

WARFARE

# Rallying Around the Environmental Flag

Social scientists have long studied competition for natural resources as a source of conflict around the world, but they have paid little attention to the environment in post-conflict societies. Must the environment invariably suffer in the wake of conflict? Can former combatants rally around the environment to help sustain peace? These were the types of questions asked at a November 2006 workshop convened by the Nicholas Institute for Environmental Policy Solutions at Duke University in conjunction with the Environmental Change and Security Program of the Woodrow Wilson International Center for Scholars, the Harrison Program on the Future Global Agenda at the University of Maryland, and the Center for Unconventional Security Affairs at the University of California, Irvine.

Noting that half of all peace agreements collapse within five years, Erika Weinthal, an associate professor of environmental policy at the Nicholas School, asked whether the environment is being addressed in these agreements and whether it can be used to help people think and act “beyond borders.” Ken Conca, director of the Harrison Program on the Future Global Agenda, commented that the UN is involved in 30 peace-keeping missions around the world. One common element of the conflicts he has analyzed is a high environmental toll. “The environmental dimension of peace is ignored at great peril, especially in poor countries, in rural areas, and among disenfranchised people,” Conca said. “Do not look at the environment as a secondary issue to be dealt with later.”

Richard Matthew, director of the Center for Unconventional Security Affairs, cautioned that many factors rule against addressing environmental issues in

the immediate wake of conflict. He said that governing bodies charged with protecting the environment typically do not function well or face large budget cuts, while NGOs find it difficult to operate. Infrastructure is often damaged, and criminal activity and profiteering (such as illegal logging) proliferate. Large numbers of refugees and/or internally displaced persons tax natural resources, and traumatized citizenry lack trust in the motives of outside organizations.

As a consultant to the European Commission on peace settlements in Eastern

At the same time, people in postconflict societies are desperate for water, fuel, shelter, and food. Matthew said every effort should be made to meet these needs in ways that are sustainable from the outset in order to avoid long-term problems that might undermine reconstruction efforts. One example of this is a program sponsored by the Belgian government that supplies gas cookstoves in Rwanda to limit illicit woodcutting.

Liz McBride, director of the Post-Conflict Development Initiative of the International Rescue Committee, said her organization traditionally provided direct relief for victims of war, but eventually recognized the need to be more involved in contributing to durable solutions from the start. “We were good at saving lives, but we needed to strengthen institutions in a way that would bring people back together,” she said. “For us, that now involves building governance systems, which is a movement beyond traditional humanitarian action.” Several speakers acknowledged that in postconflict societies, environmental problems will not be solved unless and until basic governance systems are in place.

Judy Oglethorpe, director of community conservation at the World Wildlife Fund, said her organization recognizes the importance of maintaining a presence throughout a conflict, especially during periods of political transition. “Great windows of opportunity open up when a new government comes in,” Oglethorpe said. “If you are there, you can have an influence on new policies.” She cited as two examples Nepal, where conservation measures have been incorporated into a new draft constitution, and Mozambique, where demobilized soldiers were employed as park guards following that country’s peace agreement in 1994.

Weinthal says the event co-sponsors are now trying to come up with a research design to address a range of questions that arose in the wake of the panel and workshop. “We need to come up with recommendations for research that are both theoretical with respect to the environment and have direct policy relevance,” she said. —John Manuel



**Recovering worlds torn apart.** Bosnian Muslims return to their homes in Foca, the first to return to the village eight years after an ethnic cleansing campaign by Serbian forces in 1992.

Europe, Alexander Carius of Adelphi Research agreed with Matthew’s summation. “It’s difficult to push transboundary environmental programs when the institutions don’t exist to carry them out,” he said.

## SECONDHAND SMOKE

## Displaced Enthusiasm?

As evidence mounts that secondhand smoke (SHS) can harm human health, an increasing number of U.S. and Canadian cities are passing bans on smoking in restaurants and bars. Proposed bans have been opposed by a few commercial establishments and their respective trade associations, who fear they may lose clients as a result. Some heating, ventilating, and air-conditioning (HVAC) contractors have suggested that a method called "displacement ventilation" can effectively control SHS, making it unnecessary to impose smoking bans. But a recent study indicates these systems cannot be depended upon to bring SHS down to safe levels.

Displacement ventilation systems typically introduce fresh air at or near floor level at a temperature slightly below the desired room temperature. This cooler fresh air displaces the warmer room air at the occupied level; heat and pollutants rise to the ceiling and are drawn out by an exhaust fan. (In comparison, traditional HVAC systems supply air through ceiling vents and recirculate it after diluting it with outdoor air.) A study in the December 2001 issue of *Regulatory Toxicology and Pharmacology* reported that displacement ventilation can control SHS in smoking areas of restaurants. That study has been used to justify opposing local and provincial smoking ban proposals.

Citing various flaws in that study, James Repace, an adjunct professor of public health at Tufts University School of Medicine, and Kenneth Johnson, a research scientist with the Public Health Agency of Canada, undertook their own study of displacement ventilation, which was published in the fall 2006 issue of *IAQ Applications*. They selected the same establishment used in the 2001 study. The Black Dog Pub housed a smoking bar connected by two pass-through windows and two open doorways to a nonsmoking dining room. Ventilation air was drawn into the nonsmoking area and exhausted out the far corner of the smoking area.

Repace and Johnson conducted real-time measurements of particulate polycyclic aromatic hydrocarbons (PPAH), a tobacco smoke carcinogen, and respirable suspended particles (RSP), known to contribute to a variety of respiratory problems. The tests measured PPAH levels of 152 ng/m<sup>3</sup> in the Black Dog's smoking section and 16 ng/m<sup>3</sup> in the nonsmoking section. RSP levels of 199 µg/m<sup>3</sup> and 40 µg/m<sup>3</sup> were recorded in the smoking and nonsmoking areas, respectively. Measurements taken later, after a

smoking ban was implemented, showed that levels of RSP and PPAH dropped by 80% and 96%, respectively, in the smoking area, and by 60% and 80% in the nonsmoking area. According to Repace, *de minimis* (i.e., negligible) risk levels of SHS would occur at average RSP concentrations of 0.075 ng/m<sup>3</sup> for persons exposed to an average of 8 hours a day over 40 years (PPAH is not regulated).

The following year, Repace and Johnson conducted similar tests in two restaurants in Mesa, Arizona. The restaurants were exempt from the city's nonsmoking ordinance based on their managers' claims that they could meet smoke-free standards by using displacement ventilation. At Romano's Macaroni Grill, RSP levels averaged 80 µg/m<sup>3</sup> in the smoking bar and 229 µg/m<sup>3</sup> in the adjacent nonsmoking restaurant. PPAH levels averaged 304 ng/m<sup>3</sup> in the bar and 451 ng/m<sup>3</sup> in the restaurant. At T.G.I. Friday's, RSP levels averaged 205 µg/m<sup>3</sup> in the smoking bar and 306 µg/m<sup>3</sup> in the nonsmoking restaurant. PPAH levels averaged 13 ng/m<sup>3</sup> in the bar and 2 ng/m<sup>3</sup> in the restaurant (the latter reflects in part a period during which an outside door was propped open).

Based on the nonsmoking sections' having higher levels of pollutants than the smoking sections, the authors concluded that the ventilation systems in both restaurants were seriously out of balance. However, the Black Dog system, though properly designed and operated, still could not prevent all workers and patrons from being exposed to hazardous levels of SHS.

David Sutton, a spokesman for Phillip Morris USA, says he can't comment on displacement ventilation in particular, but maintains that "in many indoor public places, reasonable ways exist to respect the comfort and choices of both the smoking and nonsmoking adults." Sutton says establishment owners "should have the flexibility to address the preferences of nonsmokers and smokers through separation, separate rooms, and/or high-quality ventilation."

However, Repace and Johnson concluded that banning smoking is the only way to guarantee a smoke-free indoor environment. "The 2006 Surgeon General's report states flatly that there is no safe level of SHS exposure," Repace says. "Displacement ventilation is not a viable substitute for smoking bans in controlling SHS exposure in either designated smoking areas or in contiguous designated nonsmoking areas." Repace says studies indicate that if you can't smell tobacco smoke, you are probably not being exposed to a dangerous amount. However, he adds, people with heart conditions or asthma should avoid any place where people are smoking. —**John Manuel**

## Défense de Fumer

February 2007 saw something many believed could never happen: the banning of public smoking in France, a country often seen as staunchly pro-smoking. Public places as defined by the law include metro stations, museums, government offices, and stores, but not streets. Cafés, nightclubs, and restaurants have until January 2008 to comply with the ban. Individuals found lighting up will be fined about US\$97, while the establishments where the person is found breaking the rules will be fined US\$195. The French government will partially subsidize smoking cessation treatments to help residents quit smoking. In France, 60,000 deaths each year are directly linked to tobacco use, and 5,000 are attributed to secondhand smoke.



## Green Building Comes to DC

The District of Columbia passed legislation in December 2006 that makes it the first major city to require private developers to follow the Leadership in Energy and Environmental Design (LEED) standards of the U.S. Green Building Council. Under the law, district-funded commercial and housing projects beginning in 2008 must meet LEED standards. All commercial structures of 50,000 square feet or more must meet the standards by 2012. Separate standards for schools, still being developed by the council, are also to be adopted. Washington's new baseball stadium is already being built in compliance with LEED standards.

## Will WIC Can Tuna?

A number of health advocacy groups have urged the USDA to remove canned tuna from its Special Supplemental Nutrition Program for Women, Infants, and Children, also known as WIC, saying the inclusion of tuna exposes breastfeeding mothers and their nursing infants to methylmercury when safer fish options exist. Though the agency plans to end an allowance for canned albacore tuna under the program, it may still offer light tuna, which critics say also can contain enough mercury to cause health effects. A 2005 Institute of Medicine review of the WIC program recommends offering canned salmon, which has far less mercury than tuna and costs only about 2¢ more per ounce. Over 250,000 women exclusively breastfeed as part of WIC, and canned tuna is offered as an incentive to those mothers who make this commitment. More than 8 million low-income mothers and their children receive WIC assistance each month. A final decision on tuna's inclusion is expected in September 2007.





## ENVIRONMENTAL JUSTICE

## The Tuskegee Legacy Project

Medical research studies often do not include ethnic and racial minorities as study participants in numbers that are representative of their populations. A study published in the November 2006 issue of the *Journal of Health Care for the Poor and Underserved* aimed to determine whether the paucity of minorities included in research could be explained by differences in willingness and misgivings related to participation in health research.

The study, funded by the National Institute of Dental and Craniofacial Surgery, was conducted by a research team within the Tuskegee Legacy Project (TLP), which was inspired by a 1994 bioethics conference at the University of Virginia. The research team was created to assess how the infamous Tuskegee Syphilis Study affected the attitudes of black Americans toward health research. From 1932 to 1972, 399 black men with syphilis were studied to observe the effects of untreated syphilis, even though effective treatment was already available. This unethical study has often been used to explain the assumption that blacks may be more prone than whites to distrust research and refuse to participate.

To test this assumption, the research team developed the TLP Questionnaire, which contained two scales: the Likelihood of Participation Scale and the Guinea Pig Fear Factor Scale, which

measured self-reported general willingness to participate in research and fear of participating in research, respectively. The TLP Questionnaire was taken by more than 1,000 black, white, and Hispanic residents of four U.S. cities (two in Alabama including Tuskegee, one in Texas, and one in Connecticut).

Significantly, the results showed that only about 30% of all people surveyed expressed a willingness to participate in research studies. Blacks were 1.8 times as likely as whites to fear participating in biomedical research. Still, they were equally as willing to participate in research as whites. "Given the history of the treatment of African-Americans in our country, it makes sense that blacks would have a heightened awareness of potential dangers," says lead author Ralph V. Katz, chairman of the Department of Epidemiology and Health Promotion at the New York University College of Dentistry.

These findings are consistent with the few other studies in which racial/ethnic differences in research participation have been assessed. They also are particularly important in studies addressing health disparities and those that aim to study environmental justice issues in minority populations. "African Americans come from varied experiences in the health care system. As such, there is no monolithic response to health-seeking behaviors, including participation in health research," says Ruth Browne, CEO of the Arthur Ashe Institute for Urban Health in Brooklyn, New York. "This really points to the importance of culturally appropriate outreach efforts."

—Luz Claudio

## POLICY

## Chrysotile on Ice

Parties to the Rotterdam Convention, a group of more than 100 countries that have agreed to share information about hazardous chemicals, elected in October 2006 not to add chrysotile asbestos to the list of hazardous chemicals subject to right-to-know export controls. The 1998 Rotterdam Convention currently requires prior informed consent (PIC) for more than 30 chemicals, meaning an exporting nation must ensure that the substances do not leave its territory without the informed consent of recipient countries.

This is the second time the Convention has declined to list chrysotile, a track record that raises serious concerns about the future of the agreement, according to Carl Smith, vice president of the nonprofit Foundation for Advancements in Science and Education. "Listing isn't a ban," he says. "It's just an agreement to share information." He adds, "Chrysotile would be on the PIC list already if the member countries would just follow through on the agreement they made when they joined the convention. If parties are going to start ignoring the Convention text, the train is off the tracks."

Chrysotile fulfills all the requirements for listing, Smith says, but unlike many of the other chemicals on the list—such as polychlorinated biphenyls, lindane, and all

other types of asbestos—chrysotile is still economically important. Use of asbestos in Western countries has declined due to health concerns, but chrysotile-based products such as pipes and roof shingles are still widely used in the developing world. Trade in chrysotile is worth \$600 million a year, according to a 7 November 2005 *Wall Street Journal* estimate.



**The stuff of controversy.** Chrysotile asbestos was not added to the Rotterdam Convention despite concerns about its health effects.

Prior to the October meeting, a panel of 31 experts on the convention's Chemical Review Committee determined that chrysotile met the criteria for listing. Most of the meeting participants supported the proposal to list chrysotile. But Canada, Ukraine, Russia, Kyrgyzstan, India, Iran, and Peru objected and blocked action, citing either scientific uncertainty about chrysotile's health effects or the material's usefulness.

The Chrysotile Institute, a nonprofit organization funded by the Canadian government, maintains that chrysotile is not as toxic as amphibole asbestos. Institute president Clément Godbout says the high rates of respiratory disease and cancer associated with asbestos stem from exposure to the amphibole form and to high exposures from dangerous past practices such as blowing asbestos mixtures onto walls for insulation and fireproofing. Used properly, chrysotile is a cost-effective ingredient for the cement that is often used in water pipes in underdeveloped countries, he contends.

But many groups say that the concept of controlled use, particularly in developing countries, is a fallacy. Chrysotile is classified as a human carcinogen by the WHO, the Collegium Ramazzini, the World Trade Organization, and other groups. In the meantime, the parties to the Convention have deferred further consideration of the issue until their next meeting in 2008.

—Rebecca Renner

ehpnet

## California Environmental Protection Agency

Size-wise, California is the third largest state in the United States, it has the largest population, and its economy ranks among the top ten in the world. Because of its economic clout, laws that are made in the state can have a ripple effect throughout the country and even the world. One area of law in which California is making an impact is environmental issues. The California Environmental Protection Agency (Cal/EPA) website at <http://www.calepa.ca.gov/> provides information on the state's many initiatives and programs.

At the center of the homepage is a Topics of Interest section, currently headed by information on the Cal/EPA Climate Action Team. This team was established by a June 2005 executive order signed by governor Arnold Schwarzenegger that also created greenhouse gas targets for the state. The team, which submitted its first biannual report to Schwarzenegger and the state legislature in April 2006, is composed of members from several state agencies

and charged with implementing and monitoring programs for reducing emissions that contribute to global warming. The Climate Action Team section of the site contains the 2006 report, public comments on the draft of the report, and fact sheets on California's climate change activities and policies.

Four of the nation's busiest 20 ports are in California. The concentration of diesel emissions in these areas, where ships, trucks, and trains converge, contributes to a toxic mix of air pollutants that threatens the health of nearby residents. According to a September 2005 article in the *Los Angeles Times*, the port complex in that city has become the single largest air polluter in the Los Angeles Basin. The Cal/EPA Topics of Interest section has a link to the state's recently unveiled Goods Movement Action Plan, which includes approximately 200 potential projects in areas including public health and environmental impact mitigation and community impact mitigation.

Another Topic of Interest centers on California's efforts to develop hydrogen as an alternative fuel. Within the Hydrogen Highway Initiative section is information on pertinent laws passed by the state. The latest of these, Senate Bill 76, provides funding for state-funded hydrogen demonstration projects including fueling stations and the purchase of hydrogen-fueled vehicles. Also available are fact sheets, brochures, and other documents about these fuels.

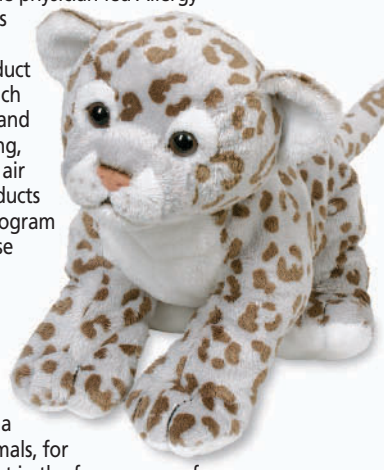
Waste disposal is the fourth Topic of Interest currently featured on the website. According to the Cal/EPA, Californians have cut their amount of trash in half since 1989. Among other initiatives that have facilitated this progress is the California Take-It-Back Partnership, a project between the state government and the business sector to provide convenient drop-off points for toxic trash such as used batteries, fluorescent lamps, and electronic devices. Also in this section are pages for consumers that answer the questions of why, what, how, and where they can recycle, what "zero waste" is, and where all of California's trash goes.

The Cal/EPA homepage also offers links to information on children's environmental health, environmental justice, environmental sustainability, and the Education and the Environment initiative, which mandates a broad-ranging strategy to bring education about the environment into the state's K-12 schools. —Erin E. Dooley



## A Friend Indeed

The Asthma and Allergy Foundation of America, in conjunction with the physician-led Allergy Standards Limited, has developed the first asthma friendly® product standards for items such as plush toys, pillows and other bedding, flooring, vacuum cleaners, and air filtration devices. Products certified under the program are less likely to expose asthma and allergy sufferers to allergenic materials or chemical irritants. Certified items also come with instructions for keeping them "asthma friendly." Stuffed animals, for instance, should be put in the freezer every four weeks and then washed to kill dust mites and their eggs. A list of certified products is available at <http://www.asthmafriendly.com/>.

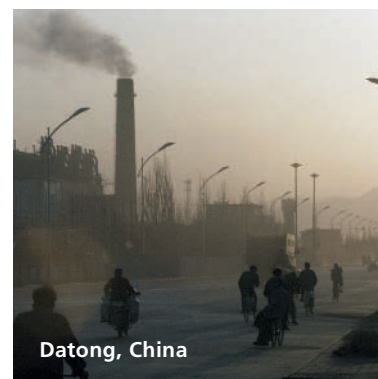


## Backyard Boiler Risk

In many areas of the United States, residents are using outdoor wood boilers to save money on heating oil and natural gas. These units are not equipped with air pollution controls, nor are they regulated, and owners are free to fuel them with anything that will burn, including painted wood and garbage. According to a study slated for the February 2007 issue of *Human and Ecological Risk Management*, the emissions from these units may significantly increase the risk of cancer, heart attack, and heart disease. People breathing the smoke from these boilers have a lifetime cancer risk of 1 in 1,000—practically the same odds faced by a cigarette smoker. According to estimates by the Michigan Department of Environmental Quality, in one hour of use a typical outdoor wood boiler may emit 160 g of toxics including benzene, dioxins, and polycyclic aromatic hydrocarbons.

## Young Lungs in China

As China's economy booms, so does its air pollution. This, according to a November 2006 Chinese health report, is a main reason why increasing numbers of Chinese people in their 30s are now beset with chronic lung diseases that traditionally have affected mostly elderly people. The report says about 43 million people in China are affected by chronic lung diseases such as emphysema and chronic bronchitis, with about 1 million of these dying each year. Smoking was also named as a culprit in the rise of these diseases.



Datong, China