that Thomas Homer-Dixon has developed a strong research program in population-resource scarcity-conflict interrelationships that is inclusive, interdisciplinary, and has substantially furthered the intellectual discourse in this area.

On the other hand, while Huntington received a great deal of publicity for his views on population and security, a common complaint about his work concerns its overall pessimism and underlying conservatism (read: fear-based politics). If valid, this criticism of Huntington does not bode well for the cultivation of academic leadership in

The role of *space* in population studies has not been a defining feature of the field.

population and conflict studies. Future researchers in the area of population and conflict would do well to follow Homer-Dixon's lead.

Overall, Newbold's geographic perspective on population and society has allowed him to frame the discussion on conflict within a dynamic system of demography, migration, the environment, resource scarcity, public health, and economic development. Seen from this perspective, population and conflict is not a doomsday scenario, but rather one for which we can plan, using knowledge gleaned from a broad, multidisciplinary approach. I read this section of the book as a logical extension of the analyses and arguments presented in the earlier sections; the potential for conflict certainly appears to represent a valid component of any rigorous treatment of demography and population studies focused on the future.

I plan to use *Six Billion Plus* in my population studies course for students earning the master's of public health degree. I would supplement this text with a solid primer on demographic measurement (e.g., Palmore & Gardner, 1994) as well as a good deal more material on reproductive-health programs; neither subject receives much attention in the

Newbold text.

Other quibbles with the text involve the figures, which are small and difficult to read. (For example, one graph showing human mortality schedules should use a logarithmic scale for ease of presentation.) I would also like to see more material used to round out the discussion of population–environment dynamics. Perhaps more detailed discussion of Richard Bilborrow (e.g., Bilborrow & Hogan, 1999) and of Norman Myers (e.g., Myers, 1990) is warranted, and citing the work of Joel Cohen (1995) and Paul Harrison (1992) might also be helpful.

But Bruce Newbold has written an excellent text in *Six Billion Plus*, and I believe my students will echo this sentiment in the new academic year. **W**

Joseph Winchester Brown is clinical associate professor in the Department of Health Behavior and Health Education at the School of Public Health as well as research investigator at the Population Studies Center, the University of Michigan at Ann Arbor. His current research is focused on the relationship between health and living arrangements of older adults in the United States, China, Japan, and Taiwan.

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Population and Environment: Methods of Analysis

Wolfgang Lutz, Alexia Prskawetz, & Warren C. Sanderson (Eds.)

New York: Population Council, 2002. 251 pages.

Reviewed by Frederick A.B. Meyerson

Demographic and environmental change are inextricably related at many scales—that much can be said with relative ease. In *Population and Environment: Methods of Analysis*, Wolfgang Lutz, Alexia Prskawetz, and Warren C. Sanderson propose that research into these linkages is now sufficiently advanced to constitute a new and distinct interdisciplinary field called “Population-Environment (P-E) Analysis.” To both support this theory and fulfill it, Lutz, Prskawetz, and Sanderson have assembled eight chapters on aspects of P-E research, ranging from literature surveys to synthetic critiques to case studies. This sample is too narrow to do the sprawling field justice; but *Population and Environment*, with its excellent and concluding introductory chapters, is a critical contribution to the growing P-E literature.

The tangle of relationships among environmental and demographic variables has created virtually infinite opportunities for scientific research and speculation over the three decades since Paul Ehrlich, Donella Meadows, and others revived the hypotheses and apocalyptic warnings of Robert Malthus. Lutz, Prskawetz, and Sanderson correctly assert here that P-E research and thought has thus far produced a “somewhat disappointing lack of consistent and generalizable findings” (page 1), which they attribute to the complexity of the issues and the lack of accepted methods and standards. While *Population and Environment* pointedly does not attempt to standardize P-E research or even delineate its fuzzy boundaries, it does identify and begin to address some of the considerable challenges facing a field whose broad scope potentially encompasses most human and non-human processes on the planet.

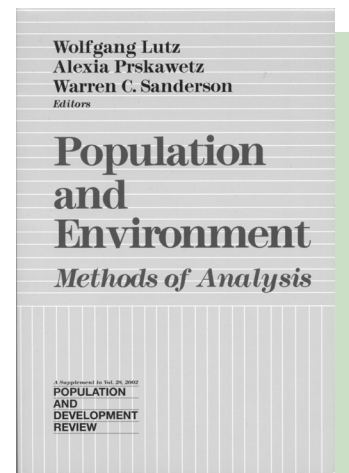
The editors begin by characterizing P-E analysis as a “chair with four legs” (page 5): population dynamics, environmental dynamics, and the influences of each on the other. Lutz, Prskawetz, and Sanderson note that the overwhelming majority of P-E studies have focused primarily on the impact of

changes in the human population on the environment. Many of the studies included in this volume follow or support that pattern, including “Demographic Determinants of Household Energy Use in the United States” (written by Brian C. O’Neill and Belinda S. Chen), “Population Dynamics and the Decline in Biodiversity” (by C.Y.C. Chu and R.-R. Yu), and “Spatial Integration of Social and Biophysical Factors Related to Landcover Change” (by Tom P. Evans and Emilio F. Moran).

Lutz, Prskawetz, and Sanderson suggest that a full P-E study should ideally cover all four aspects jointly. The goal is laudable in theory but may be a tall order in practice, perhaps even encouraging shallow breadth over depth for all but the extravagantly funded. Some of the field’s most celebrated studies to date have absorbed millions of dollars and years or even decades of research without venturing much beyond the effect of population on the environment (and not always effectively capturing even that relationship).

But Lutz, et al. are correct that P-E research is rarely convincing unless the research team includes and fully utilizes both demographic and environmental or ecological expertise. For ecologists, the temptation has been to take off-the-shelf human population data and plug it into their models. Demographers have been equally guilty of “dumbing down” or “black-boxing” environmental and ecological data. And economists who troll in the P-E waters have sometimes even managed to over-simplify both demographic and environmental data. The garbage-in, garbage-out results and conclusions of this kind of shortcut have not served the P-E field or its reputation well. *Population and Environment: Methods of Analysis* seeks to avoid or reduce those pitfalls by suggesting a path to standards for the field.

The editors also make the important observation that many P-E researchers begin with a “predefined normative goal” and then employ science to buttress it rather than fully



exploring its validity. Julian Simon and the early work of Paul Ehrlich come to mind as archetypal examples of this trap, but there are many instances of the rush to policy conclusions prior to (or ignoring) scientific results and analysis. The melding of population and environment and/or economics, particularly in making projections, has often been ruled by passion and politics rather than statistics.

P-E research is rarely convincing unless the research team includes and fully utilizes both demographic and environmental or ecological expertise.

There are many other landmines (or more optimistically, challenges) for P-E research, and the introductory chapter of *Population and Environment* does a good job of briefly reviewing them. For example, spatial and temporal scale of both human activities and environmental causes and consequences vary widely across P-E studies. Linking these scales within single studies (even well-funded ones) has not been easy, and synthesizing studies conducted at different scales has been even more problematic. In addition, the disparate disciplines that are part-time residents under the P-E umbrella often use vastly different research, analytical, and statistical methodologies.

Varying approaches to uncertainty—a critical element of P-E analysis—are also a major challenge to those envisioning a unified, coherent field. The editors of *Population and Environment* could have spent more time addressing this significant P-E issue, particularly the task of synthesizing qualitative and quantitative data and analysis. The important but perhaps irresolvable debate about correlation and causality, touched upon in James C. Cramer’s “Population Growth and Local Air Pollution” chapter, is another area that should be fully addressed in a follow-up effort to this volume.

The book seems to have a bias towards quantitative approaches, and while this path may increase the probability of the field’s acceptance as a discipline, it may not achieve harmonization and full exploitation of the

rich possibilities of P-E research. The interesting chapters “Migration, Social Capital, and the Environment” by Sara Curran, “Managing Population-Environment Systems” by Geoffrey McNicoll, and “Population and Environmental Services” by Vaclav Smil delve into social science, values, ethics, and management issues, but collectively they also raise difficult questions. One concern is that only a tiny subset of scientists may be able to grasp the diverse range of P-E disciplines represented in just this slim volume. Another question is who the “clients” are for P-E research—is there an identifiable set of end-users, and how long will it be before the field generates results useful to them (and therefore stimulates additional funding)?

A related question—whether complex P-E models are better than simple ones—is posed by Lutz, Przkawetz, Sergei Scherbov, Maria Dworak, and Gustav Feichtinger in their chapter “Population, Natural Resources and Food Security.” Not surprisingly, their answer is that it depends on the research question. While this lawyerly conclusion is somewhat frustrating and does not appear to clarify or narrow the P-E landscape, it is the right one. Simple diagrams, spaghetti-like flowcharts of unquantified boxes, and highly quantified exercises can all hide poor data quality, failures to recognize essential variables, surreal equations, or the fact that we simply don’t know enough yet. But they all can also unveil hidden truths and elegantly frame the right questions. As the authors put it, “both the forest and the trees matter” (page 219).

One of the best features of *Population and Environment* is that it does gesture to the enormous diversity and complexity of P-E’s subjects and methods, which for me both excuses the discipline’s slow start and points to its promise and endless supply of fascinating and critical research questions. But the book’s eight solid chapters represent more of a Noah’s Ark than a full debate on and harmonization of the field. Few scientists, if any, can master or even be conversant in all of the central P-E disciplines, and this interdisciplinary dilemma is unlikely to fade over time. P-E research remains an elephant described by a blind committee—but it is a powerful, complex beast that science and policy would be foolish to neglect or ignore. *Population and*

Environment is a valuable and important first step towards gelling this fascinating field. **W**

Frederick A.B. Meyerson, Ph.D., JD, is an ecologist and demographer who specializes in the

interactions between population and the environment. He has taught at Yale and Brown Universities and is a Public Policy Scholar at the Woodrow Wilson International Center for Scholars, where he is writing a book on American population policy.

Population and Climate Change

By Brian C. O'Neill, E. Landis MacKeller, & Wolfgang Lutz
Cambridge, UK: Cambridge University Press, 2001. 266 pages.

Reviewed by Gayl D. Ness

The environment has always presented difficult problems for demographers. In contrast to the easily conceptualized and measured categories of fertility, mortality, and age-sex distributions, the “environment” seems boundless, vague, and not easily quantified.

But in 1994 the Austrian demographer Wolfgang Lutz of the International Institute for Applied Systems Analysis (IIASA) led a team that produced a seminal work on population, environment, and development (Lutz, 1994). Lutz and his team modeled the country of Mauritius to show how one would attack that country’s population-environment-development issues in a systematic manner. Lutz drew on the work of the 6th century BC Greek philosopher Anaximander in conceptualizing the environment as composed of earth, air, water, and fire (energy). When construed as modules in a dynamic systems model, these four modes permitted that model to provide extensive and insightful examination of their interactions.

For example, Lutz and his team showed how reductions in fertility furthered economic development by freeing women for the labor force and reducing costs of child rearing. The study also demonstrated how production of commodities such as sugar and textiles could obstruct the future development of Mauritius by destroying the marine environment on which its new tourism industry depends.

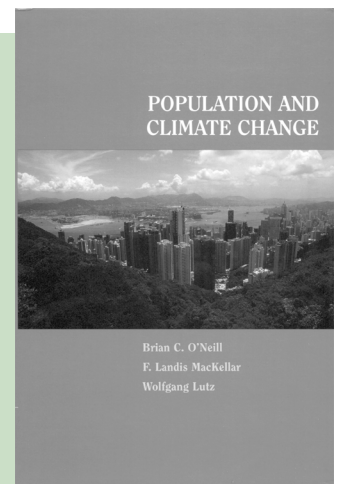
Now Lutz has teamed up with an IIASA economist (Brian O’Neill) and a climatologist from Brown University (F. Landis MacKeller) to produce in the book under review what I consider the best single work to date on the relationships between population and climate

change. Indeed, I would argue that if one could read only one work in this area, this would be the book.

Population and Climate Change is a slim volume, with six chapters of dense arguments and extensive summaries of the most critical findings on population, climate change, and how the two are linked. The references cite more than 700 works. The best way to present *Population and Climate Change* is to summarize each of book’s six chapters.

Chapter 1 provides a brief primer on climate change—including the “greenhouse effect,” the rise of greenhouse gases (GHGs), and long-term increases in world temperature. Demographers are all too often unfamiliar with biogeochemical cycles. This chapter provides an efficient and useful lesson.

Chapter 2 is a primer on human population change. It notes the growth of world population, the demographic transition, and the recent shift of world population toward less developed countries. The chapter also summarizes recent population projections (which maintain that world population will rise by 2100 to between 8 and 12 billion) and discusses how policies (such as economic development, investment in education and health, and promotion of women’s empowerment) can help speed fertility decline and reduce population growth. The authors end the section with an examination of how populations are aging and what are the consequences of this trend. The more developed countries all show slow or even negative population growth rates and aging populations. This dynamic increases the demand for labor (implying a need for immigration) and results in rapidly increasing health costs for the aged.



Chapter 3 provides another primer, this one on the links among population growth, economic development, and the environment. The authors of *Population and Climate Change* review the neoclassical model of poverty's relationship with environment—a model that suggests (among other things) a potential vicious cycle of poverty ► environmental degradation ► more poverty in less developed countries. But O'Neill, MacKeller, and Lutz also explore how interventions can turn this

to adapt to both population growth and climate change will be highly challenging. As in the two previous chapters, the authors argue that population policies that help reduce fertility and population growth can reduce population pressures on natural resources and make societies more resilient to the negative impacts of climate change.

Finally, Chapter 6 of *Population and Climate Change* takes on the issue of policy implications. The authors note that the official policy literature in both population and climate change has done little to translate reviews into policy implications. What is to be done in view of the likely impacts of climate change on food production, health, and environmental change? The policy implications of such changes and challenges are too often unexplored in the scientific literature. Modern population policies, on the other hand, are clearer. They can lead to fertility reduction and increased human welfare: such policies promote primary education and health care, increase empowerment of women and girls, and promote family-planning programs.

But in addition to their significant positive impact on human welfare, sound population policies can also mitigate long-term trends in GHG emissions and thus reduce the extent of likely climate change. O'Neill, MacKeller, and Lutz also note, however, that population policies may not be the key strategies to reducing GHG emissions and climate change. Other, more direct policies (e.g., to produce a cleaner technology or to reduce fossil fuel consumption) may well have a larger impact on climate change. Nonetheless, a more effective portfolio of climate-change policies should certainly include consideration of population dynamics.

One could quibble with parts of the analysis in *Population and Climate Change*. In examining the food supply, the authors cite the more pessimistic reviews and omit that of Vaclav Smil (1994), who sees the possibility of feeding 10 billion people. And while it is difficult to argue with the authors' use of earlier IIASA population projections—which Lutz authored (1996)—it is worthwhile pointing out that almost all of the United Nations population projection revisions of the past three of four decades have been revised

If one could read only one work on the relationships between population and climate change, this would be the book.

vicious cycle into a virtuous one. These include: population policies that emphasize primary health care; primary education, especially for girls; and family-planning programs. Such measures immediately increase human welfare, especially for women and children, and also reduce longer-term population pressure on the environment.

Next, *Population and Climate Change* examines the various ways that population growth is linked to GHG emissions. The authors reach the basic conclusion that reducing fertility and population growth (especially in the less developed regions) will have only modest effects on reducing GHG emissions by the middle of this century, but substantial effects by 2100 (page 113). The implication is that current family-planning programs will not produce immediate environmental benefits, but that current population growth has important consequences for decades hence.

The book's fifth chapter deals with the complex issues of adaptation to climate change—specifically, how agriculture and the food supply, human health, and environmental security might be threatened by future climate changes. O'Neill, MacKeller, and Lutz also look here at how societies might adapt to these changes. Increased population growth will require increased agricultural output, which is possible but may have very high costs.

Unfortunately, the future impacts of climate change on agricultural output are uncertain: adaptation is possible, but the need


downward. There have been more positive demographic changes than most demographers have anticipated.

The authors might also have given more consideration to how temperature increases will affect the natural reservoirs of fresh water in the form of mountain snowpack. Adapting to this problem by replacing snowfields with man-made reservoirs would entail immense and probably prohibitive expenditures. Not adapting would imply massive disruptions in seasonal water flows, with serious impacts on food production. But these are all minor points that do not in the least distract from this excellent summary and analysis.

The IIASA group has always excelled in putting together interdisciplinary teams to deal with fundamental issues. *Population and Climate Change* strengthens this record. Readers can now hope for another interdisciplinary approach that explores effective policy and program approaches to the links between population and climate change.¹

We know much about the social, economic, and political conditions that have led to low population-growth rates. (The revolution in population policies, for example, has certainly been one of the most dramatic in improving human welfare.) But what accounts for the dramatic variance in GHG emission rates among the low population-

growth countries? It would be most useful for IIASA and its associates to tackle this question, which would seem to have practical implications for the future of population and climate change.

Regarding climate change, O'Neill, MacKeller, and Lutz note that popular and elite concern for GHG emissions and climate change potential has only emerged in the past two or three decades, and that some useful policies have in fact emerged. Since the 1960s, there has also been extensive political support for policies and programs to address poverty and promote economic development. While resistance has been relatively slight to these policies (especially in comparison with population or GHG emission policies), the failure of both these policies and programs has been legion and has attracted a great deal of attention. It would be most useful now for someone to write a systematic assessment of population, development, and climate-change policies that parallels this fine volume—to give us a better sense of what is needed and what is possible in moving us toward a more sustainable future. 

Gayl Ness is professor emeritus of sociology at the University of Michigan. He has written on population and environment issues and currently works on those issues with reference to worldwide urbanization.

Notes

¹ Such an approach might investigate, for example, the consequences of the radical difference between population and climate-change dynamics of the world's 25 richest and 25 poorest countries. The 25 poorest countries show a narrow range of relatively high population growth rates (2–3 percent per year) and exceptionally low GHG emission rates (100 to 800 kilograms per capita)—neither of which is difficult to explain. The 25 richest countries show a narrow range of population growth rates (1 percent or less) but high and *highly variable* GHG emission rates, running from 5 tons for Sweden and Hong Kong to 24 tons for Singapore. High emissions are found in large land-mass countries (20 tons for the United States, 15 for Canada, and 18 for Australia) as well as tiny countries (18 for Luxembourg and 24 for Singapore, for example). This poses a challenge for researchers. We need (a) to understand what policies are responsible for the highly efficient and the highly inefficient consumption processes of wealthy nations, and (b) target those policies for change.

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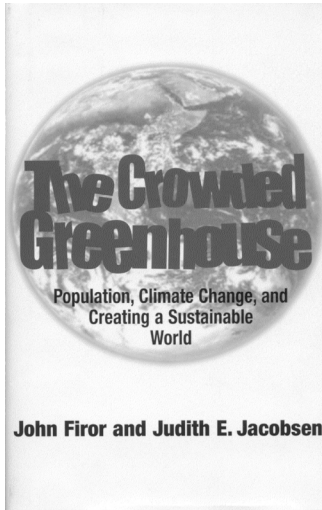
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The Crowded Greenhouse: Population, Climate, Change and Creating a Sustainable World

By John Firor & Judith E. Jacobsen

New Haven, CT: Yale University Press, 2002. 237 pages.

Reviewed by **Elizabeth Chalecki**



Aimed at a lay reader, *The Crowded Greenhouse* is the collaborative effort of John Firor, director emeritus of the National Center for Atmospheric Research, and his wife, population expert Judith Jacobsen. The first three chapters (written by Jacobsen) deal with population issues, and the second three chapters (written by Firor) assess climate change. This volume proceeds from the assumptions that the earth is finite, that human population cannot grow indefinitely, and that humans must act now to avoid negative environmental consequences from population growth.

Jacobsen presents an interesting synopsis of the modern population movement that begins with an outline of two contrasting arguments (Malthus versus economics) made by the first population activists. Traditional Malthusian theory argues that the earth has a finite carrying capacity and that humans will experience an ecological dieback if they continue to use resources faster than they can be replenished. For Malthusians, the best way to limit population growth is to control fertility. The economic argument, on the other hand, holds that the best way to limit population growth is to promote economic development.

This philosophical division has prompted continual debate within the population movement over how to frame population initiatives, policies, and their implications. Jacobsen points out that, while the Malthusian imperative is the baseline ecological argument for limiting population growth, successful population policies may include any or all of these points of view. To illustrate such an initiative, Jacobsen takes us through the inspirational story of Chief Bisi and the women who work with her in Nigeria to affect reproductive and economic choices on the community level. Well ahead of the famous Grameen Bank, Bisi founded the Country Women's Association of Nigeria (COWAN) for rural women to raise the necessary resources

to change their standard of living. COWAN started with \$45 and now has 1300 cooperatives across Nigeria. Its ability to integrate women's health, family planning, and economic development highlights the levels of policy change that can be accomplished with local grass-roots initiatives and sufficient funding from developed countries.

Jacobsen then outlines six principles she believes will best guide future work on population issues. She asserts that the ecological principles underlying the concern about rapid population growth are complex and non-linear, and that population issues must be approached in tandem with other issues such as peace and poverty. Jacobson also rightly points out that legislation—such as laws restricting immigration—can only solve part of the problem, and that non-legislative initiatives (such as providing immigrants with access to reproductive-health care) can help gain voluntary cooperation where laws cannot. Finally, Jacobson argues that there are many roads to Mecca regarding population policy; while activists cannot always change their opponents' minds, they must attempt to succeed without unanimity of belief.

The Crowded Greenhouse then shifts abruptly to the issue of climate change. John Firor takes us through the basic arguments for the existence of global warming, from the calculations of Svante Arrhenius (the Swedish chemist who first predicted climate change in 1899) to a clear and succinct discussion of the benefits and liabilities of current global climate models. Firor goes on to draw an interesting parallel between the controversy over whether climate change is actually occurring and the continuing flap over Darwin's theory of evolution. He argues that, since both Darwinism and prevailing analyses of recent climate change challenge well-entrenched social, religious, and economic interests, both theories continue to engender controversy in spite of overwhelming

amounts of supporting evidence. His synopsis of the international negotiations leading up to and including the Kyoto Protocol is also clear and informative.

Firor closes the climate-change section of the book with some general economic prescriptions to ensure that the U.S. economy truly reflects energy prices. He espouses a revenue-neutral tax shift, whereby the tax burden is shifted away from desirable economic sectors such as employment and onto undesirable sectors (e.g., those that emit pollutants and use raw materials wastefully). Firor also recommends (a) a new method of national economic accounting that would record “withdrawals” of raw materials, and (b) campaign-finance reform to pry open the disproportionate grip that resource-consuming industries have on the U.S. political process.

The final chapter of *The Crowded Greenhouse* outlines two revolutions—an *equity* revolution and an *efficiency* revolution—that the authors argue Western society must undergo to solve the issues and ramifications of both population growth and climate change. The equity revolution, Firor and Jacobson stress, would address population issues by ensuring that women and girls around the world have adequate access to health care and participation in democratic government. The efficiency revolution would maintain our economic development and standard of living while using less energy. Firor and Jacobson conclude both by noting the gains that the population and climate-change movements have made and by encouraging those who wish to work in the population and/or environmental movements not to give up in the face of continuing obstacles.

The Crowded Greenhouse is quite readable for environmentally minded newcomers to these issues. But Jacobson and Firor may be preaching to the converted, as exemplified by their admonishment at the end of Chapter 8 to “Have a thought. Join the insurrection” (page 202). Their book is also heavy on general advice and extremely light on concrete proposals. At the risk of sounding too much like Sun Tzu, there is very little in *The Crowded Greenhouse* that will help population and climate-control activists outwit their enemies.

While Jacobson’s principles regarding population are reasonable and conciliatory, they are also very broad. Her section lacks the benefit of her years of work in the population movement—namely, some specific recommendations of policies that would help stabilize population growth here and abroad. Firor’s section also suffers from similar non-specificity. While he rightly points out that climate change may have positive effects and that studies of the impacts of climate change are hindered by great complexity, these

Jacobson and Firor may be preaching to the converted. Their book is heavy on general advice and extremely light on concrete proposals.

uncertainties have already been well documented by researchers in the Intergovernmental Panel on Climate Change and the U.S. Global Change Research Program. What the climate-change debate needs is a roadmap for implementing specific policy recommendations to reduce greenhouse emissions—or, at the least, concrete recommendations on how to move the Bush administration toward the precautionary principle when dealing with global environmental matters. Firor fails to provide such a roadmap.

It would also have been helpful to read how Firor would approach the task of disarming or disproving the critics of evolution and climate change. Instead, Firor argues that these critics assume that climate change is already occurring. This is mistaken: many opponents of climate-change mitigation measures such as the Kyoto Protocol, clean air legislation, and carbon taxes do not proceed from this assumption. Given that the present U.S. administration has effectively dropped climate change as an issue, strong arguments for the fact and full consequences of climate change would seem essential to the agenda to reduce global warming.

Firor and Jacobson do encourage those working in population and environment to study the values and beliefs of those who

oppose their efforts and to use any common ground to advance their own agendas. This is excellent advice, since much anti-environmentalist sentiment is grounded in either religion or economics, both of which are often seen as absolutes. But the advice is again very general. For example, Firor recommends the removal of natural-resource extraction subsidies in an effort to make the U.S. economy account fully for the cost of using them. However, he does not specify which ones should be removed or how this might be achieved in the face of almost certain industry opposition.

Finally, the bilateral structure of the book effectively and unhelpfully segregates the two issues of population and climate change, and the final chapter fails to bring them together

sufficiently. By simply prescribing two revolutions that Western society must undertake, Firor and Jacobsen do no more than outline the many ways in which solving one problem can make an impact on the other.

But *The Crowded Greenhouse* is a good explanation of these issues for those who already acknowledge their importance. The breadth of Jacobsen and Firor's passion on these topics is impressive, and one hopes that their work in these fields continues well into the future they envision. **W**

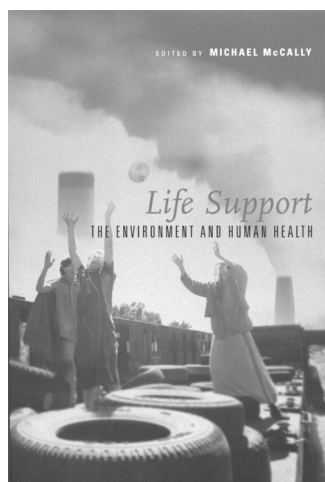
Elizabeth Chalecki is a research affiliate with the Pacific Institute for Studies in Development, Environment, and Security. She is also an adjunct professor at California State University at Hayward.

Life Support: The Environment and Human Health

Michael McCally (Ed.)

Cambridge, MA: MIT Press, 2002. 326 pages.

Reviewed by Melinda Moore



Life Support: The Environment and Human Health provides a comprehensive review of a vitally important—yet still imperfectly addressed—global priority: the connections between health and the environment. The book is an update to the 1991 publication *Critical Condition: Human Health and the Environment*, which was developed in preparation for the 1992 United Nations Conference on the Environment and Development in Rio de Janeiro.

Life Support's 2002 publication aptly coincided with the year of the ten-year follow-up conference to Rio—the World Summit on Sustainable Development in Johannesburg. Addressed to “informed lay readers,” “trainees,” and “professionals,” this second book lists three objectives: “to update the original work, to expand the coverage, and to focus on solutions or prescriptions” (page viii-ix). In my view, despite inaccuracies and occasional political biases, *Life Support* largely accomplishes its objectives.

In the preface, editor Michael McCally provides relevant history leading to the current publication and notes the role of the health sector in addressing issues of the environment

and human health. One can only agree with his call for “health-trained professionals...to become central figures in environmental policy discussions” (page ix).¹ Chapter 1 of *Life Support*, McCally’s “Environment, Health, and Risk,” provides a nice overview of the thematic nexus. The chapter makes several important points, including: (a) stressing the importance of a multidisciplinary (and by extension multisector) approach to addressing the range of environmental health issues; and (b) suggesting revisions to medical curricula to include explicit environmental health content. However, I have some alternative views to a few of the chapter’s points.

First, my own view of implementing the multidisciplinary/multisector approach is to work *across* institutions rather than including all relevant expertise within a given institution. Health expertise can come from the health sector, and environmental science and regulatory expertise can come from the environmental sector; working together brings the best of both to policy and programs. Second, I believe McCally’s suggestion to shift from pollution control toward pollution prevention is not a matter of either/or, but

potentially both. Finally, McCally's discussion of the relationship between developed and developing countries in financing environmental solutions does not take into account a major new element from the 2002 Monterrey Financing for Development Conference and beyond—the extent of responsibility of developing countries in financing their programs.

The second chapter of *Life Support*, “Urban and Transboundary Air Pollution” by David C. Christiani and Mark A. Woodin, is the only one in the book that addresses urbanization; but it does so only from the perspective of transboundary air pollution. However, current urbanization patterns involve a much broader range of environmental health issues than air pollution alone. In the same vein, the chapter's Table 2.1 on specific pollutants, their sources, and their health effects is a useful but likely outdated summary. For example, much research on asthma has been undertaken since the 1988 publication from which this table is adapted. Moreover, factual inaccuracies in this chapter and elsewhere undercut the credibility of the book as a whole. The statement on page 31 that “[t]here has been a failure to address indoor air pollution” is off target, for instance. Present U.S. state and federal regulations addressing smoking in public places constitute substantial action, even if most analysts feel that even more action is needed.

Life Support's chapter on “Water Quality and Water Resources” by John Balbus appropriately addresses both microbiological and chemical threats to water. However, Balbus presents numerous inaccurate facts and nuances in the discussion of microbiological threats. Also, Balbus' selective use of references leads to selective conclusions, as in the example indicating “growing evidence” that sanitation interventions “[improve] human health to a greater extent than purveying clean water supplies” (page 40). The reference cited is from 1996, by an author with legitimate data but a polarizing view within the scientific community. More recent work suggests the substantial health impact of water and hygiene interventions as well.²

Chapter 5—“Population, Consumption, and Human Health” by J. Joseph Speidel—addresses population trends and is extremely relevant to environmental health. Once again,

however, internal inconsistencies and factual inaccuracies distract from the chapter's larger point. For example, the introductory section notes a world population of 2.5 billion in 1950 and a growth from five to six billion between 1988 and 2000; yet the following section (page 87) describes a doubling of the world's population between 1950 and 1997. The earlier facts would suggest a world population of five billion in 1988, not 1997. Another example is Speidel's reference that “1.3 billion people...lack access to pure drinking water” (page 88). But the actual indicator

The book addresses global environmental health issues—yet it is not particularly global in its perspectives.

corresponding to the 1.3 billion figure is “access to improved water sources.” The difference is more than one of nuance: water from improved sources can be contaminated during transport and/or household storage. Thus, probably far more than 1.3 billion lack access to “pure drinking water.”

Most readers will probably find all of *Life Support* interesting, even those chapters that are beyond readers' specific expertise. However, McCally's preface alerts readers to the publication's relationship with Physicians for Social Responsibility—to which royalties from the book will go. This fact immediately signals the likelihood of finding political views instead of pure scholarship in the following chapters. Indeed, I found the politically oriented statements interspersed throughout *Life Support* distracting in an otherwise scientifically oriented book.³

Mention of the “precautionary approach” in various chapters also seemed to lean more toward expression of political views than scientific facts. The full chapter on this subject, “The Precautionary Principle: A Guide for Protecting Public Health and the Environment” by Ted Schettler, Katherine Barrett, and Carolyn Raffensperger, is comprehensive and nicely referenced, but it does not present a balanced view. The current issues surrounding bioengineered foods would have been a good example to illustrate both sides of the precautionary-principle debate.

On one hand, the U.S. Food and Drug Administration has determined (based on rigorous scientific review) that foods derived from bioengineered crops for which food safety reviews have been completed are as safe as their conventional counterparts. On the other hand, European regulators take a more “precautionary approach” in limiting use of bioengineered crops. But Schettler, Barrett, and Raffensperger tend to unnecessarily polarize the debate by

numerous sloppy editing inaccuracies throughout), and, as noted above, not entirely factually accurate.

Also surprising was the virtual absence of reference in the book to the landmark publication *The Global Burden of Disease* (Murray & Lopez, 1996), which would have placed environmental health issues within an overall context. The book addresses global environmental health issues, yet it is not particularly global in its perspectives—most of its authors are from the United States, with the rest from Canada, the United Kingdom, the Netherlands, and Australia, and none from developing countries. Finally, *Life Support*’s authorship is not representative of the broad range of legitimate stakeholders in the domain of global environmental health—which includes not only academia but also government policymakers, practitioners/implementers, key multilateral organizations such as those of the United Nations system or international financing institutions, civil society, and the environmental sciences sector itself.

My conclusion is that *Life Support* sets the stage for a third publication in the series that would expand this book’s scope in a few important directions: (a) bringing together the environment and health sectors; and (b) including authors from developed and developing countries as well as authors representing other key stakeholder institutions or groups. I would be among the first to buy and read such a publication. Unlike many movie series, which can become predictable and increasingly boring, continuing this series of publications as proposed here would add value to our collective knowledge, wisdom, and—one hopes—action to address the increasingly important issues of human health and the environment. **W**

Melinda Moore is Deputy Director of the Office of Global Health Affairs in the Office of the Secretary, U.S. Department of Health and Human Services (HHS). A physician, she has worked in global health since 1978, including 20 years with the HHS Centers for Disease Control and Prevention.

Despite inaccuracies and occasional political biases, *Life Support* largely accomplishes its objectives.

characterizing the “precautionary principle” as on the side of ethics and environmental preservation—thus implying that other approaches are unethical and environmentally unfriendly.

No one publication can address all needs and interests on a given topic, and *Life Support* has many key features and lacks many others. The book is comprehensive in terms of the range of health issues addressed. It is scholarly, with 25 of the 27 contributing authors identified as health professionals based in academic institutions. It is very easy and interesting to read, especially with the addition of the upbeat objective to discuss “solutions or prescriptions.” For example, the chapter by Joe Thornton, McCally, and Jeff Howard on “Body Burdens of Industrial Chemicals in the General Population” was particularly well written and informative. Its table listing approximately 200 specific chemical substances and the human tissues in which these are found is comprehensive and well referenced. (The absence of a “solutions/prescriptions” section in this chapter was only a minor disappointment.)

However, the book is, surprisingly, not particularly current, an impression borne out in my tedious tallying of its approximately 1000 references—68 percent of which are dated earlier than 1998. *Life Support* is also not evenhanded across chapters (pitting science versus advocacy), not well edited (with

Notes

¹ However, at least one of the McCally's premises in the preface is factually inaccurate. While he asserts that, when the first book was written in 1991, "[n]o medical or public health organization worked on environmental issues" (page viii), the U.S. Department of Health and Human Services alone at that time had at least four agencies that had both organizational structures for environmental health and environmental health programming in place.

² See, for example, Semenza et al. (1998); Quick et al. (1999); Reller et al. (2001); Roberts et al. (2001); and Quick et al. (2002).

³ For example, Speidel writes on page 91 that "[I]f we are able to summon the political will to make good reproductive health care, including family planning and safe abortion, widely available, and if we can make reasonable progress in educating women and improving their status, population growth is likely to decline to manageable levels." The reference to abortion is not necessary to make his point and seems to gratuitously introduce a political point of view.

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The Global Threat of New and Reemerging Infectious Diseases: Reconciling U.S. National Security and Public Health Policy

Santa Monica, CA: RAND Corporation, 2003. 106 pages.

Reviewed by Jennifer W. Kaczor

In 2000, in an effort led by then-Vice President Al Gore, the UN Security Council held its first-ever meeting to discuss how health issues (particularly HIV/AIDS) in Africa threaten global security. Since that meeting, anthrax, mad cow disease, and the recent SARS outbreak have placed health issues squarely on the agenda of both the U.S. and international communities. In addition, the Bush administration has used the fear of weapons of mass destruction—including bioterrorism—as a key element in galvanizing U.S. public support for the war in Iraq.

The Bush administration's recent support of billions of dollars in new foreign-assistance spending to fight the HIV pandemic seems to demonstrate a continued push to keep health issues at the forefront of U.S. foreign policy (although, as of this writing, it remains unclear how much money Congress will actually appropriate). But despite such high profile efforts and the worldwide acknowledgment that infectious disease is a threat to global security, *The Global Threat of New and Reemerging Infectious Diseases* argues that spending priorities have not followed suit.

The Global Threat ambitiously covers topics from basic international relations theory to a case study on the AIDS epidemic in South Africa. The report is divided into two broad parts: (1) implications of the spread of infectious disease globally, and (2) the impact of the spread of disease within the United States. Chapters 1 and 2 discuss the changing nature of security after the Cold War; outline the various factors (economic, social, environmental) that contribute to the spread and increased incidence of infectious disease; and successfully lay out the elements for linking poor health to economic stagnation, social and educational inequalities, and a potential rise in crime rates and societal instabilities.

The “global” section of the report

concludes with a convincing South Africa case study highlighting these linkages. The South African experience demonstrates the negative impact HIV/AIDS has had on a myriad of institutions, including education, health, and defense. The case study also provides evidence of economic decline due to the pandemic. Unfortunately, *The Global Threat* fails to provide an example of a success story such as Thailand—where evidence suggests that strong leadership and public investments in health and education have improved overall macroeconomic performance and stemmed the tide of HIV. This omission is glaring given that policymakers are a primary audience for this type of report.

The Global Threat then switches to a domestic focus and examines the threat of emerging infectious disease within the United States. Chapter 4 provides an extended list of factors that affect the scope and spread of infectious disease in the United States, including increased travel and trade, changes in agricultural practice, more promiscuous drug use and sex patterns, greater use of antibiotics, use and donation of blood products, climatic change, tainted water supplies, and the increased risk of bioterrorism. Unfortunately, each of these issues is given only a few paragraphs—not enough space to provide more than an overview (although, to their credit, the authors provide as much evidence as possible, citing useful data and statistics to describe each topic).

Next, *The Global Threat* provides a detailed summary of the myriad U.S. government agencies that play a role in health crises. The section examines these agencies' roles and responsibilities in monitoring or research of infectious disease outbreak, both within and outside the United States; it also addresses the challenges these agencies face, including lack of funding and trained health professionals. Just seeing this list gives the reader a healthy dose of reality as to why interagency

coordination and collaboration remains a problem.

But regardless of its strengths, *The Global Threat* suffers most from a seeming identity crisis. Arguably, global health impacts U.S. health like never before due to the globalization of agriculture and the increased movement of peoples. This linkage certainly justifies a report that looks at both emerging infectious disease in the United States and around the world. What the report does not do well is to distill this connection into a succinct take-home message that clearly states how U.S. security and global security are related. *The Global Threat's* length and range of focus make it light on detail, creating a report that lays out many challenges but few solutions.

The report's recommendation section also disappoints in its failure to consider cross-cutting issues—a very important omission, given the complexity of the issues. For example, the authors attempt to make the argument that disease, environment, and security issues are linked, but they fail to mention environmental issues in their recommendations. Yet better cooperation and collaboration between the health and environment sectors—not just between government agencies, but with the broader civil society community as well—is crucial to the battle against infectious diseases.

Another of the report's recommendations

states that countries should promote urban sustainable development and urban regeneration; but the authors do not define these terms or the types of issues policymakers should address. As a result, *The Global Threat*

The U.S. public is more likely to see a higher rate of return from monitoring and preventing the spread of infectious diseases than from focusing on terrorist attacks using WMD.

loses an opportunity to reinforce the concept that health, environmental, and economic issues are inextricably linked to one another.

The report's conclusion is most successful when it points out the lack of public-health foresight and spending in the United States—a country with a true bounty of financial resources. The authors suggest that, while important, large-scale biological attacks and a tainted water supply are relatively unlikely, the U.S. public is much more likely to see a higher rate of return on money spent on monitoring and preventing the spread of infectious disease (such as SARS) than focusing on terrorist attacks using weapons of mass destruction.

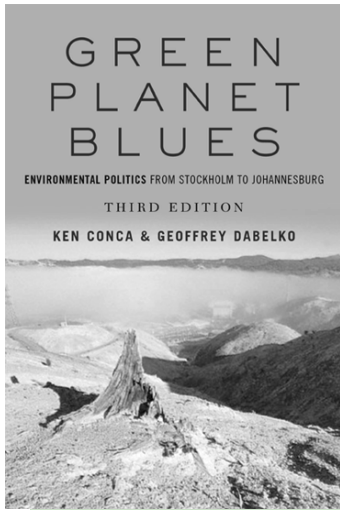


Jennifer W. Kaczor is a project associate for the Environmental Change and Security Project.

Forthcoming from Westview Press

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Ken Conca & Geoffrey D. Dabelko, Editors



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Ken Conca is associate professor of government and politics at the University of Maryland and director of the Harrison Program on the Future Global Agenda. **Geoffrey D. Dabelko** is director of the Environmental Change and Security Project at the Woodrow Wilson International Center for Scholars.

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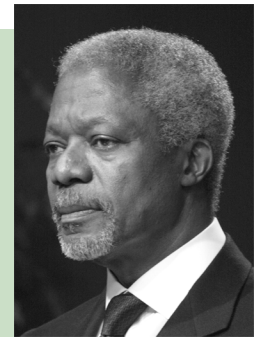
Kofi Annan

United Nations Secretary-General

Statement on the Millennium Development Goals and the International Year of Freshwater (2003)

12 November 2002

"At the Millennium Summit in 2000, world leaders agreed to reduce by half, by the year 2015, the proportion of people who are unable to reach, or to afford, safe drinking water... Grave consequences lie ahead if we fail to meet these goals: the persistence and spread of deadly diseases, further damage to the global environment, threats to food security, and stability itself. And while water problems are most acute in the developing world, developed countries are also at risk."



Kofi Annan

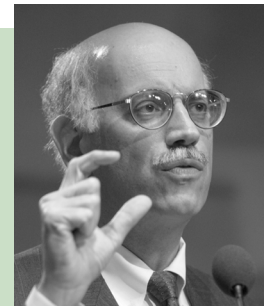
Andrew S. Natsios

USAID Administrator

Remarks at the Millennium Water Challenge Symposium, Houston, TX

8 October 2002

"Fresh water is a precious commodity that is in short supply, especially in the developing world... [I]t affects conflict; it affects economic development, particularly in agriculture, but also industrial development; and it affects health, and we can't separate health, water—improvements in water—from the issue of sanitation. So thinking through these three principles, I think we can work together to improve the water situation in many countries in the developing world."



Andrew S. Natsios

Thoraya Ahmed Obaid

Executive Director, United Nations Population Fund (UNFPA)

Statement at the Ministerial Meeting of the Fifth Asian and Pacific Population Conference, Bangkok

16 December 2002

"Today, well over one billion people live in extreme poverty on less than \$1 a day, and more than 800 million people go to bed hungry every night. The widespread poverty that we see today is exacerbated by environmental degradation, lack of arable land and water scarcity, unplanned urbanization and migration, wars, and military conflicts. Poverty is worsened by economic and social exclusion and marginalization, and fueled by a lack of access to basic social services."

Thoraya Ahmed Obaid

Executive Director, United Nations Population Fund (UNFPA)

Plenary Statement at The Synergos Institute, New York, NY

29 October 2002

“In Africa, the median age today is 18; sixty-three percent of Africans are younger than 25. In the Arab world, the median age is 19. In Asia, which contains 60 per cent of the world’s people, half of the population is under the age of 25...The point that I want to stress is that the current bulge in the youth population presents an unprecedented opportunity for growth and transformation if there is a concerted, massive investment in education, health care (including reproductive health), job creation and employment. It also presents an unprecedented environment for social unrest if we remain passive or limited in our responses.”

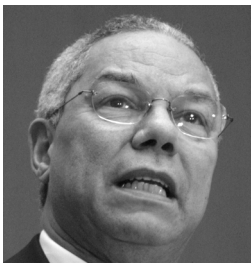
Peter Piot

Executive Director, United Nations Program on HIV/AIDS (UNAIDS)

Speech at the plenary session of the World Summit on Sustainable Development, Johannesburg, South Africa

30 August 2002

“If the world is to stand any chance of meeting its aspirations for sustainable development, then our action agenda must include a full-scale attack on AIDS...[That attack] has four indispensable components. *First*, serious resource commitments to fully fund the AIDS prevention and treatment programmes are needed to meet the targets agreed to in the Declaration of Commitment on AIDS adopted by the UN General Assembly and again endorsed in this Summit’s proposed action plan. *Second*, leadership from both governments and communities is required to break the silence around AIDS and develop the capacity to respond. *Third*, integration of action on AIDS into the core of development practice across sectors—in government and civil society. *Fourth*, a major commitment to redress the human resource crisis provoked by AIDS—a commitment that runs from increased prevention and accessible treatment to investment in new models of development that rebuild human capacity from the community up.”



Colin L. Powell

Colin L. Powell

U.S. Secretary of State

Remarks at World AIDS Day 2002 Event, Washington, DC

3 December 2002

“In the global fight against AIDS, every nation, large or small, developed or developing, must be a leader; for every nation is vulnerable. No nation is protected by geography or by political boundaries or social boundaries or religious boundaries. AIDS will attack us all and is attacking us all. AIDS is ravaging communities, countries, and continents. Left to rage, it can rob us all of a more stable, prosperous, hopeful future.”

Presentation at United Nations HIV/AIDS Plenary

New York, NY

September 22, 2003

The appalling statistics do not begin to describe the magnitude of the destruction wrought by AIDS. AIDS is more devastating than any terrorist attack, any conflict or any weapon

of mass destruction. It kills indiscriminately, and without mercy.

Full text at <http://www.state.gov/secretary/rm/2003/24294.htm>

Klaus Toepfer

Executive Director, United Nations Environment Programme (UNEP)

Statement before the 22nd session of the Governing Council/Global Ministerial Environmental Forum, Nairobi, Kenya

3 February 2003

“All our work on global environmental assessment has confirmed that the crushing burden [of the] world’s population together with over-consumption and wasteful use of resources by the rich are two fundamental drivers of environmental degradation. A successful environmental strategy must take account of this relationship and the need for a capacity-building initiative for developing countries. Our discussions on support to Africa and NEPAD provide us with a concrete opportunity to address this question.”

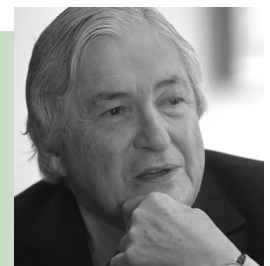
James D. Wolfensohn

President, The World Bank

Remarks at the Institute for European Affairs on a More Secure World, Dublin, Ireland

21 January 2003

“[A]fter September 11, there was a focus on the issue of poverty and development. Today, there is less of a focus on this [issue], as we’re concerned about ourselves, we’re concerned about risk, we’re concerned about more immediate issues as we see them...[But w]hen we talk about the question of a stable world or creating a more stable world...we need to look at the question of poverty if there is to be stability and peace...What are we doing about this? If you’ll accept for the moment my proposition that the issue of combating poverty is also an issue of creating conditions for stability, hope, and peace, then where are we in addressing that issue?”



James D. Wolfensohn

Stephen Lewis

Special Envoy for AIDS in Africa to the U.N. Secretary General

The 13th International Conference on AIDS & STIs in Africa, Nairobi, Kenya

September 21, 2003

...millions of children live traumatized, unstable lives, robbed not just of their parents, but of their childhoods and futures. How can this be happening, in the year 2003, when we can find over \$200 billion to fight a war on terrorism, but we can’t find the money to prevent children from living in terror? And when we can’t find the money to provide the antiretroviral treatment for all of those who need such treatment in Africa? This double standard is the grotesque obscenity of the modern world.

For more information, see <http://www.icasanairobi2003.org/index.php>

Environmental Peacemaking

Ken Conca and Geoffrey D. Dabelko, Editors

How 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. But there is almost no systematic research on an important corollary: that environmental cooperation may also 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 trans-societal 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”

Environmental Peacemaking examines the case for environmental peacemaking by comparing progress, prospects, and problems related to environmental peacemaking 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 security order—creating potential space for environmental cooperation to have a catalytic effect on peacemaking.

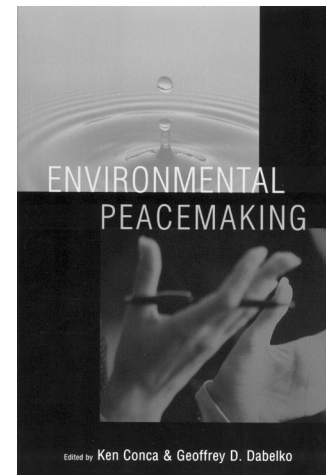
Among the volume’s key findings: that substantial potential for environmental peacemaking exists in most regions; that there can be substantial tensions between (a) narrower efforts to improve the strategic climate among mistrustful governments, and (b) broader trans-societal efforts to build environmental peace; and that the effects of environmental peacemaking initiatives are highly sensitive to the institutional form of cooperative activities.

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Environmental Peacemaking is a product of a series of meetings sponsored by the Environmental Change and Security Project of the Woodrow Wilson International Center for Scholars and the Harrison Program on the Future Global Agenda of the University of Maryland.

For more information, contact the co-editors **Ken Conca** at kconca@gvpt.umd.edu or **Geoff Dabelko** at dabelkog@wwic.si.edu.



MEETING SUMMARIES

Below are summaries of a few of the dozens of meetings ECSP sponsored at the Woodrow Wilson Center and elsewhere over the 2002-03 academic year. These meetings featured speakers such as Kofi Annan and Jane Goodall and covered topics that ranged from guarding against environmental terrorism to prospects for the Kyoto 3rd World Water Forum. For summaries of all ECSP meetings, please visit the Project's Web site at www.wilsoncenter.org/ecsp.

NAVIGATING PEACE: GENERATING NEW THINKING ABOUT WATER

October 2003 Update

ECSP's initiative *Navigating Peace: Forging New Water Partnerships* has moved into high gear, with its three Water Working Groups actively exploring new policy alternatives for addressing global water issues. Funded by a grant from the Carnegie Corporation of New York, *Navigating Peace* has brought together diverse sets of individuals to generate new thinking in the following three areas:

- The balance between water as **an economic and a social good**, so that it can be provided equitably, efficiently, and universally;
- **Conflict, conflict potential, and cooperative models** over shared water resources; and
- How lessons from water-conflict resolution could **build dialogue and cooperation between the United States and China**—their governments as well as nongovernmental organizations.

The Working Groups

The three Water Working Groups (WWGs) of *Navigating Peace* have each held a first round of multi-day meetings, allowing members to meet each other, begin to identify major areas for focused work, and conduct site visits that also served as team building exercises. WWGs I and II met at the Wilson Center in Washington, DC, and WWG III met at the U.S. Institute for Environmental Conflict Resolution in Tucson, AZ. All three

WWGs, will hold their second and third meetings in fall 2003 and spring 2004, respectively, with WWG I also presenting a panel at the Commission on Sustainable Development annual meeting in New York in April 2004.

Below are the themes each WWG has identified for further focus. Each WWG will be pursuing these themes through commissioning working papers that will become available on a rolling basis throughout the life of *Navigating Peace*. Each WWG will also publish a report on its findings at the end of the initiative.

Themes of WWG I (Water as an Economic and Social Good)

- **Developing water lifelines that assure meeting everyone's minimum water needs.** Policymakers and the energy industry agree on these concepts for energy. Why not water?
- **Redefining the "private sector" in the context of water to include citizens groups, foundations, NGOs, and civil society as well as corporations.** Who are the stakeholders and what are the forms of organizations around different issues and contexts, and how does that variety affect the intervention of new water technologies?
- **Identifying the prerequisites for fostering private-sector participation in water services and sanitation.** How can private-sector action make a difference in an era of government paralysis? What are the best technologies needed for equitable water

access? How can the private sector generate and provide them to low-income people?

- ***Bridging the divides among the drinking water, sanitation, hygiene, and ecosystem communities.***
- ***Reconciling what the public thinks about water with what the policymakers think the public thinks.*** Polls show that policymakers underestimate 13-fold the public's interest in global health issues. But how can we make clear *the connections between health and water*—the health of environments, people, and economies?

The formal meeting abroad of WWG I will be held in Mexico City, Mexico in February 2004. Members of the group include:

Janice Beecher, Institute for Public Utilities (East Lansing, MI);

Gordon Binder, Aqua International Partners and World Wildlife Fund (Washington, DC);

J. Carl Ganter, MediaVia (Traverse City, MI);

Karin M. Krchnak, National Wildlife Federation (Washington, DC);

Melinda Moore, U.S. Department of Health and Human Services (Rockville, MD);

Scott Whiteford, Michigan State University (East Lansing, MI).

Themes of WWG II (Conflict and Cooperation Over Water)

- ***Is water really a catalyst for cooperation and peace?*** Are river-basin regimes of cooperation really applicable to other regimes?
- ***Social-capital formation from peacemaking around water—does it last?*** Does it form workable institutions? Can you retain creativity when you move to institutionalization?
- ***Are transparency and democracy good things for reaching water agreements, or do they complicate the process to the point where they become obstacles?*** What are the necessary and sufficient conditions for participatory democratic processes to work vis-à-vis water issues and policymaking? In essence, do stakeholders matter, and at what level?

- ***Is access to drinking water really an issue, considering that everybody has it or else they're dead?*** Why are we focusing on that instead of focusing on clean water, on disinfection systems that people can use? How can we consistently identify what's the real problem and where we should put the resources to address it?
- ***Do normative international treaties have any meaning on the local level?*** Are norms useful or effective?
- ***What is a "water institution"?*** What's a *good* water institution? Can we identify common properties among those we call "good" or "effective"?
- ***Are water wars imminent, or is their prospect a myth?***
- ***Where is the most violence potential concerning water?*** Is it at the household level? Why is it that some forms of violence get publicized and others are subsumed?
- ***Does one size fit all?*** Is what we learn in the Colorado effective elsewhere? Is the size of the Danube commission appropriate for the Zambezi?
- ***Where is God and religion in discussions about water?*** How people think about other people and their relationship with the environment has a profound effect on how they use water, and many don't understand those nuances. When Dublin announced that water was an economic good, the formulation upset the entire Muslim world.
- ***How does water illuminate (and how can it rectify) the crisis of governmental legitimacy in the South, which is very different than the placid assumption of legitimacy in the North?*** How can values be translated through governments into policy, and then how is that policy enforced? The question of legitimacy brings in all those issues.
- ***Monterey turned the international discussion to underlying governance structures.*** Is it that those governments that don't have those structures have conflicts over resources and these types of issues? They don't have rule of law, robust institutions, etc: can water be useful in those situations? Other countries with better governance don't use water for peacemaking because they have other institutions to do the job.

- ***Institutions are important, but they lag behind complexity and change.*** What makes Uganda and South Africa similar and what makes Uganda and California different regarding water? In the context of the South, increasing levels of complexity and declining levels of capacity are the problem. How can this be addressed?

The next formal meeting of WWG II will be held in the Okavango River Delta, Botswana, in October 2003. Members of the group include:

Inger Andersen, World Bank (Washington, DC);

Kent Butts, Center for Strategic Leadership, U.S. Army War College (Carlisle, PA);

Ken Conca, University of Maryland (College Park, MD);

Kirk Emerson, U.S. Institute for Environmental Conflict Resolution (Tucson, AZ);

Aaron Salzberg, U.S. Department of State (Washington, DC);

Anthony Turton, University of Pretoria (Pretoria, South Africa);

Aaron T. Wolf, Oregon State University (Corvallis, OR);

Howard Wolpe, Woodrow Wilson International Center for Scholars (Washington, DC).

Themes of WWG III (Water Dialogue and Cooperation between the United States and China)

- ***What are effective mediation and alternate dispute mechanisms for resolving water conflicts?*** When are such techniques successful in mitigating water conflicts? Can such techniques used in the United States be transferable to China? And visa-versa?
- ***What kinds of conflict resolution mechanisms help reduce the transaction costs of solving conflicts?*** Are certain mechanisms more appropriate and effective for certain types of water conflict?
- ***How might greater stakeholder participation impact the prevention or resolution of water conflicts?*** For example, could greater stakeholder support for water management and protection programs mitigate water

conflicts? How might greater stakeholder participation in water management be encouraged in China?

- ***What are the potential roles that non-governmental organizations could play in preventing and resolving water conflicts?***
- ***How have water rights doctrines helped or hindered the resolution of water conflicts in the United States and China?***
- ***What are the strengths and weaknesses of U.S. and Chinese river basin commissions in preventing and resolving water conflicts?***
- ***How might market mechanisms help mitigate or prevent water conflicts?*** Could better pricing and strong water markets promote more trust among urban and rural traders (who are today competitors) and encourage conservation?

The next formal meeting of WWG III will be held in Beijing, China in November 2003. Members of the group include:

S. Elizabeth Birnbaum, American Rivers (Washington, DC);

Irene B. Brooks, International Joint Commission (Seattle, WA);

Michael Eng, (Tucson, AZ);

Liu Hongxia, Yellow River Conservancy Commission (Zhengzhou, China);

Ma Jun, Sinosphere (Beijing, China);

Jay F. Stein, Stein & Brockmann, P.A. (Albuquerque, NM);

Wang Xuejun, Department of Urban and Environmental Science, Peking University (Beijing, China);

Yu Xiubo, WWF-China Programme Office and Institute of Geographic Sciences and Natural Resource Research (Beijing, China)

Additional Activities

In addition to the WWG meetings, ECSP continues to host and sponsor meetings on global water issues as an essential part of *Navigating Peace*. Past speakers at these meetings have included: **Peter Gleick**, Pacific Institute; **Mikhail Gorbachev**, Green Cross International; **Gidon Bromberg** and **Abdel-Rahman Sultan**, Friends of the Earth Middle East; **Mutsuyoshi Nishimura**, Japan's Ambassador for Global Environment;

Anthony F. “Bud” Rock, U.S. Department of State; **Stan Bernstein**, UNFPA; **Robert Jerome Glennon**, University of Arizona; and **Deirdre Chetham**, Harvard University.

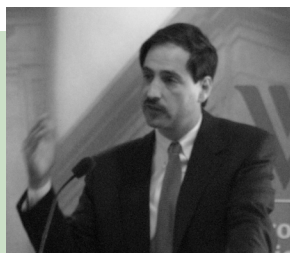
Keep abreast of all Navigating Peace activities and product at our special Navigating Peace Web site at www.wilsoncenter.org/ecsp.



BANKING THE “DEMOGRAPHIC DIVIDEND”: HOW POPULATION DYNAMICS CAN AFFECT ECONOMIC GROWTH

Featuring **David E. Bloom**, Clarence James Gamble Professor of Economics and Demography, Harvard School of Public Health, Harvard University
24 October 2002

By **Robert Lalasz**



David E. Bloom

Policymakers and mainstream economists often disregard demographics as a factor in economic growth. But David Bloom, co-author of the new RAND Corporation “Population Matters” report “The Demographic Dividend: A New Perspective on the Economic Consequences of Population Change,” told a Wilson Center meeting that population dynamics are key to understanding disparities in regional income growth.

Moreover, Bloom argued, national policies can capitalize on a country’s demographic makeup to spur higher economic growth. “There are two things to remember,” said Bloom. “First, that population matters to the pace and growth of economic development. Second, that it matters a lot.”

Ignoring the Correlations

Bloom first reviewed the debate and recent research on the connections between population and economics. Since 1820, he said, economic growth has differed substantially by region, with the per capita income disparity between richest and poorest nations rising from 3:1 to 20:1 today. Meanwhile, global population is expected to reach nine billion by 2043, with the dominant share of that growth among the economically weakest and most vulnerable countries.

But can economic differences be explained by demographics? Bloom detailed

the differences between what he called the “East Asian Miracle” and the “African Debacle” of 1965–1990. While East Asian economies during this period grew at close to 6 percent a year—an unprecedented length of such high and sustained growth—sub-Saharan Africa grew at 0.3 percent annually. But sub-Saharan Africa has had a substantially higher rate of population growth and a much smaller ratio of working-age to dependent population. “Is this a coincidence, or is there some connection?” asked Bloom.

Most economists don’t think so, according to Bloom. He said that “population neutralism” (the idea that demography and income growth have no correlation) became a widespread concept in the wake of a mid-1980s National Academy of Sciences report that coined the term and concept. The NAS report, Bloom said, caused population issues to fall off the radar screens of the World Bank and other international organizations and foundations as well as American foreign policy—this, despite that “one rarely encounters scholars and policymakers in developing countries who agreed with population neutralism,” said Bloom.

The “Demographic Dividend”

But most economists have misunderstood “demography” and “demographic change” as merely code words for “population growth,” Bloom said. For example, he argued, they

need to consider such phenomena as the demographic transition—when societies move from having large numbers of dependents (children and elderly) to a larger ratio of workers to dependents.

In the early stages of demographic transitions, a falling mortality rate (often spurred by improvements in public health) eventually leads to a decline in fertility, as women whose children are surviving have fewer of them. But there is a lag time between the two events, resulting in a large youth cohort that in a generation becomes workers. Bloom said that this cohort yields more savers, increased productivity, and accelerated economic growth—the demographic dividend.

“[The demographic transition] is extremely strong as a catalyst and predictor of economic growth,” said Bloom. “In fact, no other factor comes close to its impact.” East Asia is the prime example, he said, with the demographic dividend accounting for up to 40 percent of the East Asian Miracle. The 1979 legalization of birth control in Ireland produced a similar rise in that country’s ratio of working-age to dependent population and a concomitant economic boom. But the HIV/AIDS pandemic in sub-Saharan Africa will exacerbate that region’s economic drag, said Bloom, since 80 percent of the pandemic’s fatalities will be of people in their productive working years.

Desperately Seeking Policy

Bloom cautioned that reaping the demographic dividend is not automatic—it depends on a policy environment that emphasizes population and family planning, good public health, good education, open labor markets, free and fair trade, and good governance and economic management.

Latin America, said Bloom, provides an example of an “unreaped economic dividend.” While Latin America’s demography has resembled East Asia’s, he said, its economic growth is closer to sub-Saharan Africa’s because of poor governance and an inward

economic orientation. “We are now midway through the Latin American demographic transition, so all is not lost,” said Bloom.

Bloom said that there are three major areas in which policy can boost the demographic dividend:

“First, population matters to the pace and growth of economic development. Second, it matters a lot.”

—David E. Bloom

- Catalyzing the demographic transition (with public-health improvements, especially geared towards infants and children);
- Accelerating the demographic transition (with family-planning programs, since smaller family sizes allow women to enter the workforce);
- Allowing countries and businesses to exploit demographic opportunities (by reforming labor markets and blocking high minimum wages or formation of powerful unions).

RAND’s research, said Bloom, strongly suggests that demography is a way into the development process, and that its lessons must be understood and applied across sectors and ministries. “Failure to act could have dire consequences,” Bloom said—including high unemployment in the potentially volatile boom cohort and rising numbers of elderly dependents straining available resources.

“There is no magic bullet to solving the problem of underdevelopment,” concluded Bloom. “But health and demography swamp every other factor in development—including education. We are right at the moment of deciding whether demography should be reevaluated as a development policy issue, and whether health should be evaluated in the first place.”



LINKING HEALTH, ENVIRONMENT, AND COMMUNITY DEVELOPMENT: LESSONS FROM THE THAI EXPERIENCE

Featuring **Mechai Viravaidya**, Founder and Chairman of Thailand's Population and Community Association

11 December 2002

By **Robert Lalasz**



Mechai Viravaidya

The driving force behind Thailand's remarkably successful family planning movement detailed for a Wilson Center audience how his NGO has broadened its mission to encompass health, development, and the environment while also becoming more self-sufficient.

Mechai Viravaidya said that his Population and Community Development Association (PDA) has succeeded through persistence, creativity, integrated programs, and entrepreneurship. "The only way to take poor people out of poverty is through the marketplace," Viravaidya said.

Cabbages and Condoms

Duff Gillespie, senior deputy assistant administrator of USAID's Bureau for Global Health, introduced Viravaidya by praising the Thai activist's energy and risk-taking.

"He thinks big thoughts and then goes the next step and does big things," said Gillespie. "There are literally tens of thousands of people alive today who wouldn't be were it not for Mechai. And because of him, many thousands more have much richer lives, figuratively and literally, than they would have had."

Viravaidya, who is also a UNAIDS ambassador as well as a senator in Thailand's parliament, next detailed how PDA grew from a family-planning NGO to a provider of integrated development and environment programs. When PDA initiated community-based family-planning services in 1974, Thailand was an explicitly pro-natalist country, with an annual population growth rate of 3.2 percent and seven children per family on average. Today, those figures have declined to less than 1 percent and 2 children per family.

Viravaidya detailed how PDA spearheaded Thailand's national effort to reduce its birth rate through (a) increasing

accessibility to contraceptives (especially in rural regions) and (b) making contraceptives acceptable to the public at-large, often through colorful public information campaigns that featured condom-blowing contests, free vasectomies, and primary school educational programs.

"Cabbages and condoms," said Viravaidya, repeating PDA's famous slogan. "Contraceptives have to be found as easily as vegetables in villages." PDA involved everyone from taxi drivers to the police, Avon salespeople, and Buddhist monks in the effort.

The campaign has been so successful, Viravaidya said, that PDA now spends only 10 percent of its efforts on family planning. "Everybody [in Thailand] accepts it," he said. Indeed, "Mechai" is now a Thai nickname for "condom."

Expanding Its Portfolio

In the 1980s and 90s, PDA expanded its portfolio to include health (particularly HIV/AIDS) and rural development, poverty reduction, and environmental conservation. For HIV/AIDS, Viravaidya said that PDA worked to get even more widespread distribution of condoms throughout Thailand as well as continuous public service announcements on television—an effort that has helped to reduce the country's HIV infection rates by 77 percent.

Viravaidya stressed the importance of visible high political support for such efforts. "The next World AIDS Conference [set for Bangkok in 2004] should have a leadership track," he argued. "Without political commitment at the top, it will be very difficult to make inroads against the global AIDS problem."

PDA has also developed a for-profit arm, running its own handicraft shops, resort, and restaurant (the famous "Cabbages and Condoms" in Bangkok) as well as brokering

deals between rural Thai villages and corporations such as Volvo and Nike. Other rural efforts have involved collective rural microcredit and programs to empower women.

“You begin to see the wealth, the strength, the power of the village,” Viravaidya said. “And it’s all sustainable.”

He concluded by chastising donor countries and foundations for relying too heavily on grants. “You have to help us be viable through training and resource allocation,” Viravaidya said. “NGOs are expecting to live off the generosity of donors forever, and it can’t work.” **W**

GOOD WATER MAKES GOOD NEIGHBORS: A MIDDLE EAST PILOT PROJECT IN CONFLICT RESOLUTION

*Featuring **Gidon Bromberg**, Israeli Director, Friends of the Earth Middle East, and **Abdel-Rahman Sultan**, Director, Washington Office, Friends of the Earth Middle East*
22 January 2003

By **Robert Lalasz**

Can environmental problems be used to promote international cooperation even in the world’s most contentious areas?

Friends of the Earth Middle East (FOEME) is an NGO committed to dialogue and working exclusively on transboundary environmental issues involving Jordanian, Israeli, and Palestinian communities, with a staff that is drawn equally from those communities. In this meeting, co-sponsored by the Wilson Center’s Environmental Change and Security Project (ECSP) and its Middle East Project as well as FOEME and the Heinrich Böll Foundation, Gidon Bromberg and Abdel-Rahman Sultan detailed FOEME’s efforts to foster cooperation on water among some of the region’s border municipalities.

Inclusiveness the Key to Success

FOEME, which was established in 1994 under the name EcoPeace, was the first regional environmental organization to include Jordanian, Israeli, and Palestinian environmental groups and actors. Bromberg said that FOEME practices strict inclusiveness: not only does it have offices in all three of the countries in which it works, but each of its projects (working to save the shrinking Dead Sea, trade and the environment, renewables, and water) must have coordinators from each country.

“The success of the organization is that

it together decides on a single agenda, and then the staff from each country dialogues with that country’s press and policymakers,” Bromberg explained. “It’s a single effort to promote regional peace and environmental cooperation.”

The Middle East: An Impending Water Disaster

Sultan followed by outlining the dire water situation in the Middle East, where population growth, unsustainable agricultural practices, and pollution are stretching this arid region’s scarce water to the point of disaster.

Sultan said that, while Middle East rivers such as the Jordan and Yarmouk are being tapped beyond capacity, untreated sewage is ruining both the region’s surface water and its crucial aquifers (which are generally shared among many or all of the region’s countries).

According to Sultan, inequitable water distribution also marks regional water management: while Israelis use an average of 300 cubic liters per capita per day, Palestinians receive merely 60—barely above the generally-agreed upon minimum for human sustainability.

“Jordan receives water for 12 hours daily,” Sultan said, “and most Palestinian villages don’t have continuous water flows.” He added that, since the Palestinian national workforce is more dependent on water-



Gidon Bromberg

intensive agriculture than those of surrounding countries, such shortfalls are particularly dangerous for Palestinian economic sustainability.

Sultan also noted that high national population growth rates will continue to widen an already large gap between the region's demand for water and its supply. Palestinian annual population growth rates average about 4 percent, and Israeli rates are about 3.5 percent.

By 2040, Sultan said, the water demands of these burgeoning populations will outstrip a water supply that will increase only slightly despite a major drive to build desalination plants.

**"In 8 to 10 years, the ground water [in the Gaza Strip] won't be suitable for drinking."
—Abdel-Rahman Sultan**

The region's water mismanagement, he added, also plays a crucial role: policies neglect adequate sanitation and wastewater treatment, and they allow agriculture and domestic demand to oversubscribe water sources (leading to widespread salination, contamination, and evaporation).

The level of the Dead Sea, for example, is dropping by a meter a year. Infants in the Gaza Strip are already afflicted with "blue baby" syndrome, attributable to high levels of nitrates in their water. Sultan also said that most cities in the West Bank depend solely on cesspools for their wastewater treatment.

"In 8 to 10 years," he said, "the ground water there won't be suitable for drinking."

To avoid the systematic contamination of whole aquifers, Sultan advocated for Jordan, Israel, and the Palestinians to look in a comprehensive way at pollution prevention. "The three nations meet regularly on water division and distribution," he said, "but there is no discussion concerning pollution prevention. But this problem affects water supplies for the whole area."

Good Neighbors Make for Good Water

Bromberg then detailed FOEME's year-old Good Water Neighbors Project, which focuses on sensitizing neighboring border

communities in the region to their shared water problems and then encourages sustainable solutions to those problems. "The focus on community is crucial," Bromberg said. "We hope to use them as leverage for regional change."

The Project is working with five transboundary pairs of Israeli and Jordanian or Israeli and Palestinian municipalities. A typical project involves a Palestinian community with a water shortage and an Israeli neighboring community that suffers from the Palestinian town's untreated sewage.

Bromberg explained that the Project's staff members come from the affected communities; these staff members educate their neighbors and elected officials about shared water realities between the paired communities and then work with these groups toward effective solutions. Between 20 to 50 "water trustees" from each town also commit to the effort.

"So much depends on the personal contact, on the dialogue we can develop between decision-makers," said Bromberg. "We cannot provide more water for any community or state—we can only raise awareness in each community about water realities. When neighbors can lobby for neighbors and be advocates, that's where we become effective."

He added that FOEME hopes to use concrete results from the Good Neighbors Project to launch a region-wide media campaign to show that the commitment is there if opportunities are created. FOEME also hopes to foster regional water solutions based on these pilot efforts.

In addition, FOEME also engages in ad hoc drives—such as its campaign to raise money to replace water storage tanks damaged or destroyed in the 2002 Israeli military incursion into the West Bank.

Politics, Agriculture, and Behavior

In response to audience questions, Bromberg said that FOEME has often found the Middle East political landscape less than cooperative with its efforts. "Different ministries and authorities at times have seen the diffusion of power as a threat," he said.

"But municipalities have lost faith in their central governments recently, which helps us," added Bromberg. "They're willing to take

initiatives on their own that they wouldn't have three years ago."


In addition, he said, Jordan has facilitated good movement toward regional cooperation on water issues since it signed its peace treaty with Israel.

Both speakers and audience members agreed that agriculture, which uses 50 percent of the region's water supply, is a major obstacle toward more efficient water use in the Middle East.

Bromberg said that the Middle East behaves "not as if we live in a desert, but as if we live in Europe. We can't make the desert bloom, and if we try we pay an incredible

price. We need to focus on sustainable water use and enjoying the sun, not being the breadbasket for the rest of the world."

Bromberg ended by calling for more regional eco-tourism instead of agriculture as well as for attention to population issues as crucial steps toward addressing water scarcity there.

"There simply is not room for everyone if we continue to behave in a water-rich fashion," Bromberg said. "The region's environmental community is only now aware of reducing population growth and immigration." 

CONSERVATION, POPULATION, AND HEALTH: A CONVERSATION WITH JANE GOODALL

Featuring Jane Goodall, Founder, The Jane Goodall Institute
3 April 2003

By Robert Lalasz

Jane Goodall, one of the world's leading primatologists and conservationists, told an audience of Wilson Center staff members that conservation efforts cannot succeed without also ensuring the sustainable livelihoods of those living around protected areas.

Goodall, whose renowned research on wild chimpanzees in Tanzania has made her an international environmental figure, said that she has been shocked at the rampant and unsustainable deforestation around African chimpanzee habitats. "How can we save the chimps if the people outside the forest are struggling to survive?" she asked.

Humanity's Connection to Nature

Goodall has studied and worked with chimpanzees for over 40 years, breaking gender barriers throughout her career. Her Jane Goodall Institute for Wildlife Research, Education and Conservation provides ongoing support for wild chimpanzee and primate field research, increases primate habitat conservation, and builds awareness of the ties between humanity and the environment.

Goodall, who began her Wilson Center

appearance by imitating a chimpanzee greeting, said that the chimpanzee more than any other creature has helped us to understand that we are part of the animal kingdom.

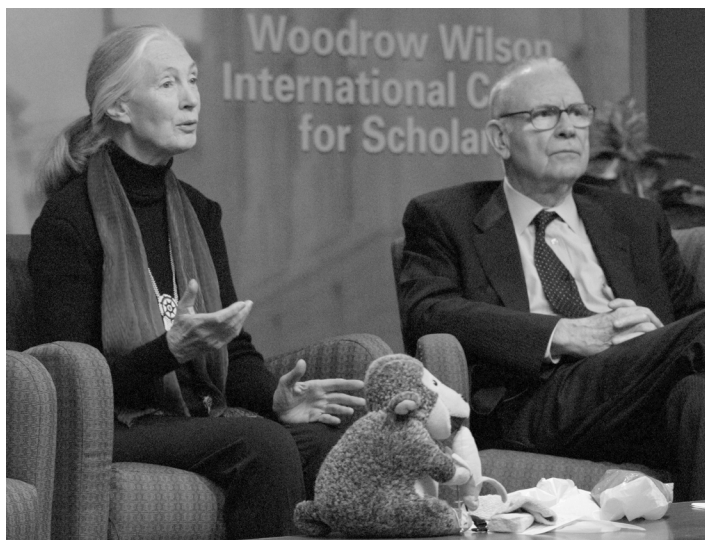
"Chimpanzees show us that the line dividing humanity from animals is very blurry," Goodall said. "We differ in DNA from them by just over one percent. They use objects as tools in a very imaginative way, they show immense skill in social manipulation, and they are quite political creatures."

She added that, like humans, chimpanzees use different strategies to achieve social status. "Some use brute force, but they don't last very long," Goodall joked. "Those who use their brains last longer."

Humanity's Threat to Nature

Goodall said that warfare and unsustainable human economic development now threaten to ruin conservation efforts in Africa and worldwide.

"When I arrived in Tanzania," she said, "there was chimpanzee habitat stretching 30 miles inland from the Gombe National Park shoreline. Now, outside the coastal area, those



Jane Goodall and Wilson Center President Lee H. Hamilton

forests are gone.” Goodall added that streams of refugees from wars in the Great Lakes district of Africa have placed enormous pressures on the Tanzanian environment.

To address these issues, The Jane Goodall Institute developed its TACARE (Lake Tanganyika Catchment Reforestation and Education) Program—a reforestation project in western Tanzania that focuses on improving residents’ standard of living while promoting reforestation, curbing soil erosion, and expanding conservation education of the local population. Goodall said that TACARE has educated villagers on sustainable vegetable growing, cultivation of woodlots, and other sustainable practices while itself becoming self-sustaining, expanding from 12 to 33 villages and run by teams of Tanzanians trained in agroforestry and health care.

“It’s a very poor area,” said Goodall. “TACARE helps them get support of local people not only for chimps’ conservation but also for a more sustainable survival strategy.”

TACARE has also focused on improving the self-esteem and earning potential of women through nine microcredit banks based on the system. Goodall explained that the program funds general education for women as well as specific education in family-planning, HIV/AIDS prevention, and conservation. “We concentrate on education because as education rises, family size drops,” said Goodall.

Goodall noted that growing populations are destroying habitat and creating deserts in parts of Africa. And in Central Africa, where the last significant populations of chimpanzees reside, logging conglomerates are making deep roads into forests, opening them up for migrants and commercial hunters who are feeding an increasing developed-country appetite for bushmeat.

“The situation across Africa is really grim, and the bushmeat trade is a very major problem,” said Goodall. Her Institute’s Congo Basin Project addresses the trade through public education and conservation, and Goodall applauded the United States-led coalition that announced at the Johannesburg World Summit on Sustainable Development a \$60 million fund to stop the trade. Groups such as the Institute also continue to promote sustainability in Central Africa by working with governments, the private sector, and international financial organizations.

Jane Goodall Today

Goodall said that she is now devoting most of her energies “to raising generations of young people to be better stewards of the environment”—especially through her Institute’s Roots and Shoots Program, which educates schoolchildren on the interrelationships between animals, people, and the environment.

Such programs give Goodall hope, as does the resilience of both nature and humanity. She reminded Wilson Center staffers that tree saplings sprung up at Nagasaki soon after the atomic bomb was dropped there, and she displayed talismans that she carries with her everywhere: a feather from a whooping crane, which came back from the brink of extinction; a bit of limestone from Robbin Island Prison, where Nelson Mandela was incarcerated for decades; and a surgical glove from a surgeon who had his hand blown off as a child.

“I was in New York on September 11,” Goodall said, “and on the same day we saw the ultimate evil, using innocent people to kill innocent people, we also saw incredible heroism and generosity of spirit.” She concluded that September 11 should boost efforts to conserve the environment, not defund them.

“If we stop caring about the environment

now, then terrorism will win, because what will we be leaving our children?" Goodall said.

Goodall followed her address by meeting privately with a policy audience at the Wilson Center. Both her conversation with staffers and the private meeting were sponsored by

the Center's Environmental Change and Security Project. **W**

For an edited transcript of Jane Goodall's comments to the policy audience, see her commentary "Bridging the Chasm: Helping People and the Environment Across Africa" on page 1.

The HIV/AIDS Pandemic and Critical Policy Issues for the Armed Forces

*Featuring **Stuart Kingma**, Director, Civil-Military Alliance to Combat HIV and AIDS, and **Rodger Yeager**, Associate Director, Civil-Military Alliance to Combat HIV and AIDS*

22 April 2003

By Robert Lasaz

While civilian populations in many African and other developing country nations are being decimated by the HIV/AIDS pandemic, militaries in these countries are estimated to suffer from even higher HIV infection rates—ultimately posing a threat to force readiness and national and even regional security.

Yet those developing countries with vigorous defense-sector programs of HIV/AIDS prevention education show remarkable results in restraining the pandemic across all sectors, civilian as well as military. In this Wilson Center meeting sponsored by ECSP, Stuart Kingma and Rodger Yeager of the Civil-Military Alliance to Combat HIV and AIDS reviewed critical policy questions that militaries and civil administrations in developing countries must address in confronting their HIV/AIDS problems.

Militaries and the "Second Wave" of HIV/AIDS

With a "second wave" outbreak of HIV/AIDS poised to threaten Asia, Eastern Europe, the Caribbean, and Central America, Kingma and Yeager stressed that militaries in these regions can be a critical bulwark against the pandemic instead of contributing to it.

The main challenge, however, is to engender behavior changes in military attitudes, policies, and precautions regarding HIV. "The only successful means of attack on

transmission comes through changes in behavior," Kingma said. "This is why addressing it substantively is so difficult, along with protection and care for infected."

"The security/defense sector in each country needs an agenda for urgent yet realistic policy development and support," he added. "Some are well on their way—Thailand, Cambodia, Uganda, and Senegal, among others." But Kingma cautioned that many of the most critical policy issues—especially mandatory testing for HIV—tread on touchy legal, ethical, and cultural issues.

Civil-Military Policy Questions

Kingma outlined two kinds of issues related to HIV/AIDS in developing-country militaries: those that militaries share with civil society, and others that are specific to the military.

"The military doesn't exist in a vacuum," said Kingma. "There is always a civil-military interface, made real through chains of personal interaction: dependents, wives, contacts, affairs."

1. STI/HIV prevention

With no vaccine yet in sight for HIV or other sexually transmitted infections (STI), "education is all we have," said Kingma. But he added that effective prevention education must be much more than information transfer: it needs to be incorporated into



Stuart Kingma

recruit training and reinforced before the first post-basic leave period (“the most dangerous time of all in the life of a sexually-active but deprived young person,” said Kingma) as well as in officer and technician training, before and after deployments, and at discharge and demobilization.

2. Male and female condom promotion, provision, and availability

While Kingma said that “mutual fidelity in a stable sex partnership is still the first line of defense versus HIV,” he argued that condoms are the only practical and responsible strategy of the moment against infection. Further, he said that condom use must become a culture—through prevention training that goes beyond group briefings and pamphlets.

3. HIV testing and counseling

While the U.S. military instituted compulsory pre-recruitment HIV screening and periodic testing during service back in 1985, that policy is not universal. The United Nations relies on voluntary testing and prevention programs instead of mandatory testing because of concerns about privacy and possible discrimination against soldiers as well as fears that a mandatory policy would be counterproductive.

Kingma said that a policy of compulsory HIV screening and testing is being adopted by militaries and police forces in an increasing number of countries that are motivated by the burgeoning costs of AIDS care and retraining to fill the positions of people lost to AIDS. Despite the complications of compulsory testing, Kingma said that periodic testing can preserve force readiness and deployment capacity as well as help to (a) ensure longer service for those trained for technical or command positions, (b) adjust duty assignments, and (c) identify infected personnel and their partners for counselling and care.

4. STI/AIDS treatment, care, and family/community support

Kingma said that defense ministries need to equitably balance the competing values of military readiness and national security versus treatment, care, and support for all those affected by the virus.

However, he added that striking such a

balance becomes problematic for defense ministers who do not have sufficiently-funded health budgets. Kingma argued that national treasuries need to accord a fair share of their HIV-care budgets to defense establishments, and that financial, technical, and pharmaceutical support is urgently needed to help civilian and defense/security sectors in developing countries find the answers to the care and support demands they face.

5. The catalytic, complementary role of civil-military collaboration

“Countries with vigorous defense-sector programs in HIV/AIDS preventive education show results in restraining the epidemic across all sectors,” Kingma said, citing Thailand, Uganda, Senegal, Cambodia, Zambia, Morocco, and Tanzania as examples. “The defense sector is critical for successful national AIDS control.”

Military Policy Questions

1. The military workplace as a unique setting for HIV risk and risk management

Kingma argued that HIV/AIDS-related policy issues take on expanded and critical significance when peace breaks down. “At these times, the military may be the only institution able to restore and manage a transition to peace and stability,” he said. “Hence, it’s crucial that militaries address prevention and treatment in their own houses.”

Kingma also noted that militaries draw recruits from the age group at highest risk for STI, and that some circumstances of military life—frequent travel, distant postings, stress and boredom, the habits of professional risk carried over into social contacts, and the attraction of military installations to sex workers—all enhance the risk of STI and HIV transmission to military personnel.

“And the risk environment is further enhanced when the military are involved in missions characterized by open conflict, post-conflict peace enforcing, massive displacement, and other humanitarian emergencies,” Kingma said. Unlike other groups, however, militaries are seldom considered appropriate as recipient of donor funds for HIV prevention programs.

2. Military command and control structures as facilitators of and impediments to HIV prevention and management

While militaries' span of control and chain of commands provide some of the best means to induce change over a wide range of behaviors, Kingma said that changing the sex practices of soldiers who are off-duty or deployed in war is still difficult.

"The answer must go beyond codes of conduct," he said. "We have to become more proactive." He noted that commanding and medical officers respond to somewhat different mandates (maintaining deployable force strength versus maintaining a healthy force), and that since HIV/AIDS is not perceived as a "war-stopper," it is easy for commanders to fall back on the quick fixes of pre-recruitment screening for HIV, a few lectures, and a pamphlet.

"Commanders need to be sensitized to the issues and the sense of urgency," Kingma added. "It's essential that these critical policy questions lead to dynamic and proactive programming in the military establishment."

3. The physical impact of military training and service on the progression of HIV infection to symptomatic AIDS

Although some argue that strenuous military training and service hasten progression of those with living with HIV to symptomatic AIDS, Kingma said studies of the question thus far have been inadequate. "We have been encouraging military medical services to research these factors in greater detail," he said. "The answers will shed light on the validity of HIV screening of recruits."

4. The relationship between length of deployment in operational areas and risk of HIV infection

Kingma said that length of deployment is one variable that strongly influences one's final vulnerability to STI infection. For example, Nigerian military contingents involved in regional peacekeeping efforts in Liberia and Sierra Leone demonstrated a cumulative risk factor increase of 2 percent per annum of deployment.

The military experience, he added, confirms the increased vulnerability of other sectors that are also characterized by a high degree of mobility: long-distance transport

workers, migrant labor, international refugees, and mobile sex workers.

"Will commanders accept the need for ordering shorter tours of deployment and for allocating adequate resources so that preventive education, condom promotion, and peer counseling are reinforced prior to and after deployment?" Kingma asked.

5. Special HIV-related issues of participation in regional and international peacekeeping missions and humanitarian emergencies

Kingma noted that HIV thrives in climates of conflict and socio-economic and political disintegration. "The culture of

"The security/defense sector in each country needs an agenda for urgent yet realistic policy development and support."

—Stuart Kingma

violence turns into a structural risk environment for transmission," he said. "And sudden and absolute poverty of displacement populations makes many turn to sex for sale." He stressed that every operational group present in peacekeeping and humanitarian situations is vulnerable to HIV transmission.

Indeed, in recognizing in January 2000 that HIV was a threat to international health and security, the UN Security Council also mandated enhanced prevention activities for UN peacekeepers before, during, and after deployment. Kingma, however, said that HIV prevention efforts aimed towards UN peacekeepers are underfinanced and most troop-contributing countries cannot afford to contribute monies for these activities.

6. Risk and risk reduction during demobilization, reinsertion, and reintegration into civil society

Countries worldwide face challenges relating to downsizing and demobilizing troops that are HIV-positive. Johanna Mendelson and Manuel Carballo have written that "if demobilization programs do not include prevention and peer counseling, the reintegration of HIV-positive soldiers into new communities and...their original villages may result in a major proliferation of the virus."

However, Kingma added that demobilization offers an opportunity for discharged troops to become agents for change in their home communities—but only if these troops are offered HIV prevention education, counseling, testing, care, and support.

Peacekeeping Issues

In discussion with the audience, Kingma and Yeager said that the issues of HIV/AIDS testing for UN peacekeeping contingents are “exquisitely complex and difficult.” Kingma noted, for example, that a number of troop-contributing countries have objected to a change in UN policy as a challenge to their

continued participation.

“Many defense ministries are funding their entire budgets on the funds the UN contributes to them for peacekeeping,” Kingma said. He added, however, that the issue is under active discussion and review, and that language in the new UNDPKO policy now under development is “getting stronger and stronger” for banning from the peacekeeping field any soldier who is HIV-positive. **W**

For an extended version of this summary, go to www.wilsoncenter.org/ecsp and click on “Event Summaries.”



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