

MEETING SUMMARIES

25 September 2001

BEYOND SUSTAINABLE AGRICULTURE: INCREASING FOOD PRODUCTION AND PROTECTING ECOLOGICAL DIVERSITY

Featuring **Jeffrey A. McNeely**, Chief Scientist, IUCN-The World Conservation Union; **Sara J. Scherr**, Fellow, Forest Trends and Professor, University of Maryland College Park; **Richard E. Rice**, Chief Economist, Center for Applied Biodiversity Science, Conservation International; and **Adela Backiel**, Director, Sustainable Development, U.S. Department of Agriculture

By Robert Lalasz

Eight hundred million people who live within and around the world's richest biodiversity areas

(known as biodiversity "hotspots") suffer from massive poverty and food insecurity.

Jeffrey McNeely and **Sara Scherr** discussed their preliminary research findings (available in the IUCN and Future Harvest report "Common Ground, Common Future") on strategies for increasing agricultural yield in these fragile regions while protecting wild biodiversity. The meeting was the first in a series of ECSP meetings focusing on issues pertinent to the Johannesburg 2002 Summit on Sustainable Development. **Richard Rice** and **Adela Backiel** served as discussants.

Lessons From the Field(s)

McNeely and Scherr located approximately 35 situations within the biodiversity hotspots in which agricultural productivity and biodiversity have remained steady or even increased. They then identified six common elements from these case studies that, under the umbrella term *ecoagriculture*, could serve as universal strategies for farming that is both productive and sustainable:

- Increase or sustain yields on existing farms to reduce the destruction of habitat caused by expanding agricultural lands;

- Establish corridors of natural vegetation linking protected biodiverse areas;

- Establish more protected areas around farms that benefit farmers and local people (such as windbreaks or no-take reserves that increase fish yields elsewhere);

- Modify the mix of spacing between crops and non-crops to mimic natural habitat;

- Reduce agricultural pollution that is harmful to wildlife through organic farming and other means (such as vegetative filters along waterways);

- Improve the ways farmers manage soil and water (for example, by switching back to leaving fields fallow) to create environments that are more supportive of wildlife.



Jeffrey A. McNeely

In order to implement these strategies, McNeely and Scherr recommended that: (1) conservation scientists and farmers should work together to develop more viable *ecoagriculture* methods; (2) these concepts

and methods should be disseminated through farmer organizations/communities; and (3) ecoagriculture should be encouraged through public policy (such as a reevaluation of pricing, subsidies, and regulations that discourage its methods). McNeely added that biodiversity protection has too often been left to the environment ministries of the world's governments and not integrated into agricultural finance or military planning.

Ecoagriculture Versus Parks?

Scherr stressed that preserving isolated intact ecosystems was an incomplete strategy for biodiversity. "Many protected areas are islands in a sea of agriculture," said Scherr, noting that agricultural activities have consumed at least 30 percent of the land in 45 percent of the world's protected biodiverse areas. "The viability of protected areas is very much affected by the matrix of use around them," she added. While pure conservation efforts continue to have their place, Scherr argued that ecoagriculture is a much more sophisticated strategy than mutually-exclusive approaches towards conservation and agriculture.

But while discussant Richard Rice called ecoagriculture "a useful concept," he noted what he considered limitations to its widespread adoption. While Rice said that a role clearly exists for targeted ecoagriculture interventions, he added (a) such interventions would only remain viable under favorable market conditions, and that (b) undisturbed ecosystems are still better than the patchwork of habitats McNeely and Scherr were proposing. He also decried the widespread dismissal of parks as a primary conservation tool, citing a Conservation International (CI) study that showed the effectiveness of parks in preventing loss of biodiversity at a low financial cost. Eighty-three percent of the parks around the world studied by CI have as much natural vegetative cover as they had over twenty years ago. Forty percent had more. "Parks are not perfect," said Rice, "but they are effective despite their underfunding"—which he estimated at \$1 per hectare per year.


Rice also noted that there are many situations for which neither parks nor ecoagriculture is a viable solution. For these, he advocated establishing *conservation concessions*, in which area resource owners are compensated for a region's conservation. "With conservation concessions," Rice said, "conservation becomes the market product rather than development." He said that this approach is also effective in retiring the cultivated areas of "sunset" (i.e., declining)

industries such as cocoa or coffee.

Rice concluded by arguing that ecoagriculture is a solution to agricultural issues, not to conservation. "Ecoagriculture lacks financial incentives, has a reliance on the stimulus of market forces, and is dependent on development for conservation." He felt that, considering limited resources for biodiversity programming, conservation funding should be used for proven conservation strategies instead of agricultural programs. "It's way too early to give up on parks," Rice said.

Entrées to Policymaking

Discussant Adela Backiel disagreed with Rice, calling ecoagriculture an important addition to the portfolio of conservation and sustainable agriculture options. "The report comes at a critical time," said Backiel. "We need to understand that biotechnology isn't the only solution to the problem of sustainable agriculture, and the report contributes to this reframing."

Backiel said that *Common Ground, Common Future* should address not only farmers but other key target audiences such as foresters, landowners, and state and local government officials. She also urged McNeely and Scherr to come together with policymakers to establish concrete policy recommendations. The upcoming World Food Summit in Rome, she said, provides an entrée for these discussions that contrasts with the sectoral categorizing of planning for Johannesburg 2002. Backiel went on to say that Johannesburg will deal with food security, if only as a theme that cuts across issues such as poverty eradication, energy, and freshwater resources. 

For more on this meeting, visit <http://ecsp.si.edu/archive/sustainag.htm>

Related Web Links

"Common Ground, Common Future"

http://www.futureharvest.org/pdf/biodiversity_report.pdf

Jeffrey McNeely

<http://iucn.org/2000/about/content/people/jmcneely.html>

Sara Scherr

<http://www.ciat.cgiar.org/poverty/scherr1e.htm>

2 October 2001

DEBATING THE REAL STATE OF THE WORLD: ARE DIRE ENVIRONMENTAL CLAIMS BACKED BY SOUND EVIDENCE?

Featuring **Bjørn Lomborg**, Associate Professor, University of Aarhus, Denmark; **David B. Sandalow**, Executive Vice-President, World Wildlife Fund (discussant); and **D. James Baker**, former Administrator, U.S. National Oceanic and Atmospheric Administration (discussant)

By Robert Lalasz

Could the world's environment actually be getting not worse but *better*? Bjørn Lomborg thinks so. His new book, *The Skeptical Environmentalist: Measuring the Real State of the World*, lit a firestorm of controversy when it was published last year in Europe. Lomborg visited the Wilson Center to present and defend the book (which has just been published in the United States). Discussants David Sandalow and James Baker criticized *The Skeptical Environmentalist* as largely sloppy, misleading, and full of fatal misinterpretations.

Lomborg, a former member of Greenpeace, said that *The Skeptical Environmentalist* came out of his effort to debunk the work of the late economist Julian Simon, who argued that most environmentalist concerns—from global warming to rapid population growth to scarcity of resources—are unsupported by scientific evidence. But to Lomborg's surprise, the results of his research and statistical analysis ratified most of Simon's positions. *The Skeptical Environmentalist* instead asserts that it is environmental advocacy groups who distort the state of the earth's health as a fund-raising technique, through what Lomborg terms "The Litany" of dire forecasts.

"Is This A Good Way To Spend Our Money?"

Lomborg argued that evidence clearly shows an

environmental apocalypse is not at hand. Hunger, natural resource abundance, species extinction, life expectancy, pollution—by United Nations and other independent measurements, Lomborg said, all these categories have vastly improved and will continue to

improve, both for the industrialized and for the developing world. While there are still environmental problems and resource imbalances, Lomborg said, these are fewer and smaller than ever before; and policymakers should be rationally prioritizing societal needs instead of acting out of desperation. "We can only use our money once," said Lomborg, "so we should make sure we spend it in the best possible way. Are we making the right decisions now, or are we just handing over our wallets?"

Lomborg then sketched out a few of his specific findings. The world's percentage of starving people has dropped from 35 percent in 1967 to 19 percent today,

and is projected to drop to 6 percent by 2030. Crucial raw commodities such as oil have been decreasing in price because we are getting better at finding and exploiting them. Air pollution, by far the most injurious kind of environmental contaminant, is at its lowest point since 1585 in London. (Lomborg argued that, while air pollution is getting worse in the developing world, it will get better as developing countries follow the economic growth patterns of the



Bjørn Lomborg

developed world.)

The Skeptical Environmentalist particularly targets the Kyoto Protocol for criticism. While global warming certainly is occurring, Lomborg said, Kyoto's measures would postpone its effects only slightly, and at a cost of \$150 billion to \$350 billion a year. "For the cost of Kyoto for one year," said Lomborg, "we could be giving clean water and good sanitation to every single human being on the planet"—which, he maintained, would

increase in rainfall, spread of disease, or unemployment," said Sandalow, "those would be considered pretty big problems."

Sandalow also called Kyoto a "paradigmatic case of decision-making under uncertainty," and accused Lomborg of emphasizing the uncertainties about climate change over the certainties. "Kyoto alone was never intended as the solution," said Sandalow. "It was intended to set the world in the right direction, and

Kyoto alone was never intended as the solution...It's not an indictment of Kyoto that it alone fails to solve the problem.

—David B. Sandalow

stop 200 million deaths and 500 million illnesses annually. "Is this a good way to spend our money?" he lamented.

Lomborg concluded by stating that spending on the environment is in fact a profoundly inefficient way to save lives. He cited a Harvard Center for Risk Analysis study that, while a life is saved for every \$9,000 in health care spending, it takes \$4.2 million in environmental spending to achieve comparable results. Lomborg added that U.S. environmental spending (currently at \$21 billion) could save 60,000 more lives "for free" if spent optimally on something else. "In other words," he said, "our current priorities are committing 60,000 statistical murders every decade."

Sandalow: Book Understates Environmental Problems

While agreeing that many global environmental and human security trends are getting better, **David Sandalow** said that he found *The Skeptical Environmentalist* "quite disappointing," full of obvious errors, sloppy sourcing, and chronic exaggeration of the positions of environmental advocacy groups and thinkers. "In the United States," Sandalow said, "there is a much more complex and less momentous view of environmental problems than that presented by Professor Lomborg." He said that the book was best understood as a provocative and ambitious polemic, and that readers should proceed with caution.

Sandalow went on to criticize Lomborg for underplaying significant environmental problems. For example, while *The Skeptical Environmentalist* concedes that global species extinction is now occurring at 1,500 times the natural background rate, Sandalow said that Lomborg characterized this phenomenon as "not a catastrophe, but a problem." "If we had a 1,500-time

to set the necessary advanced technology in motion. It's not an indictment of Kyoto that it alone fails to solve the problem."

Can Cost-Benefit Analysis Include Values?

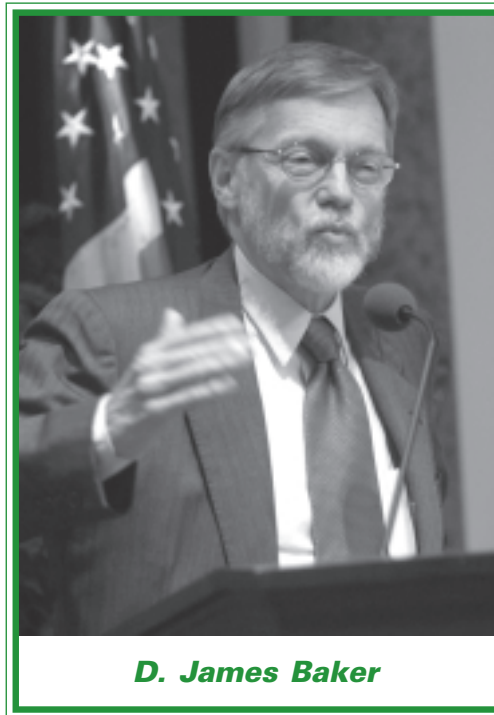
James Baker called *The Skeptical Environmentalist* an impressive piece of work, and linked it to previous efforts to reprioritize environmental questions, such as Gregg Easterbrook's *A Moment on the Earth*. But although Lomborg's book is strong in factual information, Baker said, it is far weaker on analysis. Lomborg, Baker charged, does not have the background to interpret environmental data, and his failure to distinguish between peer-reviewed and non peer-reviewed material fatally compromises his argument.

In fact, Baker said, Lomborg's data about an improving environment is common knowledge, and well-represented in government and policy debates—the Report of the President's Council on Sustainable Development makes many of the same points. The real question, Baker said, is how we are going to manage the earth's resources in a period of rapid change. Lomborg's mistake, Baker said, is to focus on global averages to the exclusion of regional and local realities—such as how sea-level rise associated with climate change will affect small island states, or how overfishing will impact those nations dependent on the sea for protein.

Baker also criticized Lomborg for an overreliance on cost-benefit analyses, saying that "values are critical in making decisions—you can't get them just from statistics." He cited MIT professor Robert Solow's inclusion of human and natural capital in GDP calculations as a better model than Lomborg's utilitarianism. "We don't make social judgements that

accept losers just because it costs less,” said Baker. A prime example of such a value-based judgement, Baker said, is the 1973 Endangered Species Act, which is now recognized as a basic expression of American values but which would fail conventional cost/benefit analysis.

Discussion focused on both the accuracy of Lomborg’s data and his societal priorities. Lomborg reiterated both his optimism about the future and his call for clear world priorities. As an example, he said that those who have criticized intensive agriculture in India for contaminating water wells there with arsenic were missing how that agriculture had saved hundreds of millions from starvation. “The people who acted are those who believed in the future,” Lomborg asserted, “who believed that technology probably could solve our problems.”



D. James Baker

Lomborg went on to defend his criticism of Kyoto, saying that he had based his cost-benefit analysis on the average predictions of six to twelve climate change models (including that of the International Panel on Climate Change). In response to a question about how global numbers mask a decline of some tree and bird species, Lomborg asked rhetorically if people really minded.

“People want clearings in forests for play,” he said. “Is it a worse forest, or better? And for whom?” He also defended cost/benefit analysis, saying that it is already (however unconsciously) the world’s default method of evaluation. “We all feign that we feel bad about it, but it’s a way of analyzing the status quo,”

Lomborg concluded.



For more on this meeting, visit <http://ecsp.si.edu/lomborg.htm>

Related Web Links

The Skeptical Environmentalist
<http://uk.cambridge.org/economics/lomborg/>

Bjørn Lomborg’s articles in *The Guardian*
www.guardian.co.uk/globalwarming

Environmentalists who disagree with Bjørn Lomborg
www.anti-lomborg.com

“Ten Pinches of Salt: A Reply to Bjørn Lomborg”
www.green-alliance.org.uk/Documents/Reports/ten%20pinches%20of%20salt.pdf

David Sandalow
www.worldwildlife.org/news/headline.cfm?newsid=292

James Baker
www.noaa.gov/baker.html

Kyoto Protocol
www.unfccc.de/resource/convkp.html

11 October 2001

THE WELLBEING OF NATIONS: DEVELOPING TOOLS FOR MEASURING SUSTAINABLE DEVELOPMENT

Featuring **Robert Prescott-Allen**, PADATA and author of *The Wellbeing of Nations*; **Thomas E. Lovejoy**, Lead Environmental Specialist for Latin America and the Caribbean, The World Bank (introduction); and **Melinda Kimble**, Senior Vice-President for Programs, UN Foundation (discussant)

By Robert Lalasz

While “sustainability” and “sustainable development” are two of the key concepts for 21st century national and global policymaking, the terms often evoke glazed eyes and lip service, according to researcher and consultant **Robert Prescott-Allen**.

To reinvigorate and sharpen these concepts, Prescott-Allen has invented several indices of human and ecosystem well-being that he says are much broader (and more precise) yardsticks of progress and health than such well-known indicators as the Gross Domestic Product or the Human Development Index. Prescott-Allen introduced his findings and his new Island Press book, *The Wellbeing of Nations: A Country-by-Country Index of Quality of Life and the Environment*, to a Wilson Center audience of population, development aid, and environment experts.

Two Questions

Prescott-Allen, who has founded and chaired several influential IUCN-The World Conservation Union projects and has 18 years experience evaluating and advising development strategies on four continents, said that every society should continually ask itself two questions: How sustainable are we? And how well are we? To answer these questions, Prescott-Allen said, we need a formal assessment method to provide clear numeric measurements that can be the basis for policy and can build public consensus for action.

Prescott-Allen defined “sustainability” (which he said is just another way of saying “the good life”) as a combination of (a) a high level of human well-being, and (b) the high level of ecosystem well-being that supports it. Much as the white of an egg surrounds and supports its yolk, Prescott-Allen said, an ecosystem surrounds and supports people. Any measure of well-being, therefore, must reflect this interdependence.

The Inadequacy of Present Indices

But why aren't present indices adequate for measuring the state of the world? Prescott-Allen argued that *human well-being* is both more than the strength of a market economy (which is what GDP measures) or a society's distance from deprivation (as measured by the Human Development Index). Instead, he said, human well-being consists of five dimensions:

- *Long lives in good health* and a stable population base;
- *Wealth* to secure basic needs and livelihoods as well as to promote enterprise and prosperity;
- *Knowledge* to live sustainably and fulfill potential as well as a vibrant culture;
- A community that *upholds the freedom of members*, has an *open and clean government*, and which is *safe from violence and crime*;
- *Benefits that are shared equally* by males and females and *shared equitably* among all strata of society.

Similarly, Prescott-Allen said that *ecosystem well-being* is more than low resource consumption (so it cannot be adequately measured by The Ecological Footprint) as well as more than the sum of a nation's environmental policies and practices (as measured by the Environmental Sustainability Index). Ecosystem well-being, according to Prescott-Allen, also has five dimensions:

- Conserving the *diversity and quality of the natural land ecosystem*;
- Conserving the *diversity and quality of water ecosystems*;
- Restoring the *chemical balance of global atmosphere* and the *quality of local air*;
- *Maintaining all wild species* and the genes in domesticated species;
- Keeping resource use *within the carrying-capacity of ecosystems*.

How To Measure Well-Being

The Wellbeing of Nations contains an exhaustive breakdown of each of these dimensions into the indicators that Prescott-Allen uses to develop his indices. The problem for any such work, Prescott-Allen said, is to convert these “apples and oranges” indicator measurements into common units.

Instead of using the inherently-limited options of physical units or money, Prescott-Allen opted for *performance scores*, which are the distance between a standard and the actual performance of a country. Using

Denmark—achieve “good” HWIs. No country is sustainable or even close (meaning that none scored “good” or “fair” on both the EWI and HWI). “Even though Sweden is at the top of the countries measured,” remarked Prescott-Allen, “it is still far from sustainability. This system does not simply compare relative positions from one society to another, but position in relation to something much more important, which is the idea of sustainability and human and ecosystem well-being together.”

For individual indices, the news was not much

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—Robert Prescott-Allen

international targets, national standards, and expert opinions to set his myriad performance standards, Prescott-Allen then mapped each country’s performances onto a 0–100 scale—making it “readily comprehensible to a wide range of lay people,” he said. The numeric scale also allows each score to be summed—for example, water withdrawal, inland water quality, and river conversion can be added to give a cumulative inland waters index for each country. “We can instantly see how any country is performing on any given indicator,” said Prescott-Allen.

The Barometer of Sustainability

Prescott-Allen’s work has to date yielded four indices: the *Human Wellbeing Index* (HWI); the *Ecosystem Wellbeing Index* (EWI); the *Wellbeing Index* (combining the HWI and the EWI, and thus measuring “sustainability”); and the *Wellbeing/Stress Index* (a ratio of how much harm a given country’s development does to the global ecosystem). *The Wellbeing of Nations* maps each country’s four scores onto a graph that indicates not only how countries are doing in relation to each other, but also how close they come to achieving “sustainability”—defined by Prescott-Allen as a “good” score for both human and ecosystem well-being. “Both must be treated together as equally important,” said Prescott-Allen. “There is not a fundamental tradeoff between the two.”

But the picture Prescott-Allen’s research produces is of a world with much work to do. Of the 180 countries tracked, only three—Sweden, Finland, and

better. The HWI shows two-thirds of the world living in “poor” or “bad” conditions, and only one-sixth of the world living in “fair” or “good” conditions. Most countries do even worse on the EWI: none scored “good,” primarily because the index measures not simply the impact of a country on its national environment, but also its impact on the global ecosystem.

Prescott-Allen labeled 37 countries (including North America and much of Europe) *ecosystem-deficit*: they have high standards of living but do not have adequate EWIs. Twenty-seven are *human-deficit* countries: these nations (primarily in Africa) make low demands on the global environment, but are deeply impoverished. And 116 are *double-deficit countries*—nations with both weak environmental performance and inadequate development. The Wellbeing Index, said Prescott-Allen, can also break down a country’s performance into its components, giving a clear picture of its strengths and weaknesses. “For instance, you can see at once that what is pulling the United States away from [sustainability],” said Prescott-Allen, “is air [quality], species and genes [preservation], and equity (the gap between the rich and poor).”

“A Matter of Choice”

“The bleaker image, however,” said Prescott-Allen, “is highlighted with some glimpses of hope.”

For example, the data in *The Wellbeing of Nations* clearly show that growth in a country’s human welfare

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(a higher HWI) does not necessarily result in environmental damage (a higher ESI). Prescott-Allen also pointed out that, at any level of development, some countries were clearly achieving the same quality of life for a lower environmental price. Ecuador, for example, has a better ESI than Colombia, even though the two countries have similar HWIs. While environmental conditions play a part in these disparities, Prescott-Allen remarked, there are other factors more readily within the grasp of human beings to change.

“Much of the relation between human well-being and environmental damage is matter of choice,” said Prescott-Allen. “The opportunity and capacity to make sound decisions is crucial. A high ratio of human welfare to ecosystem stress is strongly linked to good government, freedom, and good education—all three of which are essential conditions to sound decision-making.”



For more on this meeting, visit <http://ecsp.si.edu/archive/wellbeing.htm>

Related Web Links

Robert Prescott-Allen

http://www.idrc.ca/reports/read_article_english.cfm?article_num=1024

The Wellbeing of Nations

<http://www.islandpress.org/books/detail?command=search&db=IslandPress.db&SKU=1-55963-831-1>

Thomas E. Lovejoy

<http://www.usc.edu/admin/provost/tylerprize/01tyler>

PECS News



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CONFLICT: A CAUSE AND EFFECT OF HUNGER

Featuring **Ellen Messer**, Visiting Associate Professor, School of Nutrition Science and Policy, Tufts University; **Marc J. Cohen**, Special Assistant to the Director General, International Food Policy Research Institute (IFPRI); and **Emmy Simmons**, Special Advisor to the Assistant Administrator of the Global Bureau, U.S. Agency for International Development (discussant)

By Robert Lalasz

Areas of famine are almost exclusively found in areas of armed conflict, and food wars—the use of hunger as a weapon in active conflict and the consequential food insecurity—left close to 24 million people in 1999 hungry and in need of humanitarian assistance. Saying that policymakers need to find ways to more closely marry conflict prevention and agricultural and development aid, former Wilson Center Fellow **Ellen Messer** and **Marc J. Cohen** of the International Food Policy Research Institute presented and discussed their new *Environmental Change and Security Project Report* article “Conflict: A Cause and Effect of Hunger.”

Emmy Simmons of USAID served as discussant.

Food and Conflict: Close Connections

Ellen Messer opened by saying that the authors’ ongoing project (which has been joined at times and for the current article by Thomas Marchione of USAID) has moved from (a) writing about the history of hunger to (b) looking at where famine and conflict persist in the modern world, and then to (c) how hunger has been used as a weapon. Currently, the team is studying the history of agricultural development in conflict and post-conflict zones as well as how conflict prevention can be worked into programs of peaceful and conflict-zone development projects. “There is great complexity

that goes into questions of conflict as well as food security,” said Messer. “We need to think about what kinds of information are missing and what we might do differently if we had this information.”



As an example of the close connection between food and conflict, Messer cited plunging coffee prices as an integral part of the Rwandan genocide of the mid-1990s; low crop prices made Rwandans feel that they had no future and “made them all the more ripe for exploitation and mobilization by unscrupulous leaders,” she said. Can a similar situation be avoided in Colombia, Messer asked, which is also beset by plummeting coffee prices? Another

area of concern is how to deliver food aid in ways that do not exacerbate rising tensions and intergroup competition over resources. Messer said that the selective way in which Rwandan food aid was distributed, for instance, added to the tension there.

Messer also outlined a series of goals that the authors’ research has highlighted for conflict and hunger prevention:

- Use *mapping* (now being done to identify areas of acute food shortages) to identify priority areas for conflict prevention and agricultural development;
- Study *how conflict prevention can be built into development aid and how food relief might be used to avert conflict*;

- Avoid macro models that predict conflict with just a few indicators (such as infant mortality rates) in favor of *nuanced analyses of particular situations of peace and conflict*;
- Study how women could be integrated into central agricultural decision-making and *how the participation of women could lead to more peaceful instead of conflictual outcomes*;
- Convince development and relief professionals to work together and share a common vision for peaceful development that can also prevent conflict;
- *Increase general development aid*, especially to Africa and for agriculture.

Causality and Controversy

Marc Cohen next outlined the major findings of “Conflict: A Cause and Effect of Hunger.” He began by noting that both armed conflicts and people needing humanitarian assistance in 1999 were overwhelmingly concentrated in sub-Saharan Africa and parts of Asia. “Not coincidentally,” he said, “these are areas of the world that are the center of gravity of food and security.”

Hunger as a consequence of conflict is easily understood, Cohen said: conflict in a poor area destroys crops, deploys landmines that injure people and make it unsafe to farm, and produces refugees and crowded camps that increase susceptibility to disease. In 13 of 14 countries in conflict in Africa from 1970-1994, Cohen said, food production declined by a mean of 12.3 percent in years of conflict.

Conflict also causes further food insecurity by interrupting or in many cases ending schooling for children. Cohen cited an IFPRI study that found female education and food availability as the two largest contributors to reduced child malnutrition from 1970-95. In addition, Cohen noted that, in sub-Saharan African countries experiencing conflict, losses in agricultural production because of conflict were equivalent to a very high percentage of aid these countries received; these losses also vastly exceeded the level of foreign direct investment.

However, food insecurity as a cause of conflict is

more controversial. Cohen sketched out the argument between the environmental security school and the more traditional conflict/peace studies school over whether environmental scarcities (of which food insecurity is a prime example) can be major causes of conflict. Cohen and Messer believe that food insecurity or environmental scarcity is not alone sufficient to trigger conflict, but that other factors (such as human rights violations, oppressive social inequalities, and, most importantly, cultural values that legitimate violent resistance) are necessary. “We would also argue that a thorough political-economic analysis of the food system and the politics of food is what is needed,” said Cohen.

Cohen added that a human rights perspective is critical to any effective food security initiative—not only emphasizing the long-affirmed right not to starve, but also a more broadly-conceived human-rights framework for analysis, planning, and evaluation of development programs.

An Institutional Perspective

Discussant Emmy Simmons of USAID welcomed “Conflict: A Cause and Effect of Hunger” and its emphases on linking relief to development, looking to civil-society participation, and emphasizing conflict avoidance rather than just dealing with conflict that is occurring. “Working for AID,” Simmons said, “one is struck

by the number of situations that one is dealing with in which conflict seems just around the corner or is in full swing or in which the AID program is being put on the ground in order to resolve a conflict and move a country toward recovery.”

However, Simmons said that agencies like AID do not implement the kind of recommendations made in “Conflict: A Cause and Effect of Hunger” either systematically or well. She stressed that AID, other donor agencies, and NGO partners are *action-oriented*. “In bad or deteriorating or needy situations, we say—‘OK, let’s do *something*.’” said Simmons. “We get on the ground and we try to figure out what is useful.” Such a climate, Simmons suggested, is not receptive to Messer’s suggestion, for example, that agricultural



Emmy Simmons

development might actually trigger conflict in some situations instead of alleviating it.

Yet Simmons stressed that, in coping with a rising trend of intrastate conflict (particularly in Africa and perhaps in Central Asia) as well as projected increases

flexible and focused kind of way,” Simmons said. She noted that the new reorganization of USAID potentially sets relief and humanitarian assistance efforts against long-term development in a competition for resources. “I want to thank our

We need to know how to bring together different kinds of resources—money, food, in-kind resources, intellectual, people—in a much more flexible and focused kind of way.

—Emmy Simmons

in global hunger by 2015, donors such as AID need to learn how to incorporate such finding in its collective action. “We need to know how to bring together different kinds of resources—money, food, in-kind resources, intellectual, people—in a much more

speakers here for kicking us off in thinking about this as a really serious issue that collectively we have to address,” she said. **W**

For more information, visit <http://ecsp.si.edu/archive/conflict.htm>

Related Web Links

Ellen Messer

<http://wwics.si.edu/fellows2000/messer/>

Marc J. Cohen and International Food Policy Research Institute

<http://www.ifpri.cgiar.org>

USAID: Global Bureau

<http://www.usaid.gov/about/reform/>

Food and Agricultural Organization of the United Nations (FAO): Global Information and Early Warning System on Food and Agriculture

<http://www.fao.org/WAICENT/faoinfo/economic/giews/english/giewse.htm>

FAO: *The state of food and agriculture 2001*

<http://www.fao.org/docrep/003/x9800e/x9800e00.htm>

International Fund for Agricultural Development (IFAD): *Rural Poverty Report 2001*

<http://www.ifad.org/poverty/index.htm>

Indra De Sosa & Nils Petter Gleditsch (1999): *“To cultivate peace: Agriculture in a world of conflict”*

<http://ecsp.si.edu/pdf/Report5-Sect1.pdf>

16 November 2001

U.S. FOREIGN POLICY AND GLOBAL HEALTH: ADDRESSING ISSUES OF HUMANITARIAN AID AND POLITICAL INSTABILITY

Featuring **Jordan Kassalow**, Senior Fellow, Council on Foreign Relations; **Andrew Fisher**, Director, HIV/AIDS Operations Research Project, Population Council; and **Alfred V. Bartlett**, Senior Advisor for Child Survival, U.S. Agency for International Development; and U.S. Senior Advisor, UN Special Session on Children

By **Robert Lalasz**

In the wake of recent anxiety about anthrax and other forms of bioterrorism, domestic and global public health have reemerged as issues both for U.S. national security planning and for its foreign policy formulation. At this Wilson Center meeting, three public health experts made the case for the United States to take global leadership on general health issues as well as the specific problems of HIV/AIDS and children's health.

A Matter of Self-Interest

Calling global health “a matter of intense self-interest” for America, **Jordan Kassalow**, an adjunct senior fellow at the Council on Foreign Relations, outlined three reasons why health should be more prominent on the U.S. foreign policy agenda: (1) Americans face a clear and present danger from infectious diseases as well as from man-made bioterror; (2) global health issues and risks undermine U.S. economic and security interests abroad; and (3) the United States has a unique opportunity to lead the world toward a healthier state.

Kassalow went on to argue that poor health internationally (a) stunts economic growth in myriad ways, (b) creates political instability, and (c) decreases military preparedness and peacemaking capabilities around the globe—all factors that undermine U.S. interests. For example, Kassalow said, if malaria had been eradicated years ago, Africa's GDP in 2000 would have been \$100 billion larger—five times the total foreign direct assistance that the continent received that year. Infant mortality is also recognized as highly correlated with state failure and declining social cohesion. And while medical resources are often a

primary target of modern warfare, military and peacekeeping readiness has also been affected (particularly in sub-Saharan Africa) by rising HIV infection rates in military personnel.

A “Unique Leadership Opportunity”

Kassalow called health a “unique leadership opportunity” for the United States, and he detailed five key areas for expanded activity:

- Approaching health as a *global public good* and linking it with health and poverty reduction;
- *Linking health to human rights*;
- Funding and facilitating *accelerated research and development on orphan drugs and vaccines* as well as *universal access* to these products;
- *Tying debt relief to health* through measurable objectives in health system development; and
- Replicating and expanding on those *public/private health partnerships* already in place.

Among Kassalow's specific recommendations were: an increase in U.S. global health spending by at least \$1 billion annually; funding of USAID for HIV/AIDS treatment and prevention in India, China, and Russia; and the endorsement of the President and Secretary of State for global health's priority in U.S. foreign policy. “American foreign policy works best when it combines high moral ideals with real-world interests,” said Kassalow. “Like the Marshall Plan, a foreign policy that seriously invests in global health would be a high point in the ethical life of this country and a wonderful example of service to mankind as an

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investment in our future.”

The Devastation and Continuing Threat of HIV/AIDS

Andrew Fisher of the Population Council next focused on the monumental consequences of HIV/AIDS for global public health and well-being. “My take-home message,” said Fisher, “is that this is an epidemic that continues to rage on, and it’s not stopping...Even if we had a vaccine tomorrow, the consequences of AIDS would go on for generations.”

Fisher detailed a list of staggering statistics about the epidemic: 22 million dead through 1999; 36 million living with HIV/AIDS; 5.4 million newly infected each year; and an estimated 44 million to be orphaned by 2020, most of them living in Africa. Indeed, Africa remains the epicenter of HIV/AIDS, with three-quarters of all people living with the virus. HIV has infected more than 20 percent of many sub-Saharan African country populations, and in some communities infection rates are as high as 70 percent.

Fisher said effective solutions to the epidemic require multiple perspectives. Consideration of human rights is critical, he argued, because AIDS glaringly exposes the tears in society’s fabric—everything from intolerance of racial, religious, and sexual minorities to the vulnerability of young and impoverished women. Prevention, care, support, and treatment are obviously also crucial and provide opportunities at each step for the message of prevention.

But perhaps the most important factor in fighting AIDS, said Fisher, is to mobilize a series of very different communities in the battle. The Population Council has worked with groups as disparate as Thai business executives (towards non-discriminatory work environments) as well as commercial sex workers in Brazil and Calcutta (to build their sense of community and solidarity in the support of widespread condom use). Fisher also stressed the need to scale up programs, strengthen health care systems, support new initiatives in other sectors being impacted by the epidemic, and accelerate the drive for an HIV microbicide and vaccine.

Global Children’s Health and Poverty

Andrew Bartlett of USAID then reviewed the improving but still unsatisfactory state of children’s health worldwide and its links with global security. The major causes of mortality for children under five (such as respiratory infections, diarrheal diseases, malaria, and vaccine-preventable diseases) are far more

easily dealt with by the U.S. health care system than they are in developing countries. But the United States, Bartlett argued, has an enlightened self-interest in helping to address these problems internationally.

A substantial part of the existing global disease burden falls on children under five, and there are proven links between widespread childhood diseases and (a) increased poverty as well as (b) a demographic transition to a low mortality/low fertility pattern, which can retard a society’s economic growth. While inexpensive interventions (such as immunization and micronutrients) have vastly improved children’s health, Bartlett said, there is still a tremendous unmet need. For example, a quarter of children worldwide are still not immunized, and over 40 percent goes untreated for pneumonia.

Although the United States is a leading financial and technical donor for children’s health programs, Bartlett argued that this leadership needs to be taken up and expanded. Disseminating new vaccines against the major childhood diseases, he said, is one step that could immediately save over half of the 10.5 million children who die each year. **W**

For more on this meeting, visit <http://ecsp.si.edu/globalhealth.htm>

Related Web Links

Jordan Kassalow

<http://www.crf.org/public/resource.cgi?pers13407>

Population Council: HIV/AIDS Operations Research Project

<http://www.popcouncil.org/horizons/horizons.html>

USAID, Child Survival

http://www.usaid.gov/pop_health/cs/index.html

UN Special Session on Children

<http://www.unicef.org/specialsession/>

Population Resource Center

<http://www.prcdc.org>

4 December 2001

THE ROAD TO JOHANNESBURG: SETTING THE AGENDA FOR THE WORLD SUMMIT ON SUSTAINABLE DEVELOPMENT

Featuring **Crispian Olver**, Director-General, Department of Environmental Affairs and Tourism, Government of South Africa; **John F. Turner**, Assistant Secretary, Bureau of Oceans and International Environmental and Scientific Affairs, U.S. Department of State; **Judith Ayres**, Assistant Administrator for International Activities, Office of International Activities, U.S. Environmental Protection Agency; and **Alan Hecht**, Director of International Environmental Affairs, National Security Council and Council on Environmental Quality

By **Robert Lalasz**

Policymakers need to move beyond the principles and agenda established at the 1992 Rio United Nations Conference on Environment and Development and achieve *implementation* at the Johannesburg 2002 World Summit on Sustainable Development, according to **Crispian Olver**, South Africa's Director-General for Environmental Affairs and Tourism. Speaking publicly for one of the first times on the United States' approach to Johannesburg 2002, three high-level Bush administration officials said the White House largely concurs with South Africa's Summit priorities as set forth by Olver.

The Work Still to be Done

The state of the world, said Olver, can be broken down into three components: a *global economy* with increasing inequality despite unprecedented productivity and capital accumulation; a *global society* with unprecedented consumption and mobility, but where 1.1 billion people live in severe poverty; and a *global environment* with declining environmental assets and limited environmental rights, particularly for the poor.

While global infant mortality rates and adult illiteracy have fallen and per capita incomes have risen dramatically in recent years, Olver listed many other trends that continue to hinder universal prosperity. For example, in 2050 4.2 billion people will be living in countries unable to meet the basic requirement of 50 liters of water per capita per day. Over one billion people still live on less than one dollar a day, with Southeast Asia, sub-Saharan Africa, and Latin America

becoming systematically poorer. Over one billion people remain undernourished and underweight, one billion live on environmentally fragile lands, and 15.5 million will die from AIDS in the next five years in the 45 most affected countries.

A New Global Deal

South Africa's position, said Olver, is that poverty and inequality today pose the greatest threats to sustainable global development. "Any program that we talk about at Johannesburg has got to involve a discussion about developed-developing country relationships in terms of governance, trade, investment, debt relief and others," Olver said. He added that governments must also seek out sustainability partnerships with industry and with the broader civil society.

The thrust of the Johannesburg Summit, Olver said, should be towards a "new global deal" that focuses on the three pillars of sustainable development: economic development, social development, and the environment. Olver stressed that the "global deal" has got to be "far more about implementation and delivery and far less about haggling over brackets and text." The Summit, he said, must emphasize clear targets as well as clear commitments to those targets and the strategies, delivery mechanisms, monetary mechanisms, and resources being used to achieve them.

The U.S. Reaction

Assistant U.S. Secretary of State **John F. Turner** said he was delighted by Olver's overview of the issues.

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“His scope and his themes and his processes are going to work well with what this administration is thinking of,” said Turner.

Turner then outlined a number of specific areas in which he said the United States hopes to make progress at Johannesburg: (a) governance and local capacity building; (b) leveraging the private sector’s ingenuity and resources for sustainable development, particularly in conjunction with development assistance; and (c) other priority areas such as: infectious diseases; water; climate; energy; fisheries and marine resources (especially declining fish stocks); forestry (including implementation of the Tropical Forestry Act); land degradation; and biodiversity.

Judith Ayres of the U.S. Environmental Protection Agency cited several recurring themes that will be priorities for the United States at Johannesburg: poverty reduction; the necessity of recognizing that healthy economies go hand in hand with healthy environments; and redoubling efforts to engage industry and the private sector in the pursuit of sustainable development worldwide.

Seeking Concrete Results


Alan Hecht of the National Security Council and the White House Council on Environmental Quality said that poverty alleviation and development are crucial to President Bush’s overall global strategy, and that the United States would be examining many vehicles toward these goals. But Hecht stressed the role of the private sector because “it simply dwarfs the amount of other money available.” The challenge for Johannesburg, said Hecht, is to “find ways to stimulate that hidden capital” as well as to make capital more available to the world’s marginalized by making developing countries more attractive for private-sector investment.

The social pillar of sustainable development is also crucial to the mission of Johannesburg, said Hecht. “What could be more unsustainable,” he said, “than

people who have no sense of hope, no education or who are stricken with AIDS and other diseases?” While the United States will continue to offer government assistance, Hecht added that Johannesburg should underscore the responsibility developing-country governments have to their own people. “We care about many people in the world,” said Hecht, “but their own governments have to care more.”

Finally, Hecht said the environmental challenge for Johannesburg will be to focus on a narrower set of issues “for which there is really high risk and for which action will really help people, and to give it political focus and momentum.” Such issues, Hecht said, include: clean water; energy for the two billion who do not have it; forestry; soil; coral reefs and fisheries; health; and proper response to emergency conditions and disasters and improving capabilities for dealing with them.

Overall, Hecht echoed Olver’s calls for an emphasis on practical implementation

at Johannesburg. “The White House wants concrete results,” he said. “We’re not afraid of a deal, a compact. But it’s important to see what’s in it.” 

For more on this meeting, visit <http://ecsp.si.edu/johannesburg.htm>



Dr. Crispian Olver

Related Web Links

South African Government: Department of Environmental Affairs and Tourism
<http://www.environment.gov.za>

Council on Environmental Quality
<http://www.whitehouse.gov/ceq>

U.S. Department of State: Bureau of Oceans and International Environmental and Scientific Affairs
<http://www.state.gov/g/oes>

5 December 2001

“GLOBAL PROBLEMS—GLOBAL SOLUTIONS”

Featuring **The Right Honorable Margaret Beckett, MP**, UK Secretary of State for Environment, Food, and Rural Affairs

By Robert Lalasz

Urging the United States to more actively address climate change and other environmental issues, **Margaret Beckett**, the United Kingdom’s Secretary of State for Environment, Food, and Rural Affairs, outlined for a Wilson Center audience the UK’s agenda for implementing the Kyoto Protocol, global sustainable development, and free and fair trade. It was Mrs. Beckett’s first speech in the United States since becoming the head of this new UK governmental department in June.

Global Problems Need Concerted Action

After offering her condolences to the people of the United States for the death and destruction caused by the September 2001 terrorist attacks, Mrs. Beckett called September 11 “a wake-up call to all of us, not just to the dangers of terrorism, but to our mutual interdependence as a world community.” Citing climate change, clean water, poverty, migration, and disease as issues of vital importance, Mrs. Beckett said concerted global and practical action would be essential in solving these problems. “We live in a world,” said Mrs. Beckett, “where stability and prosperity at home depend crucially on the ability of the international community to act together in pursuit of interests that transcend both national borders and traditional notions of sovereignty.”

Mrs. Beckett lauded the compromises each

country made in reaching agreement at the 2001 Climate Change Convention in Marrakech, Morocco. “But it seemed strange in Marrakech,” Mrs. Beckett added, “to be pressing ahead on a matter of such vital importance without the United States participating fully beside us.” She urged the Bush administration to implement “far-reaching domestic policies, compatible with the Kyoto framework,” and she cited UK moves towards low-carbon technology innovation and emission-trading markets as possible models for the United States.

“If the developed world takes positive action, there will be a much greater prospect of engaging developing countries on tackling their own contributions to climate change,” Mrs. Beckett concluded. “The U.S. has decided to follow its own path. But I hope in due course that path, along with the one being followed by the rest of the world, will lead us to the same place.”

Johannesburg and the “New Global Deal”

Mrs. Beckett also cited *poverty* and *environmental degradation* as enormous challenges for global leadership, and said that the Johannesburg Summit presented a critical opportunity “to promote resource efficiency and make sure globalization works to spread prosperity for all.” Indeed, she said, one in five people globally lack access to safe drinking water; half lack safe sanitation; and two billion lack sustainable



Margaret Beckett

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energy. “These shocking statistics call for radical new approaches,” said Mrs. Beckett. She added that the drive for sustainable development is especially important for Africa, where “civil unrest, grinding poverty, and mass migration” have created “the desperate conditions on which war and even terrorism feed.”

Above all, Mrs. Beckett said, the Summit must be about *delivery* on commitments made at the 1992 Summit in Rio, not a renegotiation of past agreements. Mrs. Beckett said that the UK wants to narrow down the Summit’s agenda to three to five practical programs that address such issues as clean water, capacity building, and good governance. “We hope very much that President Bush will attend and take a leading role,” she said.

Mrs. Beckett then outlined the UK’s new agenda for promoting rising prosperity and social justice on a global scale—the four building blocks for what she called “a new global deal”:

- Increasing poor countries’ capacity to participate in the global economy;
- Encouraging sustainable development standards for corporations and fostering developing-country investment forums between the private and public sectors;
- Adopting a new trade regime so that developing countries can participate on fair terms in the world economy; and
- Transferring substantially additional resources from the richest to the poorest countries in the form of development investment.

This bold agenda is tantamount to “throwing down the gauntlet for a global campaign against poverty and for social justice,” asserted Mrs. Beckett. “The UK government is determined to forge ahead with this agenda—to turn rhetoric into reality—and Tony Blair has set up a new, cross-departmental Cabinet Committee to promote this work.” The UK 2000 program, she said, has initiatives across five sectors

(finance, tourism, energy, forestry, and water) to demonstrate the benefits of partnership action for sustainable development.


The Promise of Doha

Mrs. Beckett also held up the 2001 World Trade Organization Summit at Doha, Qatar as an example of strong and concerted global action—on the reduction of agricultural subsidies as well as the environment. European agriculture policy, she said, has already started to shift away from protectionism of farmers to consumer issues such as food safety, environmental benefits, and stability and security for depressed rural areas.

Doha, Mrs. Beckett, said, was also a large advance on the interface between trade and environment: a chance to clarify the murky relationship between multilateral environmental agreements and WTO rules, and a liberalization of trade in environmental goods and services. She argued that protecting the

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—Margaret Beckett

environment and maintaining open and fair-trading systems are “not only compatible, but can be mutually reinforcing.” “We will not use negotiations in the WTO,” Mrs. Beckett vowed, “to introduce illegitimate barriers to trade. We will use them to deliver concrete outcomes which are good for both trade *and* the environment.” 

For more on this meeting, visit <http://ecsp.si.edu/beckett.htm>

24 January 2002

INFECTIOUS DISEASES AND GLOBAL CHANGE: THREATS TO HUMAN HEALTH AND SECURITY

(A Meeting of the AVISO Policy Briefing Series)

Featuring **John D. Eyles**, Professor, McMaster University School of Geography and Geology; Director, McMaster Institute of Environment and Health; **Steve Lonergan**, Professor, University of Victoria, Department of Geography; and **John E. Borrazzo**, Environmental Health Advisor, Bureau of Global Health, USAID (discussant)

By Robert Lalasz

Global environmental change and human activity are increasing human vulnerability to infectious diseases (IDs) and endangering our security, according to **John Eyles**, an expert in environmental health policy. Eyles addressed policymakers and practitioners in the latest meeting of the AVISO briefing series, which presents policy-friendly briefs on environmental change and human security issues.

The Antecedents and Consequences of Infectious Disease

Eyles began by recounting his recent work in Uzbekistan, where the disappearance of the Aral Sea and the impact of that disappearance on the local population have become what Eyles called one of the globe's worst contemporary environmental disasters. The destruction of the Aral ecosystem by the Soviet government has had profound consequences, ranging from the decimation of local fishing and agriculture to respiratory and kidney problems and to the possible movement of fatal diseases and viruses from Redemption Island, where the Soviets tested biological weapons.

Eyles said that the Aral case is a dramatic example of how threats to human health are usually consequences of human activity. "For every action," he said, "there is a consequent reaction—perhaps unintended, but not unpredictable." In a similar way, he argued, IDs have become a major threat to global health, wealth, and security. And their distribution and spread also raises questions of justice and equity as they attack particular populations disproportionately, especially those living in poverty in the developing world. Yet IDs anywhere can have a global impact, said Eyles, through globalized trade and travel and the destabilization of strategic regions.

IDs: A Review

According to the World Health Organization (WHO), six diseases (pneumonia, tuberculosis, diarrheal diseases, malaria, measles, and HIV/AIDS) cause 90 percent of all ID deaths. *Pneumonia* particularly affects children, especially those born with low birth weight and who are malnourished. Pneumonia, Eyles said, often coexists with *diarrheal diseases*, which themselves claim two million children under five annually.

Tuberculosis also kills two million people each year, and one-third of the world's population is infected with the TB bacillus. Eyles called TB's reemergence especially worrisome because (a) it is occurring in parts of the world (such as Eastern Europe) whose public health systems have been weakened by social and economic upheaval; and (b) because the strains of reemergent TB are more drug-resistant and linked to HIV/AIDS. As for HIV/AIDS, over 34.1 million people worldwide are living with the virus, with two-thirds in sub-Saharan Africa. "By early 1999, 11 million in sub-Saharan Africa had died of AIDS," said Eyles, "equivalent to the number that perished in the slave trade."

But the death toll from *malaria* far exceeds that of even AIDS-related mortality, killing a child somewhere in the world every 30 seconds. "Malaria for me is a sentinel to the consequences of human activity and their global impacts on human health," said Eyles. "While its effects have hit mainly poor people in rural areas, its reach is spreading. The building of infrastructure, the migration of people, changing weather patterns, and global travel and trade create different reservoirs for mosquitoes to breed, making control difficult."

Ecological Change and IDs

Any ecological change can alter the relationships between humans and nature, said Eyles, increasing microbial risk and threatening human health. “We have just borrowed the world from bacteria and viruses,” he said. For example, the reemergence of Lyme’s Disease in the Northeastern United States and the surge of hanta virus in the American Southwest and China have coincided with accelerated human development in those areas.

WHO, Eyles said, has identified two sets of hazards leading to this vulnerability: *traditional*, and *modern*. While traditional hazards are associated with a lack of development (such as poverty, lack of safe drinking water, and sanitation), modern hazards are associated with unsustainable development practices and include air, water, and soil pollution. These hazards, said Eyles, conspire “to ensure the conditions for the development and diffusion of infectious diseases around the world, especially in the developing world.”


Eyles said that traditional hazards remain the main key to ID spread. IDs are “back with a vengeance” in India and sub-Saharan Africa, he said, because of pervasive malnutrition and a lack of funds or attention to basic health care, sanitation, and the elements of well-being. In addition, he said, intensive agricultural practices, dams, dikes, heavy industries, deforestation, migration, and increasing urbanization all have a hand in increasing susceptibility to IDs.

Security and Solutions

It would be a mistake to categorize IDs as a remote problem, said Eyles. Societies debilitated by disease cannot enter the world economy as full partners, and their populations may pose threats to our political security because they are denied resources to which they feel entitled—such as adequate nutrition, shelter, clean air and water.

Some argue, Eyles pointed out, that the lending policies of such international finance organizations as the IMF may be crippling developing countries’ abilities to invest in health and social services. He cited Zimbabwe as an example of a country that has tried (and failed) to meet IMF social spending reduction targets and yet which continues to significantly reduce its health-care spending. Instead of offering fiscal solutions, Eyles said, the international community should be prioritizing public health and improving upon established programs. His specific recommendations included:

- Learning and extending successful demonstration programs (such as the meningitis reduction in sub-Saharan Africa being carried out through partnerships with national governments, WHO, and nongovernmental organizations);
- Expanding inexpensive and effective ID control programs (e.g., treated bednets for malaria);
- Developing a surveillance and monitoring system for effective ID control (modeled on the WHO DOTS program for TB control);
- Funding more research to make linkages between global measurements of ID rates and local field studies;
- Strengthening health systems at the national and local levels through integrated policies that emphasize the importance of public health;
- Placing ID treatment on an equal footing with prevention; and
- Extending G-20 deliberations beyond finance to include health.

Environment, governments, and equitable distribution matter for ID control, said Eyles. All three are crucial factors to include in the necessary programs of research, donor assistance, sustainable development, and trade relations. Without them, he said, we simply cannot achieve infrastructure changes in the environments that breed disease. 

Related Web Links

AVISO 8: “Infectious Diseases and Global Change”

<http://www.gechs.org/aviso/AvisoEnglish/eight.shtml>

Bureau of Global Health, USAID

http://www.usaid.gov/pop_health/

“The World Health Organization Report on Infectious Diseases: Removing Obstacles to Healthy Development”

<http://www.who.int/infectious-disease-report/pages/textonly.html>

“The Urgency of a Massive Effort Against Infectious Diseases”

<http://www.who.int/infectious-disease-report/dlh-testimony/testmo.pdf>

13 February 2002

THE BIOTECH QUAGMIRE: NEXT STEPS IN THE GENETICALLY MODIFIED FOOD DEBATE BETWEEN AMERICA AND EUROPE

Featuring **Julia A. Moore**, Public Policy Fellow, Woodrow Wilson Center;
Benno van der Laan, Cabinet Stewart/European Union Affairs Consultancy;
and **Gilbert Winham**, Fellow, Woodrow Wilson Center

By Robert Lalasz

Transatlantic tensions over the sale and regulation of genetically-modified (GM) foods have perhaps never been greater. The European Union's 1998 moratorium on new genetically-modified organisms (GMOs) in Europe has been followed by proposed European Parliament legislation that would require all foods with GM content to be labeled as such and to offer full traceability of that content. In turn, the United States has called such moves protectionist and has threatened to protest them to the World Trade Organization (WTO).

Two Wilson Center Fellows and a Washington-based consultant on European Union affairs outlined the state of the GM debate and the chances for policy reconciliation over the issue between Europe and the United States. While the outcome of the European legislation is far from clear, panelists recommended that U.S. export policy must aim for international harmonization instead of confrontation.



Julia A. Moore

“A Very Public Food Fight”

Julia Moore, a current Wilson Center Public Policy Fellow and former official with the National Science Foundation, Physicians for Social Responsibility, and World Wildlife Fund-U.S., said the public debate over GM food is less about science or trade than it is about public trust.

The recent mad-cow-disease scare and outbreak of foot-and-mouth disease in Britain, Moore said, have shaken Europeans' confidence in their governments' ability to ensure food safety; they have also made Europeans profoundly skeptical about scientific and

bureaucratic pronouncements over the safety of GM foods.

In contrast, said Moore, Americans like new technologies and trust the U.S. Food and Drug Administration to keep foods and medicines reasonably safe. And while developing countries are

attracted to biotechnology's promise of alleviating domestic hunger as well as improving agricultural exports, Moore said, they worry about the European Union (EU) using genetic modification as a trade barrier.

New Reports and Developments

Moore then highlighted recent developments that she said are significant to the debate over GM foods:

- The EU is being forced by enlargement (from 15 to 27 members) to reform its agricultural policies and to reassess how to build a competitive, 21st century European economy.
- In January 2002, the European Commission (EC) released a report that Moore said calls biotechnology the important “next wave” for knowledge economies.
- In fall of 2001, a review of 15 years and \$60 million worth of EC-sponsored research was released. It concluded that GM food and crops pose no greater health and environmental risks than conventional food.
- The latest data show that in the year 2000, worldwide plantings of transgenic crops (mostly cotton, corn, and soybeans) exceeded 100 million acres—a 25-fold increase since 1996.

- The new European Food Safety Authority will begin operations this year.
- On 4 February 2002, a French government advisory body recommended after two years of research field trials that genetically modified sugar beets posed very little risk of contaminating other crops and were safe to grow on a commercial basis.

“If France can begin a public discussion of GM food in a practical and concrete way—not about scary

spring of 2003.

Ag-Biotech Regulations: Europe versus the United States

While trade relations between Europe and the United States have historically converged on most questions, **Gilbert Winham** of the Wilson Center said that agriculture biotechnology (or “ag-biotech”) fits into a longstanding tension between the two parties over agriculture. Winham said that ag-biotech is now threatening to seriously destabilize U.S.-EU trade.

If France can begin a public discussion of GM food in a practical and concrete way...then I think there is hope that Europe will debate GM in a more rational way in the future.

—Julia Moore

American-grown soybeans that are a mystery ingredient in their food, but about solid and friendly French sugar beets,” said Moore, “then I think there is hope that Europe will debate GM in a more rational way in the future.”

Traceability and Labeling

Benno van der Laan next outlined the complicated route that proposed EU legislation on traceability and labeling of GM foods must travel before it becomes law. The genesis of the law, Van der Laan said, lies in the current moratorium against approvals of new GM foods. Six countries pushed for this moratorium, he said, because they felt European consumers should know exactly what is in their food.

The new proposals will require any food product whose content is greater than one percent GM to be labeled as such. Foods would also be labeled if genetically-modified organisms (GMOs) were used in their processing, even if no DNA or protein of GMO-origin remained in the final product. The regulations would also force food producers to closely track GM varieties as they move through commercial channels.

The new proposals have been applauded by European consumer groups, said Van der Laan, and some have sought to extend them to animals fed with GM animal feed. But, he added, biotech manufacturers and other countries have criticized the proposals as unworkable and possibly protectionist, and pressure against the measures from some European quarters is also building. Still, Van der Laan said, he expects the EU process to produce some kind of legislation by

U.S. public policy, Winham said, tends to view biotech products as essentially equivalent to products that already exist and thus pays little special attention to them. Since there is no scientific evidence that biotech products are harmful, said Winham, U.S. regulatory regimes are seen to be inapplicable to these products. U.S. law instead makes food producers principally responsible for assuring the safety of biotech products. The threat of lawsuit or criminal prosecution is assumed enough to enforce due diligence from producers.

“The system is widely regarded as successful by the U.S. public,” said Winham, “even though polling data indicate that same public would strongly favor the labeling of ag-biotech foods.”

But the EU regulatory system differs sharply, said Winham. EU regulators operate in an environment conditioned by both the historic “precautionary principle” as well as a series of food and health scandals that have no counterpart in America. The EU, said Winham, has therefore consistently differentiated ag-biotech products from those developed through traditional plant breeding methods.

Winham said that the EU proposals on labeling and traceability would deeply impact some four billion dollars of U.S. trade, applying to many current U.S. exports and greatly increasing their production costs. Even if these costs are borne and requirements met, Winham said, European consumers might still boycott GM products. The proposals, warned Winham, also endanger (a) the principle of scientific risk assessment, (b) the comparative advantage built up by the United States in ag-biotech, and (c) a technology that could

help address future food needs.

The Next Steps

Winham cautioned against the U.S. taking the EU to a WTO dispute settlement panel over the issue, as U.S. Trade Representative Robert Zoellick has threatened. Such a complaint against the current EU moratorium is likely to present a strong case (in that the moratorium violates both GATT and the SPS Agreement). But Winham argued that European public pressure would make implementation of such a ruling impossible, and that the complaint would do great damage to the WTO and destabilize European elections set for later this year.

Winham said the U.S. should instead proceed on three fronts:

- Maintain pressure in the WTO and the Codex Alimentarius for the principle of food-safety standards based on science (important in shaping the ag-biotech policies of developing countries);
- Make a greater effort to publicly fund those developing countries interested in developing their own ag-biotech capabilities;
- Continue to press the EU on various elements of the proposed regulations (such as extending labeling to the meat of animals fed with GM feed).



Benno van de Laan

“Our efforts should be to develop harmonized international standards, not to strive for a decisive victory,” said Winham. **W**

For more on this meeting, visit <http://ecsp.si.edu/bioquag.htm>

Related Web Links

Benno van der Laan

<http://www.cabinetstewart.com/team.html>

Julia A. Moore

<http://wwics.si.edu/mediaguide/moore.htm>

Gilbert R. Winham

<http://wwics.si.edu/Fellows01/winham/winham.htm>

February 14, 2002

DOES POPULATION MATTER? NEW RESEARCH ON POPULATION CHANGE AND ECONOMIC DEVELOPMENT

Featuring **Nancy Birdsall**, President, Center for Global Development, and **Steve Sinding**, Professor of Clinical Public Health, Mailman School of Public Health, Columbia University

By Robert Lalasz

Does population growth matter to economic development? Emphatically yes, according to the new book *Population Matters: Demographic Change, Economic Growth, and Poverty in the Developing World*. The book attempts to resolve the three-decade-old debate among U.S. economists, demographers, and policymakers about the connections between population and development. Two of the book's editors, Nancy Birdsall and Steve Sinding, outlined its findings at an ECSP Wilson Center meeting attended by demographic NGO officials and leading U.S. policymakers.

The History of a Relationship

Steve Sinding began by taking the audience through the history of post-World War II thought on the population-development relationship. "When I entered the population field in the early 1970s," Sinding said, "there was a broad policy consensus that population growth inhibited economic development"—a relationship that impelled funding for programs to reduce population growth.

However, Sinding said, the consensus began to unravel at the end of the 70s, and the election of Ronald Reagan as U.S. president in 1980 brought into power a group of officials skeptical about any connection between population and economics. When Sinding joined USAID in 1983, he said, he and his colleagues "found ourselves increasingly justifying population programs on grounds of human welfare rather than macroeconomic impact." This new consensus held into the 1990s: indeed, the 1994 UN Conference on Population and Development in Cairo took an exclusively individual-welfare approach to population programs.

However, interesting research in the mid-1990s on the spectacular economic success of the "Asian tigers" found that "population and demographic policy had mattered a lot," as Sinding put it. *Population Matters*, he said, builds on this work by bringing together a group of scholarly articles that treat the relationships

of population to development, poverty, and the environment. "It really is a major step forward in the debate," Sinding said.

Population Does Matter: New Findings

Nancy Birdsall cited two major messages from *Population Matters*. First, there is good evidence that slower population growth creates the potential to increase the pace of aggregate economic growth. Second, said Birdsall, rapid fertility decline at the country level helps create a path out of poverty for many families.

Birdsall said recent studies on demographic change and economic growth explain differences in regional economic development (such as Africa's slow growth versus the burst of growth in East Asia between 1960-95). Four decades of data on demographic and economic change in developing countries, she said, have allowed researchers to unbundle the effects of different age structures on growth.

The newer studies indicate that increases in the size of working-age populations are positively associated with economic growth, while increases in the size of a country's youth to 15 years are negatively associated with growth. "The demographic experience of East Asia is good news for regions now on a path of fertility decline such as Latin America and, much more recently, Africa," Birdsall said.

East Asia: The Demographic Bonus

The case of East Asia is key to the overall argument of *Population Matters*, said Birdsall. In this region, the ratio of working people to their dependents grew from 1975—producing a "demographic bonus" that will last until 2025. This changing age structure, said Birdsall, is driven mostly by fertility decline.

More workers, said Birdsall, potentially produce more total output, greater wealth accumulation, and an increasing supply of human capital. Studies in *Population Matters* conclude that the increase in savings associated with East Asia's demographic bonus can be

credited with one-third of the region's total six percent average annual per capita growth rate from 1965-90. In fact, Jeffrey Williamson in *Population Matters* attributes as much as one-half of East Asia's "economic miracle" to its demographic bonus.

Policy Matters, Too

Birdsall stressed, however, that countries must have the proper policies and institutions in place to benefit from a demographic bonus. For example, East Asia was able to absorb the rising supply of labor because it had instituted fiscal discipline, open and competitive markets, and public investment in education and health care. Rule of law, property rights, and political stability are also crucial. Latin America, she said, has much less effectively exploited its demographic bonus because it has not been as quick to implement such policies.

"While good policies and institutions moderate the negative effects of rapid population growth and reinforce the positive effects of the demographic bonus," said Birdsall, bad policies and institutions do precisely the opposite. Good policies, she added, are also a critical factor in forming a "virtuous circle"—a feedback cycle in which positive factors reinforce and build on each other. For example, Birdsall said, a technological change or fix (such as oral rehydration therapy or widely-available contraceptives) in a good policy environment leads to ultimately higher economic growth, which can lead to lower fertility and increased life expectancy, driving down the age dependency ratio and feeding more economic growth.

Poverty and Population

Population Matters, said Birdsall, also extends the population-development discussion to the effects of population change on poverty rates. The association of high fertility and high poverty does not prove that one causes the other, Birdsall said. But studies in *Population Matters*, she said, confirm that high fertility at a country level does appear to increase absolute poverty levels by (1) slowing economic growth and growth-induced poverty reduction, and (2) skewing distribution of consumption against the poor.


In Brazil, for example, a decline in poverty associated with what has been a dramatic reduction in fertility is equivalent to what would have been produced by a 0.7 percent greater annual increase in per capita GDP. Another analysis of 45 developing countries found that, had the average countries in the dataset reduced their birth rate by 5 per 1000 throughout the 1980s, the average poverty incidence

in these countries of 18.9 percent in the mid-80s would have been reduced to 12.6 percent between 1990 and 1995. "We find a causal relationship across countries between changes in fertility and changes in poverty," Birdsall said.

"It goes right back to Malthus," she added. "If you have higher fertility and more unskilled labor entering the workforce, you keep the wage-rate of unskilled workers relatively low compared to what it would have been if the unskilled had been more scarce."

Policy Implications

Birdsall suggested five steps for capitalizing on demographic bonuses: (1) undo existing policy-induced market distortions (such as restrictions on contraceptives); (2) ensure economic policies that strengthen land, labor, and financial markets; (3) invest heavily in education and health programs; (4) improve the status of women; and (5) subsidize voluntary family planning and information services. She added that the events of September 11 show the risk associated with an unexploited demographic window of opportunity.

Sinding noted that, while John F. Kennedy talked about sponsoring a foreign aid program that "got at the root causes of radicalism" in 1961, today such aid founders because of a lack of policymaker support. Developing countries, he said, have agreed since the mid-70s that demographic policies are an important part of development. "If the book has the effect of at least getting World Bank economists *not* to tell ministers of finance *not* to invest in reproductive health programs," Sinding said, "it will have been worthwhile." 

For more on this meeting, visit <http://ecsp.si.edu/popmatters.htm>

Related Web Links

Population Matters: Demographic Change, Economic Growth, and Poverty in the Developing World

<http://www.oup-usa.org/isbn/0199244073.html>

Center for Global Development

<http://www.cgdev.org>

Mailman School of Public Health

<http://cpmcnet.columbia.edu/dept/sph/>

14 March 2002

EU ENLARGEMENT AND ENVIRONMENTAL QUALITY IN CENTRAL AND EASTERN EUROPE AND BEYOND

Featuring (Panel 1) **JoAnn Carmin**, Department of Urban Affairs and Planning, Virginia Tech; **Miranda Schreurs**, University of Maryland, College Park; and **Petr Jehlicka**, The Open University, UK

(Panel 2) **Douglas Crawford-Brown**, Carolina Environmental Program, University of North Carolina-Chapel Hill; **Alexander Carius**, Adelphi Research Institute; **Liliana Botcheva-Andonova**, Earth Institute, Columbia University; and **Regina Axelrod**, Adelphi University

(Keynote address) **Tom Garvey**, Regional Environmental Center for Central and Eastern Europe

(Panel 3) **Max Stephenson**, College of Architecture and Urban Affairs, Virginia Tech; **Andreas Beckmann**, World Wide Fund for Nature, Austria; **Barbara Hicks**, New College of the University of South Florida; and **Ruth Greenspan Bell**, Resources for the Future

(Panel 4) **John Pickles**, Geography and International Studies, University of North Carolina, Chapel Hill; **John Kramer**, Mary Washington College; **Ingmar von Homeyer**, Ecologic, Germany; and **Stacy D. VanDeveer**, University of New Hampshire

By Robert Lalasz and Naomi Greengrass

European Union (EU) accession is no longer a question of “if” but “when” for the countries of Eastern and Central Europe. But accession has required these countries to adopt wholesale European regulations on a broad number of topics, including environmental standards and protection. This day-long Wilson Center conference explored the potential effects EU enlargement might have on national and EU environmental quality and policies. Conference participants reflected on the tremendous environmental progress made in many candidate countries since 1995; they also expressed guarded optimism about the ultimate environmental consequences of enlargement.

Implications of EU Eastern Enlargement for the Environment (Panel 1)

In this panel chaired by **JoAnn Carmin** of

Virginia Tech’s Department of Urban Affairs and Planning, **Miranda Schreurs** of the University of Maryland-College Park argued that trends indicate enlargement will push the EU (currently a global environmental leader) to the “highest common denominator” of environmental protection instead of bringing the environmental quality of member countries down to the level of candidates.

Joint implementation of environmental standards, Schreurs argued, is an important opportunity for cooperation, allowing more developed Western countries to invest in environmental protection in the east and gain credit for Eastern Europe’s lower emissions levels. But she also pointed out that, while on paper Eastern Europe appears to be improving environmental protection, what will happen on the ground is the looming question. For example, will the West invest heavily in Central and Eastern European

Co-sponsored by the Wilson Center’s East European Studies Program and the Environmental Change and Security Project; the Center for Slavic, Eurasian, and East European Studies and the Center for European Studies at the University of North Carolina, Chapel Hill; and Virginia Tech University’s School of Public and International Affairs and its Institute for Metropolitan Research.

environmental protection capacities? Can Eastern Europe build capacity as quickly as the last wave of new members (southern Europe) did? Will citizens take an active role in agenda-setting and monitoring? And how long will the EU maintain its environmental leadership role?

Petr Jehlicka of the Open University (UK) explored candidate countries' potential environmental role in the EU. Indicators show, said Jehlicka, that these nations will adopt a more passive and reactive role to environmental regulation rather than push their own agenda within Europe. This future path, Jehlicka argued, results from both (a) the weakness and limited resources of environmental NGOs and government ministries in the East, as well as (b) the EU's focus on adopting the *acquis communautaire* and building inward-looking capacities—to the exclusion of encouraging outward-looking, EU-level activism.

The Impact of EU Enlargement on Environmental Policies, Practices, and Institutions (Panel 2)

In this panel chaired by **Douglas Crawford-Brown** of the Carolina Environmental Program, University of North Carolina-Chapel Hill, **Alexander Carius** of the Adelphi Research Institute began by outlining the different priorities of the three institutions (the EU, the United Nations Economic Commission for Europe, and the Organization for Security and Cooperation in Europe) responsible for promoting environmental policy in Central and Eastern Europe. Carius argued that these institutions need to cooperate more closely on and develop structured and coordinated approaches towards integrated environmental policy in an enlarged EU, particularly with regards to cross-border cooperation.

Liliana Botcheva-Andonova of Columbia University's Earth Institute then examined the effects of EU regulations on various industries in the candidate countries, concluding that the integration process has enhanced the already-positive linkages between demand for “green” products and the environment in Eastern and Central Europe. She cautioned, however, that environmental policy and

assistance must adapt to the diversity of situations across Eastern and Central Europe.

Finally, **Regina Axelrod** of Adelphi University highlighted the EU's lack of comprehensive regulations for nuclear reactor issues by recounting the controversy surrounding the Czech Republic's Temelin nuclear power plant. Temelin, which is located close to the Austrian border, has raised tension between the two countries, with Austria threatening to block Czech accession into the EU until the plant's safety is assured.

EU Enlargement: Is It Sustainable? (Keynote Address)

In a wide-ranging speech, Regional Environmental Center for Central and Eastern Europe chair **Tom Garvey** argued that, while enlargement does not guarantee sustainable development, the process will ultimately positively affect European environmental quality both in the short- and long-term. Key to this process, he said, will be “a large measure of public awareness and support...both for the parliamentary process of adoption as well as for the active involvement of the public in monitoring the actual implementation and enforcement of

those rules and regulations.” He also cited a European Commission study which said that, while infrastructure costs to implement the environmental *acquis* are high, the ultimate financial benefits to the EU by 2020 from full implementation will be between 134 and 810 billion Euros.

But Garvey worried about the capacity for the EU to keep up with the environmental consequences of region-wide prosperity. He noted that the state of Europe's environment has not improved since the commencement of the Environment for Europe process. While there are indications that the EU that is beginning to integrate environmental concerns and requirements into all sectoral policies, Garvey said that it is going to be more difficult in accession countries with very rapid growth to move towards sustainability. “The *acquis communautaire* is necessary but not sufficient,” he said. “Sustainable development needs to be taken seriously.”



Alexander Carius

Public Participation, Nongovernmental Organizations, and EU Enlargement (Panel 3)

In this panel chaired by **Max Stephenson**, College of Architecture and Urban Affairs, Virginia Tech, **Barbara Hicks** of the University of South Florida's New College emphasized how the EU influences on environmental movements in Central and Eastern Europe through agenda-setting and shaping the means and conditions of activism. Hicks concluded that the EU has generally helped strengthen major environmental organizations in candidate countries; these organizations now tend to focus on institutional procedures—such as lobbying and writing reports—to pressure their governments to implement EU policies.

Andreas Beckmann of the World Wide Fund for Nature, Austria highlighted the importance of NGOs as advocates for the environment, as a source of expertise and practical support in environmental initiatives, and as promoters of democracy. Beckman said that EU funding for NGOs has been overly slow and bureaucratic, while private funders (such as the Soros Open Society Institute) have offered “well-targeted, fast, and flexible” assistance. But in the future, with foreign donors leaving the region, “EU support will become increasingly important,” asserted Beckmann.


Resources for the Future's **Ruth Greenspan Bell** concluded by saying that EU enlargement offers eastern NGOs the opportunity to act as watchdogs as well as the ability to bring litigation against national governments in EU and national courts. However, Bell noted, the new environmental regulations have been imposed on Eastern European countries from outside without including them in the law-making process.

Future Challenges of EU Eastern Enlargement for the Environment (Panel 4)

In this panel chaired by **John Pickles** of the University of North Carolina, Chapel Hill, **John Kramer** of Mary Washington College began by arguing that, while the EU has kept the environment on Eastern Europe's political agenda, the EU has also become a convenient scapegoat for candidate governments who must enact politically difficult measures. Among the coming challenges for accession countries, Kramer said, include cutting energy overconsumption.

Ingmar von Homeyer of the Ecologic Institute next outlined the likely effects of integration on EU environmental governance. Von Homeyer stressed the

need for firm institutionalization of a Community-wide policy integration regime.

The University of New Hampshire's **Stacy VanDeveer** wrapped up the conference by highlighting the broad environmental progress Central and Eastern Europe has recently achieved. “It's important to recognize the tremendous amount that has been accomplished in Central and Eastern Europe in harmonization, expertise, discourse on the environment, and environmental politics.” VanDeveer called on both EU member and candidate countries to continue capacity-building efforts (particularly through non-Brussels actors) and for the EU and West to stop exporting its unsustainable practices to the region. 

For more on this meeting, visit <http://ecsp.si.edu/eugreen.htm>

Related Web Links

European Union:
<http://europa.eu.int>

Wilson Center: East European Studies:
<http://wwics.si.edu/ees/index.htm>

Regional Environmental Center for Central and Eastern Europe:
<http://www.rec.org>

19 March 2002

ON THE BRINK: A FILM IN THE 2002 ENVIRONMENTAL FILM FESTIVAL IN THE NATION'S CAPITAL

Featuring **Geoffrey D. Dabelko**, Woodrow Wilson Center; **Cynthia McClintock**, George Washington University; and **Robert Zakin**, Editor, *On the Brink*

By Robert Lalasz

The linkages among environmental degradation, population growth and migration, and violent conflict are complex and difficult to communicate effectively. But Screenscope Inc. filmmakers Hal and Marilyn Weiner have taken up the task in their new film *On the Brink*, which explores these linkages through visits to Bangladesh, India, South Africa, Peru, and the United States-Mexico border. A rough-cut of the film was screened at the Wilson Center as part of the 2002 Environmental Film Festival in the Nation's Capital.

A Vicious Cycle in Bangladesh

On the Brink, which will be shown as part of PBS's new season of the series "Journey to Planet Earth," begins in the slums of Calcutta, a city of 14 million with high unemployment and a large unskilled and cheap labor force.

According to the film, one Calcutta slum contains in its one square mile 750,000 squatters, most of whom are Bangladeshis fleeing from environmental degradation, overcrowding, economic deprivation, and violence in their native country.

Indeed, Bangladesh itself is one of the most densely populated countries in the world, with nearly 132 million people (half the United States population)

occupying land the size of New York state. Its per capita annual income of \$225 is among the world's poorest. Severe population pressures and the subdivision of agricultural land to subsequent generations are also provoking mass migration in Bangladesh from rural to domestic urban areas as well to foreign cities such as Calcutta.

These population and poverty dynamics combine with Bangladesh's poor infrastructure, high levels of malnutrition and disease, water scarcity, and an increasingly degraded and unstable environment to provoke conflict. As Thomas Homer-Dixon of the Project on Environmental Scarcities, State Capacity, and Civil Violence at the University of Toronto says in *On the Brink*, "in combination with weak governance and ethnic strife, environmental stress is a tectonic stress that increases the likeli-



Cynthia McClintock

hood of conflict."

Better News in South Africa

On the Brink then examines South Africa, which, despite its 1994 transition to democracy, is still defined by the legacy of apartheid. Many villages there, the products of apartheid's resettlement of South African blacks to environmentally marginal lands, are still

without opportunity. The film shows an open-pit magnesium ore mine, where people earn 30 cents an hour collecting large chunks of ore for 12 hours a day. As in Bangladesh, large numbers of rural South Africans are migrating to urban areas—an influx that overwhelms a typical city’s infrastructure.

Alexandra, South Africa is one such city. According to *On the Brink*, it has 500,000 people—yet its sewage and waterworks are designed to service 40,000. Tens of thousands of people have poured in from the countryside each year, ending up in squatter settlements that promote not only crime but also disease because of inadequate sanitation. Yet Alexandra has become a success story. Spurred by overcrowding and a dangerously declining water table, the city relocated its shantytown residents to new homes

are from drought-stricken central Mexico, but many also come from environmentally degraded areas in Central and South America.

The film depicts the migration economy in Agua Prieta, the Mexican city across the border from Douglas, AZ. Agua Prieta’s economy is based on smuggling people: on any one night, 5,000 people are in “stashhouses” there, waiting for the signal to cross. Four hundred die in the Sonoran Desert each year trying to enter illegally into the United States. But many more make it—up to 1.5 million annually.

On the Brink concludes that developed countries must address environmental security as a major foreign policy issue. Bangladesh, Peru, and other areas are just examples of how water scarcity, land degradation, and forest depletion can help destabilize societies and even

The cameras don’t lie. When people live without privacy, sanitation, or water, it can’t help but exacerbate conflict.

—Robert Zakin

funded by a central government grant. *On the Brink* emphasizes that the difference between Alexandra and similar cities in Bangladesh is that South Africa has the resources to deal with its environmental problems.

Peru’s Ongoing Scarcity

Half of the population of Peru’s capital city Lima consists of migrant laborers, many of whom now live in shantytowns after leaving lands that have become unsuitable for agriculture. *On The Brink* outlines the link between the decline of Peruvian agriculture and the rise of the Sendero Luminoso (Shining Path), a Maoist rebel movement born in the Andean highlands and supported by Peruvian peasants radicalized by environmental scarcity.

Sendero Luminoso, whose profile reached its height after the group terrorized Lima in a week-long 1992 spree of bombings, dissolved after the September 1992 arrest of its charismatic leader, Abimael Guzman. Yet tens of thousands of rural Peruvians continue to migrate to Lima annually. *On the Brink* argues that the land scarcity, environmental degradation, and poverty of Peru’s rural areas have still not been resolved, and that violence remains a possibility despite the decline of Sendero Luminoso.

Across the Rio Grande

On the Brink also maintains that environmental scarcity has caused substantial migration from Mexico into the United States. The majority of these migrants

contribute to revolution.

The Challenge of Multicausality

ECSP Director **Geoffrey Dabelko** began the after-screening discussion by lauding Screenscope for “taking on a monumental challenge to express the complexities of environmental security—complexities on the ground, complexities of research, and complexities of communications.” Dabelko said that, while researchers are always looking for a “silver bullet” to explain the occurrence of conflict, multicausality is a more accurate analysis. “Environment and population growth work with other political and social factors in this regard,” he said.

In addition, while compelling case studies exist for the links between environmental scarcity and conflict, Dabelko said that extrapolation into a universal model is difficult. Even the State Failure Task Force, he noted, has had a hard time saying anything definitive about environment’s contribution to violence and state failure. But USAID is adopting a conflict-prevention framework to incorporate environmental security considerations, a move that Dabelko argued will enrich the agency’s efforts and make them more effective.

Hope for Peru


Cynthia McClintock, a professor of political science and international affairs at George Washington University, said that *On the Brink* would bring

problems rarely seen in the United States to the attention of a wide public. She said the great strength of the film was to highlight the material problems—environmental and economic—underlying violence.

McClintock, who has written extensively about Peruvian peasants and Sendero Luminoso, said problems in Colombia and Peru are very much rooted in environmental scarcity. “These movements often begin in rural areas with the support of dispossessed peasants,” she said. With an annual three- to four-percent population growth rate in Latin America, rural populations continue to expand, subdividing already marginal agricultural land. McClintock added that these population pressures are accelerating the soil depletion, soil salination, and lack of water for irrigation. “More people and less land means more poverty,” she said.

However, McClintock cited a number of reasons for hope in Peru—from recent democratization and development of civil society in Latin America to the experience of the ancient Incas, who sustained a very large population on arid lands through careful irrigation control. She also noted that family planning has cut into the massive population growth rates of Latin America in the last 20–30 years. And McClintock praised international financial organizations (particularly the World Bank) for adopting “much savvier policies” that are less neglectful of environmental problems. But problems obviously remain, she said—including coca growing and cocaine processing, which generate serious environmental hazards and are a major polluter of some South American rivers.

Film’s Genesis

On the Brink’s editor **Robert Zakin** told the audience during open discussion that the *Journey to Planet Earth* series is much more driven by issues such as environmental security than it is by situation or geography. He also said that the filmmakers were originally in Bangladesh to film for an episode on global disease when a bomb went off 30 feet from their camera—heightening their interest in how environmental pressures can contribute to conflict. “The cameras don’t lie,” said Zakin. “When people live without privacy, sanitation, or water, it can’t help but exacerbate conflict.” 

For more on this meeting, visit <http://wcsp.si.edu/brink.htm>

Related Web Links

Screenscope, Inc.

<http://www.screenscopefilms.com/>

Journey to Planet Earth

http://www.pbs.org/teachersource/science_tech/planetearth/

2002 Environmental Film Festival in the Nation’s Capital

<http://www.dcenvironmentalfilmfest.org>

Geoffrey Dabelko

<http://wwics.si.edu/mediaguide/dabelko.htm>

Cynthia McClintock

<http://www.gwu.edu/~psc/mcclintock.html>

4 April 2002, San José, Costa Rica

TRANSBOUNDARY WATER COOPERATION IN CENTRAL AMERICA: A REGIONAL WORKSHOP OF THE ENVIRONMENT, DEVELOPMENT, AND SUSTAINABLE PEACE INITIATIVE

By Alexander Carius, Geoffrey D. Dabelko, and Alexander López

Cooperation and conflict over transboundary water in Central America was the focus of the first regional workshop organized under the auspices of the Environment, Development, and Sustainable Peace Initiative (EDSP). Aimed at bridging the gap between North and South, this workshop brought together a distinguished group of 35 international experts to discuss the opportunities and limitations for a comprehensive promotion of sustainable peace in Central America.

The main objective of EDSP is to develop a constructive dialogue among Northern and Southern policymakers, civil society groups, and scholars on how to prevent environmental conflicts and develop a constructive agenda for peace and sustainable development. A core element of the effort is to develop cornerstones for an agenda for “environment and sustainable peace.” Fostering new efforts to begin bridging both the knowledge and policy gaps between South and North is a critical aspect for the success of this project.

Environment, Conflict, and Security

Conference co-organizer **Alexander López** of the Costa Rica NGO FUNPADEM kicked off the workshop with a presentation entitled “Environment, Conflict, and Security as a Study-Subject in Central America.” López called for greater attention to the links between environment, conflict, and security issues

in Central American border regions. This focus, he said, is warranted for three reasons. First, the richest ecosystems in the region are found in its border areas. Thus, transboundary dynamics produced by ecosystem exploitation could contribute to social stress and potentially to conflicts.

Second, said López, the international nature of these ecological zones demands new environmental governance forms that extend beyond the classical concepts of sovereignty, national interest, and territoriality. Third, the joint management of these ecosystems faces difficulties because of territorial disputes. Over the last two years, he noted, Central America has witnessed increasing interstate tensions in at least three of its ten land borders. Finally, the regional integration process could create environmental degradation across borders that would be perceived as transnational threats given the ease with which pollution permeates state boundaries.



Pascal Girot

Development and Environment

Álvaro Fernandez of Development Observatory at the University of Costa Rica followed with “Environment and Development in Latin America and the Caribbean.” Fernandez, one of the contributors to the *UNEP’s Global Environmental Outlook for Latin America and the Caribbean*, highlighted the major socioeconomic pressures on the environment in the region—including poverty, income inequality,

Cosponsored by FUNPADEM (Costa Rica), Universidad Nacional (Costa Rica), Adelphi Research (Germany), and the Environmental Change and Security Project

unsustainable agriculture, industrial development, unplanned urbanization, population density, demographic growth, trade, and consumption issues.

Fernandez also said that urbanization, biodiversity loss/deforestation, and regional impacts of global climate change stand out as three prominent environmental challenges for Central America. He said that three-quarters of the region's population lives in large cities where air quality threatens human health and water shortages are common. Depletion and destruction of forest resources is a central issue in the region's environmental agenda. Finally, the regional impact of climate change is reflected in phenomena such as forest fires, natural disasters such as hurricanes

is not occurring at this time, he argued, and the probability of conflict remains moderate in large measure because the United States perceives conflict in the region as contrary to its interests.

Next, **Pascal Girot** of the UN Development Programme and the University of Costa Rica spoke on "Vulnerability and Adaptation to Climate Change and Disasters in Central America." Central America demands heightened levels of adaptation, said Girot, because increasing environmental stresses and the concentration of populations in the most vulnerable ecological regions makes natural disasters such as Hurricane Mitch more destructive. Girot stressed that vulnerability is a complex web of external events or

Fostering new efforts to bridge both the knowledge and policy gaps between South and North is a critical step in the path to a sustainable environment and sustaining peace.

and floods, and the rise of sea levels, which threaten many coastal cities.

Finally, Fernandez argued that global multilateral environmental agreements and non-binding instruments have (a) increased public awareness of environmental issues in Central America, and (b) contributed to the creation of some national institutional structures for the implementation of such multilateral agreements. Thus, environmental issues in Central America are already integrated into the development agenda, and the region's countries have begun to adapt their legal and institutional framework to the new paradigm of sustainable development.

Rivers, Climate Change, and Disasters

In his presentation entitled "Conflict and Cooperation in Central American River Basins," **Carlos Granados** of the University of Costa Rica focused on the San Juan River and the Lempa River, two of the twenty-three international river basins in Central America. Conflict potential over the region's river basins flows from countries viewing the basins as sovereignty concerns and not ecosystems. In the case of the Lempa River, Granados and his team of Central American researchers found that conflict potential was only moderate. While El Salvador is more dependent on the Lempa River than its other riparians, it is also more responsible for the majority of the river basin's environmental deterioration.

In the case of the San Juan River, Granados said, declining water quality and its damage to fishing and human health is an increasing concern. Overt conflict

threats and the internal capacity of the community to respond to such events. Socio-environmental factors, he said, are critical.

Cooperation in Water and Conservation

Aaron Wolf of the Oregon State University Department of Geography then presented "Global Water Crisis," an introduction to the field of transboundary water cooperation and his Transboundary Freshwater Disputes Database. Wolf debunked the commonly held view that "water wars" are ongoing and imminent. He analyzed a comprehensive set of 1,800 water interactions over the past fifty years that resulted in multiple outcomes ranging from war to cooperation. Of these 1,800 events, said Wolf, fully two thirds resulted in cooperation. Thus, the last 50 years have seen only 37 acute disputes (those involving violence) while, during the same period, 157 treaties were negotiated and signed. But, as Wolf noted, "[t]he likelihood of conflict rises as the rate of change within the basin exceeds the institutional capacity to absorb that change." He suggested that finding the most resilient and appropriate institutions is therefore the paramount challenge for addressing water disputes.

Finally, **Olivier Chassot** and **Guisselle Monge** of the Great Green Macaw Research Conservation Project presented "The Green Macaw: A Flagship Species for Developing Joint Conservation Actions in Southeast Nicaragua and Northeast Costa Rica." This example of transboundary joint management of the

green macaw's habitat demonstrates the confidence-building opportunities presented by local projects in biodiversity-sensitive border areas.

The macaws' remaining breeding habitat is situated between Nicaragua's Indio-Maiz Biological Reserve and the large conservation complex in Costa Rica that includes La Selva, Braulio Carillo National Park. At the regional scale, the area provides ecological linkage between highland and lowland ecosystems for species that seasonally migrate between these areas. At the continental scale, this area is the last remaining connection between Nicaragua and Costa Rica of the Mesoamerican Biological Corridor, a corridor that has served as a major genetic pathway between North and South America since the land bridge was established over three million years ago. The project shows how a bottom-up approach integrating local concerns into transboundary initiatives can make a unique contribution to sustainable peace.

Discussion among a group of forty and distinguished guests (including journalists, activists, academics, and Costa Rican and U.S. government officials) sounded a number of themes:


- Build leadership in the South through education and stemming the brain drain to the North;
- Focus on sustainable livelihoods as critical to sustainable development and sustainable peace;
- Reconceptualize links among development, security, and conflict in order to integrate basic survival needs of developing countries and to develop appropriate policy measures;
- Promote greater South-South dialogue on grassroots approaches to environment, development, and sustainable peace;
- Increase Northern awareness and knowledge of Southern concerns (especially donor agencies);

- Ensure sustained donor support to institutions and programs until self-sufficient or completed;
- Avoid conflating traditional security and environment agendas.

EDSP: Agenda and Goals

At the conclusion of the regional workshop, EDSP convened its first core group meeting of distinguished practitioners and scholars to develop jointly an agenda on environment, development, and sustainable peace. This two-day meeting continued the focus on water, conflict, and cooperation with a presentation by core group member Aaron Wolf; the discussion also extended debates on applied research and policymaking on environment, development, conflict, and cooperation.

EDSP was conceived in large part because current efforts to translate environment, population, and conflict debates into a positive and practical policy framework for environmental cooperation and sustainable peace have not been successful. More importantly, these efforts have failed to engage a broad community of stakeholders, particularly in the global South. Fostering new efforts to bridge both the knowledge and policy gaps between South and North is a critical step in the path to a sustainable environment and sustaining peace.

EDSP's activities have been designed to develop options for institutional cooperation around integrated development, environmental, foreign, and security policies and programs. Through multiple tracks, EDSP collaborators will communicate "environment and sustainable peace" strategies to researchers, practitioners in civil society, and national and international policymakers. 

For more on the EDSP Initiative, see our interview with EDSP co-chairs Alexander Carius and Alexander López on page 321.

9 April 2002

THE JO'BURG MEMO: FAIRNESS IN A FRAGILE WORLD— A MEMORANDUM FOR THE WORLD SUMMIT ON SUSTAINABLE DEVELOPMENT

Featuring **Wolfgang Sachs**, Senior Fellow, Wuppertal Institute for Climate, Environment, and Energy; **Ashok Khosla**, Director, Development Alternatives, India; and **Hilary French**, Vice President, Worldwatch Institute, USA

By **Robert Lalasz**

Many observers of the preparatory meetings (or “prepcoms”) for August’s World Summit on Sustainable Development in Johannesburg are discouraged by the Summit’s emerging priorities, which seem largely to ignore the interconnections among equity, the environment, and consumption practices.

In an effort to highlight these linkages, the Heinrich Böll Foundation has just published *The Jo’burg Memo: Fairness in a Fragile World*, which provides both a critical account of the post-Rio 1992 decade and recommendations for Johannesburg based on the “mutual and intricate relationship of ecology and equity.” Three authors of the memo discussed its points and their hopes for the future of sustainable development at this Wilson Center meeting.

The Böll Foundation’s **Sascha Müller-Kraenner**

introduced *The Jo’burg Memo* by saying that “everyone at the Third Summit prepcom in New York in March saw why we need a document like this.” He said that the prepcom’s 150-page text has sacrificed context and vision for super-specialization. For *The Jo’burg Memo*, Müller-Kraenner added, the Böll Foundation asked representatives of governments, nongovernmental organizations, business, and others to think broadly about where the international community has fallen short and how to restore vision and synthetic thinking

to the Johannesburg process.

“*Marrakesh Trumped Rio*”

Wolfgang Sachs, coordinator/editor of *The Jo’burg Memo*, began his overview by bluntly asserting that

there was no substantive reason even to hold the Summit this year. He said that the decade since Rio has seen no progress on the environment and considerable backsliding on global sustainable development. While Rio provoked a number of treaties, conventions, and institutional adjustments (such as the widespread creation of national environment ministries), Sachs said that these moves have created “process without results.”

“In essence, Marrakesh (the 1994 agreement that established the World Trade Organization) trumped Rio,” said Sachs. A wave of economic globalization, he argued, has

largely washed away sustainable gains that could have been made at microeconomic level and has instead promoted a “robber economy” that “has exposed the national treasures of developing countries to the pull of world markets.” In OECD countries,” Sachs said, “sustainable development is now a largely forgotten issue.”

The Jo’burg Memo, said Sachs, lays out the ideal Johannesburg agenda—one that weights development, equity, and ecology equally. The ecological fragility of



Ashok Khosla

Cosponsored by the Environmental Change and Security Project and the Heinrich Böll Foundation

the planet is “a historically new situation,” said Sachs. “How can we achieve fairness in a finite world?” *The Jo’burg Memo* calls for curtailment of overconsumption, poverty eradication through a rights-based approach, and new environmental governance institutions that enforce those rights.

Poverty and Power

“There is lots of talk about poverty,” said Sachs, “but very little about wealth.” And yet overconsumption, he argued, is the largest force for global unsustainability and poverty. The resource

cannot be sustained if applied to the world. In fact, he said, this model is destroying the livelihood base in developing countries.

And if the West fails to deal with sustainable development issues, Khosla said, the resultant environmental destruction would lead to massive migration and destabilization. “The sea-level rise and deforestation will lead to the South exporting people to the North on a scale that will dwarf the boat people,” said Khosla. While the United States has a “major and historically unique” position to bring about change in development patterns, Khosla said that it has instead

There is lots of talk about poverty, but very little about wealth. —Wolfgang Sachs

claims of the global consumer class, Sachs said, are causing resource conflicts and threatening the one-third of humanity who live directly from nature.

In addition, *The Jo’burg Memo* argues that markets and a needs-based approach can never solve global poverty. “Poverty is not a matter of lack of income, but lack of power,” said Sachs. The poor, he said, must have rights to land, water, and access to finance. New global governance institutions—such as a World Environmental Organization, an International Energy Agency, and an International Court of Arbitration—should enforce these rights. And the link between ecology and equity must be forcefully stressed.

Johannesburg, said Sachs, presents an excellent opportunity to demonstrate that livelihoods, poverty reduction, and environmental protection are inextricably linked. “But it’s not going to happen in Johannesburg,” concluded Sachs.

The Failure of the International System

Ashok Khosla said that, while the South has much work to do to conserve the environment and reform its governance systems, the North holds the key to global sustainability. He pointed out that, while the international system had pledged \$600 billion dollars at Rio for the implementation of Agenda 21, no more than \$3 billion of this money has actually been spent. “This is such a massive failure of the international system that we have to ask if we are talking about these issues in a realistic way,” Khosla said.

Sustainable development, said Khosla, encompasses both sustainable consumption patterns and production systems. But Khosla argued that the Western model of development—hyperefficiency, reliance on fossil fuels, centralized energy grids—

abnegated its responsibility. “Instead of advocating SD—sustainable development—[the United States] has achieved FSD—Full Spectrum Dominance,” he said.

Governance Recommendations

Hilary French then detailed the three areas of governance recommendations in *The Jo’burg Memo*: rights, redirecting markets, and institutional reforms. First, the document stresses the need at Johannesburg to discuss *community resource rights*—over forests, fisheries, and ecosystems writ large. French pointed to the Convention on Biodiversity and the Aarhus Convention as good models for an overarching convention on such rights. The Convention on Biodiversity (which addresses fair access, equitable sharing of benefits, full and effective participation of local peoples, and prior and informed consent for the harvesting of biological wealth) has the support of many developing world countries, but the United States has refused to become a party.

The Jo’burg Memo also advocates tax shifts and subsidy removals to make the global marketplace more responsive to sustainability development principles. French said that taxes should shift from labor to the consumption of natural resources, internalizing external environmental costs into pricing.

She also argued that removing government subsidies for environmentally-harmful activities (such as fossil-fuel extraction or industrial agriculture) would free up \$800 billion to \$1 trillion in the first year alone—in contrast to the \$650 billion cost of implementing Agenda 21 estimated at Rio. The Fourth WTO Ministerial Conference at Doha made a good start on this, French added, using WTO rules to attack

subsidies that promote overfishing. In this vein, she said that multilateral environmental agreements need to take precedence over WTO rulings.

Finally, French said that *The Jo'burg Memo* stresses corporate accountability and institutional reform. Social responsibility, she said, has proven too lax a strategy for enforcing sustainable corporate behavior: instead, corporations need to be subject to binding codes through a convention of *socially accountable production*—a process that should begin at Johannesburg. French also argued that the United Nations Environmental Programme (UNEP) should be transformed into a World Environmental Organization that oversees global environmental governance and the further development of standards and agreements.


Governments are Crucial

In open discussion, Sachs also said that the “Type II” initiatives (voluntary partnerships, instead of the “Type I” government initiatives) now being talked up for Johannesburg should not be used as a pretext for governmental inaction. “The problem now is the absence of international governance,” he said, “and Johannesburg is proposing even more absence of such governance!” French added that the “current fashion for multistakeholder initiatives” fails to challenge power relations and thus is doomed to ineffectiveness.

After Rio, Sachs added, UN attempts to gather support for regulating transnational corporations (TNCs) were minimized and then eventually discarded. “We need to create a space where public rights prevail, as in Aarhus,” he said. He also criticized development-financing initiatives proposed at the recent Monterrey International Conference on Financing for Development for using old and non-participatory models of delivery that also failed to take sustainable development seriously.

“The rich countries are using a social welfare approach to save the WTO, and the same will happen at Johannesburg,” Sachs said. “The Summit will pay more attention to saving the free-trade regime as a way of solving poverty. It’s a self-defeating approach.”

French criticized the United States for recommending sustainable development to other countries “even though people elsewhere see U.S. development as paradigmatically unsustainable.” The State Department’s lead on U.S. preparations for the Summit, she said, means that this focus on “the other” is institutionalized. Sachs recommended that Europe “forget about the U.S. as long as the Bush

administration exists,” and make its own selective multilateral compacts to “try out some form of global deal ourselves.” 

For more on this meeting, visit <http://ecsp.si.edu/boll.htm>

Related Web Links

The Jo'burg Memo: Fairness in a Fragile World

www.boell.org/docs/Memo-mF.pdf

Heinrich Böll Foundation

<http://www.boell.org>

Wolfgang Sachs

http://www.wupperinst.org/Publikationen/buecher/planet_dialectics.html

Wuppertal Institute for Climate, Environment, and Energy

<http://www.wupperinst.org>

Ashok Khosla

<http://www.earthforum.org/9904/khosla/biography.htm>

Development Alternatives, India

<http://www.devalt.org>

Hilary French

<http://www.worldwatch.org/bios/french.html>

Worldwatch Institute

<http://www.worldwatch.org>

INVESTING IN HEALTH FOR ECONOMIC DEVELOPMENT: REPORT OF THE COMMISSION ON MACROECONOMICS AND HEALTH

Featuring **Jeffrey D. Sachs**, Director, Center for International Development and Galen L. Stone Professor of International Trade, Harvard University

By **Robert Lalasz**

One of the United States' preeminent economists told a Wilson Center audience that the international community must address shortcomings in global health if it is serious about addressing global poverty. **Jeffrey Sachs**, Harvard University professor and chair of the World Health Organization's Commission on Macroeconomics and Health, said that \$35-\$40 per capita annually—one penny out of every ten dollars of developed-country GNP—would alleviate the world's most fatal diseases and allow poor countries to participate fully in the global economy.

Three Truths About Global Disease

In outlining the findings of the commission's December 2001 report (*Macroeconomics and Health: Investing in Health for Economic Development*), Sachs said that the last two decades have seen the world divide into not only rich and poor but healthy and diseased. While life expectancy in rich countries is approaching 80, it hovers near 50 in the poorest developing countries. One out of every five children dies before the age of five in poor countries, versus one for every 165 in the developed world.

By the end of the 1990s, developing-country public-health systems that were already woefully underfunded were overwhelmed with the pandemic of HIV/AIDS and resurgent diseases such as malaria. Sachs said that the WHO commission, made up of finance and public-health experts, reached a consensus

on the health crisis based on three basic truths:

1. *Fighting disease is vital to economic success.* "This seems so obvious," said Sachs. "But we kind of pretended that, well, AIDS is something that's here, but we're going to work on trade and finance and so forth as if that AIDS pandemic could be put into a corner. Well, trade alone won't work if your 20 percent of your labor force is dying of HIV/AIDS. Either we're going to get the disease pandemics under control, or the economic crisis—particularly in Africa—is going to continue to deepen."

2. *The vast part of the health gap is explained by a few conditions—infectious diseases, nutritional deficiencies, and unsafe childbirth—that are overwhelmingly related to poverty.* "And one of the things that's known about these conditions is a set of effective interventions," said Sachs. "People don't have to die of these diseases in anywhere near the numbers they are."

For example, Sachs noted, almost one million children are dying of measles in developing countries because immunizations aren't reaching

them and poor nutrition may already have suppressed their immune systems. Perinatal tetanus, said Sachs, does not even exist in the United States but kills 500,000 annually in the developing world. And the inexpensive drug chloroquine continues to be the first-line treatment for malaria in many countries despite its increasing ineffectiveness.

3. *Poor people cannot afford even the inexpensive and readily-available measures against these diseases.* The WHO



Jeffrey D. Sachs

commission concluded that \$25 billion annually would pay for 41 essential health interventions that would cover perhaps two-thirds of the population of the poorest 46 countries over the next ten years. But Sachs stressed that even this figure was too expensive for poor countries to afford. “When you’re at \$200 per capita income, like Malawi, \$40 per capita is 20 percent of GNP,” he said. “Twenty percent of GNP is typically more than the entire public-sector budget for developing countries, especially at that income level.”

How the Developed World Has Fallen Short

Sachs called on donor countries to bridge this funding gap. “Let’s stop merely lecturing these countries and realize that they can’t get serious about these problems until we do,” he said. “It’s not a matter of telling countries what you hear endlessly—cut your military budget and provide for health, or the president bought an airplane rather than investing in the health sector, or if it weren’t for the dialysis machines you’d have primary health,” he said. “These are lies. The story of what’s happening is that at \$200 per capita or \$300 per capita [income], you cannot afford to stay alive in a malarial, tubercular, HIV/AIDS-ridden environment. And therefore millions of people die. It’s no more complicated than that.”

Sachs, who is also special advisor to UN Secretary-General Kofi Annan on the Millennium Development Goals, estimated that meeting the goals for health would cost well under the standard donor target of 0.7 percent of developed-country GNP. But he lamented that the international community has been less than responsive to this mission as well as to reducing the debt-burdens of poor nations.

“In my opinion,” said Sachs, “the rich countries, led by the U.S., have basically used the [structural adjustment policies of the] IMF and World Bank as their buffer against the clamoring masses. For 20 years we’ve kind of faked it. But the pathogens don’t care. The AIDS pandemic got totally out of control in front of our eyes, with all of the science and medicine that we have, and we stood by and watched 25 million people die without giving a single person in a poor country access to antiretroviral drugs from U.S. money.”

Sachs went on to criticize the strictures donors place on their current health investments. “We’ve had rules that donors would support capital costs, but not recurrent costs—we won’t pay for doctors, nurses, and drugs,” he said. “We have these strange norms which are a little hard to believe if you’re not in this business.”

Sachs also said that the international public health community has been conditioned to ask for far too little funding to address these problems. “I explained to Peter Piot, head of UNAIDS, that we don’t even talk about millions anymore,” said Sachs. “That’s rounding error in the modern economy. We do \$1.6 trillion dollar tax cuts. We talk about hundreds of billions. We don’t even deal it in millions—that’s off the decimal points.”

“What the rich world has not done until now,” he added, “is to ask what would really be needed to solve the real problems, including the specific targets that we have set for ourselves. So what I am hoping to do [as special advisor] is study how the Goals can be accomplished and ask actually how much they cost.”

“It seems to me that [striving to meet the Goals] is the essence of global solidarity,” Sachs concluded. “And that seems to me the essence of living in a peaceful and humane world.”



For more on this meeting, visit <http://ecsp.si.edu/sachs.htm>

THE GREAT NORTH KOREAN FAMINE: FAMINE, POLITICS, AND FOREIGN POLICY

Featuring **Andrew S. Natsios**, Administrator, United States Agency for International Development; and **Richard Solomon**, President, U.S. Institute of Peace (introduction)

By Robert Lalasz

The 1990s famine that killed millions of North Koreans has been the least understood humanitarian catastrophe of the decade—almost exclusively because of the extreme secrecy and defensiveness of the North Korean government. USAID Administrator **Andrew Natsios**' new book, *The Great North Korean Famine*, details not only how that defensiveness led to the crisis, but also the regime's cruel policies and the inadequate U.S. and international response. Natsios outlined his findings to a Wilson Center meeting that included Charles Pritchard, the current U.S. State Department Special Envoy to North Korea.

“One of the Greatest Disasters of the Decade”

Richard Solomon of the U.S. Institute of Peace, which published the book, introduced Natsios as a “scholar-official of the highest order.” And he praised *The Great North Korean Famine* for highlighting issues from the catastrophe that have wide applicability to today's foreign policymaking.

“For example, how do you balance moral values against geo-political-strategic interests?” Solomon said. “How do you decide to send food to people living under control of a hostile state? Deploy troops to face a hostile government? Dispatch officials to deal with war criminals?”

Solomon called the famine, which lasted from 1995 through 1999, one of the three greatest humanitarian disasters of the decade—on a par with Rwanda and Bosnia. He praised Natsios' work to publicize the catastrophe, and said that food and economic security were still unresolved issues for North Korea.

“I Didn't See A Famine At First”

Natsios said that his book was based on research

and interviews he did on a June 1997 trip to North Korea while working for World Vision-USA. “I didn't see a famine at first,” Natsios said. But two associates convinced him to conduct interviews with Korean refugees who were crossing the Chinese border to find food. Those interviews, along with 1600 other refugee interviews by the Korean Buddhist Sharing Movement NGO as well as the border dispatches of *South China Morning Post* reporter Jasper Becker, convinced Natsios that a full-blown famine was at hand.

Many famines have obvious indicators (such as plummeting agricultural production and rising malnutrition and morbidity). But Natsios said that, with a regime such as North Korea's that tightly controlled information, analysts and humanitarian agencies must look for far less-obvious signs. “All famines take place in a political context,” Natsios said. “And there has been no known famine in a democracy. In a democracy, people take action long before that point. Famines take place under centralized governments precisely because information can be hidden.”

What Caused the Famine?

Natsios said that an annual FAO crop assessment determined that the North Korean famine was largely caused by the country's Stalinist economic system—not by flooding, as the government still maintains. “North Korea and Cuba are the world's only Stalinist agricultural systems, where there is no incentive to produce food,” said Natsios. “The production of food actually went into reverse during the famine.” He also said that unsustainable land development techniques such as burning and deforestation led to what flooding there was.

In addition, Natsios said, Russia and China had

Cosponsored by the Wilson Center's Asia Program, Conflict Prevention Program, and the Environmental Change and Security Project

stopped sending heavily-subsidized food supplies and oil to North Korea after the end of the Cold War. “The North Korean agricultural system is the most chemicalized in the world,” said Natsios. “So when they lost oil and grain subsidies all within 12 months, it was disastrous.”

And short-term government decisions, said Natsios, exacerbated that disaster. “The central focus of the [North Korean] regime is survival,” he said. “They will say that survival of the Korean state and people is always more important than survival of the individual.” This principle, said Natsios, explains why the regime made the 1995 decision to “triage” the entire northeast region of the country—in essence, blocking food shipments to that portion of the population in order to ensure subsistence food supplies for the capital Pyongyang, whose support was critical to the government. “No food deliveries were made to that region for two-and-a-half years,” said Natsios. Workers in “unessential industries” such as mining were also triaged.

The turning point in the regime’s domestic credibility, Natsios argued, was when it cut rations to farmers. “Since the prices the PDS [the public distribution system] paid farmers for food was extremely low,” said Natsios, “the system collapsed when farmers began hoarding food.” And since North Koreans’ ration-cards were only honored in the residents’ hometowns, the system’s breakdown led to widespread migration and corruption.

How Many Died?

The North Korean government position remains that 225,000 to 235,000 people died during the famine—although one official’s figure of 2.5 million was swiftly denied. Natsios estimated that a figure between 2.5 million and 3.5 million deaths is reasonably accurate. He said that recorded death rates in towns, cities, and regions whose records were accessible show that somewhere between 10 and 19 percent of their populations perished in the famine. Tellingly, only 55 percent of people voted in North Korea’s 1998 national elections—in a country in which

not voting is a crime. “Either the missing were on the move looking for food,” Natsios said, “or their deaths were unrecorded.”

Security and Political Consequences

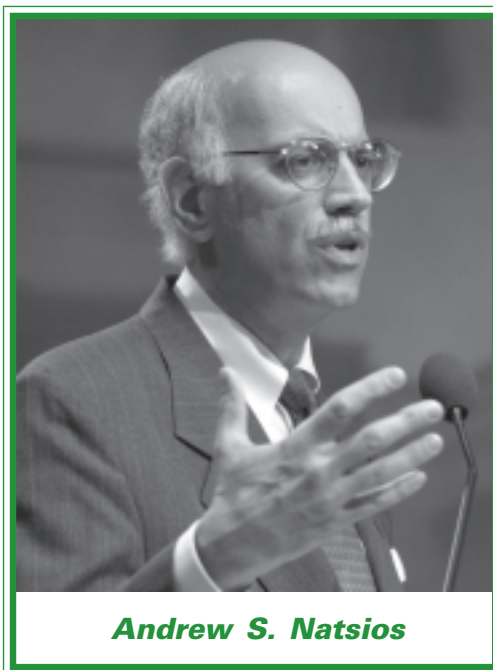
Natsios said that the famine traumatized North Korean society from bottom to top. In a culture built around extended families, he said, the decisions heads of households had to make about who would and would not eat were utterly demoralizing. But the famine also undercut the North Korean government’s legitimacy in a number of ways:

- North Koreans were no longer reliant on the state for food. In fact, said Natsios, the country’s major source of food now is the 300 farmers’ markets that sprung up across the country in the wake of the famine.
- Internal migrations of people looking for food “profoundly changed the [population’s] whole view of the state,” said Natsios, completely draining popular support for the regime and its policies. Also, the state switched during the famine from propaganda to massive police brutality as a means of maintaining power, further alienating the populace.
- In addition, the international food aid that eventually arrived ended North Koreans’ isolation from the West and the world and debunked the myths of North Korean superiority and self-reliance.

The International Response

Answering audience questions, Natsios said that he wrote the book partly as “a catharsis for [my] anger at the inaction of the United States” in the first years of the famine. While many NGOs tried to force the U.S. government to respond, Natsios said, the intelligence wing of the U.S. State Department was debating with the CIA and the Pentagon over whether the famine really existed or was just a ploy by the North Korean regime.


By the summer of 1996, U.S. MIA-recovery teams working in North Korea had reported definitive signs of widespread hunger. But Natsios said that it took



Andrew S. Natsios

until July 11, 1997 for the State Department to first make a large food donation and use the word “famine” in describing the situation. “We were late,” said Natsios. “The food arrived after the death rate had begun to decline, although it did stabilize the situation and saved a lot of kids.”

“The resources [in North Korea as well as Japan and the West] were always there to stop the famine,” argued Natsios. And while accountability is always a

question in food aid distribution, Natsios added that the United States should not blame the UN for failing to establish the monitoring preconditions for effective distribution. “The UN can’t force these regimes into accountability,” said Natsios. “It must be the EU and the U.S.” 

For more on this meeting, visit <http://ecsp.si.edu/nkfamine.htm>

Related Web Links

The Great North Korean Famine

<http://www.usip.org/pubs/catalog/greatnkf.html>

Andrew S. Natsios

http://www.usaid.gov/about/bio_asn.html

U.S. Agency for International Development

<http://www.usaid.gov>

Richard Solomon

<http://www.usip.org/oc/gts/solomon.html>

U.S. Institute of Peace

<http://www.usip.org>

New Publication From ECSP

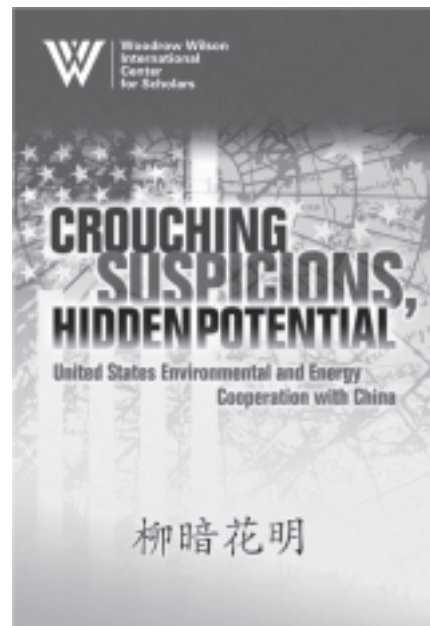
CROUCHING SUSPICIONS AND HIDDEN POTENTIAL: U.S. ENVIRONMENTAL AND ENERGY COOPERATION WITH CHINA

By Pamela Baldinger and Jennifer L. Turner

China already consumes more energy and emits more greenhouse gases than any country except the United States. Moreover, China’s recent breakneck pace of modernization already has left it with nine of the world’s ten most polluted cities. Northeast Asia is beset with acid rain from China’s sulfur emissions, and even countries halfway around the globe are feeling the impact of China’s pollution problems and inefficient use of natural resources. Thus, China’s energy and environmental policies have an enormous 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.

The new ECSP/China Environment Forum publication, *Crouching Suspicions and Hidden Potential*, succinctly summarizes U.S.-China cooperation in the areas of energy and environmental protection. It highlights opportunities for U.S. policymakers, business, and nongovernmental organizations to further such cooperation; it also analyzes barriers to present and future cooperative efforts.

To obtain a copy of *Crouching Suspicions and Hidden Potential*, contact ECSP Senior Project Associate Jennifer L. Turner at chinaenv@erols.com or 202/691-4233.



8 May 2002

FINDING THE SOURCE: THE LINKAGES BETWEEN POPULATION AND WATER

Featuring **Don Hinrichsen**, consultant to the United Nations; **Henrylito D. Tacio**, Asian Rural Life Development Foundation; **Ruth S. Meinzen-Dick**, International Food Policy Research Institute; **Paul P. Appasamy**, Madras School of Economics, Chennai, India; **Anthony Turton**, University of Pretoria; and **Jeroen F. Warner**, Middlesex University

By Robert Lalasz

Population and fresh water are widely recognized as two of the most important issues facing humanity. Yet too few policymakers are aware of the close links between population growth and water supplies, or the ramifications of these connections for livelihoods, economic productivity, and political stability.

The new ECSP publication *Finding the Source: The Linkages Between Population and Water* takes an important step towards increasing knowledge about these interconnections. The publication's three articles—each written by a different Northern-Southern author team—detail the impacts of population growth on freshwater supplies, intersectoral competition for water, and society's capacity to deal with water and other natural-resource scarcities. The authors of *Finding the Source* came to the Wilson Center to discuss their articles and put forward a common message: global water problems are still soluble—but only with concerted international action that includes efforts to address population growth.

Growing Populations + Finite Water Supply = Water Crisis

In presenting the article “The Coming Freshwater Crisis is Already Here,” author **Don Hinrichsen** argued that rapidly-growing population and economic development are placing tremendous stresses on the world's finite water supply. “There is no more water now than there was 3,000 years ago, when the population was two percent of the 6.2 billion people we have today,” said Hinrichsen.

Hinrichsen showed a series of slides to illustrate the myriad difficulties these stresses are causing worldwide. In Manila, many residents have been reduced to using canal water, which causes illness even after being boiled for 30 minutes. In Arayana State, India, extended families must gather their water supplies from a tap that is open only three hours

weekly. In Khazakstan, irrigation demands have shrunk the Aral Sea by more than one-half over the last 30 years, while surrounding farmlands have become salinized and unusable.

By 2030, said Hinrichsen, anywhere from 2.5 to 4 billion people will be living in water-short countries. “The bind we are in,” said Hinrichsen, “is that, while global population tripled in the 20th century from two to six billion, water use increased six-fold over that period.” And while developing-country population growth rates are declining, populations in the planet's poorest countries are still growing. The world is also now using more water for agricultural and industrial use than ever before, he said, straining a resource that is already seriously degraded.

Co-author and Filipino journalist **Henrylito Tacio** followed by outlining how Asia, one of the wettest regions in the world, is beset with a water crisis. Over 800 million people in Asia have no access to safe drinking water, said Tacio, and even more have inadequate sanitation. Freshwater withdrawal levels have increased dramatically, while water levels in countries such as the Philippines have dropped 50 percent in the last twenty years. Soil erosion and watershed pollution are rampant. And a food crisis looms: Asian nations use up to 86 percent of their water supplies for agriculture.

Tacio said that, while Asia has made tremendous social and economic gains in the last three decades, it is still home to two-thirds of the world's poor. “Efforts to reducing poverty won't matter if basic needs for reliable drinking water and sanitation aren't met,” he argued. Tacio added that continuing high levels of water stress will endanger economic growth for the entire region.

How Urbanization Affects Competition for Water

Ruth Meinzen-Dick and **Paul Appasamy** followed by outlining (from their article “Urbanization

and Intersectoral Competition for Water”) how the last 50 years of global urbanization have created unprecedented competition for water. The total population of cities has increased by two billion people since 1950, and another two billion urban residents are projected for 2025—95 percent of them in developing countries. This rapid pace of urbanization, said Meinzen-Dick, geometrically increases the challenges of apportioning water resources. “We talk about calorie poverty and income poverty, but water poverty should also be a common concept,” added Appasamy.

Population and Water Resources in the Developing World

Tony Turton, who heads the University of Pretoria’s African Water Issues Research Unit, next discussed how “resource scarcity” depends as much on a given society’s capacity and ingenuity as the raw amount of a resource it controls. Scarcity is a relative term, said Turton; what is scarce in one environment is abundant in another. And while scarcity can be caused by climate, it is more often induced by factors such as institutional bottlenecks, resource capture, pollution, or politics. “How do we start to engineer

There is no more water now than there was 3,000 years ago, when the population was two percent of the 6.2 billion people we have today.
—Don Hinrichsen

Meinzen-Dick noted that water use in all sectors—domestic, industrial, and agricultural—increases dramatically in cities. Authorities (particularly in developing countries) are thus increasingly being forced to make national water-allocation decisions that often shortchange rural and environmentally sensitive areas as well as women and the poor. Appasamy, who directs the Madras School of Economics in Chennai, India, added urban water use is hurting agricultural needs because demand is closing most open water basins worldwide. Urban industrial pollutants are also often damaging surface and ground water as well as soil, biodiversity, fisheries, and agriculture.

Finding new sources of water to meet the demands of cities is getting more difficult, said Appasamy, although solutions through infrastructure (such as new dams, desalination plants, and leak monitors) and techniques (such as rooftop and ground collection of rainfall) have yet to be fully exploited. Others have suggested reallocation through tradable water rights and water markets. But Appasamy argued that *pricing* could be a key component to managing increasing water use, both urban and rural.

Efficient pricing, said Appasamy, limits water-intensive crops as well as pollution, can lead to household conservation, and could help pay for wastewater treatment. He added that most households in his native India are willing to pay for water if they can be assured reliable supplies. He also advocated decentralized water systems with more local control (such as river basin organizations among riparians) that also promote (a) access for the poor, and (b) accountability for water managers as well as polluters.

social systems for adaptability to long-term changes in natural resources?” asked Turton.

Turton, who co-authored the article “Exploring the Population-Water Resources Nexus in the Developing World” with **Jeroen Warner**, categorized resources as *first-order* (natural) and *second-order* (social, such as technical ingenuity or resource-trading mechanisms). Turton and Warner used population growth and water availability per capita as measures of first-order resources; as second-order resource measurements, they chose GNP per capita and percentage of population with access to safe water. The authors then applied these measures to twenty African countries, combined each country’s statistics, and mapped the results onto a grid.

The grid demonstrates how countries with low first-order water resources (such as South Africa or Mauritius) can, through relatively higher second-order resources, actually be more water secure than “water-rich” countries such as the Democratic Republic of Congo or Mozambique, whose social and political instability have made them unable to exploit their water.

“Second-order resources will be the determinant whether we have enough water to support future population growth,” said Turton. “In order to manage demand, developing countries need intellectual capital, institutional and administrative capacity, political legitimacy, a culture of payment, and an increased level of complexity over time. The countries that don’t have it will be more and more susceptible to social and political instability.”

Warner, a Dutch researcher at Middlesex

University, then outlined the potential and pitfalls of using Global Information Systems (GIS) to help find new water supplies and manage existing resources. While GIS provides us with an unprecedented way of managing data, Warner argued that it does not always lead to better decision-making because of bias in data choice and interpretation. Data for water is particularly fluid, he said, and political debates about distribution and equity need to be informed not only by science but also by underlying values. Indeed, he said, GIS can easily feed into an accelerating trend of data securitization by states.

Warner also noted that the expense of

sophisticated GIS applications both puts them out of the reach of poor and marginalized groups. And GIS is not yet capable of mapping the nuances of social ingenuity, capacity, and stability. “Why are farmers in Bangladesh better predictors of flooding than meteorologists?” Warner asked. “They count the rats on their farms.” While GIS can help refine our knowledge of the population-water nexus, Warner said that we must open its use up to a debate about competing knowledges. “How you look at a river is how you map it,” he said. **W**

For more on this meeting, visit <http://ecsp.si.edu/popwater.htm>

Related Web Links

Finding the Source

<http://ecsp.si.edu/popwater.htm>

Don Hinrichsen

http://www.actionbioscience.org/environment/hinrichsen_robey.html

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<http://www.fao.org/docrep/u7760E/u7760e09.htm>

Ruth S. Meinzen-Dick

<http://www.ifpri.cgiar.org/srstaff/meinzenr.htm>
<http://www.ifpri.cgiar.org/events/seminars/2000/071300.htm>

Asian Rural Life Development Foundation

<http://mozcom.com/~arldf/>

International Food Policy Research Institute

<http://www.ifpri.org/>

Madras Institute of Development Studies

<http://mids.tn.nic.in/default.htm>

African Water Issues Research Unit (AWIRU)

<http://www.up.ac.za/academic/cips/awiru.html>

HIV/AIDS IN THE RANKS: RESPONDING TO AIDS IN AFRICAN MILITARIES

Featuring **Nancy Mock**, Associate Professor, Tulane University School of Public Health, and **Stephen Talugende**, Hospital Administrator, Uganda People's Defense Forces

By **Jennifer Wisnewski Kaczor**

With some sub-Saharan African countries having up to 60 percent of their populations infected with HIV, security policymakers and researchers are increasingly regarding AIDS as a security issue. But one aspect of AIDS that has received less attention is the HIV-infection crisis within sub-Saharan African militaries. Even during peacetime, military personnel globally have higher rates of sexually transmitted infections than their surrounding populations—and HIV-infection rates for African militaries are even higher.

These figures raise troubling questions for the readiness of these militaries, the health of non-combatants in conflict and peacekeeping zones, and ultimately the political stability of many African countries. In this Wilson Center meeting, **Dr. Nancy Mock** provided an overview of current research on HIV and security, and **Captain Stephen Talugende** of the Uganda People's Defense Forces related the Ugandan military's experience with HIV prevention programs.

Conventional Wisdom and the Data Dearth

Mock presented what she called the conventional wisdom on HIV prevalence in African militaries, which theorizes that military populations are particularly vulnerable to HIV infection because (a) they are in the most sexually active age group, (b) the culture of the military promotes risk-taking behavior, (c) military members are highly mobile and live away from their families, and (d) military members have cash available to purchase sex.

Mock also related UNAIDS estimates that HIV rates are two to five times higher among soldiers in some African countries than for non-military populations, with these rates rising for both groups during times of conflict and war. Uniformed service members of less-developed countries, said Mock, are especially vulnerable to HIV infection.

Mock then turned to the impact of HIV on military

forces in sub-Saharan Africa, citing some shocking statistics:

- AIDS is the number one cause of death in the Congolese Armed Forces;
- The rate of HIV/AIDS infection in the South African National Defense Force may be as high as 60-70 percent;
- According to U.S. Defense Intelligence estimates, 40 to 60 percent of soldiers in Angola and the Democratic Republic of the Congo are infected with HIV. For the Zimbabwean and Malawian armed forces, estimates are as high as 70 to 75 percent.

Mock cautioned, however, that few African militaries have the capacity to collect and analyze the data required to generate estimates of HIV infections; most extant statistics are based on small-scale studies and non-probability sampling techniques. For others, such information is classified as a matter of national security. The reality, Mock said, is that very little reliable data exist for prevalence rates within African uniformed services, and data for rebel troops and paramilitary groups are even more difficult to get. In addition, data on knowledge/behavior/practices do not exist. Mock said this data dearth leads some analysts to conclude that prevalence differentials between African civilian and military populations may not be as high as conventional wisdom purports.

The Relationship Between HIV and Security

Mock also noted that, contrary to conventional wisdom, HIV-prevalence data among general African populations suggest that countries with less conflict tend to have higher rates of infection. She hypothesized that peace and stability bring improved transportation infrastructure and increased trade and movement of economic goods within and among countries. This ease of movement and increased economic activity then

provide a vector of transmission for the disease.

But Mock suggested that current analyses do not provide a clear picture of the complexity of the relationship. Though overall prevalence rates suggest that infection rates rise during peacetime, she cautioned that very little comparative data is collected in countries during and after conflict. But Mock suggested that societies during and after conflict are particularly vulnerable to HIV infection because: (a) conflict displaces people from their homes; (b) militaries are on the move; (c) during transitions, peacekeepers are deployed across borders; and (d) during transitions, military members with HIV may be reintegrated without testing, counseling, or treatment.

Recommendations

Mock suggested a number of recommendations to address HIV prevalence in the military:

- Establish a culture of evidence-based management strategies within the military and civilian sectors as well as mechanisms for data sharing;
- Conduct pilot studies of baseline prevalence rates and disseminate their results to enhance military participation in community HIV prevention, especially in the context of demobilization;
- Look to other regional models of civil-military collaboration for “disaster management,” such as collaborations in Latin America and the Caribbean region;
- Support multi-sector approaches that build partnerships and networks among military and civilian government and nongovernmental institutions—efforts that will survive well beyond the funding cycles of donor agencies.

Uganda: A Program for Success

Talugende next related his experience administering the Post Test Club in the Ugandan People’s Defense Forces. The Post Test Club was formed in 1990 to: (a) lobby for better care and support of AIDS patients by the Ugandan military authorities; (b) create partnerships with other support organizations; (c) take active involvement in HIV prevention through public speaking, community education, and peer health education; (d) implement childcare and orphan care; and (e) provide treatment for members. Talugende attributed the drop in the Ugandan military’s HIV prevalence rate—from over 10 percent in 1990 to less than 7 percent today—to


the efforts of the Club. He said that over 7,000 service members and families now participate in the Club’s voluntary programs.

According to Talugende, the program has strengthened and encouraged openness about HIV/AIDS in the Ugandan military as well as reduced the stigma and discrimination suffered by infected service members. “The Club,” he said, “builds confidence and hope, maintains the military’s professionalism, and is cost-effective.”

Challenges Remain

But Talugende also noted continuing challenges facing the project—particularly, a lack of drugs and medications as well as limited administrative support and training for volunteer educators in public speaking and communication. Talugende also said that the death and ill-health of committed Club members has made continuity of leadership and participation in the organization a particular challenge.

Open discussion focused on the data questions raised by Mock, who reasserted that an evidence-based management strategy was absolutely critical to the success of treating HIV in Africa. Some attendees argued that not enough reliable data existed to justify to the U.S. military that HIV is a security issue. Others questioned whether the secrecy of military culture would ever allow implementation of an evidence-based approach to HIV infection. But both Mock and Talugende felt that these norms were changing and that a strong data-based case would prompt the United States to fund HIV prevention programs among developing country (and especially African) uniformed services.

Will the epidemic prevent African nations from fielding military forces? Talugende felt that, because a person can live for some time with the virus without showing symptoms of AIDS, African nations would still be able to field armies and participate in peacekeeping missions—a concern raised by some groups studying this issue. 

For more on this meeting, visit <http://ecsp.si.edu/hivmil.htm>

UPDATE: NONGOVERNMENTAL & GOVERNMENTAL ACTIVITIES

This section of the Report highlights the environment, population, and security activities of academic programs, foundations, nongovernmental organizations, government offices, and intergovernmental organizations. If your organization is not listed or if you have an organization to recommend, please contact Robert Lalasz at lalaszrl@wwic.si.edu.

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ACADEMIC PROGRAMS

Carolina Population Center

The Carolina Population Center was established at the University of North Carolina at Chapel Hill (UNC-CH) in 1966 to coordinate university-wide programs in population. Fifty-eight scholars are currently holding faculty appointments in sixteen UNC-CH departments. The Carolina Population Center provides a multidisciplinary community to carry out population research and train students. The Center's research projects are: the Cebu Longitudinal Health and Nutrition Survey; China Health and Nutrition Survey; Lead and Pregnancy Study; the MEASURE *Evaluation* Project; Nang Rong Projects; the National Longitudinal Study of Adolescent Health; Distance Advancement of Population Research; Alternative Business Models for Family Planning; Life Course Studies; Pregnancy, Infection and Nutrition Study; Dietary Patterns and Trends in the United States; Nutrition Transition Program; WHO Multi-Country Study Proposal; and Russia Longitudinal Monitoring Survey. *For more information, contact:* Carolina Population Center, University of North Carolina at Chapel Hill, 123 W. Franklin St., CB#8120 University Square, Chapel Hill, NC 27516-2524; *Tel:* 919/966-2157; *Fax:* 919/966-6638; *Email:* cpcweb@unc.edu; *Internet:* <http://www.cpc.unc.edu/>

Centre for Development and the Environment (SUM)

SUM is a part of the University of Oslo and aims to generate and communicate knowledge in the field of development and environment by promoting and undertaking interdisciplinary work in collaboration with the established departments of the University. In addition, SUM conducts courses and disseminates research results through publications, seminars, conferences, and workshops. The Centre's research is explicitly policy-oriented, using an interdisciplinary approach on the specific theme of environment and development. The three guiding principles of the Centre are: (1) to address the problems and challenges of poverty and environmental degradation; (2) to emphasize that the multi-disciplinary approach of development or environment is insufficient; and (3) to bridge the gap between research and policy to meet the needs of policymakers. *For more information, contact:* the Centre for Development and the Environment, the University of Oslo, P.O. Box 1116, Blindern N-0317 Oslo, Norway; *Tel:* 47-22-85-89-00; *Fax:* 47-22-85-89-20; *Email:* Liv.Norderud@sum.uio.no; *Internet:* <http://www.sum.uio.no>

Center for Environmental Systems Research

The goals of the Center for Environmental Systems Research, created at the University of Kassel in 1995, are: (a) to increase understanding about the functioning of environmental systems and the causes of environmental problems, and (b) to identify "sustainable" pathways into the future—i.e., pathways that allow development

of society in harmony with nature. The uniqueness of the Center lies in the combination of approaches it uses to reach these goals. First, it takes a *systems approach* in that its researchers use and further develop the methods and instruments of systems thinking (such as systems analysis and computer simulation). Second, it takes an *interdisciplinary approach* by drawing on knowledge from the different social and natural sciences. Third, it has a *problem-oriented approach* in that it aims to identify and solve critical environmental problems. These approaches together provide a dynamic and distinctive style of environmental research. In order to reach these goals, the Center has adopted a matrix structure for organizing its activities, consisting of three research groups and five cross-cutting main research themes. Members of the research groups “Global and Regional Dynamics,” “Society-Environment Interactions,” and “Eco-balances” collaborate in projects that cover the following research themes: (1) regional and global environmental change; (2) environmental change and human security; (3) world water—strategic analysis and assessment; (4) energy and materials management; and (5) lifestyles and sustainability. The Center strongly emphasizes collaboration with other institutions both inside and outside of Germany. It plays an important role in many international scientific activities such as the World Water Assessment Program, the Global Environmental Outlook of the UN, the International Water and Climate Dialogue, the Intergovernmental Panel on Climate Change, and the Millennium Assessment on World Ecosystems. The Center focuses on links between science and policy by using its research findings to help develop national and international environmental policy. *For more information, contact:* Dr. Joseph Alcamo, Director, or Dr. Karl Heinz Simon, Deputy Director, The Center for Environmental Systems Research, University of Kassel, Kurt-Wolters-Strasse 3, 34109 Kassel, Germany; *Tel:* 49-561-804-3266; *Fax:* 49-561-804-3176; *Email:* alcamo@usf.uni-kassel.de or simon@usf.uni-kassel.de; *Internet:* <http://www.usf.uni-kassel.de/usf/>

Environmental Policy and Society (EPOS)

EPOS is a research network with a small secretariat at Linköping University in Sweden, led by Professor Anders Hjort-af-Ornäs. Since its beginning in 1991, EPOS has been concerned with societal impacts of environmental policy change—not only on the environment, but also on the sociocultural and socioeconomic security of the local community under the impact of regional, national, and global policies. EPOS departs from a community perspective as a means to seek the more general principles that form political dimensions of both environmental and socioeconomic processes of change. This approach means, by definition, an interdisciplinary mode of operation; problems addressed are essentially social, but aspects other than those of social science are also required. The current focus of EPOS is on action and policy research with an emphasis on institutional capacity, awareness, and social capital. It has ongoing activities that focus on subjects ranging from sustainable livelihoods in Eastern African drylands to the sociocultural framework of small and medium-sized enterprises in Swedish local communities to the processes of sociocultural, economic, and environmental adaptation among ethnic groups in the mountainous areas of Northern Vietnam. *For more information, contact:* EPOS, Tema Institute, Linköping University, 581 83 Linköping, Sweden; *Tel:* 46-13-28-25-10; *Fax:* 46-13-28-44-15; *Email:* epos@tema.liu.se; *Internet:* <http://www.tema.liu.se/epos>

The Global Environmental Change and Human Security Project (GECHS)

In May 1996, the Scientific Committee of the International Human Dimensions of Global Change Programme (IHDP) formally adopted as a core project the Global Environmental Change and Human Security (GECHS) initiative developed by the Canadian Global Change Programme and the Netherlands Human Dimensions Programme. The objectives of the project are three-fold: to promote research activities in the area of global environmental change and human security (which recognizes the essential integrative nature of the relationship among individual, community, and national vulnerability to environmental change); to encourage the collaboration of scholars internationally; and to facilitate improved communication and cooperation between the policy community/user groups and the research community. *For more information, contact:* GECHS International Project Office, P.O. Box 1700, Victoria, B.C. Canada V8W 2Y2; *Tel:* 250/472-4337; *Fax:* 250/472-4830; *Email:* info@gechs.org; *Internet:* <http://www.gechs.org>

GECHS at University of California-Irvine

Established in 1999, the GECHS project office at the University of California-Irvine oversees discussions, research, and policy initiatives related to environment and security. The three primary objectives of the project are: (1) to conduct and publish field-based research in the area of global change and human security; (2) to promote dialogue and encourage collaboration among scholars from around the world; and (3) to facilitate communication and cooperation among the policy community, other groups such as NGOs and CBOs, and the research community. Principal areas of expertise include transnational security issues, South Asia, and adaptation to environmental stress. Current research projects include studies of adaptation to the impacts of environmental stress on small island states; the social and ecological effects of landmines; environmental stress, conflict, and insecurity in Pakistan; environmental stress and children at risk in Guatemala; global change and terrorism; and environmental change and social adaptation. *For more information, contact:* Dr. Richard A. Matthew, GECHS-UCI, 212C Social Ecology I, University of California, Irvine, CA 92697-7075; *Tel:* 949/824-4852; *Fax:* 949/824-8566; *Email:* rmatthew@uci.edu; *Internet:* <http://www.gechs.uci.edu>

The Johns Hopkins University: Population Information Program (PIP) and Population-Environment Resources

PIP supplies health and family planning professionals and policymakers with authoritative, accurate, and up-to-date information in its journal *Population Reports*, the POPLINE bibliographic database, and the Media/Materials Clearinghouse (M/MC). PIP is supported by the U.S. Agency for International Development (USAID). PIP also has a Web site that links users to population-environment resources. The site (<http://www.jhuccp.org/popenviro/>) features: articles on population-environment issues from *Population Reports*; reports from Johns Hopkins Center for Communication Projects population-environment projects in Ecuador and Indonesia; a databank of population-environment photos, videos, posters, and other visuals; and links to other Web sites, listservs, and organizations. The site also allows users to do POPLINK searches for population-environment abstracts and to order CD-ROMs of *Population Reports*' special issue "Population and the Environment: The Global Challenge." *For more information, contact:* Population Information Program, 111 Market Place, Suite 310, Baltimore, MD 21202; *Tel:* 410/659-6300; *Fax:* 410/659-6266; *Email:* webadmin@jhuccp.org; *Internet:* <http://www.jhuccp.org/pip.stm>

Hampshire College: Population and Development Program

The Population and Development Program at Hampshire College was established in 1986 as the international companion to the College's Civil Liberties and Public Policy Program. The Program aims to provide students with a multi-disciplinary framework to understand population dynamics and reproductive rights issues internationally. It combines teaching, research, activism, and advocacy in the fields of: international women's health; reproductive rights; and population, environment, and security. It monitors changing trends in population policies and critiques conventional neo-Malthusian analyses of population and the environment from a pro-choice, feminist perspective. Among the Program's recent initiatives are the "Differenttakes" issue paper series and the design of an alternative population curriculum for secondary schools. The Program also serves as an institutional base for the Committee on Women, Population, and the Environment (CWPE), a multiracial network of feminist scholars and activists. CWPE has played an active role in challenging anti-immigrant initiatives in the U.S. environmental movement. *For more information, contact:* Population and Development Program, Hampshire College/CLPP, Amherst, MA 01002; *Tel:* 413/559-5506; *Fax:* 413/559-6045; *Email:* popdev@hampshire.edu; *Internet:* <http://hamp.hampshire.edu/~clpp/popdev.html>

Harvard Center for Population and Development Studies

The Harvard Center for Population and Development Studies is a university-wide research center, founded in 1964 as part of the Harvard School of Public Health. The Center's primary aim is to advance understanding of world population and development issues—especially those related to health, natural resources and the environment, human security, and socioeconomic development. The Center's work is characterized by a multidisciplinary approach, a commitment to integrate gender and ethical perspectives in its research, and a strong policy orientation. The Center attempts to advance knowledge through collaborative research,

publications, seminars, and a working-paper series. In addition to advancing knowledge, the Center seeks to foster capacity-building and promote international collaboration to improve health and well-being around the world. About thirty-five full-time residents—including faculty, research fellows, and graduate students—pursue work mainly through multidisciplinary working groups. Other participants are drawn from Harvard faculties and Boston-area universities. The Center also regularly invites visiting scholars from around the world. The Center's current research programs focus on gender and population policies, demographic transitions, the burden of disease, health equity, and human security. The Center's human security program explores concepts of security through research on ethics and international policy, human survival crises during complex humanitarian emergencies, environmental security and new diseases, and population and security. *For more information, contact:* Winifred M. Fitzgerald, Executive Director, Harvard Center for Population and Development Studies, 9 Bow Street, Cambridge, MA 02138; *Tel:* 617/495-2021; *Fax:* 617/495-5418; *Email:* cpds@hsph.harvard.edu; *Internet:* <http://www.hsph.harvard.edu/hcpds>

Korea University: Ilmin International Relations Institute (IRI)

IRI is currently conducting the Environmental Security in East Asia project. The objective of the project is to review and examine major environmental security issues in East Asia. The project is one of the three projects sponsored by the United Nations University (UNU) under the title of Non-Traditional Security Issues in East Asia. Dr. Ramesh Thakur, Vice Rector of UNU, is Project Head. The Project focuses on three main areas: (1) environment and security-theoretical overview and analytical framework; (2) issues and cases; and (3) coping with environmental security problems in East Asia. *For more information, contact:* Ilmin International Relations Institute, Korea University, 5th floor, Inchon Memorial Bldg., 5-1 Anam-dong, Sungbuk-ku, Seoul 136-201, Korea; *Tel:* 82-2-927-5265; *Fax:* 82-2-927-5265; *Email:* irikor@unitel.co.kr; *Internet:* <http://www.korea.ac.kr/~ilmin/>

Stanford University Center for Environmental Science and Policy (CESP)

CESP, one of the five research centers that make up Stanford University's Institute for International Studies (IIS), operates an integrated teaching and research program in environmental studies. CESP employs an international, inter-school, and interdisciplinary approach to seek answers to a number of environmental policy questions. Some of these areas of study include: the consequence of increasing population and per capita energy demand on the global climate; the effect of economic globalization on environmental quality; how to modify farming practices to make agricultural production less sensitive to climate change and less harmful to surrounding environments; the relationship between regional environmental quality and the propensity for conflict; and the potential roles for market-based environmental regulations in national and international environmental protection efforts. In all of its efforts, CESP seeks to promote linkages among environmentalists both within and outside of Stanford. The Center serves as the focal point for work at Stanford on sustainability and on global change. *For more information, contact:* Lori McVay, Assistant Director for Finance and Administration, Center for Environmental Science and Policy, Encina Hall, Suite 400, Stanford, CA 94305-6055; *Tel:* 650/725-2606; *Fax:* 650/725-1992; *Email:* Lori.McVay@stanford.edu; *Internet:* <http://cesp.stanford.edu>

U.S. Army War College: Center for Strategic Leadership (CSL)

CSL supports the College's curriculum as well as serving both governmental and nongovernmental customers. CSL conducts and hosts strategic war games, political-military simulations, peacekeeping courses and exercises, crisis management exercises, and conferences. The Center also conducts research. CSL's National Security Issues Branch, the outreach arm to the national security community, helps senior decision-makers address national security issues and emerging threats. Recent events have included conferences and simulations such as "Contagion and Stability" (co-sponsored by USAID and the Wilson Center); "Central American Environmental Defense Program in the Meso-American Biological Corridor" (in Costa Rica); and "Strengthening the Bonds of Environmental Cooperation Between Security Forces in the Southern Cone of the Americas" (in Paraguay). *For more information, contact:* Center for Strategic Leadership, 650 Wright Avenue, Carlisle, PA 17013-5049; *Tel:* 717/245-4093; *Fax:* 717/245-3030; *Email:* CSL_Info@csl.carlisle.army.mil; *Internet:* <http://carlisle-www.army.mil/usaclsl/>

University of Maryland: Harrison Program on the Future Global Agenda

The Harrison Program on the Future Global Agenda promotes research, teaching, and public dialogue on issues related to ecological security, long-term sustainability, energy and environmental policy, and global governance. Located within the Department of Government and Politics at the University of Maryland, the Harrison Program hosts international visitors, conducts conferences and workshops, sponsors promising doctoral students as Harrison Dissertation Fellows, hosts a speaker series for the campus community, and conducts a vigorous program of research and publication on core program themes. Current research areas include environmental peacemaking initiatives, projections of long-term sustainability, comparative energy policy in advanced industrial democracies, informal institutions of global governance, and global water politics and policy. *For more information, contact:* Dr. Ken Conca, Harrison Program, Department of Government and Politics, University of Maryland, College Park, MD 20742; *Tel:* 301/405-4125; *Email:* kconca@gvpt.umd.edu; *Internet:* <http://www.bsos.umd.edu/harrison>

University of Michigan Population Fellows Programs

The University of Michigan Population Fellows Programs were established in 1984 with funding from USAID to develop future leaders in international population. The Programs offer fellowships and related activities that provide career-development opportunities for promising professionals; offer technical assistance to organizations working on population-related issues in the developing world; and foster best practices, intersectoral cooperation, and diversity among practitioners. The Programs' core activity is their Population and Population-Environment Fellowships, which are available to early-career U.S. professionals who have a relevant graduate degree and experience. Fellows work on two-year assignments with organizations that support family planning, reproductive health, and population-environment projects in the developing world. Fellows gain on-the-job experience while assisting their organizations with program design, implementation, and evaluation. The Programs also offer a Compton PEAK Fellowship for early-career professionals from sub-Saharan Africa, Mexico, and Central America to build their leadership capacity in international family planning, reproductive health, and population-environment. Other activities include mini-grants for graduate students pursuing population-related internships; a two-week summer course in international population; and internships for students of Minority-Serving Institutions. The Population Fellows Programs have also partnered with the Environmental Change and Security Project on the Population, Environmental Change, and Security (PECS) Initiative. This initiative brings together specialists from the governmental, academic, and nongovernmental communities to discuss the implications of population, health, and environmental issues for global security. Population and Population-Environment Fellows contribute field-level insights to this important nonpartisan dialogue on the program and policy options for addressing the roots of conflict. *For more information, contact:* The University of Michigan Population Fellows Programs, 1214 South University, 2nd Floor, Ann Arbor, MI 48104-2548; *Tel:* 734/763-9456; *Fax:* 734/647-0643; *Email:* michiganfellows@umich.edu; *Internet:* <http://www.sph.umich.edu/pfps>

University of Pretoria: African Water Issues Research Unit (AWIRU)

AWIRU at the University of Pretoria, South Africa is currently conducting research to develop a scientific, multidisciplinary understanding of the role of water as a source of socioeconomic and political stability. AWIRU is focusing on the social aspects of water within the context of developing countries, particularly in Africa. An advisory council (composed of three eminent scholars with a global, regional, and national perspective on water issues) oversees the program. To meet its objectives, AWIRU takes an integrative approach specifically designed to develop self-confident and self-sufficient corps of specialists capable of addressing the increasingly complex water-resource management needs of Southern Africa. Past projects include the Shared Rivers Initiative as well as participation in the Second World Water Forum and the Sovereignty Panel at the Forum. *For more information, contact:* Anthony Turton; AWIRU, University of Pretoria Department of Political Sciences, Pretoria, 0002, Republic of South Africa; *Tel:* 27-12-420-4486; *Fax:* 27-12-420-3886; *Email:* art@icon.co.za, awiru@postino.up.ac.za; *Internet:* <http://www.up.ac.za/academic/libarts/polsci/awiru>

University of Toronto: Project on Environmental Scarcities, State Capacity, and Civil Violence

The Project on Environmental Scarcities, State Capacity, and Civil Violence at the University of Toronto has investigated the impacts of water, forests, and cropland resource scarcities on governmental capabilities in the developing countries of China, India, and Indonesia. The project asks the following question: if capacity declines, is there an increased likelihood of widespread civil violence such as riots, ethnic clashes, insurgency, and revolution? The project has targeted its finding for the public and policymakers in Canada, the United States, China, India, and Indonesia. Funding has been provided by The Rockefeller Foundation and The Pew Charitable Trusts. Publications to emerge from the project include *Ecoviolence: Links Among Environment, Population, and Security*, edited by Thomas F. Homer-Dixon and Jessica Blitt, and a new second edition of *Environment, Scarcity, and Violence* by Homer-Dixon. For more information, contact: Thomas Homer-Dixon, Principal Investigator, Peace and Conflict Studies Program, University College, 15 King's College Circle, University of Toronto, Toronto, Canada M5S 3H7; *Tel*: 416/978-8148; *Fax*: 416/978-8416; *Email*: pcs.programme@utoronto.ca; *Internet*: <http://www.library.utoronto.ca/pcs/state.htm>

Yale Center for Environmental Law and Policy

The Yale Center for Environmental Law and Policy was established in 1994 by the Yale Law School and the Yale School of Forestry and Environmental Studies. The Center brings together faculty and students from throughout Yale University to address pollution control and natural resource management issues at the local, state, national, and global scales. The Center seeks to bring analytic rigor to environmental debates and to engage government officials, business people, and leaders from nongovernmental organizations as well as the academic community in an interdisciplinary dialogue. The Center is directed by Daniel Esty, who has a joint appointment in both the Law and Environment schools. For more information, contact: Yale Center for Environmental Law and Policy, 301 Prospect Street, New Haven, CT 06511; *Tel*: 203/432-3123; *Fax*: 203/432-6597; *Email*: YCELP@yale.edu; *Internet*: <http://www.yale.edu/envirocenter>

FOUNDATIONS

Carnegie Corporation

Formed in 1911 by Andrew Carnegie, the Carnegie Corporation awards grants in four broad areas: (1) education, (2) international peace and security, (3) international development, and (4) strengthening U.S. democracy. The grants are made to non-profit organizations and institutions for work that falls into one of these categories and promises to have national or international impact. Areas of interest under international peace and security include: nonproliferation of weapons of mass destruction; fostering democracy and integration of the former Soviet states with the world economy; and new threats to world peace. In addition, the Corporation also awards approximately 20 fellowships for one or two years of study for a maximum amount of \$100,000 to young scholars whose research is in the Corporation's fields of interest. For more information, contact: The Carnegie Corporation, 437 Madison Avenue, New York, NY 10022; *Tel*: 212/371-3200; *Fax*: 212/754-4073; *Internet*: <http://www.carnegie.org/>

Compton Foundation, Inc.

The Compton Foundation was founded to address community, national, and international concerns in the fields of peace and world order, population, and the environment. In a world in which most problems have become increasingly interrelated and universal in dimension, and where survival of human life under livable conditions is in jeopardy, the Foundation is concerned first and foremost with the prevention of war and the amelioration of world conditions that tend to cause conflict. Primary among these conditions are the increasing pressures and destabilizing effects of excessive population growth, the alarming depletion of the earth's natural resources, the steady deterioration of the world's environment, and the tenuous status of human rights. To address these problems, the Compton Foundation focuses most of its grant-making in the areas of peace and

world order, population, and the environment, with special emphasis on projects that explore the interconnections between these three categories. The Foundation believes that prevention is a more effective strategy than remediation, that research and activism should inform each other, and that both perspectives are needed for productive public debate. *For more information, contact:* Compton Foundation, Inc., 535 Middlefield Road, Suite 160, Menlo Park, CA 94025; *Tel:* 650/328-0101; *Fax:* 650/328-0171; *Email:* info@ComptonFoundation.org; *Internet:* <http://www.comptonfoundation.org>

Ford Foundation

The Ford Foundation is a resource for innovative people and institutions worldwide. Its goals are to strengthen democratic values, reduce poverty and injustice, promote international cooperation, and advance human achievement. A fundamental challenge facing every society is to create political, economic, and social systems that promote peace, human welfare, and the sustainability of the environment on which life depends. The Foundation believes that the best ways to meet this challenge are to encourage initiatives by those living and working closest to where problems are located; to promote collaboration among the non-profit, government, and business sectors; and to assure participation by men and women from diverse communities and at all levels of society. The Foundation works mainly by making grants or loans that build knowledge and strengthen organizations and networks. Since its financial resources are modest in comparison to societal needs, it focuses on a limited number of problem areas and program strategies within its broad goals. Founded in 1936, the Foundation operated as a local philanthropy in the state of Michigan until 1950, when it expanded to become a national and international foundation. Since inception, it has been an independent, non-profit, nongovernmental organization. It has provided over \$10 billion in grants and loans. *For more information, contact:* The Ford Foundation, 320 East 43rd Street, New York, NY 10017; *Tel:* 212/573-5000; *Fax:* 212/351-3677; *Email:* office-communications@fordfound.org; *Internet:* <http://www.fordfound.org/>

Richard and Rhoda Goldman Fund

The Richard and Rhoda Goldman Fund is a private, charitable family foundation that supports non-profit organizations that enhance the quality of life, particularly in the San Francisco Bay area. The Fund's areas of focus include: environment, population, Jewish affairs, violence prevention, children and youth, the elderly, social and human services, health, education, and the arts. In 2000, the Fund provided \$17,430,587 in grants for environment projects and \$2,589,666 for population projects. *For more information, contact:* Richard and Rhoda Goldman Fund, One Lombard Street, Suite 303, San Francisco, CA 94111; *Tel:* 415/788-1090; *Fax:* 415/788-7890; *Email:* info@goldmanfund.org; *Internet:* <http://www.goldmanfund.org>

The John D. and Catherine T. MacArthur Foundation: Program on Global Security and Sustainability

The objective of the MacArthur Foundation's Program on Global Security and Sustainability is to promote (a) peace within and among countries, (b) healthy ecosystems worldwide, and (c) responsible reproductive choices. The Foundation encourages work that recognizes the interactions among peace, sustainable development, reproductive health, and the protection of human rights. It supports innovative research and training, the development of new institutions for cooperative action, and new strategies for engaging U.S. audiences in efforts to advance global security and sustainability. The Foundation recognizes the importance of three specific global issues: arms reduction and security policy; conservation and sustainable development; and population and reproductive health. These are three core areas of the Program. In addition, the Global Challenges area focuses on emerging opportunities and threats in a period of rapid globalization—the development of complex political, social, and economic interconnections that result from the increased capacity for people, goods, capital, and information to move freely across national borders. *For more information, contact:* The John D. and Catherine T. MacArthur Foundation, Office of Grants Management, 140 South Dearborn Street, Chicago, IL 60603; *Tel:* 312/726-8000; *Fax:* 312/920-6258; *Email:* 4answers@macfound.org; *Internet:* <http://www.macfdn.org>

The David and Lucile Packard Foundation

The David and Lucile Packard Foundation is a private family foundation created in 1964 by David Packard (1912-1996), co-founder of the Hewlett-Packard Company, and Lucile Salter Packard (1914-1987). The Foundation provides grants to non-profit organizations in the following broad program areas: science, children, population, conservation, arts, families and communities, and special areas that include organizational effectiveness and philanthropy. The Foundation provides national and international grants and also has a special focus on the Northern California counties of San Mateo, Santa Clara, Santa Cruz, and Monterey. The Foundation had \$6.2 billion in assets at the end of 2001 and awarded more than \$454 million in grants during 2001. The Foundation is directed by an eight-member board of trustees that includes the four children of the founders. A staff of 160 employees conducts the day-to-day operations of the Foundation. *For more information, contact:* The David and Lucile Packard Foundation, 300 Second Street, Suite 200, Los Altos, California 94022; *Tel:* 650/948-7658; *Fax:* 650/948-5793; *Email:* inquiries@packfound.org; *Internet:* <http://www.packard.org/>

Ploughshares Fund

Founded at a time when global nuclear conflict seemed a real and immediate possibility, the Ploughshares Fund set out to unite concerned individuals in efforts to end the nuclear arms race and the threat of nuclear annihilation. In the intervening years, the character of the nuclear threat has changed but not dissipated. With gifts from thousands of people and a few foundations, Ploughshares has made grants totaling more than \$20,000,000. The Ploughshares Fund supports national and grassroots initiatives for stopping the spread of weapons of war, from nuclear arms to landmines. Its programs focus on ending the threat from nuclear, chemical, and biological weapons; stopping the spread of weapons of war; addressing the environmental legacy of the nuclear age; promoting public understanding and participation; and preventing global and regional conflict. Ploughshares Fund invests in a wide range of innovative and realistic programs—from scientific research to media, behind-the-scenes dialogue, grassroots organizing, and even lobbying. It is often referred to as a “mutual fund for peace and security.” *For more information, contact:* Ploughshares Fund, Fort Mason Center, Bldg. B, Suite 330, San Francisco, CA 94123; *Tel:* 415/775-2244; *Fax:* 415/775-4529; *Email:* ploughshares@ploughshares.org; *Internet:* <http://www.ploughshares.org/>

The Rockefeller Brothers Fund: “One World: Sustainable Resource Use” and “Global Security Program”

The goal of the Rockefeller Brothers Fund’s Sustainable Resource Use program is to “foster environmental stewardship which is ecologically-based, economically sound, culturally appropriate, and sensitive to questions of intergenerational equity.” At the global level, the program promotes international discussions on climate change and biodiversity preservation; it also supports and publicizes practical, cost-effective models that can contribute to international agreements on these issues. The Global Security Program comprises grant-making in the pursuit of “a more just, sustainable, and peaceful world by improving the cooperative management of transnational threats and challenges,” working with public and private actors around the globe. The program focuses on constituency building, transparency and inclusive participation, the challenges of economic integration, and emerging transnational concerns. *For more information, contact:* The Rockefeller Brothers Fund, Inc., 437 Madison Avenue, 37th Floor, New York, NY 10022-7001; *Tel:* 212/812-4200; *Fax:* 212/812-4299; *Email:* rock@rbf.org; *Internet:* <http://www.rbf.org/>

Rockefeller Foundation: Global Inclusion Program

The Global Inclusion Program’s goal is “to help broaden the benefits and reduce the negative impacts of globalization on vulnerable communities, families and individuals around the world.” The Global Inclusion Program seeks to identify and understand the impacts of global trends and monitor the pace and scale of change within its four core programmatic themes: (1) creativity and culture; (2) food security; (3) health equity; and (4) working communities. The Foundation’s Food Security program works to improve the food security of the rural poor in sub-Saharan Africa, Asia, and Latin America, focusing on the generation of agricultural policies, institutions, and innovations that will provide for sustainable livelihoods. The Health Equity program seeks to advance global health equity by addressing the disparities in health achievement that arise because of

factors including genetic predisposition, crowded living conditions, environmental exposures, food insecurity, and inadequate access to health care. The Global Inclusion Program reaches across boundaries of discipline and experience in analyzing, interpreting, and debating important global trends and issues related to poverty and exclusion. It recognizes that, at any given moment, discrete or even crosscutting issues can affect each of the Foundation's themes and demand an overarching response acknowledging the interconnected and intertwined themes of people's lives—their health, food, work, and creative expression. *For more information, contact:* Rockefeller Foundation, Global Inclusion, 420 Fifth Avenue, New York, NY 10018; *Tel:* 212/869-8500; *Fax:* 212/764-3468; *Internet:* <http://www.rockfound.org/global>

Soros Open Society Institute (OSI)

OSI is a private operating and grant-making foundation that promotes the development of open societies around the world and is active in more than 50 countries located in: Central and Eastern Europe; the former Soviet Union; Guatemala; Haiti; Mongolia; and South, Southern, and West Africa. Established in 1993 and based in New York City, OSI is part of an informal network of autonomous foundations that together form the Soros Foundations Network. Both OSI and the Foundations share a common mission of promoting democracy through support to a range of programs in education, civil society, media, and human rights as well as in social, legal, and economic reform. The three broad categories for OSI programs are: (1) network programs, (2) U.S. programs, and (3) other initiatives. *For more information contact:* Office of Communications at the Open Society Institute–New York, 400 West 59th Street, New York, NY 10019; *Tel:* 212/548-0668; *Fax:* 212/548-4605; *Internet:* <http://www.soros.org>

Summit Foundation

The Summit Foundation's grant-making addresses four main program areas: (1) addressing global population issues; (2) protecting biodiversity in Latin America and the Caribbean; (3) linking population and the environment; and (4) innovations in sustainable design. The Foundation supports the mutually-reinforcing goals of: (a) expanding access to family planning and reproductive health care; as well as (b) empowering women and youth through educational and economic opportunity, particularly for those living in the world's poorest regions. The Foundation also supports linked field-based projects that stress the close connections among population growth, poverty, unsustainable consumption, and natural-resource depletion. *For more information, contact:* The Summit Foundation, 2099 Pennsylvania Avenue NW, 10th Floor, Washington, DC 20006; *Tel:* 202/912-2900; *Email:* info@summitfdn.org; *Internet:* <http://www.summitfdn.org/>

The Turner Foundation

The Turner Foundation, established by philanthropist and CNN founder Ted Turner, provides grants to organizations for projects in the areas of environment and population. The Foundation seeks to: protect water and reduce toxic impacts on the environment; improve air quality by promoting energy efficiency and renewable energy and promoting improved transportation policies; protect biodiversity through habitat preservation; and develop and implement sound, equitable practices and policies designed to reduce population growth rates. The Foundation focuses on domestic (U.S.) projects but will consider international programs. For habitat protection programs, the Foundation gives priority to programs in Mexico, Argentina, Russia, Brazil, and British Columbia, Canada, in addition to domestic projects. *For more information, contact:* The Turner Foundation, One CNN Center, Suite 1090, South Tower, Atlanta, GA 30303; *Tel:* 404/681-9900; *Fax:* 404/681-0172; *Internet:* <http://www.turnerfoundation.org>

NONGOVERNMENTAL ORGANIZATIONS

The Access Initiative

The Access Initiative is a global coalition of public-interest groups seeking to promote public access to information about, participation in, and justice in environmental decision-making. The Initiative is lead jointly by the World Resources Institute (Washington, DC); the Environmental Management and Law Association

(Budapest); Corporación Participa (Santiago); Advocates Coalition on Environment and Development (Kampala); and the Thailand Environmental Institute (Bangkok). The Initiative's goals are to (a) strengthen the capacity of civil-society interest groups to track the progress of national-level implementation of participation and access guidelines, and (b) raise awareness and governments' commitment to implementing Principle 10 of the Rio Declaration and the public participation provisions of Agenda 21. Using the proceedings at the World Summit on Sustainable Development as a political catalyst, the Initiative will seek to highlight the importance of having access to the information and decision-making processes necessary to participate meaningfully in the management of the natural environment. *For more information, contact:* Gretchen Hoff, Program Coordinator, 10 G Street NE, Suite 800, Washington, DC 20002; *Tel:* 202-729-7768; *Email:* gretchen@wri.org; *Internet:* <http://www.accessinitiative.org/>

Adelphi Research

Adelphi Research is a non-partisan, non-profit think tank for the development and implementation of innovative sustainable-development strategies and the advancement of sustainability science. Its research, public-policy consulting, and policy dialogues focus in particular on global environmental change and international environmental regimes. Adelphi Research provides advice to public-sector institutions worldwide, including: several national ministries (environment, development, and foreign policy); the European Commission; OECD; and the OSCE. Current research projects and consultancy services are conducted in the areas of good governance, environmental technology and technology transfer, sustainable financial services and funding mechanisms, sustainable transport and mobility, sustainable development, peace and foreign policy, climate change, energy, and sustainable water-management. Adelphi's key activities comprise: *research* (comparative studies and analysis); *strategic advice* (monitoring decision-making processes, policy briefings for international negotiations, and policy and communication strategies); *implementation* (implementation studies, evaluating and optimizing tools for sustainability, financing schemes, and management guidelines); *communication* (mediation, seminars, international expert workshops, stakeholder dialogues); and *knowledge transfer* (dissemination strategies, multimedia documentation, publications, lectures, and other presentations). Adelphi's program on "Environment, Development and Sustainable Peace" (www.sustainable-peace.org) is composed of a series of research and consulting projects and stakeholder dialogues conducted on behalf of international organizations and national governments. It aims to promote the integration of environmental concerns into foreign and security policy and to facilitate transborder environmental cooperation. Adelphi is directed by Alexander Carius and Walter Kahlenborn and builds on a multidisciplinary and experienced team of scientists and consultants. *For more information, contact:* Adelphi Research, Caspar-Theyss-Str. 14a, 14193 Berlin; *Email:* office@adelphi-research.de; *Internet:* <http://www.adelphi-research.org>.

African Centre for Technology Studies (ACTS): Ecological Conflicts E-Discussion Group

ACTS, a Nairobi-based international policy research organization, offers an e-discussion group on the ecological or environmental sources of conflicts in sub-Saharan Africa. The Centre established the group as a part of the Ecological Sources of Conflicts in sub-Saharan Africa Project, which focuses on policy research, information dissemination, and capacity-building. The Project has two overall objectives: (1) to assess the extent to which ecological or environmental factors (such as natural-resources scarcity or abundance and environmental improvement or degradation) contribute to political conflicts in sub-Saharan Africa; and (2) to promote the integration of ecological or environmental considerations into regional conflict prevention and management policies and mechanisms. The e-discussion group is intended to: (a) contribute to the implementation of the project; (b) disseminate and share research findings with a geographically and disciplinarily diverse group of scholars; (c) disseminate reference information, Web site links, and announcements of meetings, fellowships, and study opportunities; (d) to share and debate viewpoints on the multiple sources of conflict in sub-Saharan Africa; and (e) encourage collaborative research on issues of common interests. *For more information, contact:* African Centre for Technology Studies, P.O. Box 45917, Nairobi, Kenya; *Tel:* 254-2-524000/524700; *Fax:* 254-2-522987/524001; *Email:* acts@cgiar.org; *Email to subscribe:* Ecologicalconflicts-subscribe@yahoogroups.com; *Internet:* <http://www.acts.or.ke> or <http://groups.yahoo.com/group/Ecologicalconflicts>

The Aspen Institute: Program on Energy, the Environment, and the Economy

The Aspen Institute is an international non-profit educational institution dedicated to enhancing the quality of leadership and policymaking through informed dialogue. The goal of the Program on Energy, the Environment, and the Economy is to provide the leadership and the forum for collaborative dialogue in the areas of energy and environmental politics. It brings together individuals from many different segments of government, industry, the investment community, environmental, and other public interest groups as well as the academic world to address critical issues related to energy and the environment. Recent or current activities include: an annual Energy Policy Forum; a Mexico-U.S. Border Environmental Dialogue; a series on integrating environmental and financial performance; a series on non-proliferation and environmental aspects of nuclear waste policies; an annual Pacific Rim energy workshop; a series on Dams and Rivers; an annual Environmental Policy Forum; and an annual seminar on Environmental Values and Policies. *For more information, contact:* John A. Riggs, The Aspen Institute, One Dupont Circle NW, Suite 700, Washington, DC 20036; *Tel:* 202/736-5800; *Fax:* 202/467-0790; *Email:* jriggs@aspeninstitute.org; *Internet:* <http://www.aspeninst.org>

Business Action for Sustainable Development (BASD)

BASD is a joint project between the International Chamber of Commerce and the World Business Council for Sustainable Development. As a network of business organizations, it seeks to ensure that the global business community makes a productive contribution to the Johannesburg Summit. The organization is guided by three goals: (1) to ensure that the voice of business is heard at Johannesburg, (2) to identify and develop business solutions to sustainable development, (3) and to demonstrate how businesses around the world are already actively participating in sustainable initiatives. BASD is governed by a small international steering committee headed by Sir Mark Moody-Stuart. One of its key projects is the Virtual Exhibition Web site (www.virtualexhibit.net) in collaboration with UNDP; the site will allow all members of global society to display and share their own sustainable-development projects and programs during the Summit. The site will also highlight effective partnerships between governments, UN agencies, businesses, nongovernmental organizations, and local communities. *For more information, contact:* Eric Beynon, BASD, 38 Cours Albert 1er, 75008 Paris, France; *Tel:* 33-1-49-53-28 65; *Fax:* 33-1-49-53-28-59; *Email:* eric@basd-action.net; *Internet:* <http://www.basd-action.net>

Canadian Foundation for the Americas (FOCAL)

Founded in 1990, FOCAL aims to develop greater understanding of important hemispheric issues and help to build a stronger community of the Americas. As a policy center, FOCAL fosters informed and timely debate and dialogue among decision-makers and opinion leaders in Canada and throughout the Western Hemisphere. FOCAL studies a range of issues in five policy areas: (1) poverty and inequality, (2) economic development and trade integration, (3) governance and democratic development, (4) Inter-American relations, and (5) North American integration. FOCAL's Research Forum on Cuba focuses exclusively on fostering informed discussion and analysis on the immediate and long-term challenges facing Cuba and Canadian policy towards the island. FOCAL also maintains a specialized Web site (www.cubasource.org) with an abundance of information and resources on Cuba. Recent topics dealt with by FOCAL include: drug trafficking and human security in the Americas; the negotiations of the Free Trade Areas of the Americas; Central American integration; Canada-Brazil relations; migration and development; hemispheric security; and others. FOCAL is an independent, not-for-profit charitable organization that is guided by a Board of Directors. It receives funding from the Canadian Department of Foreign Affairs and International Trade, the Canadian International Development Agency, the Ford Foundation, the International Development Research Centre, and other public- and private-sector organizations as well as inter-American institutions. *For more information, contact:* Canadian Foundation for the Americas, One Nicholas Street, Suite 720, Ottawa, Ontario K1N 7B7, Canada; *Tel:* 613/562-0005; *Fax:* 613/562-2525; *Email:* focal@focal.ca; *Internet:* <http://www.focal.ca>

Center for Health and Gender Equity (CHANGE)

CHANGE is a nongovernmental organization founded in 1994 by Jodi L. Jacobson, former researcher and

advocate of women's issues at the World Watch Institute. Working to ensure that the health and population policies of international institutions supported by the United States government actively promote women's reproductive and sexual health, CHANGE derives its mandate from the Programme of Action of the 1994 International Conference on Population and Development (ICPD). CHANGE seeks to translate the language of the Programme and other relevant documents into practical, operational, and measurable policy changes within the areas of family planning, sexually-transmitted diseases, and gender violence. It also seeks to advocate for the inclusion of women's issues in development policy. CHANGE currently has an annual budget of nearly \$1 million and a staff of 12. *For more information, contact:* Center for Health and Gender Equity (CHANGE), 6930 Carroll Avenue, Suite 910, Takoma Park, MD 20912; *Tel:* 301/270-1182; *Fax:* 301/270-2052; *E-mail:* change@genderhealth.org; *Internet:* <http://www.genderhealth.org>

Center for International Earth Science Information Network (CIESIN)

CIESIN was established in 1989 as a non-profit, nongovernmental organization to provide information that would help scientists, decision-makers, and the public better understand their changing world. CIESIN specializes in: global and regional network development; science data management; decision support; and training, education, and technical consultation services. CIESIN is the World Data Center A (WDC-A) for Human Interactions in the Environment. One program CIESIN implemented is the US Global Change Research Information Office (GCRIO). This office provides access to data and information on global change research, adaptation/mitigation strategies and technologies, and global change-related educational resources on behalf of the U.S. Global Change Research Program (USGCRP) and its participating federal agencies and organizations. CIESIN is located on Columbia University's Lamont-Doherty Earth Observatory campus in Palisades, New York. *For more information, contact:* CIESIN, P.O. Box 1000, 61 Route 9W, Palisades, NY 10964; *Tel:* 845/365-8988; *Fax:* 845/365-8922; *Email:* ciesin.info@ciesin.columbia.edu; *Internet:* <http://www.ciesin.org>

Center for International Studies (CIS)

CIS is a private, independent, non-profit, Baku-based research and public organization founded in May 1998. The CIS Center focuses on the most challenging issues of international and regional security: oil pipeline politics, energy, environment, conflict resolution, peace, and the new geopolitics of great powers within the Caucasus and in the former Soviet Union. The CIS Research Groups work independently on research projects and analyze contemporary geopolitical and international security issues as well as energy and environmental problems from an Azeri perspective in order to give the public a better profile of the ongoing complex processes and the general situation in the region. *For more information, contact:* Center for International Studies, 528 H. Javid Avenue, Suite 36, Baku 370138, Azerbaijan Republic; *Tel:* 011-994-12-39-5357; *Email:* Enuriyev@iatp.baku.az; *Internet:* <http://cis.aznet.org/cis>

Center for Public Environmental Oversight (CPEO)

CPEO is an organization that promotes and facilitates public participation in both environmental decision-making and the management of environmental activities, including (but not limited) to the remediation of U.S. federal facilities, private "Superfund" sites, and brownfields. Formed in 1992 in response to the large number of military base closures in the San Francisco Bay Area, CPEO's current work focuses on: the management of toxic and explosive risks on military munitions ranges; resolving the tension between military-readiness activities and both environmental protection and urban development; the long-term management of contaminated sites; increasing public awareness of innovative cleanup technologies; providing a forum for community groups at brownfield sites to help those groups make public judgments about appropriate cleanup levels and redevelopment options; and protecting school children from exposure to contamination. While CPEO has its roots in community activism and provides support for public advocacy, it is not a political organization. CPEO operates two Internet listservs: the Military Environmental Forum and the Brownfields Internet Forum. It issues reports and issue briefs and publishes two newsletters: "Citizens' Report on the Military and the Environment" and "Citizens' Report on Brownfields." *For more information, contact:* Center for Public Environmental Oversight, 1101 Connecticut Avenue NW, Suite 1000, Washington, DC 20036; *Tel:* 202-452-8038; *Fax:* 202-452-8095; *Email:* cpeo@cpeo.org; *Internet:* <http://www.cpeo.org>

The Center for Security Policy

The Center for Security Policy is a non-profit organization that stimulates and informs the national and international debates about all aspects of security policy (including their strategic and environmental implications), particularly as they relate to the all-encompassing question of energy. The Center is committed to preserving the credibility of U.S. anti-proliferation efforts and bringing the message to allies and potential adversaries that the United States is serious about ensuring the safe and benign global development of nuclear energy. The Center has extensively studied the Chemical Weapons Convention and the Cienfuegos nuclear power project in Cuba and has expressed concern over the Department of Energy's Environmental Management program for cleaning up the nuclear legacy of the Cold War. In addition, the Center calls for increased attention to: (a) the strategic importance of the vast oil reserves of the Caspian Basin; and (b) to the deterioration of the sensitive ecosystems and waterways of the region (for example, Turkey's imperiled Bosphorus Straits). The Center makes a unique contribution to the debate about these and other aspects of security and environmental policies through its rapid preparation and dissemination of analyses and policy recommendations. *For more information, contact:* The Center for Security Policy, 1920 L Street NW, Suite 210, Washington, DC 20036; *Tel:* 202/835-9077; *Fax:* 202/835-9066; *Email:* info@security-policy.org; *Internet:* <http://www.security-policy.org/aboutcsp.html>

Climate Institute (CI)

CI is an international organization devoted to helping maintain the balance between climate and life on Earth. In all its efforts, including the Climate Alert newsletter, the Institute strives to be the world's foremost authority on climate-change information, science, and response; it serves as a facilitator of dialogue among scientists, policymakers, business executives, and citizens. CI has informed key policymakers and heightened international awareness of climate change, and it has also worked to identify practical ways of achieving substantive emissions reductions. Currently, the Institute has taken the role of catalyst in policy discussions on energy efficiency and renewable energy. CI provides expert advice at ministerial and heads of state briefings and at sessions with business executives and private citizens. CI's Green Energy Investment project works to mobilize investors to finance and accelerate the development of renewable and "greenhouse-benign" energy technologies. The Small Island States Greening Initiative assists the island states in adapting to climate change and transforming their energy systems to renewables. *For more information, contact:* The Climate Institute, 333 ½ Pennsylvania Avenue SE, Washington, DC 20003; *Tel:* 202/547-0104; *Fax:* 202/547-0111; *Email:* info@climate.org; *Internet:* <http://www.climate.org>

Committee on Population

The Committee on Population was established in 1983 by the National Academy of Sciences to bring the knowledge and methods of the population sciences to bear on major issues of science and public policy. The Committee's work includes both: (a) basic studies of fertility, health and mortality, and migration; and (b) applied studies aimed at improving programs for the public health and welfare in the United States and developing countries. The Committee also fosters communication among researchers in different disciplines and countries and policymakers in government and international agencies. Recent reports of the Committee include: *Forced Migration and Mortality*, *Cells and Surveys: Should Biological Measures Be Included in Social Science Research*; and *Beyond Six Billion: Forecasting the World's Population*. *For more information, contact:* National Research Council, Committee on Population, 2101 Constitution Avenue NW, HA-172, Washington, DC 20418; *Tel:* 202/334-3167; *Fax:* 202/334-3768; *Email:* cpop@nas.edu; *Internet:* <http://www4.nas.edu/cbsse/cpop.nsf/web/homepage>

Biodiversity Support Program: Africa & Madagascar, Disasters and Biodiversity Project

The objective of the Biodiversity Support Program's Disasters and Biodiversity Project in Africa and Madagascar is to investigate opportunities to mitigate the negative impacts of armed conflict on biodiversity in Africa. The Program's activities include: (a) reviewing existing knowledge of the effects of armed conflict on biodiversity in sub-Saharan Africa; (b) holding pan-African workshops to bring together key people and organizations from the conservation, relief, and development sectors in order to increase communication and collaboration

among them; (c) preparing for peace activities to examine the impacts of conflict on biodiversity in the Democratic Republic of Congo (DRC) and to help partners to best prepare for the sound management of natural resources in the DRC when peace returns; (d) hosting the REDlink listserv to increase information sharing and collaboration among individuals and organization in the relief, environment, and development sectors; and (e) conducting case studies on the Central African Republic, Congo, DRC, Ethiopia, Liberia, Mozambique, Rwanda, Sierra Leone, Sudan, and the Virunga Volcanoes as well as followup analyses of the impacts of armed conflict on biodiversity as well as mitigation opportunities. The Biodiversity Support Program is a consortium of the World Wildlife Fund, The Nature Conservancy, and World Resources Institute and is funded by the United States Agency for International Development (USAID). *For more information, contact:* Africa & Madagascar Program, Biodiversity Support Program, c/o World Wildlife Fund, 1250 24th Street NW, Washington, DC 20037; *Tel:* 202/778-9795; *Fax:* 202/861-8324; *Email:* BSPAfrica@wwfus.org.

Ecologic—Institute for International and European Environmental Policy

Founded in Berlin in 1995, Ecologic is a private non-profit institute dedicated to advancing cooperation between nations and bringing fresh ideas to environmental policies and sustainable development. Ecologic was created to influence international relations, global governance, and foreign and security policies in the interest of environmental protection, nature and wildlife conservation, and responsible resource management. Ecologic provides policy consultancy and animates and facilitates international policy processes to develop new approaches at interfaces between different policy fields and also between different policy communities. Involved in negotiating and concluding multilateral environmental agreements, Ecologic focuses on cross-cutting issues of regime design, compliance by signatories, and the application of general principles in international law. A particular concern has been global governance and various aspects of the Rio process leading to the 2002 World Summit on Sustainable Development in Johannesburg, South Africa. As part of the European Concerted Action on Trade and Environment (CAT&E) and other programs, Ecologic also concentrates on salient aspects of economic globalization. In addition, a significant part of its work focuses on analyzing and furthering the development of the environmental policy of the European Union and its member states, where transnational cooperation is most advanced. *For more information, contact:* R. Andreas Kraemer, Director, Ecologic, Pfalzburger Strasse 43/44, D-10717 Berlin, Germany; *Tel:* 49-30-86880 0; *Fax:* 49-30-86880 100; *Email:* office@ecologic.de; *Internet:* <http://www.ecologic.de>

Environmental and Energy Study Institute (EESI)

EESI is a non-profit organization dedicated to promoting environmentally sustainable societies. EESI believes meeting this goal requires transitions to social and economic patterns that sustain people, the environment, and the natural resources upon which present and future generations depend. EESI produces credible, timely information and innovative public policy initiatives that lead to these transitions. These products are developed and promoted through action-oriented briefings, workshops, analysis, publications, task forces, and working groups. *For more information, contact:* Carol Werner, Executive Director, 122 C Street NW, Suite 700, Washington, DC 20001; *Tel:* 202/628-1400; *Email:* eesi@eesi.org; *Internet:* <http://www.eeri.org>

Evidence Based Research, Inc. (EBR)

EBR is a for-profit research and analysis firm specializing in applied social science to support decision-makers in government and private industry. EBR believes that decision-making is best supported by the appropriate balance of social theory and relevant empirical evidence. In keeping with this philosophy, the company provides policymakers in business, government, and other organizations with clear and concise analyses of important issues. EBR has expertise in several program areas, including environmental security, globalization, command and control, indicators and warning, and instability analysis. EBR research on environmental security has focused on providing clients with support on relations between environmental factors and national security. EBR has provided research and technical support to the Department of Defense and participated in the NATO CCMS Pilot Study “Environment and Security in an International Context.” EBR has also supported the development of regional strategies for the US Southern and European Commands and in the Asia Pacific region. *For more information, contact:* Evidence Based Research, Inc., 1595 Spring Hill Road, Suite 250, Vienna,

VA 22182-2228; *Tel*: 703/893-6800; *Fax*: 703/821-7742; *Email*: rehayes@ebrinc.com; *Internet*: <http://www.ebrinc.com>

Federation of American Scientists (FAS)

FAS has several projects that address environment and security linkages. FAS is collaborating with Dr. Walter Parham of the South China Agricultural University on an effort to call attention to the degraded tropical lands of South China. Restoration of these lands will not only benefit Chinese economic stability and improve living conditions for the farmers, but will have the global consequence of significantly reducing the threat of climate change. FAS also sponsors the project AHEAD (Animal Health/Emerging Animal Disease) that addresses policy surrounding global security issues impacted by outbreaks of animal and zoonotic diseases; it also sponsors a related pilot program in Tanzania to monitor disease outbreak. *For more information, contact*: Federation of American Scientists, 1717 K Street NW, Suite 209, Washington, DC 20036; *Tel*: 202/546-3300; *Fax*: 202/675-1010; *Email*: fas@fas.org; *Internet*: <http://www.fas.org>

Fridtjof Nansen Institute (FNI)

Established in 1958, the independent Fridtjof Nansen Institute (FNI) conducts applied and basic social science research on international issues of energy, resource management, and the environment. Geographical areas involved in the research are the world oceans, Antarctica, the Arctic, the European Union, China, and certain developing countries. Placing a particular emphasis on an interdisciplinary approach, FNI strives to meet academic quality standards while producing user-relevant and topical results. Projects of particular relevance for environmental change and security include the International Northern Sea Route Programme and the Yearbook of International Co-operation on Environment and Development. *For more information, contact*: Professor Willy Østreng, Director, the Fridtjof Nansen Institute, Fridtjof Nansens vei 17, Postboks 324, Lysaker, Norway N-1324; *Tel*: 47-67-53-89-12; *Fax*: 47-67-12-50-47; *Email*: willy.ostreng@fni.no; *Internet*: <http://www.fni.no/>

Global Environment and Energy in the 21st Century (GEE-21)

GEE-21 is a non-profit organization that carries out research and education activities dealing with issues of environment and energy. It is incorporated in Hawaii, with an international Board of Directors. The initial program areas of GEE-21 are: water and security in South Asia; global climate change, with the emphasis on strategies for reducing emissions of greenhouse gases from energy systems; and cooperation in the transfer and diffusion of environment-friendly energy technologies. The activities undertaken by GEE-21 are carried out in collaboration with institutions in several countries and multilateral organizations, such as the Asian Development Bank, Bangladesh Unnayan Parishad, the School of Advanced International Studies of the Johns Hopkins University (United States), and the UNEP Collaborating Centre on Energy and Environment (Denmark). *For more information, contact*: GEE-21, 1765 Ala Moana Boulevard, #1189, Honolulu, HI 96815-1420; *Tel*: 808/951-5672; *Fax*: 808/394-0814; *Email*: gee.21@att.net; *Internet*: <http://www.gee21.org>

Global Green USA

Global Green USA was founded in 1994 as the United States affiliate of Green Cross International, Mikhail Gorbachev's global environmental movement. Through partnerships, public education, and targeted advocacy efforts, Global Green USA encourages collaborative approaches and crosscutting solutions to environmental challenges. Global Green's programs are focused on the safe elimination of weapons of mass destruction, stemming climate change through the development of green building and renewable energy, reducing resource use, and ensuring that populations around the world have access to clean water. *For more information, contact*: Global Green USA, 227 Broadway, Suite 302, Santa Monica, CA 90401; *Tel*: 310/394-7700; *Fax*: 310/394-7750; *Email*: ggusa@globalgreen.org; *Internet*: <http://www.globalgreen.org>

Global Green USA: Legacy Program

The goal of the Legacy Program is to build a legacy of peace and create a sustainable and secure future. It works toward this goal by facilitating communication and dialogue among stakeholders in the United States and abroad to advance the proper, accelerated cleanup of the legacy of military toxic contamination. The

Legacy Program also supports the safe and sound demilitarization of both conventional and mass destruction weapons (and thereby full implementation of arms control treaties); in addition, the Program promotes the sustainable re-use of affected facilities. Current efforts include: a Washington, DC office focused on public education and policy advocacy to strengthen military-related pollution clean-up; and CHEMTRUST, a five-year project designed to build public participation in Russian and American decision-making for chemical weapons demilitarization. *For more information, contact:* GG USA Legacy Program, 1025 Vermont Avenue NW, Suite 300, Washington, DC 20005-6303; *Tel:* 202/879-3181; *Fax:* 202/879-3182; *Email:* jleas@globalgreen.org or pwalker@globalgreen.org; *Internet:* <http://www.globalgreen.org/programs/legacy.html>

Global Health Council

The Global Health Council's mission is to promote better health around the world by assisting all who work for improvement and equity in global health to secure the information and resources they need to work effectively. To achieve our mission, the Council brings together the global actors in health around seven key issues critical to improving health and promoting equity: (1) child health and nutrition; (2) reproductive health and maternal health; (3) HIV/AIDS; (4) infectious diseases; (5) disaster and refugee health; (6) emerging global health threats; and (7) health systems. Through conferences and seminars as well as its Web site and its bimonthly publications *Global HealthLink* and *Global AIDSLink*, the Council brings individuals and nongovernmental organizations together to share hard-won knowledge. The Council is also committed to working with its member organizations and partners in public health as well as the U.S. government to improve global health by: (a) increasing assistance to developing nations with high levels of infectious disease and premature death, (b) improving children's and women's health and nutrition, (c) reducing unintended pregnancies, and (d) combating the spread of infectious diseases, particularly HIV/AIDS. The Council's Global AIDS Program advocates on Capitol Hill, at the White House, and in corporate boardrooms to unite and strengthen the domestic and worldwide response to the HIV/AIDS pandemic. *For more information, contact:* Global Health Council, 1701 K Street NW, Suite 600, Washington, DC 20006-1503; *Tel:* 202/833-5900; *Fax:* 202/833-0075; or Global Health Council, 20 Palmer Court, White River Junction, VT 05001; *Tel:* 802/649-1340; *Fax:* 802/649-1396; *Email:* ghc@globalhealth.org; *Internet:* <http://www.globalhealth.org>

Global Security and Cooperation Program

The Global Security and Cooperation Program, the successor to the International Peace and Security Program, aims to encourage new thinking about security issues through encouraging scholars and practitioners to work together, understand each other's frameworks, and mine each other's bodies of knowledge. The program is supported by the MacArthur Foundation and springs from the understanding that a practically-oriented international security studies field must be constituted by scholars and practitioners from all over the world. To fulfill this goal, the program offers 16 two-year fellowships annually to doctoral students, professors, and practitioners (such as lawyers, journalists, and activists). The program also runs a small grants program for "Research Collaboration in Conflict Zones," which is open to applicants living or working in conflict zones. *For more information, contact:* Social Science Research Council, 810 Seventh Avenue, New York, NY 10019; *Tel:* 212/377-2700; *Email:* gsc@ssrc.org; *Internet:* <http://www.ssrc.org>

Global Water Partnership (GWP)

The GWP is an international network comprising government institutions, United Nations agencies, development banks, professional associations, research institutions, NGOs, and private-sector organizations. GWP initiatives are based on the Dublin-Rio principles articulated in 1992 and are intended to support local, national, regional, and international cooperation and coordination of activities and to foster investment in water-resource activities. These initiatives include: supporting integrated water-resources management (IWRM); promoting information-sharing mechanisms; developing innovative solutions to conflicts over water resources; suggesting practical policies based on these solutions; and helping to match needs to available resources. GWP also hosts an on-line interactive venue for knowledge and networking. Visitors can explore news and views from GWP's partners in the regions and find information on GWP's activities. The Web site also hosts a calendar of global and regional events and a library of publications on strategic issues in IWRM. GWP has

developed a knowledge exchange system designed to help decision-makers and those who manage water better understand the processes and mechanisms required for implementing IWRM. This system, the *IWRM ToolBox*, is available on the GWP Web site and presents a wide variety of options related to three fundamental elements of IWRM: the enabling environment, institutional roles, and management instruments. *For more information, contact:* GWP Secretariat, c/o Sida, Sveavägen 24-26, 7th floor, SE 105 25, Stockholm, Sweden; *Tel:* 46-8-698 5000; *Fax:* 46-8-698 5627; *Email:* gwp@sida.se; *Internet:* <http://www.gwpforum.org>

The Heinrich Böll Foundation

With headquarters in Berlin, Germany, the Heinrich Böll Foundation is a political foundation for the promotion of democratic ideas, civil society, and international understanding. It is associated with the political party Alliance 90/The Greens, and its work is oriented towards ecology, democracy, solidarity, and non-violence. At present, one of the key themes of the Foundation's international work is "Ecology and Sustainable Development." The Foundation's projects, in cooperation with partner organizations, include exchanges, educational programs, and study tours. The Foundation maintains offices in eleven countries outside of Germany. *For more information, contact:* Sascha Müller-Kraenner, Heinrich Böll Foundation, Washington Office, Chelsea Gardens, 1638 R Street NW, Suite 120, Washington, DC 20009; *Tel:* 202/462-7513; *Fax:* 202/462-5230; *Email:* washington@boell.de; *Internet:* <http://www.ased.org/>, <http://www.boell.de>, or <http://www.boell.org>

Institute for Alternative Futures (IAF)

The IAF is a non-profit futures research think-tank founded by Clement Bezold, James Dator, and Alvin Toffler in 1977. IAF aims to help individuals and organizations more wisely choose and create the futures they prefer. The Institute provides clients with services to enable them to understand the accelerating pace of change and focus their energies on clarifying their highest aspirations. IAF conducts projects in a broad variety of areas, such as anticipatory democracy, environment, government, health, and pharmaceuticals. Environmental projects include sustainable future programs, while government programming has included working with the President's Council on Sustainable Development. IAF's longest running program, the Foresight Seminars (initiated in 1978), are the Institute's primary public education program. The Seminars provide Congress, federal agencies, and the public with health futures research and future-oriented public policy analysis. *For more information, contact:* Institute for Alternative Futures, 100 N. Pitt Street, Suite 235, Alexandria, VA 22314-3134; *Tel:* 703/684-5880; *Fax:* 703/684-0640; *Email:* futurist@altfutures.com; *Internet:* <http://www.altfutures.com>

Institute for Defense Analyses (IDA)

The IDA is a non-profit corporation whose purpose is to promote national security and the public interest and whose primary mission is to assist the Office of the Secretary of Defense, the Joint Staff, the unified commands, and defense agencies in addressing important national security issues—particularly those requiring scientific and technical expertise. To avoid institutional pressures, IDA does not work directly for the military departments. It also does not work for private industry or foreign governments. IDA's research focuses on defense systems, technologies, operations, strategies, and resources. The work addresses issues of both long-term and immediate concern. IDA's research program includes multi-year efforts and quick response analyses in areas of established expertise. *For more information, contact:* The Institute of Defense Analyses, 4850 Mark Center Drive, Alexandria, VA 22311; *Tel:* 703/845-2000; *Internet:* <http://www.ida.org/index.html>

Institute for Sustainable Communities (ISC)

The ISC is an independent, non-profit organization that helps communities in existing and emerging democracies solve problems while building a better future for themselves and the world. The organization gives communities—and the organizations that support them—the training, advice, and grants they need to solve their own problems and shape their own destiny long after ISC's work with them has ended. The mission of ISC is to help communities around the world address environmental, economic, and social challenges to build a better future shaped and shared by all. Since its founding in 1991 by former Vermont Governor Madeleine M. Kunin, ISC has managed more than 45 international projects in 14 countries with support from individual donors, private foundations, and the U.S. government. ISC is based in Vermont, USA, with offices

in Bulgaria, Macedonia, Russia, and Ukraine. ISC's program areas are community action, civil society, environment, education, and business development. *For more information, please contact:* Institute for Sustainable Communities, 56 College Street, Montpelier, VT 05602; *Tel:* 802-229-2900; *Fax:* 802-229-2919; *Email:* isc@iscvt.org
Internet: <http://www.iscvt.org>

International Chamber of Commerce (ICC)

The ICC is the world's foremost business membership and leadership organization. Founded in 1919, the ICC represents the interests and ideals of business organizations around the globe from all sectors and industries. Given its vast authority, it is responsible for making the voluntary rules that govern the conduct of business across borders. It also provides many services to its member organizations, including the ICC International Court of Arbitration. Recent initiatives include supporting the UN-sponsored Global Compact. The Commission on Environment is responsible for the ICC's environmental and sustainable-development initiatives. The Commission monitors key issues and challenges facing the global environment; promotes a world business perspective on major environmental policy and sustainable-development issues; and promotes environmental management through voluntary initiatives and self-regulatory products. Present initiatives include the Business Action for Sustainable Development, a joint program with the World Business Council for Sustainable Development; the ICC/UNEP World Summit Business Awards for Sustainable Development Partnerships; promoting the ICC Business Charter for Sustainable Development, a voluntary mechanism to improve environmental-management technique and practices; and participating in a variety of UN conferences, including the Johannesburg Summit. A number of activities are coordinated by the ICC's Taskforce on Sustainable Development. *For more information, contact:* Jack Whelan, Senior Policy Manager, ICC, 38 Cours Albert 1er, 75008 Paris, France; *Tel:* 33-1-49-53-29-16; *Fax:* 33-1-49-53-28-59; *E-mail:* jack.whelan@iccwbo.org; *Internet:* www.iccwbo.org

International Center for Research on Women (ICRW)

The ICRW is a private, non-profit organization dedicated to promoting social and economic development with women's full participation. ICRW generates quality, empirical information, and technical assistance on women's productive and reproductive roles, their status in the family, their leadership in society, and their management of environmental resources. The Center's publications include "New Directions for the Study of Women and Environmental Degradation" and "Women, Land, and Sustainable Development." ICRW advocates with governments and multilateral agencies, convenes experts in formal and informal forums, and engages in an active publications and information programs to advance women's rights and opportunities. ICRW was founded in 1976 and focuses principally on women in developing and transition countries. *For more information, contact:* International Center for Research on Women (ICRW), 1717 Massachusetts Avenue NW, Suite 302, Washington, DC 20036; *Tel:* 202/797-0007; *Fax:* 202/797-0020; *Email:* info@icrw.org; *Internet:* <http://www.icrw.org>

International Food Policy Research Institute (IFPRI)

IFPRI was established in 1975 to identify and analyze policies for sustainably meeting the food needs of the poor in developing countries and to disseminate the results of the research to policymakers and others concerned with food and agricultural policy. IFPRI research focuses on economic growth and poverty alleviation in low-income countries, improving the well-being of poor people, and sound management of the natural-resource base that supports agriculture. IFPRI is a member of the Consultative Group on International Agricultural Research (CGIAR), an association of sixteen international research centers; it receives support from a number of governments, multilateral organizations, and foundations. IFPRI supports Future Harvest, a public awareness campaign that builds understanding of the importance of agricultural issues and international agricultural research. *For more information, contact:* International Food Policy Research Institute, 2033 K Street NW, Washington, DC 20006; *Tel:* 202/862-5600; *Fax:* 202/467-4439; *Email:* ifpri@cgiar.org; *Internet:* <http://www.ifpri.cgiar.org>

International Human Dimensions Programme (IHDP) on Global Environmental Change

IHDP is an international, nongovernmental, and interdisciplinary research program that fosters high quality research to address the most pressing questions on the human dimensions of Global Environmental Change (GEC). IHDP aims at producing research results relevant to the policymaking community. Promoting, supporting, and coordinating research are key activities. In addition, IHDP facilitates research-capacity building and international scientific networking. One of the four core projects of IHDP is entitled Global Environmental Change and Human Security (GECHS). The GECHS project focuses on developing a better understanding of issues such as: food security and vulnerability to disruption in food supply as a result of GEC; the role of cooperative agreements in conflicts over water management; and effects of land degradation and global warming on human life and security. *For more information, contact:* IHDP, Walter-Flex-Strasse 3, 53113 Bonn, Germany. *Tel:* 49-228-739050; *Fax:* 49-228-789054; *Email:* ihdp@uni-bonn.de; *Internet:* <http://www.ihdp.org>

International Institute for Sustainable Development (IISD)

The mission of IISD is to champion innovation, enabling societies to live sustainably. IISD contributes new knowledge and concepts, undertakes policy research and analysis, demonstrates how to measure progress, and identifies and disseminates sustainable development information. IISD contributes to sustainable development by advancing policy recommendations on: international trade and investment; economic instruments; climate change, measurement and indicators; and natural-resource management. *For more information, contact:* International Institute for Sustainable Development, 161 Portage Avenue East, 6th Floor, Winnipeg, Manitoba R3B 0Y4, Canada; *Tel:* 204/958-7700; *Fax:* 204/958-7710; *Email:* info@iisd.ca; *Internet:* <http://www.iisd.org>

International Institute of Applied System Analysis (IIASA)

IIASA is a nongovernmental research organization located in Austria. It's international teams of experts from various disciplines conduct scientific studies on environmental, economic, technological, and social issues in the context of human dimensions of global change. Since its inception in 1972, IIASA has been the site of successful international scientific collaboration in addressing areas of concern—such as energy, environment, risk, and human settlement—for all advanced societies. The Institute is sponsored by National Member Organizations in North America, Europe, and Asia. *For more information, contact:* International Institute for Applied Systems Analysis, A-2361 Laxenburg, Austria; *Tel:* 43-2236-807-0; *Fax:* 43-2236-71313; *Email:* inf@iiasa.ac.at; *Internet:* <http://www.iiasa.ac.at/>

International Peace Research Institute, Oslo (PRIO)

PRIO was founded in 1959 as one of the world's first centers of peace research. Research at PRIO is divided into four Strategic Institute Programmes: conditions of war and peace; foreign and security policies; ethics, norms, and identities; and conflict resolution and peacebuilding. Researchers at PRIO have published significant theoretical contributions on the concept of security while also investigating the specific linkages between environment, poverty, and conflict. PRIO also makes ongoing contributions as the editorial home to both *The Journal of Peace Research* and *Security Dialogue*. *For more information, contact:* International Peace Research Institute (PRIO), Fuglehauggata 11, N-0260 Oslo, Norway; *Tel:* 47-22-54-77-00; *Fax:* 47-22-54-77-01; *Email:* info@prio.no; *Internet:* <http://www.prio.no/>

IUCN-The World Conservation Union

IUCN is an international conservation organization with a membership of over 900 bodies—including states, government agencies, and nongovernment organizations across some 140 countries as well as scientific and technical networks. The mission of IUCN is to influence, encourage, and assist societies to conserve the integrity and diversity of nature and to ensure that any use of natural resources is equitable and ecologically sustainable. It has been an important actor (a) in promoting effective global governance through contributions to multilateral agreements such as CITES and the Biodiversity Convention; (b) in environmental mediation (e.g. OkaVango Delta, Victoria Falls); and (c) at the regional and national levels (e.g., national conservation strategies and transboundary ecosystem management). With the World Bank, IUCN created the World Commission on Dams, which has recently released *Dams and Development—A New Framework for Decision-*

Making, a report on the future of large dams that includes their environmental and social dimensions. IUCN has also conducted an important study for the Organization for Economic Cooperation and Development (OECD) on environment and security. In October 2000, the Second IUCN World Conservation Congress was held in Amman, Jordan, at which environment and security was one of the important topics discussed. Environment and security remains an important area of IUCN's work: it translates practical lessons learned on issues drawn from its field experience into the policy arenas, and environment and security is an important function of IUCN's Commission on Environmental, Economic, and Social Policy. IUCN's chief scientist has also written a book on the relationship between war and biodiversity, *Nature in War—Biodiversity Conservation During Conflicts*. For more information, contact: Scott A. Hajost, Executive Director, IUCN-US, 1630 Connecticut Avenue NW, 3rd Floor, Washington, DC 20009; Tel: 202/387-4826; Fax: 202/387-4823; Email: postmaster@iucn.org; Internet: <http://www.iucn.org/>

Migration Policy Institute (MPI)

(Formerly the International Migration Policy Program of the Carnegie Endowment for International Peace)

MPI is an independent, nonpartisan, non-profit think-tank dedicated to the study of the movement of people worldwide. The institute provides analysis, development, and evaluation of migration and refugee policies at the local, national, and international levels. It aims to meet the rising demand for pragmatic responses to the challenges and opportunities that migration presents in an ever more integrated world. MPI also publishes the international migration data Web site called the Migration Information Source (www.migrationinformation.org). For more information, contact: Kathleen Newland and Demetrios Papademetriou, Co-Directors, Migration Policy Institute, 1400 16th Street NW, Washington, DC 20036; Tel: 202/266-1940; Fax: 202/266-1900; Internet: <http://www.migrationpolicy.org>

The National Council for Science and the Environment (NCSE)

NCSE is a non-profit organization that works to improve the scientific basis for environmental decision-making. Guided by the needs of stakeholders, NCSE educates society about the importance of comprehensive scientific programs that integrate crosscutting research with knowledge assessments, education, information dissemination, and training. The objectives of NCSE are: (a) bringing about the full implementation of the recommendations of the National Science Foundation's (NSF's) report, *Environmental Science and Engineering for the 21st Century: The Role of the National Science Foundation*; (b) facilitating stakeholder actions to develop a shared understanding of science, science needs, and priorities; (c) working to link science with decision-making; and (d) providing and creating an on-line information dissemination system that allows all users to find understandable, science-based information about the environment. For more information, contact: National Council for Science and the Environment, 1725 K Street NW, Suite 212, Washington, DC 20006-1401; Tel: 202/530-5810; Fax: 202/628-4311; Email: info@NCSEonline.org; Internet: <http://www.cnie.org>

The Natural Resources Defense Council (NRDC)

NRDC is a U.S. non-profit environmental protection organization with over 500,000 members and a staff of attorneys, scientists, and specialists addressing the full range of pressing environmental problems. The NRDC has had a long and active program related to environment and security. NRDC has engaged in extensive advocacy with the U.S. government and international institutions on climate change and other global common problems and on environmental challenges in developing countries. Since the 1992 Earth Summit, NRDC has worked on the creation and approach of new mechanisms to hold governments accountable to commitments they have made to move toward "sustainable development." NRDC has a new initiative in China on energy efficiency and renewables. NRDC continues to undertake research, analysis, and advocacy related to nuclear weapons production and dismantlement, nuclear materials, and proliferation, and nuclear energy. For more information, contact: Natural Resources Defense Council, 40 West 20th Street, New York, NY 10011; Tel: 212/727-2700; Fax: 212/727-1773; Email: nrdcinfo@nrdc.org; Internet: <http://www.nrdc.org>

The Nautilus Institute for Security and Sustainable Development

The Nautilus Institute is a policy-oriented research and consulting organization. Nautilus promotes international cooperation for security and ecologically sustainable development. Programs embrace both global and regional issues, with a focus on the Asia-Pacific region. Nautilus has produced a number of policy-oriented studies on these topics, which are available on the Internet and in hard copy. Current projects include: the Energy, Security, and Environment Program, which studies the intersection of these three issues in Northeast Asia, especially Japan, and seeks sustainable policy alternatives; and the Global Peace and Security Program, which identifies ways to avoid and resolve conflict without force, especially in Northeast Asia. The Northeast Asia Peace and Security Network (NAPSNet) and the South Asia Nuclear Dialogue Network (SANDNet) are among the information services the Institute offers to subscribers free of charge via email. *For more information, contact:* The Nautilus Institute, 125 University Avenue, Berkeley, CA 94710; *Tel:* 510/295-6100; *Fax:* 510/295-6130; *Email:* nautilus@nautilus.org; *Internet:* <http://www.nautilus.org>

The Pacific Institute

The Pacific Institute for Studies in Development, Environment and Security is dedicated to protecting our natural world, encouraging sustainable development, and improving global security by providing independent research to policymakers, researchers, nongovernmental organizations, and the public. Founded in 1987 and based in Oakland, California, the Pacific Institute focuses on issues at the intersection of development, environment, and security. Though best known for our pioneering research on water and sustainability, the Pacific Institute is also working to ensure that critical watersheds are protected, that international standards are fair and equitable, that communities have a voice in important environmental decisions, and that nations and states share resources peacefully. *For more information, contact:* The Pacific Institute for Studies in Development, Environment, and Security, 654 13th Street, Preservation Park, Oakland, CA 94612; *Tel:* 510/251-1600; *Fax:* 510/251-2203; *Email:* pistaff@pacinst.org; *Internet:* <http://www.pacinst.org>

Pew Center on Global Climate Change

Diverse sectors of society are now coming together under the Pew Center on Global Climate Change to steer our nation and the world toward reasonable, responsible, and equitable solutions to our global climate change problems. The Center brings a new cooperative approach and critical scientific, economic, and technological expertise to the global debate on climate change. Established in 1998 by the Pew Charitable Trusts, the Center is directed by Eileen Claussen, former U.S. Assistant Secretary of State for Oceans and International Environmental and Scientific Affairs. Major companies and other organizations are working together through the Center to educate the public on the risks, challenges, and solutions to climate change. These efforts at cooperation and education are spearheaded by the Center's Business Environmental Leadership Council. The Pew Center is committed to the development of a wide range of reports and policy analyses that will add new facts and perspectives to the climate-change debate in key areas such as economic and environmental impacts and equity issues. *For more information, contact:* Pew Center on Global Climate Change, 2101 Wilson Boulevard, Suite 550, Arlington, VA 22201; *Tel:* 703/516-4146; *Fax:* 703/841-1422; *Internet:* <http://www.pewclimate.org>

Population Action International (PAI)

PAI promotes the early stabilization of world population through policies that enable all women and couples to decide for themselves, safely and in good health, whether and when to have children. The organization advocates for voluntary family-planning programs, other reproductive-health services, and education and economic opportunities for girls and women. PAI works to foster the development of U.S. and international population policy through policy research, public education, and political advocacy. PAI has conducted research and published on the relationship of population dynamics to the sustainability of natural resources critical to human well-being. The program also considers interactions between population dynamics and economic change, public health, and security. Most recently, the program has begun an initiative related to community-based population and environment activities, defined as provision of services linking natural-resources management and reproductive health at the request of communities. In 1998 PAI published *Plan and Conserve: A Source Book on Linking Population and Environmental Services in Communities*. Other departments within PAI

explore issues related to population policy and funding, provision of reproductive health services, the education of girls, and legislative initiatives related to international population issues. *For more information, contact:* Population Action International, 1300 19th Street NW, 2nd floor, Washington, DC 20036; *Tel:* 202/557-3400; *Fax:* 202/728-4177; *Email:* pai@popact.org; *Internet:* <http://www.populationaction.org>

Population and Environment Linkages Service

The Population and Environment Linkages Service brings comprehensive and reliable information to researchers, students, policymakers, government officials, and others around the world who are working on or concerned about the linkage between population growth and the environment. It was begun in response to calls for such a service in the 1994 International Conference on Population and Development (Cairo) Programme of Action. This project's innovative and rational approach to information (as well as its commitment to the involvement of stakeholders in the process) seeks to facilitate greater access to material on population-environment relationships and promote more coordinated exchanges among researchers and others. The Service links to books, reports, journal articles, newspaper articles, news analysis, maps, conference papers, data sets, slide shows, organizations, regional overviews, laws, bills, and court decisions from around the world. Different topics can be explored on this Web site, including such issues as biodiversity, climate, conflict, demographics, development, fisheries, food, forests, fresh water, health, migration, policies, urbanization, and women. *For more information, contact:* Dr. Peter Saundry, National Council for Science and the Environment, 1725 K Street NW, Suite 212, Washington, DC 20006-1401; *Tel:* 202/530-5810; *Fax:* 202/628-4311; *Email:* cnie@cnie.org

Population and Environment Program, National Wildlife Federation

The Population and Environment Program is an effort to educate the public about the link between population growth and its effect on wildlife habitat and the global environment. The program maintains a list of activists known as the Fast Action Network; the Network receives newsletters as well as legislative updates about the funding status of beneficial international family planning (IFP) programs. IFP reduces population growth and aids in improving the quality of life for impoverished women, children, and men. The Federation's Population and Environment Program works with similar organizations, such as Population Connection (formerly Zero Population Growth), Audubon's Population and Habitat Program, and Population Action International. Several free educational materials are available, including fact-sheets and an informational video. *For more information, contact:* Population & Environment Program, National Wildlife Federation (NWF), 1400 16th Street NW, Suite 501, Washington, DC 20036; *Tel:* 202/797-6800; *Fax:* 202/797-5486; *Email:* population@nwf.org; *Internet:* <http://www.nwf.org/population/>

Population and Habitat Program

National Audubon Society has launched a major new initiative to build a public mandate for population and family planning and to connect the issues of population growth with habitat. Through this program, Audubon will draw upon its chapters and other community leadership to educate and mobilize citizens from around the country to confront population and environment problems and to communicate with policymakers. Utilizing its expertise in grassroots activism, the National Audubon Society has embarked on a broad-based effort to strengthen U.S. leadership on population. The Population & Habitat Program focuses on: (1) restoration of international population funding, and (2) connecting population issues to state and local habitat issues. To these ends, the Population Program has already put three state coordinators in place in Colorado, Pennsylvania, and New York, with plans for additional coordinators in California, Florida, Ohio, and Texas. These coordinators will design a three-year plan identifying local population issues and their impacts on birds, wildlife, and habitat. They will conduct training for activists and provide chapters and the public with ways to become involved in the Program. The Program produced a publication in 1998 called *Population & Habitat in the New Millennium* (by Ken Strom) that helps activists make the connections among population growth, consumption, and environmental issues, and includes provocative discussions and possible solutions. *For more information, contact:* Population & Habitat Program, National Audubon Society, 1901 Pennsylvania Avenue NW, Suite 1100, Washington, DC 20006; *Tel:* 202/861-2242; *Email:* population@audubon.org; *Internet:* <http://www.audubonpopulation.org>

Population Council

The Population Council, an international, non-profit, nongovernmental organization established in 1952, seeks to improve the well-being and reproductive health of current and future generations around the world and to help achieve a humane, equitable, and sustainable balance between people and resources. The Council (a) conducts fundamental biomedical research in reproduction; (b) develops contraceptives and other products for improvement of reproductive health; (c) does studies to improve the quality and outreach of services related to family planning, HIV/AIDS, and reproductive health; (d) conducts research on reproductive health and behavior, family structure and function, and causes and consequences of population growth; (e) strengthens professional resources in developing countries through collaborative research, awards, fellowships, and training; and (f) publishes innovative research in peer-reviewed journals, books, and working papers and communicates research results to key audiences around the world. Research and programs are carried out by the Center for Biomedical Research, the International Programmes Division, and the Policy Research Division. The Council publishes the journals *Population and Development Review* and *Studies in Family Planning*. Council headquarters and the Center for Biomedical Research are located in New York City; the Council also maintains an office in Washington, DC and an international presence through its five regional and 13 country offices. Council staff members conduct research and programs in over 70 countries. The Council's expenditures for 2001 were \$70.2 million. *For more information, contact:* Melissa May, Director of Public Information, Population Council, 1 Dag Hammarskjöld Plaza, New York, NY 10017; *Tel:* 212/339-0525; *Fax:* 212/755-6052; *Email:* pubinfo@popcouncil.org; *Internet:* <http://www.popcouncil.org>

The Population-Environment Research Network

The Population-Environment Research Network, a non-profit, Web-based information source, aims to further academic research on population and environment by promoting on-line scientific exchange among researchers from social- and natural-science disciplines worldwide. The Network provides: (1) an on-line research database that offers bibliographies, project descriptions, and reviews of research on population-environment dynamics; (2) a cyber seminar series featuring on-line discussions of selected research papers; and (3) a "what's new?" page on its Web site. The project is sponsored by the International Union for the Scientific Study of Population (IUSSP) and the International Human Dimensions Program (IHDP) on Global Environmental Change. Technical support is provided by the Socioeconomic Data and Applications Center (SEDAC) at the Center for International Earth Science Information Network (CIESIN) at Columbia University. The Network is funded by the MacArthur Foundation. *For more information, contact:* www.populationenvironmentresearch.org

The Population Institute

The Population Institute is a private, non-profit organization working for a more equitable balance among the world's population, environment, and resources. The Institute was founded in 1969. Since 1980, it has dedicated its efforts exclusively to creating awareness of international population issues among policymakers, the media, and the public. In pursuing its goals, the Institute works in three specific programmatic areas: the development of the largest grassroots network in the international population field; providing the media with timely and accurate information on global population issues; and the tracking of public policy and legislation affecting population. The Institute's Future Leaders Program recruits college students and recent graduates as fellows for a one-year period in its community leaders, information and education, and public-policy divisions. The Institute annually presents Global Media Awards for Excellence in Population Reporting to journalists in 15 media categories and the Global Statesman Award to world leaders. It is also the official sponsor of World Population Awareness Week (WPAW), a week of awareness-raising activities cosponsored by organizations worldwide. The Institute publishes: the bimonthly newspaper, *POPLINE*, the most widely circulated newspaper devoted exclusively to population issues; the 21st Century monologue series, exploring the interrelationships between population and other major issues; educational materials; and books. Regional representatives of the Population Institute are located in Bogota, Columbia; Colombo, Sri Lanka; and Brussels, Belgium. *For more information, contact:* Werner Fornos, President, The Population Institute, 107 Second Street NE, Washington, DC 20002; *Tel:* 202/544-3300; *Fax:* 202/544-0068; *Email:* web@populationinstitute.org; *Internet:* <http://www.populationinstitute.org>

Population Matters

In 1996, RAND launched Population Matters, a program for research communication that uses different means, methods, and formats for reaching audiences that influence the making of population policy in the United States and abroad. With support from a consortium of donors led by the William and Flora Hewlett Foundation and including the David and Lucile Packard Foundation and the Rockefeller Foundation, the program is addressing the concern that empirical population research is missing opportunities to inform policymaking and public awareness. RAND's involvement is also intended to fill the need for an objective "information broker" who does not espouse a political or ideological point of view on population issues. The program has two principal goals: (1) to raise awareness of and highlight the importance of population policy issues, and (2) to provide a more scientific basis for public debate over population policy questions. To date, the project has examined 12 topics: the record of family planning programs in developing countries; population growth in Egypt; congressional views of population and family planning issues; American public opinion on population issues; Russia's demographic crisis; immigration in California; the national security implications of demographic factors; interrelations between population and the environment; global shifts in population and their implications; U.S. demographic changes; policy, health, and development in Asia; and the value of U.S. support for international demographic research. *For more information, contact:* Dr. Julie DaVanzo, RAND, 1700 Main Street, P.O. Box 2138, Santa Monica, CA 90407-2138; *Tel:* 310/393-0411-7516; *Fax:* 310/260-8035; *Email:* Julie_DaVanzo@rand.org; *Internet:* <http://www.rand.org/popmatters>

The Population Reference Bureau (PRB)

PRB provides information to policymakers, educators, the media, opinion leaders, and the public around the world about U.S. and international population trends. PRB examines the links among population, environment, and security and conducts a number of projects that deal with these linkages. Under the Southern Population and Environment Initiative, PRB works to enhance the quality and impact the work of developing-country policy research institutions that study the relationship between population variables, health impacts, and the environment. Other PRB projects include: MEASURE Communication, a USAID-funded program to help institutions in developing countries improve their communication of research findings; World Population and the Media; Japan's International Population Assistance, a study of Japan's foreign population assistance; and U.S. in the World, which helps Americans relate population-environment interactions in the U.S. to those in developing nations. *For more information, contact:* Population Reference Bureau, 1875 Connecticut Avenue NW, Suite 520, Washington, DC 20009-5728; *Tel:* 202/483-1100; *Fax:* 202/328-3937; *Email:* popref@prb.org; *Internet:* <http://www.prb.org>

Population Resource Center

The Population Resource Center seeks to improve public policymaking by keeping policymakers informed on the latest demographic data and trends. The Center publishes numerous reports on domestic and international demographic trends and issues and brings experts and policymakers together through educational programs ranging from small discussion groups and policy briefings to large symposia. The educational programs respond to policymakers' questions on issues such as immigration, teen pregnancy, child care, aging, and international population growth. The Center's Web site provides demographic profiles for a number of countries as well as several regions of the world; it also offers links to a number of governmental and nongovernmental organizations focused on international population issues. The Center's most recent international programming covered such topics as AIDS and infectious diseases, the status of women, and family planning. *For more information, contact:* in New Jersey: Population Resource Center, 15 Roszel Road, Princeton, NJ 08540; *Tel:* 609/452-2822; *Fax:* 609/452-0010; *Email:* prc@prcnj.org; *Internet:* <http://www.prcnj.org>; or in Washington, DC: Population Resource Center, 1725 K Street NW, Suite 1102, Washington, DC 20006; *Tel:* 202/467-5030; *Fax:* 202/467-5034; *Email:* prc@prcdc.org; *Internet:* <http://www.prcdc.org>

Resources Conflict Institute (RECONCILE)

The phenomenal population growth in Kenya since its independence has exerted immense pressure on the country's natural-resource base, leading to an escalation in both the intensity and the scope of natural-resource

conflicts. In order to address these conflicts, it is necessary to recognize and utilize existing capacities within resource-dependent communities as well as to build new capacities in response to new forms and manifestations of conflict over natural resources. This is the challenge that RECONCILE seeks to meet. RECONCILE works for the reconciliation of competing resource needs to promote the sustainable management of natural resources and the promotion of sustainable development. In this work, it is guided by a commitment to achieve the following objectives: (a) to understand, articulate, and promote the use of traditional natural-resource management systems, institutions, concepts, and practices in addressing existing and emerging natural-resource conflicts; (b) to use natural-resource conflicts as an entry point for understanding and addressing the resource needs, opportunities, and constraints of resource-dependent communities and for devising and promoting policy options for equitable access to and control of natural resources by these communities; and (c) to engage and use the legal system and the legal process in Kenya in addressing conflicts over access to and control of natural resources by resource-dependent communities. *For more information, contact:* Executive Director, Resources Conflict Institute (RECONCILE), Printing House Road, P.O. Box 7150, Nakuru, Kenya; *Tel:* 254-37-44940; *Fax:* 254-37-212865; *Email:* Reconcile@net2000ke.com

Resources for the Future (RFF)

RFF is an independent, non-profit research organization that aims to help people make better decisions about the environment. RFF is committed to elevating public debate about natural resources and the environment by providing accurate, objective information to policymakers, legislators, public opinion leaders, and environmentalists. RFF has four main research areas: environment; natural resources; intersections; and methods, tools, and techniques. Currently, RFF has several programs that address environment and security linkages, including a program on nuclear weapons cleanup and the International Institutional Development and Environmental Assistance Program (IIDEA). IIDEA is aimed at helping countries and institutions become more effective environmental actors by focusing on implementation and management of environmental law and policy. IIDEA's mission is to reduce environmental risk and enhance environmental security by working to bridge the gap between formal commitment and actual practice. *For more information, contact:* Resources for the Future, 1616 P Street NW, Washington, DC 20036; *Tel:* 202/328-5000; *Fax:* 202/939-3460; *Internet:* <http://www.rff.org>

The Royal Institute of International Affairs: Energy and Environmental Programme

The Energy and Environmental Programme is the largest of the research programs based at the Royal Institute of International Affairs (Chatham House). The Programme works with business, government, academic, and NGO experts to carry out and publish research and stimulate debate on key energy and environmental issues with international implications, particularly those just emerging into the consciousness of policymakers. *For more information, contact:* Energy and Environmental Programme, Royal Institute of International Affairs, Chatham House, 10 St. James's Square, London SW1Y 4LE, England; *Tel:* 44-(0)20 7957-5711; *Fax:* 44-(0)20 7957-5710; *Email:* eep-admin@riia.org; *Internet:* <http://www.riia.org/eep.html>

Stockholm Environment Institute (SEI)

Established in 1989, SEI is an independent, international research institute specializing in sustainable-development and environment issues. It works at local, national, regional, and global policy levels. The SEI research program aims to clarify the requirements, strategies, and policies for a transition to sustainability. These goals are linked to the principles advocated in Agenda 21 and Conventions such as Climate Change, Ozone Layer Protection, and Biological Diversity. SEI examines the policy connections and implications of scientific and technical analysis. The Institute carries out its mission through five main program areas: sustainable development studies, atmospheric environment, water resources, climate and energy resources, and risk and vulnerability. The results of SEI research are made available to a wide range of audiences through publications, electronic communication, software packages, conferences, training workshops, specialist courses, and roundtable policy dialogues. The Institute has its headquarters in Stockholm with a network structure of permanent and associated staff worldwide and centers in Boston (USA), York (UK), and Tallinn (Estonia). The collaborative network consists of scientists, research institutes, project advisors, and field staff located in over 20 countries.

Updates

For more information, contact: Roger Kasperson, Executive Director, Stockholm Environment Institute, Lilla Nygatan 1, Box 2142, S-103 14 Stockholm, Sweden; *Tel:* 46-8-412-1400; *Fax:* 46-8-723-0348; *Email:* postmaster@sei.se; *Internet:* <http://www.sei.se>

Tata Energy and Resources Institute (TERI)

TERI is an independent, not-for-profit research institute in New Delhi, India with a focus on multidisciplinary, applied, and integrated research. Its mission is to develop and promote technologies, policies, and institutions for the efficient and sustainable use of natural resources. TERI focuses on all aspects of natural-resource protection and management—energy, environment, biotechnology, forestry, infrastructure, and various facets of sustainable development. The Institute also focuses on information dissemination across India and to a select international audience, including the training of professionals from India and abroad. Topics covered in these training activities include energy, environment, and development. TERI was formed as part of an Indian national effort to identify and tackle some of the long-term challenges facing the energy sector; it includes a Centre on Environmental Studies. It was established in 1974 with generous funding from the Tata group of companies. *For more information, contact:* TERI, Darbari Seth Block, Habitat Place, Lodhi Road, New Delhi 110 003, India; *Tel:* 91-11-462-2246 or 460-1550; *Fax:* 91-11-462-1770 or 463-2609; *Email:* mailbox@teri.res.in; *Internet:* <http://www.teriin.org>. *TERI also has a North America office at:* 1600 Wilson Boulevard, Suite 710, Arlington, VA 22209; *Tel:* 703/841-1136; *Fax:* 703/243-1865; *Email:* teri@igc.org

Television Trust for the Environment (TVE)

TVE is an independent, non-profit organization that acts as a catalyst for the production and distribution of films on environment, development, health, and human rights issues. Using broadcast television and other audio-visual resources—including the Internet and radio—TVE works with United Nations agencies, international nongovernmental organizations, and the global television industry to address complex issues such as child development, primary health, poverty, and desertification and to translate these issues into mainstream TV programs that focus on the human stories involved in sustainable human development. Its three flagship broadcast projects are *Earth Report*, *Hands On* and *Life*, which were first broadcast on BBC World. *For more information, contact:* TVE, Prince Albert Road, London NW1 4RZ, United Kingdom; *Tel:* 44 20 7586 5526; *Fax:* 44 20 7586 4866; *E-mail:* tve-uk@tve.org.uk; *Internet:* <http://www.tve.org>

Water Research Commission

The WRC is a South African-government funded commission designed to: promote coordination, communication, and cooperation in the field of water research; establish water-research needs and priorities; fund research on a priority basis; and promote the effective transfer of information and technology. Created in 1971, the commission decided early on to directly fund outside research on a variety of water-resources issues affecting South Africa. Universities, technical colleges, statutory research agencies, government departments, local authorities, nongovernmental organizations, water boards, consultants, and industries all partake in WRC research contracts. With its involvement in the New Partnership for Africa's Development (NEPAD), the WRC strategically reorganized with the goal to be a globally recognized leader in providing innovative solutions for sustainable water management to meet the needs of society and of the environment. In this endeavor, the WRC has developed five research portfolios around the issues of water-resource management, water-linked resources, water use and waste management, water utilization in agriculture, and the dissemination of water-centered information and knowledge. *For more information, contact:* Dr. Rivka Kfir, CEO, P.O. Box 824, Pretoria 001, South Africa; *Tel:* 27-12-330-0340; *Fax:* 27-12-331-2565; *E-mail:* rkfir@wrc.org.za; *Internet:* <http://www.wrc.org.za>

Wild Aid

Wild Aid, formerly the Global Security Network, is a non-profit organization that provides direct protection to wildlife in danger by strengthening the field protection for animals, combating illegal wildlife trafficking, and working to convince wildlife consumers to change their habits. Wild Aid combines investigations, public media campaigns, direct action programs, and global networking to identify, expose, and address flagrant

violations of environmental and human rights. Some of their accomplishments include establishing a successful, world-renowned wildlife recovery program in the Russian Far East, reducing the consumption of endangered species through their international multimedia Asian Conservation Awareness Program (ACAP), and addressing human trafficking and associated human rights abuses. *For more information, contact:* Wild Aid, 450 Pacific Avenue, Suite 201, San Francisco, CA 94133; *Tel:* 415/834-3174; *Fax:* 415/834-1759; *Email:* info@wildaid.org; *Internet:* <http://www.wildaid.org>

The World Business Council for Sustainable Development (WBCSD)

The WBCSD is a membership organization comprised of 150 international companies drawn from more than 30 countries and 20 major industrial sectors, driven by a shared commitment to sustainable development through the three pillars of economic growth, ecological balance, and social progress. Its mission is to provide business leadership on sustainable-development issues and promote eco-efficiency, innovation, and corporate social responsibility. It seeks to be a catalyst for global outreach on sustainable-development issues through the dissemination of sustainable-business best practices and policy development to allow businesses to contribute to sustainability. The WBCSD is governed by a council composed of the CEOs of its member companies, which meets annually to determine the organization's priorities and to discuss strategic issues related to sustainable development. Day-to-day activities lie with a president and a secretariat, while the executive committee oversees the organization's management. *For more information, contact:* Chairman Phillip Watts, WBCSD, 4 chemin de Conches, 1231 Conches-Geneva, Switzerland; *Tel:* 41-22-839-3100; *Fax:* 41-22-839-3131; *Email:* info@wbczd.org; *Internet:* <http://www.wbczd.org>

World Resources Institute (WRI)

Established in 1982, the mission of the World Resources Institute (WRI) is to move human society to live in ways that protect the Earth's environment and its capacity to provide for the needs and aspirations of current and future generations. Because people are inspired by ideas, empowered by knowledge, and moved to change by greater understanding, WRI provides—and helps other institutions provide—objective information and practical proposals for policy and institutional change that will foster environmentally sound, socially equitable development. To further its mission, WRI conducts policy research, publicizes policy options, encourages adoption of innovative approaches, and provides strong technical support to governments, corporations, international institutions, and environmental NGOs. WRI's current areas of work include: biological resources; climate, energy and pollution; economics; information; and institutions and governance. *For more information, contact:* World Resources Institute, 10 G Street NE, Suite 800, Washington, DC 20002; *Tel:* 202/729-7600; *Fax:* 202/729-7610; *Email:* front@wri.org; *Internet:* <http://www.wri.org/wri/>

Worldwatch Institute

Worldwatch Institute is dedicated to informing policymakers and the public about emerging global problems and trends and the complex links between the world's economy and its environmental support systems. The Institute aims to foster the evolution of an environmentally sustainable society through interdisciplinary, non-partisan research on emerging global environmental concerns (including population and security issues). The Institute recently published Paper 155, "Still Waiting for the Jubilee: Pragmatic Solutions for the Third World Debt Crisis," and a book entitled *Vanishing Borders: Protecting the Planet in the Age of Globalization* by Hilary French. Worldwatch researcher Michael Renner published in late 1997 Paper 137 (on the destructive effects of small-arms proliferation) entitled *Small Arms, Big Impact: The Next Challenge of Disarmament*. Mr. Renner's 1996 publication *Fighting for Survival: Environmental Decline, Social Conflict, and the New Age of Insecurity* deals with international security and environment/sustainable development. Lester Brown's 1995 book, *Who Will Feed China? Wake-up Call for a Small Planet*, examines the challenges associated with sustainably meeting the needs of a rapidly expanding population. The Institute's annual publications, *State of the World* and *Vital Signs*, provide a comprehensive review and analysis of the state of the environment and trends that are shaping its future. The Institute's bimonthly magazine, *World Watch*, complements these reports with updates and in-depth articles on a host of environmental issues. Other Worldwatch publications discuss redefining security in the context of global environmental and social issues, the impact of population growth on the earth's resources, and other

major environmental issues. *For more information, contact:* Worldwatch Institute, 1776 Massachusetts Avenue NW, Washington, DC 20036; *Tel:* 202/452-1999; *Fax:* 202/296-7365; *Email:* worldwatch@worldwatch.org; *Internet:* <http://www.worldwatch.org>

U.S. GOVERNMENTAL ACTIVITIES

Editor's Note: Please consult the Web sites of these departments and activities for the latest mission, staffing, or contact information.

The Cooperative Monitoring Center (CMC)

CMC, a multiprogram laboratory located at the Sandia National Laboratories, develops technical and operational capabilities to support international cooperation on nonproliferation, arms control, and other strategic issues. CMC also assists in building international technical capabilities to enable global participation in international treaties and other strategic cooperative activities. Representatives from over 80 countries have participated in CMC-sponsored activities such as workshops, seminars, and visiting scholars' programs. Focused efforts have addressed particular security issues for the Middle East, South Asia, Northeast Asia, Central Asia, Russia, and China. CMC is a specially designated facility for hosting unclassified international interactions. The conference facilities, technology training and demonstration areas, and visiting scholar programs create a one-of-a-kind environment for promoting technical collaborations in support of U.S. and international security objectives. Technical capabilities demonstrated at CMC include chemical and biological weapons monitoring and environmental monitoring and assessment; other candidate applications include natural resources, pollution, energy, commerce and trade, and emergency planning and response. *For more information, contact:* Cooperative Monitoring Center, Sandia National Laboratories, P.O. Box 5800, Albuquerque, NM 87185-1371; *Tel:* 505/284-5000; *Fax:* 505/284-5005; *Internet:* <http://www.cmc.sandia.gov>

NASA Center for Health Applications of Aerospace Related Technologies (CHAART)

Located at the Ames Research Center, CHAART was established in 1995 to promote the use of remote sensing (RS), Geographic Information Systems (GIS), and other related aerospace technologies to address issues of human health through education, training, and technology transfer. The primary focus of CHAART in 2000 was to support existing and develop new collaborations in the application of RS/GIS in the surveillance of infectious disease and the study of human health. Training programs are focused on equipping human-health investigators with RS/GIS technology and training to assist their research efforts. CHAART maintains collaborative relationships with a number of U.S. agencies and universities and is involved with the joint NIH/NASA Tropical Medicine Research Centers, the Global Disaster Information Network (GDIN), and NASA's new Environment and Health Initiative. *For more information, contact:* Louisa Beck, MS 242-4, NASA Ames Research Center, Moffett Field, CA 94035; *Tel:* 650/604-5896; *Email:* lrbeck@arc.nasa.gov; *Internet:* <http://geo.arc.nasa.gov/esdstaff/health/chaart.html>

USAID: Global Health

The U.S. Agency for International Development's programs in global health represent the commitment and determination of the U.S. government to prevent suffering, save lives, and create a brighter future for families in the developing world. USAID is confronting global health challenges through improving the quality, availability, and use of essential health and family-planning services. The combination of on-the-ground experience in developing countries and global research on innovative technologies and approaches has given USAID a unique advantage in designing effective programs. USAID's strategy on global health seeks to stabilize world population and protect human health through programs in maternal and child health, HIV/AIDS, family planning and reproductive health, infectious diseases, environmental health, nutrition, and other life-saving areas. Under the Bureau of Global Health, the Office of Population facilitates population, environment, and security policy dialogue by supporting the Woodrow Wilson International Center for Scholars' Environmental Change and Security Project through a cooperative agreement with the University of Michigan

Population Fellows Programs. *For more information, contact:* Tom Outlaw, Senior Technical Advisor, Population and Environment, U.S. Agency for International Development, RRB 3.06-192, 1300 Pennsylvania Avenue NW, Washington, DC 20523-3601; *Tel:* 202/712-0876; *Fax:* 202/216-3404; *Email:* toutlaw@usaid.gov; *Internet:* http://www.usaid.gov/pop_health/

USAID: Environment

USAID programs tackle major environmental problems abroad before they pose more serious threats to the United States. Its programs promote economic growth, global health, technology transfer, and conflict prevention; they also help people manage their activities in ways that enable the natural environment to continue to produce—now and in the future—the goods and services necessary for survival. The programs focus on long-standing and harmful national and global environmental challenges that are far beyond the reach of any single donor and that comprise six interwoven focus areas: (1) protecting the world’s environment for long-term sustainability; (2) improving conservation of biologically significant habitats; (3) reducing the threat of global climate change; (4) improving the urban population’s access to adequate environmental services; (5) increasing the provision of environmentally sound energy services; and (6) promoting sustainable natural-resource management. *For more information, contact:* U.S. Agency for International Development Information Center, Ronald Reagan Building, 1300 Pennsylvania Avenue NW, Washington, DC 20523-1000; *Tel:* 202/712-4810; *Fax:* 202-216-3524; *Internet:* <http://www.usaid.gov/environment>

U.S. Army Environmental Policy Institute (AEPI)

Established in 1989, AEPI reports to the Assistant Secretary of the Army for Installations and Environment. The AEPI mission is to assist the Army Secretariat in developing proactive policies and strategies to address both current and future Army environmental challenges. Study topics include: Army implementation of the National Environmental Policy Act (NEPA), environmental health, international issues, preserving land for combat training, energy efficiency, environmental justice, sustainable acquisition, sustainable military construction, and training awareness for DoD regarding Native Americans. AEPI activities include: analyzing future environmental challenges and opportunities; conducting research to serve as the basis for policymaking; assessing costs and benefits to the Army of its policies; partnering with research institutions and universities; offering fellowships to military environmental specialists; and hosting conferences that allow interaction between the Army, academia, industry, and others. The Institute has published more than twenty policy papers on pertinent environmental issues. Recent titles include: “Installations and Watersheds: An Examination of Changes in Water Management on Army Installations”; “Defining Environmental Security: Implications for the U.S. Army”; “Interagency Cooperation on Environmental Security”; and “Mending the Seams in Force Protection: From the Pentagon to the Foxhole.” These publications and others may be ordered from AEPI. *For more information, contact:* Director, AEPI, 101 Marietta Street, Suite 3120, Atlanta, GA 30303; *Tel:* 404/524-9364; *Fax:* 404/524-9368; *Email:* mlulofs@aepi.army.mil; *Internet:* <http://www.aepi.army.mil/>

U.S. Army Medical Research Institute of Infectious Diseases (USAMRIID)

USAMRIID leads the Department of Defense’s medical research for defenses against biological warfare. USAMRIID studies naturally-occurring infectious diseases—such as anthrax, plague, and hemorrhagic fevers—that require special containment. Its scientists develop vaccines, drugs, and diagnostics for laboratory and field use, as well as generating strategies, information, procedures, and training programs for medical defense against biological threats. The Institute is the only DoD laboratory capable of handling highly dangerous viruses at Biosafety Level 4. Although USAMRIID mainly focuses on protecting military personnel and preserving fighting strength, its research also contributes to overall scientific knowledge and global health. The Institute works with the U.S. Centers for Disease Control and Prevention, the World Health Organization, and academic research centers worldwide. In addition, USAMRIID operates a world-renowned reference laboratory for definitive identification of biological threat agents and diagnosis of the diseases they produce. *For more information, contact:* Commander, USAMRIID, Attn: MCMR-UIZ-R, 1425 Porter Street, Fort Detrick, Frederick, MD 21702-5011; *Email:* USAMRIIDweb@amedd.army.mil; *Internet:* <http://www.usamriid.army.mil/>

U.S. Department of Commerce, National Oceanic and Atmospheric Administration, Office of Global Programs, International Research Institute for Climate Prediction (IRI)

The concept of IRI was first presented by the United States (in the first Bush Administration) at the United Nations Conference on Environment and Development (UNCED) in Rio de Janeiro, 1992. It was further advanced by the Clinton Administration at a 1995 Washington, DC conference entitled “International Forum on Forecasting El Niño: Launching an International Research Institute.” It was agreed that the IRI would (a) embody an “end-to-end” capability for producing experimental climate forecasts based on predicting ENSO (the oscillation of El Niño and La Niña) phenomena, and (b) generate information that could be incorporated by decision-makers worldwide to mitigate climate-related impacts in sectors such as agriculture, water management, disaster relief, human health, and energy. The first real world test of this initiative occurred during the 1997-98 El Niño event, which cost an estimated 22,000 lives and \$34 billion in damages worldwide. Because of ongoing efforts, IRI and NOAA were well-positioned to rapidly organize climate research and application activities with international and regional partners in Latin America, the Caribbean, Southern Africa, Southeast Asia, South Asia, and the United States. *For more information, contact:* Jim Buizer, Assistant Director for Climate and Societal Interactions, Office of Global Programs (NOAA/OGP), 1100 Wayne Avenue, Suite 1225, Silver Spring, MD 20910; *Tel:* 301/427-2089-115; *Fax:* 301/427-2082; *Email:* buizer@ogp.noaa.gov; *Internet:* <http://www.ogp.noaa.gov>; *or contact* Kelly Sponberg, Manager, Climate Information Project; *Tel:* 301/427-2089-194; *Fax:* 301/427-2082; *Email:* sponberg@ogp.noaa.gov; *Internet:* <http://www.cip.ogp.noaa.gov/>; *IRI Web site:* <http://iri.ldeo.columbia.edu/>

U.S. Department of Defense/Environment

The Office of the Deputy Under Secretary of Defense for Installations and Environment (DUSD I&E) oversees Department of Defense environmental security initiatives. DUSD I&E environmental priorities include: installation cleanup and restoration; compliance with environmental laws; conservation; education and training for DoD personnel; environmental quality; international military-military cooperation that incorporates environmental compliance, awareness, and stewardship; pollution prevention; and pest management and disease-vector control activities. The Office of the Assistant Secretary of the Army for Installations and Environment oversees the Defense Environmental Network and Information Exchange (DENIX), which serves as a platform for the dissemination of environment, safety, and occupational health news, policy, and guidance for the DoD. *For more information, contact:* U.S. Department of Defense, 3400 Defense Pentagon (Room 3E792), Washington, DC, 20301-3400; *Internet:* <https://www.denix.osd.mil/>

U.S. Department of Energy (DoE)

Office of Defense Nuclear Nonproliferation

Located within DoE's National Nuclear Security Administration, the Office of Defense Nuclear Nonproliferation (a) promotes nuclear nonproliferation, (b) attempts to reduce global dangers from weapons of mass destruction, (c) advances international nuclear safeguards, and (d) supports the elimination of inventories of surplus fissile materials that can be used in nuclear weapons. The Office directs development and coordination of DoE positions, policies, and procedures relating to international treaties and agreements. It also provides technical expertise and leadership to an international program for global nuclear safety and conducts research and development for treaty monitoring. *For more information, contact:* Sarah Lennon, Office of Defense Nuclear Nonproliferation; *Email:* Sarah.Lennon@hq.doe.gov; *Internet:* <http://www.dp.doe.gov/index.html>

Office of Policy and International Affairs (PI)

The Office of Policy and International Affairs (PI) advises the Secretary of Energy on domestic and international energy-related policy and represents the DoE at interagency discussions on energy. PI has primary responsibility for the DoE's international energy activities, including international emergency management, national security, and international cooperation in science and technology. The Office also develops and leads DoE's bilateral and multilateral science cooperation and investment and trade activities with other countries and international agencies. PI considers the global and local environmental impacts of energy production and use. *For more*

information, contact: <http://www.pi.energy.gov>

U.S. Director of Central Intelligence/DCI Environment and Societal Issues Center

The DCI Environmental and Societal Issues Center is the new name for the DCI Environment Center (DEC), which was established in 1997 as a focal point for all intelligence community activities on environmental matters. Housed in the Directorate of Intelligence, the Center produces, integrates, and coordinates assessments of the political, economic, and scientific aspects of environmental and societal issues as they pertain to U.S. interests. The Center also provides data to the environmental community. Specific Center programs include: assessing transboundary environmental crime; supporting environmental treaty negotiations and assessing foreign environmental policies; assessing the role played by the environment in country and regional instability and conflict; supporting the international environmental efforts of other U.S. government agencies; and providing environmental data to civil agencies. Check the ECSP Web site at <http://ecsp.si.edu> for updates on the expanded activities of the Center relating to societal issues.

U.S. Environmental Protection Agency (EPA): Office of International Affairs

Through its Office of International Affairs (OIA), the EPA works with other countries on the entire range of international environmental issues such as climate change, protection of marine environments, lead phase-out, and international transport of hazardous waste. Among other functions, OIA provides leadership, analysis, and coordination of Agency positions on major international issues such as marine pollution, the environment, and trade; it also coordinates with international policy bodies, including the North American Commission for Environmental Cooperation and the World Trade Organization. OIA also develops and implements international technical assistance and designs innovative programs on global environmental challenges such as transboundary pollution and marine pollution. The OIA consists of four offices, addressing: (1) international environmental policy, (2) technology cooperation and assistance, (3) Western hemisphere and bilateral affairs, and (4) management operations. *For more information, contact:* Environmental Protection Agency, Office of International Affairs, Mail Code 2610R, 1200 Pennsylvania Avenue NW, Washington, DC 20460; *Tel:* 202/564-6613; *Fax:* 202/565-2411 or 202/565-2408; *Email:* oiainternet-comment@epa.gov; *Internet:* <http://www.epa.gov/oia/>

U.S. Institute of Peace

The U.S. Institute of Peace is an independent, nonpartisan institution created and funded by Congress that provides grants and fellowships, conferences and workshops, intensive teaching seminars, research resources, and curriculum materials to educators, students, scholars, international affairs practitioners, and members of the public who want to understand the complexities of international conflicts and approaches to peace. The Institute also runs a training program to help government officials, military and police personnel, international organization representatives, and employees of nongovernmental organizations—both American and international—improve their conflict management skills. It also offers financial support for research, education, and training, and the dissemination of information on international peace and conflict resolution. *For more information, contact:* United States Institute of Peace, Grant Program, 1200 17th Street NW, Suite 200, Washington, DC 20036-3011; *Tel:* 202/429-3842; *Fax:* 202/429-6063; *Email:* grant_program@usip.org; *Internet:* <http://www.usip.org/>

White House Office of Science and Technology Policy (OSTP)/National Security and International Affairs

OSTP (a) advises the President on science and technology priorities that support national needs; (b) leads interagency coordination of the federal government's science and technology enterprise; and (c) fosters partnerships with state and local governments, industry, academe, nongovernmental organizations, and the governments of other nations. The National Security and International Affairs (NSIA) division of OTSP focuses on strengthening the contribution of science and technology to national security, global stability, and economic prosperity. OSTP's national security priorities include: nuclear materials security, nuclear arms reduction, nonproliferation of weapons of mass destruction, critical infrastructure protection, and counterterrorism. Commerce security priorities range from international technology transfer to information security. NSIA

supports U.S. goals through international engagement, and focuses on science capacity building, economic growth and competitiveness, and global threats. *For more information, contact:* Office of Science and Technology Policy, Executive Office of the President, Washington, DC 20502; *Tel:* 202/395-7347; *Email:* ostpinfo@ostp.eop.gov; *Internet:* <http://www.ostp.gov>

INTERGOVERNMENTAL ACTIVITIES

Food and Agriculture Organization of the United Nations (FAO)

Founded in 1945, FAO was set up with a mandate to: (a) raise levels of nutrition and standards of living, (b) improve agricultural productivity, and (c) better the condition of rural populations. The main goal of FAO is to alleviate poverty and hunger by promoting agricultural development, improved nutrition, and the pursuit of food security—defined as the access of all people at all times to the food they need for an active and healthy life. FAO provides independent advice on agricultural policy and planning as well as on the administrative and legal structures needed for development. The organization also advises developing countries on strategies for rural development, food security, and the alleviation of poverty. In addition, it gives practical help to developing countries through a wide range of technical assistance projects. FAO collects, analyzes, interprets, and disseminates information relating to nutrition, food, agriculture, forestry, and fisheries; it also provides a neutral forum where all nations can meet to discuss and formulate policy on major food and agriculture issues. *For more information, contact:* The Food and Agricultural Organization of the United Nations, Viale delle Terme di Caracalla, 00100 Rome, Italy; *Tel:* 39-06-5705-1; *Fax:* 39-06-5705-3152; *Email:* FAO-HQ@fao.org; *Internet:* <http://www.fao.org/>

Global Monitoring for Environment and Security (GMES)

GMES is part of the European Space Agency (ESA) and European Commission (EC) joint document on the European strategy for space. Launched in 1998 by the EC and a group of national space agencies, GMES links Europe's political needs related to environment and safety issues to the advanced technical capacities of observation satellites. Europe seeks global, independent, reliable, and ongoing access to information on environmental monitoring and management, risk monitoring, and civil safety (with regard to global change, environmental stress, and disasters); this access will allow European decision-makers to craft and implement informed and effective environmental management and security policies. GMES undertakes three main types of activities: (1) delivery of information and services to users; (2) ongoing assessment of needs and production processes and facilitation of dialogue between providers and users; and (3) infrastructure development and service improvement. GMES partners and stakeholders include: the EC, ESA, European Environment Agency, industry, national space agencies, Eumetsat, EU-wide and national research organizations, science, and civil society. Example products (which include survey maps, information systems, and risk assessments) address environmental stress, population pressure, humanitarian aid, risks and hazards, and the Kyoto Protocol. *For more information, contact:* <http://gmes.jrc.it>

Joint United Nations Programme on HIV/AIDS (UNAIDS)

UNAIDS is a leading advocate for worldwide action against HIV/AIDS. The global mission of UNAIDS is to lead, strengthen, and support an expanded response to the epidemic that will prevent the spread of HIV, provide care and support for those infected and affected by the disease, reduce the vulnerability of individuals and communities to HIV/AIDS, and alleviate the socioeconomic and human impact of the epidemic. With an annual budget of \$60 million and a staff of 129, the UNAIDS Secretariat (based in Geneva, Switzerland) operates as a catalyst and coordinator of action on AIDS rather than as a directly funding or implementing agency. UNAIDS is cosponsored by the UN Children's Fund (UNICEF); UN Development Program (UNDP); UN Population Fund (UNFPA); UN Educational, Scientific, and Cultural Organization (UNESCO); World Health Organization (WHO); World Bank; UN International Drug Control Programme (UNDCP); and International Labor Organization (ILO). UNAIDS coordinates its cosponsors expertise, resources, and networks

of influence in the fight against HIV/AIDS. The Secretariat's current priority areas are: young people, highly vulnerable populations, prevention of mother-child transmission, development and implementation of common standards of AIDS care, vaccine development, and special initiatives for hard-hit regions. *For more information, contact:* UNAIDS, 20 avenue Appia, CH-1211 Geneva 27, Switzerland; *Tel:* 4122 791 3666; *Fax:* 4122 791 4187; *Email:* unaids@unaids.org; *Internet:* <http://www.unaids.org/>

NATO Science Programme

The NATO Science Programme offers support for international collaboration between scientists from countries of the Euro-Atlantic Partnership Council (EAPC). The mission of the NATO Science Programme is dedicated to support collaboration between scientists in partner countries or Mediterranean Dialogue countries and scientists in NATO countries. The Science Programme is divided into four broad categories: (1) providing science fellowships for scientists from NATO countries to study in partner countries and vice versa; (2) establishing personal links between scientists of the NATO and partner or Mediterranean Dialogue countries; (3) supporting partner countries in structuring the organization of their research programs; and (4) researching applications for industrial purposes and addressing environmental concerns in partner countries. The Committee on the Challenges of Modern Society (CCMS), established in 1969, aims to attack practical problems already under study at the national level and, by combining the expertise and technology available in member countries, arrive fairly rapidly at valid conclusions and to make recommendations for action to benefit all. Areas covered by CCMS include environmental security, public health, quality of life, sustainable development, and defense-related aspects of environmental problems. The CCMS has established an electronic bulletin board—the Environmental Clearing House System—at <http://www.nato.int/ccms> to serve as a forum for environmental information. *For more information, contact:* NATO, Scientific and Environmental Affairs Division, Boulevard Leopold III, 1110 Brussels, Belgium; *Tel:* 32-0-2-707-41-11; *Fax:* 32-0-2-707-42-32; *Email:* science@hq.nato.int; *Internet:* <http://www.nato.int/science/index.html>

United Nations Development Programme (UNDP)

Through a unique network of 131 country offices, UNDP seeks to help 174 countries and territories meet the Millennium Development Goal of cutting poverty in half by 2015. UNDP's overarching mission is to help countries build national capacity to achieve sustainable human development by: (a) providing funds and knowledge-based consulting services; and (b) building national, regional, and global coalitions for change. UNDP focuses on democratic governance, poverty reduction, energy and environment, peace-building and disaster mitigation, HIV/AIDS, information and communications technology, South-South cooperation, and women's empowerment. Headquartered in New York, UNDP is governed by a thirty-six member Executive Board, representing both developing and developed countries. The 1999 UNDP Human Development Report outlined a detailed definition of human security and proposed measures to address insecurities. *For more information, contact:* UNDP, One United Nations Plaza, New York, NY, 10017; *Tel:* 212/906-5558; *Fax:* 212/906-5364; *Email:* hq@undp.org; *Internet:* <http://www.undp.org>

United Nations Educational, Scientific, and Cultural Organization (UNESCO)

Founded in 1945, the main objective of UNESCO is to contribute to peace and security in the world by promoting collaboration among nations through education, science, culture, and communication. In order to fulfill its mandate, UNESCO performs five principle functions: (1) conducting prospective studies; (2) promoting the advancement, transfer and sharing of knowledge; (3) assisting with the preparation and adoption of international instruments and statutory recommendations; (4) providing expertise to member states for their development policies and projects; and (5) exchanging specialized information. Under its Natural Sciences Program, UNESCO both (a) acts as a clearinghouse for information, scientific studies, and policy assistance on sustainable development, and (b) is involved in a variety of intergovernmental activities—including the World Water Assessment Programme (WWAP), the International Hydrological Programme (IHP), the Man and the Biosphere (MAB) Programme, Intergovernmental Oceanographic Commission (IOC), the Coasts and Small Island Programme (CSI), and its World Heritage List. *For more information, contact:* United Nations Educational,

Scientific, and Cultural Organization, 7 place de Fontenoy, 75352 Paris 07 SP, France; *Tel:* 33-1-45-68-10 00; *Fax:* 33-1-45-67-16-90; *Email:* environment@unesco.org; *Internet:* <http://www.unesco.org>

United Nations Environment Programme (UNEP)

The mission of UNEP is to provide leadership and encourage partnerships in caring for the environment by inspiring, informing, and enabling nations and people to improve their quality of life without compromising that of future generations. Established in 1972, UNEP encourages sustainable development through sound environmental practices everywhere. UNEP's current priorities include: environmental information, assessment, and research (including strengthening emergency response capacities and early warning and assessment functions); enhanced coordination of environmental conventions and the development of policy instruments; fresh water; technology transfer and industry; and support to Africa. UNEP houses ten multilateral environmental convention secretariats and coordinates the Global Environmental Facility (GEF). Its latest report is *Global Environment Outlook 2000*. Dr. Klaus Toepfer is the director of UNEP. *For more information, contact:* Mr. Tore J. Brevik, Chief, Information and Public Affairs, UNEP, United Nations Avenue, Gigiri, P.O. Box 30552, Nairobi, Kenya; *Tel:* 254-2-62-1234; *Fax:* 254-2-62-4489/90; *Email:* ipainfo@unep.org; *Internet:* <http://www.unep.org>

United Nations International Fund for Agricultural Development (IFAD)

IFAD, a specialized agency of the United Nations, was established as an international financial institution in 1977 as one of the major outcomes of the 1974 World Food Conference. The Conference was organized in response to the food crises of the early 1970s that primarily affected the Sahelian countries of Africa. IFAD was created to mobilize resources on concessional terms for programs that alleviate rural poverty and improve nutrition. Unlike other international financial institutions, which have a broad range of objectives, IFAD focuses on combating hunger and rural poverty in developing countries. Under its 2002-2006 Strategic Framework, the Fund will continue to work to enable the rural poor to overcome poverty by fostering social development, gender equity, income generation, improved nutritional status, environmental sustainability, and good governance. *For more information, contact:* The International Fund for Agricultural Development, Via del Serafico, 107-00142 Rome, Italy; *Tel:* 39-0654591; *Fax:* 39-065043463; *Email:* ifad@ifad.org; *Internet:* <http://www.ifad.org/>

United Nations Population Fund (UNFPA)

UNFPA is the lead UN body in the field of population. UNFPA extends assistance to developing countries, countries with economies in transition, and other countries at their request to help them address reproductive health and population issues. The organization also raises awareness of these issues in all countries, as it has since its inception. UNFPA's three main areas of work are (1) to help ensure universal access to reproductive health, including family planning and sexual health, to all couples and individuals on or before the year 2015; (2) to support population and development strategies that enable capacity building in population programming; and (3) to promote awareness of population and development issues and advocate for the mobilization of the resources and political will necessary to accomplish its areas of work. The Executive Director of UNFPA is Dr. Thoraya Ahmed Obaid. Ongoing projects of note include both a project to empower women and goodwill ambassadors for promoting women's reproductive health issues. *For more information, contact:* United Nations Population Fund, 220 East 42nd Street, New York, NY 10017; *Tel:* 212/297-5020; *Fax:* 212/557-6416; *Internet:* <http://www.unfpa.org>

World Food Programme (WFP)

WFP is the frontline United Nations organization whose mission is to fight world hunger. WFP has emergency and development projects in 83 countries worldwide and a staff of more than 8,000, over half of whom are employed on a temporary basis. WFP's budget is voluntary and based on performance, linked to the tonnage of food it moves. Contributions—either in cash, commodities, or services—to WFP come from donor nations, intergovernmental bodies such as the European Union, corporations, and individuals. WFP also buys more goods and services from developing countries (in an effort to spur their economies) than any other UN agency. WFP operates three types of food aid programs: (1) *food-for-life*, which provides fast relief to victims of

natural or man-made disasters; (2) *food-for-growth*, which targets needy people at critical stages in life, including babies, school children, pregnant and breast-feeding women, and the elderly; and (3) *food-for-work*, in which people in chronically hungry areas are paid to work on development projects. *For more information, contact:* World Food Programme, Via Cesare Giulio Viola, 68 Parco de' Medici, Rome 00148, Italy; *Tel:* 39-06-65131; *Fax:* 39-06-6513-2840; *Email:* wfpinfo@wfp.org; *Internet:* <http://www.wfp.org/>

World Health Organization (WHO)

WHO's mission is the attainment by all peoples of the highest possible level of health. Health, as defined in the WHO constitution, is a state of complete physical, mental, social well-being—not merely the absence of disease or infirmity. In support of its main objective, the organization has a wide range of functions, including: to act as the directing and coordinating authority for international health; to promote technical cooperation; to assist governments, upon request, in strengthening health services; and to promote and coordinate biomedical and health services research. Dr. Gro Harlem Brundtland, WHO Director-General, has been a key figure in the integration of environment, population, health, and security issues. *For more information, contact:* WHO, Avenue Appia 20, 1211 Geneva 27, Switzerland; *Tel:* 41-22-791-2111; *Fax:* 41-22-791-3111; *Email:* info@who.int; *Internet:* <http://www.who.int>



**REPORT ON THE FUTURE OF
THE U.S.-MEXICO BORDER: POPULATION,
DEVELOPMENT, AND WATER**

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

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

Visit <http://ecsp.si.edu/tijuana.htm> for a summary of the workshop's proceedings, conclusions, and recommendations as well as for two papers presented during the workshop.