



World Ecology Report

Critical Issues in Health and the Environment

Knowledge brings new choices. Education brings new knowledge.

Spring 2003

Vol. XV, No. 1

\$15.00

Available in:
Arabic, English, Russian,
Spanish and Ukrainian

In this issue:

- 1** Special Focus:
**Heaven and Earth:
Religion and the
Environment**
- 6** Health and
Environment:
**GIS for Water
Resource
Management**
- 8** Food for
Thought:
**Communication
Technology for
Health**
- 9** Chernobyl
Update:
**Closing the
World's Oldest
Nuclear Power
Station**
- 10** Youth on the
Environment:
**Environmental
Challenges to
Human Health:
The Chinese
Perspective**
- 11** Good News
- 13** Did You Know?
- 14** Voices
- 16** Point of View:
**Religion and
Anxiety**



The WIT Report
is printed on
recycled paper.

Special Focus:

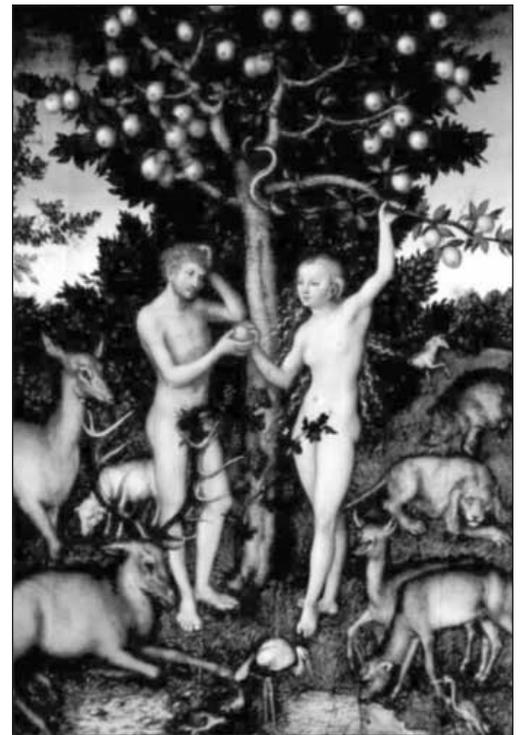
HEAVEN and EARTH: Religion and the Environment

Thought leaders in the fields of religion and science have always shared an understanding that human well being requires a healthy natural environment. The factual data from scientific research supports the moral imperative in many Eastern and Western faiths that as stewards of the earth we are called upon to sustain our world for future life. Key environmental issues such as climate change, natural resource degradation, poverty alleviation and health have brought the elements of the religious and scientific communities very often to the same side on environmental issues. This optimistic trend could strengthen the movement towards a sustainable world.

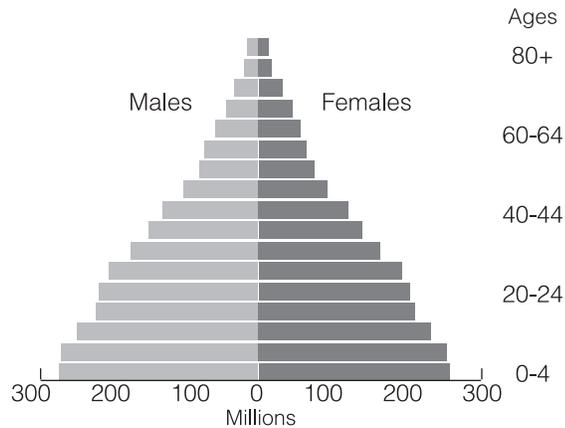
Historical Perspective

In the first two-thirds of the twentieth century environmentalists and people of faith often regarded each other with suspicion. Environmentalists were viewed as worshipping nature and science. Religious people were often regarded as ignoring factual evidence in favor of moral precepts. One particularly outspoken critic, Professor Lynn White, Jr., a historian at UCLA, authored an essay ("The Historical Roots of Our Ecologic Crisis") in *Science* magazine in 1967 that would prove to be a watershed in religious thought regarding the environment. His brief but thoughtful essay ignited substantial debate. White's central thesis was that the human capacity to wreak damage and destruction upon the environment grows out of Western technological and scientific advances made since the medieval period. These advances, he contends, have occurred in the social context formed by the Judeo-Christian (understood as both Protestantism and Roman Catholicism) traditions. He asserted that this Western Christianity is "the most anthropocentric religion the world has seen" and argued that within Christian theology, "nature has no reason for existence save to serve humans." For White, Christian arrogance towards nature "bears a huge burden of guilt" for the contemporary environmental crisis.

Needless to say, White's thesis touched off a firestorm of controversy. Yet, for many Christians, White's thesis clearly struck an important chord. Many members of the Church—even before publication of White's article—were struggling with the contradictions they saw between the doctrines of their tradition and the ecological consequences issuing from lifestyles based on these doctrines. The gradual evolution of an ecological



One-third of the world's population in less developed countries is under age 15



There will be continued population growth and even greater demands on natural resources as the over two billion young people in the world become the world's newest set of parents.

SOURCE: United Nations, *The Sex and Age Distribution of the World Populations: The 2000 Revision (medium scenario)*.

consciousness within the Church caused many to begin questioning traditional interpretations of scripture. Today, the nature of God, God's relationship to the world, humanity's place in the earth's complex and fragile life system, and the notion of the salvation of the world and not just of humans are a few of the issues open for re-examination and reinterpretation.

As with most controversies, the truth about the Western Judeo-Christian influence on attitudes toward nature appears to lie somewhere in the middle of the two extreme positions. On the one hand, human stewardship of creation is a central theme in the Genesis stories of creation as shown in former Vice President Al Gore's book, *Earth in the Balance*. At the end of Genesis 1, the writer concludes, "God saw everything that had been made and indeed, it was very good." (Gen. 1:31) This scripture also describes a special relationship that God has with humans through the imago dei, the doctrine that women and men are created in the image of God. For centuries, many Christians have taken a positive view of nature, and the special relationship that humans have with God, to mean that humans are called to be wise stewards, or caretakers, of the Earth.

On the other hand, Genesis could be interpreted as providing a justification for the exploitation of nature, without regard for the consequences of that exploitation. In Genesis, when God considers the creation of humans, God says, "Let us make humankind in our image, according to our likeness; and let them have dominion over the fish of the sea, and over the birds of the air, and over the cattle, and over all the wild animals of the earth, and over every creeping thing that creeps upon the earth." (Gen. 1:26) White points explicitly to this "monarchy" of humanity over the rest of creation as the culprit for a Christian atti-

tude that denigrates the importance of nature. This human monarchy over the rest of creation seems implied in the Christian doctrine of the imago dei, humans created in the image of God.

Ecotheology

White's analysis figured prominently in the rise of what has come to be known as the "ecotheology" movement which first surfaced noticeably in North America in the Faith-Man-Nature Group convened in 1963 with the support of the National Council of Churches. The turn toward environmental theology was also influenced by the prophetic nature writing of Rachel Carson (*Silent Spring*), and by the movement toward participatory environmentalism which received early expression in the Port Huron Statement of Students for a Democratic Society.

In the early 1970s, we see people of faith and environmental advocates finding their common ground. In 1971, the Anglican Church declared that environmental abuse was "blasphemy." Pope John Paul II wrote, "Faced with the widespread destruction of the environment, people everywhere are coming to understand that we cannot continue to use the goods of the Earth as we have in the past...The ecological crisis is a moral issue." ("The Ecological Crisis: A Common Responsibility," 12-8-89.) In a 1990 open letter to the Religious Community, the astrophysicist, Carl Sagan with other scientists, wrote that "efforts to safeguard and cherish the environment need to be infused with a vision of the sacred." They appealed to the religious community to "commit, in word and deed, and as boldly as is required, to preserve the environment of the earth."

In 1997, for the first time, the head of a major world religion stated clearly and unequivocally that destroying the environment is a sin. Ecumenical Patriarch of the Greek Orthodox Church, Bartholomew I, said, "For humans to cause species to become extinct and to destroy the biological diversity of God's creation, for humans to degrade the integrity of the Earth by causing changes in its climate, stripping the Earth of its natural forests, or destroying its wetlands, for humans to contaminate the Earth's waters, its land, its air, and its life with poisonous substances—these are sins." (Symposium on Religion, Science and the Environment, Santa Barbara, California, 11-6-97.)

The Greening of Religion

Today, as we are moving into the earliest stages of the millennium, there has been a "greening of religion." Increasing numbers of theologians and ethicists are responding to the environmental challenge as the world gets hotter, stormier, more unequal, crowded, violent, and less biodiverse. Their response to a pervasive ecological

"No passion so effectually robs the mind of all its powers of acting and reasoning as fear."

Edmund Burke

The NRP's* constituent religious communities collectively serve over 100 million Americans.**These include:**

- The **U.S. Catholic Conference** which is the policy agency for all bishops, clergy and parishes of the Catholic Church.
- **The National Council of Churches of Christ** which is a federation of 34 Protestant, Eastern Orthodox, and African American denominations.
- **The Coalition on Environment and Jewish Life** which is an alliance of agencies and organization across all four Jewish movements.
- **The Evangelical Environmental Network** which is a coalition of 23 evangelical Christian programs and educational institutions.

*NRP—National Religious Partnership for the Environment

and social crisis comes none too soon, since this crisis will deepen in coming decades. Exponential growth curves in resource depletion, production, pollution, population, migration, gene manipulation, and species extinction will reach a point where they either crash disastrously or moderate and stabilize sustainably.

It is with some encouragement that we note the growing call for the world's religions to participate in these changes toward a more sustainable planetary future. There have been various appeals from environmental groups and from scientists and parliamentarians for religious leaders to respond to the environmental crisis. In addition, there has been a striking growth in monographs and journal articles in the area of religion and ecology. Several national and international meetings have also been held on this subject. For example, environmental groups such as World Wildlife Fund (WWF) have sponsored interreligious meetings, such as the one in Assisi. The United Nations Environment Programme (UNEP) in North America has established an annual Environmental Sabbath and distributes thousands of packets of materials for uses in congregations throughout the United States and Canada. The Parliament of World Religions, held in Chicago in 1993 and attended by some 8,000 people from all over the globe, issued a Global Ethics of Cooperation of Religions on Human and Environmental Issues statement. International meetings on the environment such as the Global Forum of Spiritual and Parliamentary Leaders have been held in Oxford (1988), Moscow (1990), Rio (1992), and Kyoto (1993). These included religious leaders such as the Dalai Lama as well as diplomats and former heads of state such as Mikhail Gorbachev, who hosted the Moscow conference and attended the Kyoto conference to set up an International Green Cross for environmental emergencies. Since 1995 a critical Alliance of Religions and Conservation (ARC) has been convening conferences and publishing books on this topic in England. In the United States, the National Religious Partnership for the Environment (NRP) has organized the Jewish and Christian communities on this issue.

The NRP is particularly worthy of note as an example of what a coalition of religious organizations can accomplish to mobilize the resources necessary to meet our environmental challenge. In 1993 following calls of actions from thought leaders within various faith groups, senior religious leaders from denominational governing bodies formed the NRP as a collaborative initiative across faith groups. The initiative which is financed by \$16 million of contributions from the participating groups marks the gradual evolution from a hands-off attitude toward environmental issues by most organized religious groups to a much more assertive role.

Islam

Islam's first authority in all secular and theological aspects is the Qur'an. It tells of humankind's stewardship of the earth, sharing this concept with the both Christianity and Judaism. This privilege involves a profound responsibility to other living species. Like the other Western faiths, Islam has drawn criticism for understanding the earth to be subservient to humankind but the Qur'an states that it should not be administered or exploited irresponsibly. If life on earth is preparation for eternal life, then loving care of the natural environment would seem to be appropriate training for afterlife. The long experience of Muslim jurists in the allocation of water rights in arid lands has given rise to an outstanding example of the sustainable use of a scarce resource.

The Mufti for Australia, Iman Tajuddin H. Alhilaly, emphasized in an essay from 1993, that "Islam has forbidden the wastage of animals and plants in peacetime and in war." He also stresses "human's duty to deal with these as a loving and caring friend would deal with another friend, so that he can benefit from it, without stopping others from this benefit, and to put forward the common goal ahead of personal benefit." Man should not regard one generation above all other generations which implies that it should not disrupt or adversely affect the interests of future generations. Traditionally, Islamic ethics have included the concept of hima, protection of certain zones.

Buddhism

The origins of Buddhism contain the belief system's close connection to the natural world. The religion came about in north India at a time when the area was undergoing a

Shintoism

Shinto, literally "the way of the deities," is Japan's indigenous religion. Shinto attitudes towards nature, which are relevant to environmental preservation, include three key points:

- Seasonal worship of deities (The agricultural cycle provides cultural rhythms)
- Close relation between nature, deities and human beings
- The idea of purification in order to establish balance

process of urbanization accompanied by commercial development. The expansion of towns and the expansion of an agrarian economy entailed the clearing of forests and other landscapes. These transformations influenced early Buddhism, which was actually not biocentric in terms of the strong naturalistic ideas that instilled Buddhism in China, Korea and Japan in later times. Nonetheless, it was a necessary part of an ecology of human thriving. The concepts of karma and rebirth combine the existential awareness of a shared common order of all life-forms with the moral aspect of the Buddhist cosmology. Buddhist environmentalists point out that the crucial moments of Buddha's enlightenment occurred in nature. Adherents have built centers of teaching and meditation in forests and among mountains.

Critics of the ethical superiority of Buddhist philosophy argue that concepts such as not-self and emptiness undermine the importance of other beings by denying their independent reality. "Green" Buddhists, such as the Vietnamese monk Thich Nhat Hanh, respond that while preserving their equanimity, today's engaged Buddhist activists are indeed practically addressing international conservation issues. They claim that the mindful awareness of the universality of suffering produces compassionate empathy for all forms of life.

Indigenous Religions

Indigenous religions do not constitute a "world religion" in the same way as, for example, Buddhism or Christianity. The term is a reference to the many small aboriginal societies in this world. A common characteristic is an awareness of the integral relationship of symbolic and material life, which involves cosmological interpretations, and ritual practices. Analyzing indigenous religion separately from its subsistence context would misunderstand it. Themes that help to understand the relation of religion to ecology are kinship, biographical relation with place and traditional environmental knowledge. It implies intimate relations with the natural world.

Indigenous people foster sustainable life systems by maintaining complex regulations that are often embedded in ritual actions. New international opportunities, particularly the United Nations Permanent Forum for Indigenous Peoples have arisen to work out controversies arising over environmental protection, protection of traditional knowledge and practices and development.

The Problems and Promise of Religion

We need to recognize the premise that the religions of the world may be instrumental in addressing the moral dilemmas created by the environmental crisis. We recognize the limitations of such efforts on the part of religions. We also acknowledge that the complexity of the problem requires interlocking approaches from such fields as science, economics, politics, health, and public policy. As the human community struggles to formulate different attitudes toward nature and to articulate broader conceptions

of ethics embracing species and ecosystems, religions may thus be a necessary, though only contributing, part of this multidisciplinary approach.

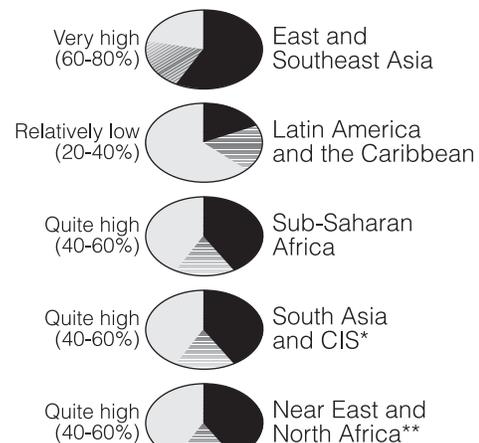
It is becoming increasingly evident that abundant scientific knowledge of the crisis is available and numerous political and economic statements have been formulated. Yet we seem to lack the political, economic, and scientific leadership to follow through on agreements already made. Why, nearly fifty years after Fairfield Osborne's warning

Indigenous Peoples of Australia

In the religious philosophies of the Indigenous Peoples of Australia, the land was given form and meaning from the ancestral heroes, in the era known as "The Dreamtime." Through story, song, dance, and painting knowledge of the law is passed from generation to generation. It is the responsibility of the living to re-enact the travels of the Dreamings in ceremonial contexts and to honor their heritage in daily practice. The environmental movement has looked to this integrated worldview for inspiration.

Estimated number and proportion of mountain people vulnerable to hunger

Vulnerability class and estimated proportion of mountain people who are vulnerable



*including Afghanistan
 **excluding Afghanistan and Turkey

SOURCE: *The State of Food Insecurity in the World, 2002*

The Indigenous Women's Network

The Indigenous Women's Network, an ad-hoc group of American Aboriginal women work e.g. on:

- Educating themselves and the public on any developments exploiting natural resources that cause damage to the environment.
- Supporting and promoting the use of renewable energy technologies.
- Educating their children on our natural, spiritual laws and values which ensure the survival of future generations.

regarding *Our Plundered Planet* and more than thirty years since Rachel Carson's *Silent Spring*, are we still wondering, is it too late?

Controversy

In discussing the involvement of religions, it is also appropriate to acknowledge the dark side of religion in both its institutional expressions and dogmatic forms. In addition to their oversight with regard to the environment, religions have been the source of enormous manipulation of power in fostering wars, in ignoring racial and social injustice, in promoting the inequality of women and fostering poverty by encouraging large families. Recognizing this shadow side brings to light the limits of the religious perspective on achieving a sustainable world.

In summary, we recognize that religions have elements which are prophetic and transformative as well as conservative and constraining. These elements are continually in tension, a condition which creates the great variety of thought and interpretation within religious traditions. To recognize these various tensions and limits, however, is not to lessen the urgency of the challenge. Rather, it is to circumscribe our hope with healthy skepticism, cautious optimism, and modest ambitions. On the one hand, the interaction of religion and ecology will inevitably change how religions conceive of their own roles, missions, and identities. On the other hand, environmental studies can recognize that religions have helped to shape attitudes toward nature. Thus, as religions themselves evolve they may be indispensable in fostering a more expansive appreciation for the complexity and beauty of the natural world. At the same time as religions foster awe and reverence for nature, they may provide the transforming energies for ethical practices to protect endangered ecosystems, threatened species, and diminishing resources.

For many people an environmental crisis of this complexity and scope is not only the result of certain economic, political, and social factors. It is also a moral and spiritual crisis which, in order to be addressed, will require broader philosophical and religious understandings of ourselves as creatures of nature, embedded in life cycles and dependent on ecosystems. Religions, thus, need to be reexamined in light of the current environmental crisis. This is because religions help to shape our attitudes toward nature in both conscious and unconscious ways. Religions provide basic interpretive stories of who we are, what nature is, where we have come from, and where we are going. This comprises a worldview of a society. Religions also suggest how we should treat other humans and how we should relate to nature. These values make up the ethical orientation of a society. Religions thus generate worldviews and ethics

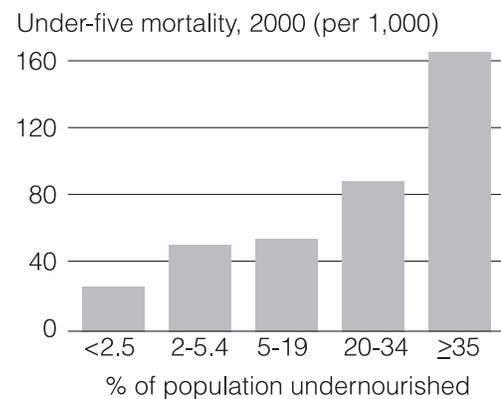
*"As men's prayers are a disease of the will,
 so are their creeds a disease of the intellect."*

Ralph Waldo Emerson

Hunger and Mortality

Literally millions of people, including six million children under the age of five, die each year as a result of hunger. Of these millions, relatively few are the victims of famines that attract headlines, video crews and emergency aid. Far more die unnoticed, killed by the effects of chronic hunger and malnutrition, a "covert famine" that stunts their development, saps their strength and cripples their immune systems.

In the worst affected countries, a newborn child can look forward to an average of barely 38 years of healthy life (compared to over 70 years of life in "full health" in 24 of the most wealthy nations). One in seven children born in the countries where hunger is most common will die before reaching the age of five.



SOURCE: *The State of Food Insecurity in the World, 2002*

which underlie fundamental attitudes and values of different cultures and societies. As Lynn White observed, "What people do about their ecology depends on what they think about themselves in relation to things around them. Human ecology is deeply conditioned by beliefs about our nature and destiny—that is, by religion."

While in the past none of the religions of the world have had to face an environmental crisis such as we are now confronting, they remain key instruments in shaping attitudes toward nature. The unintended consequences of the modern industrial drive for unlimited economic growth and resource development have led us to an impasse regarding the survival of many life-forms and appropriate management of varied ecosystems. The religious traditions may indeed be critical in helping to re-imagine the viable conditions and long-range strategies for fostering mutually enhancing human-earth relations. Indeed, as the ecologist E. N. Anderson noted, "All traditional societies that have succeeded in managing resources well, over time, have done it in part through religious or ritual representation of resource management."

SOURCES: www.NRPE.org; *State of the World 2003*, Worldwatch Institute, www.wwi.org; <http://www.hds.harvard.edu/cswr/ecology/>; <http://www.ourplanet.com>; <http://www.islamset.com>; <http://www.unmah.com>; <http://hollys7.tripod.com/religionandecology>; <http://www.hinduismtoday.com>; <http://www.hds.harvard.edu/cswr/ecology>; <http://www.indians.org>; <http://www.wri.org>; "Humanity and Ecology," 1988, *The Office of His Holiness the Dalai Lama*.

Health and Environment:

Geographic Information Systems (GIS) for Water Resource Management

Water is a fundamental resource, its availability critical to all forms of life. Ensuring supplies of clean water for human consumption, irrigation, and natural habitat can only be achieved through the implementation of sound water resource management practices. This requires the ability to analyze the various stages of the hydrologic cycle, including evaporation, precipitation, surface flow and subsurface flow. It also requires an understanding of the impacts of human activities on the hydrologic cycle and their implications for water supply and water quality.

Geographic Information Systems (GIS) provides an effective and efficient framework within which to analyze water resource issues and evaluate water resource management strategies. As a digital mapping and decision support system, GIS enables integration of the many features that affect the hydrologic cycle. Although a comprehensive simulation of the complete hydrologic cycle has not yet been achieved, GIS possesses the capability to model the individual components of the cycle. Such models ulti-

mately yield estimates of surface and groundwater flow, supply, and quality. Perhaps more importantly, they inform management and policy decisions related to the use and protection of water resources.

The major applications of GIS in water resources analysis are: climatology, watershed modeling and groundwater modeling. By studying climatic conditions with GIS, researchers are developing models of the climatic cycles. One of the important implications of this is the ability to predict periods of drought or excessive precipitation.

Watershed modeling with GIS estimates stream drainage networks by simulating surface water runoff flow, direction and accumulation. This is often done by creating two-dimensional grid surfaces or three-dimensional triangulated (TIN) surfaces representing land elevation, slope, and aspect. When rainfall is introduced into the model, it flows down hillsides through the valleys, accumulating in the lower elevations. The result is a graphic depiction of surface water features. Examples of watershed models include

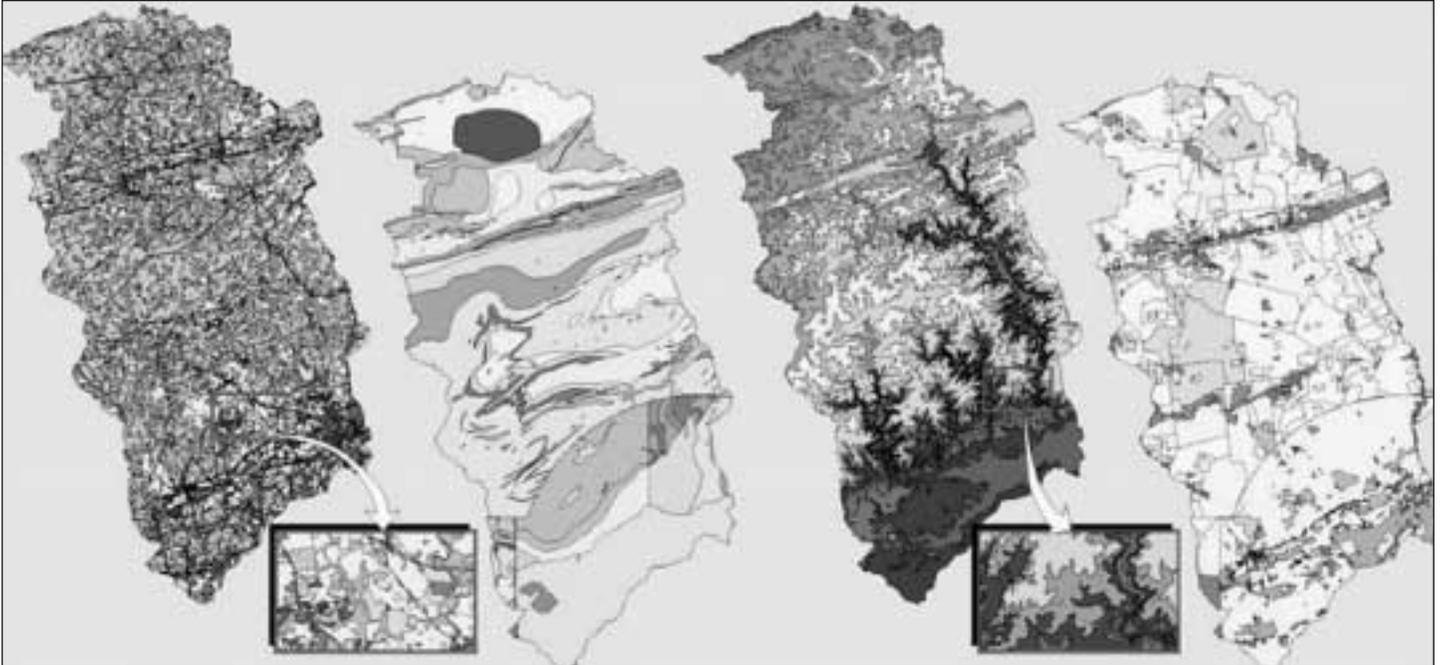
the Soil Water Assessment Tool (SWAT), supported by the U.S. Department of Agriculture, and ArcHydro, distributed by Environmental Systems Research Institute (ESRI).

By incorporating features such as soils, land use, and pollution sources into the watershed model, GIS can assess watershed health and potential impacts on water quality. Land management practices have perhaps the most significant impact on water quality in terms of storm water runoff, sediment movement, nutrient loads, and the introduction of other contaminants. For example, paved areas such as roads and parking lots often produce high volumes of storm water runoff that, along with increasing the risk of flooding, carry sediments and pollutants to the receiving streams. Agricultural application of pesticides and other chemicals are frequently transported by runoff to the stream network. Through the use of GIS, alternative land management scenarios can be evaluated and areas within the watershed that warrant special protection can be identified. The diffusion of contaminants through the stream system can also be modeled by interpolating data collected by stream gauges.

Groundwater modeling primarily focuses on issues of water supply and water quality. Again, by enabling the integration of features that act as indicators of the presence and



GIS watershed model showing land elevation and stream drainage network.



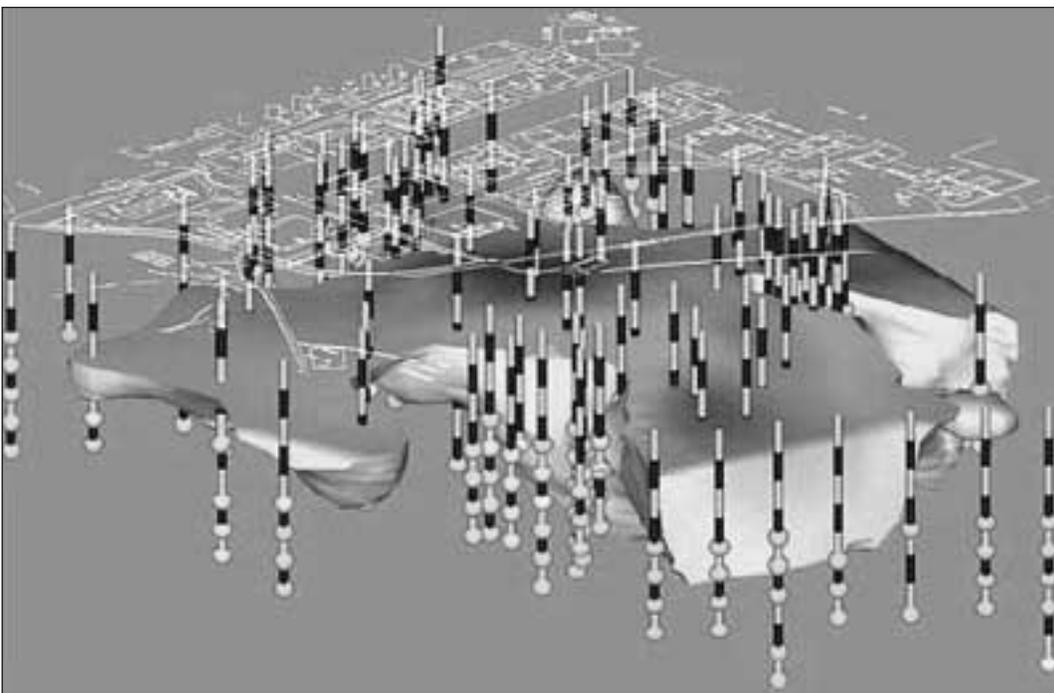
Various layers of data that are integrated by GIS for water resources modeling can include soils, geology, elevation, and land use.

abundance of groundwater, such as soils, geologic formations, vegetation, and land use, GIS can identify likely locations of groundwater storage areas. This is typically achieved by creating grid surfaces of each feature, where every element of the feature is assigned a weight according to its relative importance in influencing the presence of groundwater. For example, in the soil grid surface, areas of hydric soil could be assigned a higher weight because of their association with groundwater. Likewise, in the grid

surface of geology, certain geologic formations are given higher weight values because they more likely to store groundwater. The weighted grid surfaces are overlaid and summed, resulting in a final grid surface showing the sum of the weights. Areas that yield higher values indicate likely locations of groundwater resources.

Groundwater supply and demand (water balances) can also be analyzed by accounting for factors such as precipitation and land use. This is often coupled with sample data gathered from test wells that monitor the depth of the water table. Test wells can also record data on contaminant levels, which are used in modeling contaminant plumes as they move through the groundwater.

Issues related to water resources, particularly water supply and water quality, directly impact human and natural systems. Clearly, GIS provides a means to visualize and analyze water resources, and inform management and protection strategies. As its application is worldwide in scope, it offers great benefits to those concerned with promoting clean and safe water.



GIS model of contaminant diffusion through groundwater.

Food for Thought:

Communication Technology for Health

Statement by Irena Zubcevic, Minister Counselor
Permanent Mission of the Republic of Croatia to the United Nations
to the NGO Committee on Health Communication
February 27, 2003

The modern world is undergoing a fundamental transformation as the industrial society that marked the 20th century, rapidly gives way to the information society of the 21st century. This dynamic process promises a fundamental change in all aspects of our lives. To benefit the entire world community, the successful and continued growth of this new dynamic requires global engagement. Civil society including NGOs is playing an active role in identifying the social and cultural consequences of current trends and in drawing attention to the need to introduce democratic accountability on the strategic options taken at all levels. Its diversity and, often, hands-on approach to issues, make civil society a key player in the international partnership.

In this increasingly globalized world, we therefore need to make this process work for all and one of the ways to do so is to achieve international development goals, including those in the Millennium Declaration. We are well aware that reduction of poverty is one of the most important ones. The achievement of this goal is directly connected with elimination of diseases and improving health in general because we live in a world in which ill health is contributing to poverty and deprivation among millions. More people than ever before suffer and die from diseases that are easily preventable or treatable. This happens because they are too poor to protect themselves or to get the treatment they need. Developments in information and communication technologies (ICTs) during the last quarter of the 20th century, which heralded an information age where economic and social activity has been widened, deepened and transformed, can bring a real breakthrough in the field of health, where accessibility of information for both prevention and cure is of utmost importance. Creating an enabling environment for such development should be a priority for all.

In the field of health, the development of ICTs can bring about improvements in developing countries in at least three ways: (1) as an instrument for continuing education by continuously training health workers to stay abreast of advances in knowledge; (2) they can improve the delivery of health and disaster management services to poor and remote locations; and (3) they can increase the transparency and efficiency of governance, which should, in turn, improve the availability and delivery of publicly provided health services. It works also indirectly on the health status of the population through its effects on the broader determinants of health, such as growth, the economic position of households, and social infrastructure.

The major constraints of ICTs are the access to and cost

of the higher band width that is required for transmitting physiological data and complex medical images. These constraints are more severe in developing countries where even telephone-line-based access is limited and broadband access is either not available across a wide enough geographical and social space, or is far too expensive to generate a critical mass necessary for making an impact. Most experiments using ICTs in health service delivery and health status management have taken place in developed country contexts. A typical example of the use of ICTs for advancing the health status is the still nascent field of telemedicine, which undertakes to deliver the best medical advice and treatment to patients irrespective of their location. However, the results of some experiments suggest that electronic health care can be useful even in developing country environments. Thus, selective investment in the health sector in developing countries, even more than in other sectors, may provide a way of eventually overcoming some of the disadvantages of the digital divide.

"Sustainable development implies economic and social prosperity with environmental issues."

Minister Valli Moosa, Chair
Commission on Sustainable Development

On the other hand, communication is not limited only to ICTs. The convergence of ICTs with radio and television offers new opportunities for strategic donor support to key intermediaries that have a recognized role in developing pro-poor media content and who inform civil society via widespread traditional media. ICTs should not be seen as the panacea to overcoming institutional difficulties in service delivery. We have to bear in mind that even though building a global infrastructure for health specialists around the world should be the ultimate goal to achieve universal "connectivity," it should not put on hold getting information by already existing channels. Therefore, while ICTs are a powerful means for conveying macro level policies to the regional and local levels, the most effective delivery system to the most disadvantaged groups may still be via less glamorous alternatives such as radio, newspapers or brochures.

The ultimate goal in health communication, however, should be the assistance in promoting ICTs in this field, as well as, bridging the digital divide. To this end, the successful and continued growth of this new dynamic requires global discussion, and the World Summit on the Information Society will provide a unique opportunity for all key stakeholders to develop a better understanding of this revolution and its impact on the international community.

Chernobyl Update:

Closing the World's Oldest Nuclear Power Station

Britain is home to the world's oldest nuclear power plant which was built for the United Kingdom's nuclear arms program 47 years ago. Opened in 1956, Calder Hall, at Sellafield in Cumbria, was supposed to provide inexpensive electricity as well as jobs to local residents—a claim which hid the plant's military purpose to produce plutonium. It was the first of a series of "magnox" stations, which used fuel cans constructed of magnesium alloy. The "magnox" design was replaced by gas-cooled reactors, used only for producing electricity. Calder Hall along with ten other nuclear power stations generated about ten percent of Britain's electricity as well as some radio cobalt used in cancer treatment.

The process of decommissioning Calder Hall is expected to take 100 years. After decades of contamination to the local land and marine environment and to the health of area residents, the high radiation levels caused the internal fittings of the power station to become distorted, so that the safety of loading and extracting fuel rods can no longer be assured.

The plan to close the plant has aroused another controversy because some of the waste will spill into the sea as a result of separating and storing plutonium and ura-

nium.

Facts about the Calder Hall nuclear power station:

- Opened in 1956
 - Designed to last 20 years
 - Employs 300 people
 - Contains four reactors, producing 194MW in total—enough electricity for 200,000 homes. One reactor still operates.
 - Originally built to produce plutonium for weapons
 - Eventually 11 stations of same magnox design were built, only four of which are still open. All will close by 2008.
- It will be at least 100 years before the sites can be returned to green fields.



SOURCES: Mar 21, *The Guardian*; BBC Internet News, Friday, 21 June, 2002.

Nuke and Oil vs. Solar History

- In 1952, a commission headed by former CBS chairman William Paley reported to President Harry Truman that America's energy future rested with the sun, predicting 15 million solar-heated homes by 1975.

- In December 1953, prompted by the nuclear-weapons industry, Dwight Eisenhower intervened and promoted "Atoms for Peace" instead. His nuke-industry friends promised electricity that would be "too cheap to meter," and they spent roughly a trillion dollars of our tax money on a technology that now generates just 20% of our electricity.

Some 450 reactors have been built worldwide, but none of the major industrial nations are relying on them for the future, and Germany, Sweden and Italy are shutting theirs down entirely.

- In 1974, the Arab oil embargo prompted Richard Nixon to promise a thousand nuclear plants by the year 2000 to help end America's dependence on foreign oil. But since nuclear power only generates electricity, and since less than 5% of the nation's electricity is supplied by oil, atomic power has had little impact on imported oil. There were some 250 U.S. reactors on-line, under construction or on order when Nixon spoke; today just 103 still operate, with none under construction.

- In 1976, amidst a rising anti-nuke movement, efficiency expert Amory Lovins and ecology pioneer Barry Commoner revived the Paley Report to show how the U.S. could make the transition to efficiency and renewables. President Jimmy Carter moved toward some of these goals by funding solar and wind-power research and increased efficiency and conservation. Tax credits offered by California governor Jerry Brown led to the construction of 15,000 windmills in the state, giving California more than 90% of the world's wind-generation capacity.

- In the 1980s, President Ronald Reagan and California Governor George Deukmejian repeated the Eisenhower assault on renewables, dismantling state and federal research and tax credits and shifting the emphasis back to fossil and nuclear fuels.

- Through the 1970s and the 1980s, hundreds of thousands of activists demanded that the billions being spent on nuclear reactors go instead to wind, solar, energy efficiency and conservation. But utilities resisted the "green" energy economy.

SOURCE: *News on Earth*, May 2001

Youth on the Environment:

Environmental Challenges to Human Health: The Chinese Perspective

By Anna Offit

World Information Transfer's (WIT) 11th Conference on Health and Environment: Global Partners for Global Solutions on the theme of "Children's Health and the Environment," April 25-26, 2002 at the United Nations, documented the sensitivities of children to the effects of toxic chemicals and pesticides. As a 16 year-old studying in China last summer, I shared this information with my new Chinese friend Tian Jing and her family. When Tian's father took us on a visit to the Summer Palace, just north of Beijing, he pointed to the dark water below our small boat, and explained that 90% of the water flowing throughout China's major cities is entirely undrinkable. Indeed, 700 million Chinese, over half the population, consume polluted water. China, the greatest and most rapidly developing country on the globe, is faced with environmental challenges that we in the West can barely fathom.

China, like England in the time of Dickens, predominantly burns coal for power. Coal provides over three-

fourths of China's commercial power supply, and this rate is increasing by two percent each year. The number of automobiles, which still consume leaded fuel has increased from 2.4 million to 9.4 million over the last ten years. Beijing's streets are no longer dominated by bicycles. When I went for a jog during my first week in Beijing last July, I returned coughing up the black particulates suspended in the ever-present smog. Of the ten cities worldwide with the worst air pollution, nine are in China.

Because of their higher respiratory rates, children are particularly susceptible to air pollution, and in rapidly expanding urban areas in the developing world such as the major Chinese cities, children inhale the equivalent of two packs of cigarettes each day. The effects of air pollution also have a severe economic consequence. In the cities of Linan, coastal regions in Hangzhou, and sections of Hong Kong, lower layer atmosphere ozone levels exceeding 60 parts per billion are enough to reduce agricultural yield by ten percent or greater. Air pollution causes crop damage costing billions of dollars.

The effects of chemical contamination in China are equally dramatic. Pollution in Shanghai has been the cause of an increased rate of male infertility. Since 1987, the sperm count of men living in Shanghai has dropped by 12%. This has been blamed on food that has been contaminated by pesticides. China's great reliance on agricultural products means it is the largest consumer of pesticides of any other country in the world. According to the *Global Pesticide Campaigner*, China consumes 250,000 tons of pesticides on average annually, and by 2015, it has been predicted that China will consume about 350,000 tons of pesticides per year. The consequences of the increasing use of pesticides include dangerous financial and medical implications, with effects on children that were described at WIT's 2002 Conference [see winter 2002 issue of *World Ecology Report*]. According to the *Chinese Academy of Agricultural Sciences Project Report* in 2000, each year, pesticide poisoning affects anywhere from 53,311 to more than 123,000 Chinese citizens. The Report also concludes that each year, between 300 and 500 farmers die due to misuse of pesticides. Among the 250,000 individuals who commit suicide each year, the most common method is the ingestion of pesticides. In the cities of Kunming and Baoshan in Yunnan Province, about 50% of the fruit sampled for pesticides revealed high residue concentrations for methamidophos



Anna Offit with her friend Cao Yu in Beijing

and isocarbophos, which the government made an effort to ban.

During my studies in China, I had long conversations about the health effects of pollution with high school students and scientists I met. There was a universal sense that environmental issues are most pressing for China and for the world. The threat of global warming was underscored in my conversations with a U.S. research scientist, Dr. Gordon Jacoby, returning from field work in Mongolia. There, tree ring cores he obtained provided new evidence for global warming by revealing higher levels of atmospheric carbon dioxide. The increased amounts of CO² were reflected in increased radial growth of the tree ring cores which date back over 400 years and confirm his previous studies in this area. Unlike the skepticism about global warming in the U.S., in China I did not sense a denial that global warming was imagined. Instead, there was a growing sense of pride in China's ability to tackle this problem. Progress is being made. On November 28, 2001, the United Nations issued a report on China's air pollution control citing a 30% acid rain reduction in the capital of Guizhou province (Guyang), most likely the direct result of increasing energy efficiency and the burning of cleaner coal. With Kyoto Protocol-like incentives, the availability of newer technologies such as large scale water waste treatment plants and de-sulphurization equipment offer the potential to continue this improving trend. Scholarly publications like *Sinosphere* document the environmental challenges that remain and the progress that has been made.

During the last week of my trip, I finally met Cao Yu, my pen-pal of the past three years. She explained that environmental issues were a major focus in her native region of Hainan. There, the provisional government has banned heavy industrial development and is taking great strides toward attaining a waste water treatment plant that will treat 180,000 tons of waste water each year, with a sanitary landfill site for solid waste disposal. Despite the fact that Cao Yu (or Ariel, as she prefers to be called in our correspondences) and I are not allowed to communicate on the internet, we do exchange ideas freely by mail. And Cao Yu's letters, like the attitude of many Chinese I met during my visit, reflect a respect for the planet on which our families reside and hope to raise future generations.

SOURCES: Wu C, Maurer C, Wang Y, Davis D. L., "Water Pollution and Human Health in China," *Sinosphere*, Volume 2, 1999; IAEA, *Energy Statistics and Balances: Non-OECD Countries, 1971-1995*; "China's Health and the Environment," *World Resources Institute*: (<http://www.wri.org/wri/wr-98-99/prc-air.htm>); Shanghai Family Planning Research Institute Study as reported by BBC News online Asia Pacific, November 9th 2000; *Global Pesticide Campaigner*, Volume 11, Number 3, December 2001; Huang et al, "Farm Pesticide, Rice Production, and Human Health," CCAP's Project Report 11, Beijing: Center for Chinese Agricultural Policy (CCAP), Chinese Academy of Agricultural Sciences, Project Report submitted to EEPSEA, Singapore, 2000; Newsletter, Yunnan Entomological Society, Kunming, Yunnan, China, 2001; Jacoby G. C. and D'Arrigo R. D., "Tree Rings, Carbon Dioxide, and Climate Change," *Proceedings of the National Academy of Science (USA)* 94: 8350-8353, 1997.



GOOD NEWS!

Joint Project to Save Dead Sea

To save the Dead Sea from further shrinkage, Jordan and Israel announced that they were pursuing a \$1 billion joint project to pipe water from the Red Sea. The lowest point on the Earth, the Dead Sea, has fallen even lower as its water level has dropped from 395 meters below sea level to 410 over the last thirty years with water diverted to other uses. The Sea, which borders Jordan, Israel and Palestinian Authority lands, has already divided into two parts, and studies show the southern part disappearing within fifty years if no action is taken. The project involves building a largely underground "Peace

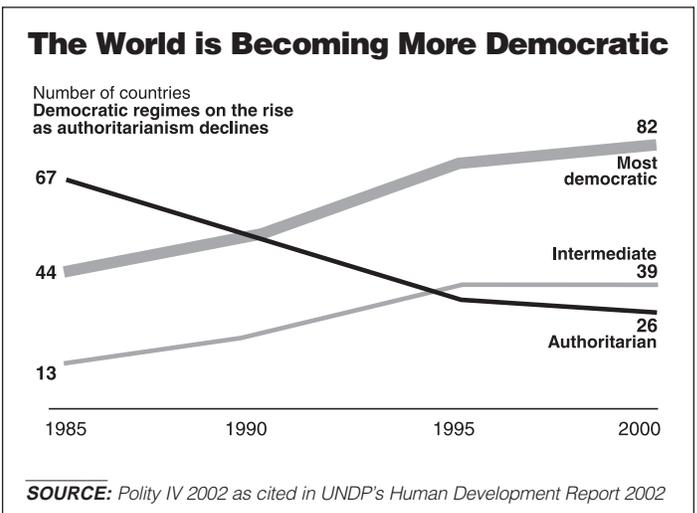
Conduit" from the Gulf of Aqaba to the Dead Sea through the Aqaba Valley. Part of the envisioned project involves building desalinization plants that can provide freshwater to the people in the region.

SOURCE: <http://www.johannesburgsummit.org/>

Cholera Free Zone

Central America will be declared free of cholera this year (2003) according to the new director of the Pan American Health Organization (PAHO), Dr. Mirta Roses Periago. From 1991, when the pandemic of cholera began in the Americas, through the year 2000, 1,275,230 cases of cholera were reported throughout the Region, with 16.5 percent of these in Guatemala, Nicaragua, El Salvador, Honduras and Mexico, according to the PAHO report, "Health in the Americas." Although the number of cases has been declining, cholera continued to be a sanitary problem, especially in remote rural populations, and in all those without basic sanitation infrastructure and with difficult access to health centers

SOURCE: <http://www.paho.org>



Framework Convention on Tobacco Control

171 Member States of the World Health Organization (WHO) have finalized a groundbreaking public health treaty to control tobacco supply and consumption. They agreed on a final text for a WHO Framework Convention on Tobacco Control (FCTC) governing tobacco taxation, smoking prevention and treatment, illicit trade, advertising, sponsorship and promotion, and product regulation. The negotiations, the final round of which began on 17 February, conclude four years of work to produce an international tobacco control treaty. The agreement is part of a global strategy to reduce tobacco-related deaths and disease around the world. The final text will be presented to the World Health Assembly in May for adoption. Once it has been adopted, the FCTC will be opened for signature by Member States. The treaty will come into force shortly after it has been ratified by 40 countries.

SOURCE: Press Release WHO/21, Geneva, 1 March 2003

Mexico City Announces Bus Rapid Transit Plans

In early February, Mexico City Mayor Andrés Manuel López Obrador announced that the city has approved a five-year project to build 11 Bus Rapid Transit corridors on the city's main arteries. However, Mexico City's widely criticized "Segundo Piso" project, which would add a second deck to the city's two most congested highways, has still not been shelved.

SOURCE: ITDP's Sustainable Transport e-update, March 2003



Prof. Oleksandrovych H. Androszuk, Chief Consultant to the Ukrainian Parliament Committee on Education and Science, Dr. Christine K. Durbak, Chair of World Information Transfer, and Mr. Ihor R. Yuchnovski, First Deputy Head of Ukrainian Parliament Committee on Education and Science during discussions on WIT's CD-ROM project for Ukrainian Schools.

CD-ROM Project

The CD-ROM Project, which WIT co-sponsors with HumanInfo.org, combines the technologies of CD-ROM with the Internet. The CD-ROM project contains Development and Health information ranging from instructions on how to build a water pump to the philosophy behind conservation. The goal is to help implement a global Information for All movement, in which Governments, UN agencies, NGOs and other segments of Civil Society including Universities and Research Centers cooperate and share their essential information with developing countries and nations in transition. The low cost of the project library recognizes the divisions within developed countries and nations in transition between those who utilize ICT and those whose lack of education and income prevents them from using these tools. The objective of the project is to provide all persons or community groups with computer capabilities, direct access to this basic library of

over 10,000 books, containing most multidisciplinary solutions, know-how and ideas at low cost.

The goals of the project are: 1) creating market friendly environments to accelerate global access to information and communication by inspiring other humanitarian and development related low-cost information products; 2) reducing poverty and exclusion by providing any individual who has an interest in tackling poverty at the local,



Dr. Olha Detsyk, Head of Neonatology Department, and Dr. Lyuba Tuziak, neonatal pediatrician at the Lviv Clinical Hospital in Ukraine

neighborhood level, access to relevant information; and 3) improving education and health.

The Government of Ukraine has agreed to the distribution of the CD-ROM library to high schools around the country, thus enabling us to implement the project's third goal and establish a model for future country specific distribution. A special version of the CD-ROM library has been constructed specifically for the needs of Ukrainian students and in the national Ukrainian language. This CD-ROM project will also contain all the information from the UNAIDS program.

WIT's donation to Neonatal Unit in Lviv

Neonatology is a developing branch of medicine which promises a greater chance of survival for small birth weight babies in Ukraine, a country that has been losing its population since the Chernobyl tragedy. In order to assist this program, WIT and the K. Kavshevyh Foundation have started a program of donations for specific projects for the unit and its staff.



DID YOU KNOW?

PCB and Mercury Contamination

A study of Inuit babies in northern Quebec has detected subtle nervous system and behavioral changes that appear to be due to mercury and PCB contamination. It is believed to be the first scientific evidence that long-distance air pollution is affecting human health in the Arctic. The study, led by Gina Muckle of Laval University focused on infants about 11 months old at three communities in the Nunavik region of Quebec. The infants showed subtle differences in visual memory and maintaining attention, said David Stone, director of northern contaminants research at the Department of Indian and Northern Affairs. Long-range contamination of the Arctic became a concern after PCBs and dioxins were discovered in the blood and breast milk of Inuit mothers in the mid 1980s. The Inuit are vulnerable because such pollutants tend to build up in the fat of fish and game animals, on which their diet is based. Most of the contamination in the Arctic comes from sources outside the region, often thousands of kilometers away. Researchers say the levels of PCBs in the

Arctic are beginning to decline but mercury has emerged as a major new concern

SOURCE: *Toronto Star*, March 4, 2003

Water Related Illness

Water, sanitation and hygiene-related illnesses are estimated to cause 7% of the total global burden of disease and 5.6% of the global total of deaths—with much of this suffering occurring in children in developing countries. 1.1 billion people world-wide still do not have access to improved sources of drinking water, while 2.4 billion people do not have access to adequate sanitation facilities. Progress towards universal access to healthy drinking water and adequate sanitation has stagnated over the last decade.

SOURCE: *WHO, Note for the press N°5, 21 March 2003*

PBDEs and Women

San Francisco Bay Area women have three to ten times greater amounts of a chemical flame retardant in their breasts than European women, according to a recent study by California scientists. PBDEs, or polybrominated diphenyl ethers, are a family of flame retardants used in polyurethane foam, textiles and plastic electronic casings. They are persistent organic pollutants, or POPs, and have been increasing worldwide in humans and wildlife over the last ten years. Laboratory studies have shown that the flame retardants mimic hormones and disrupt the endocrine system. They interfere with the thyroid gland and delay neurological development in lab animals. Breast tissue and blood from 82 women examined at Bay Area hospitals in two studies in the late 1990s showed that they had levels higher than those

found in Europe. There were no PBDEs in 420 archived samples collected in the 1960s, according to the study. The form of PBDE used in foam seems to be the one appearing in the breast tissue, but the scientists do not know people are exposed. It is interesting to note that PBDE levels found in San Francisco Bay harbor seals are among the highest in the world.

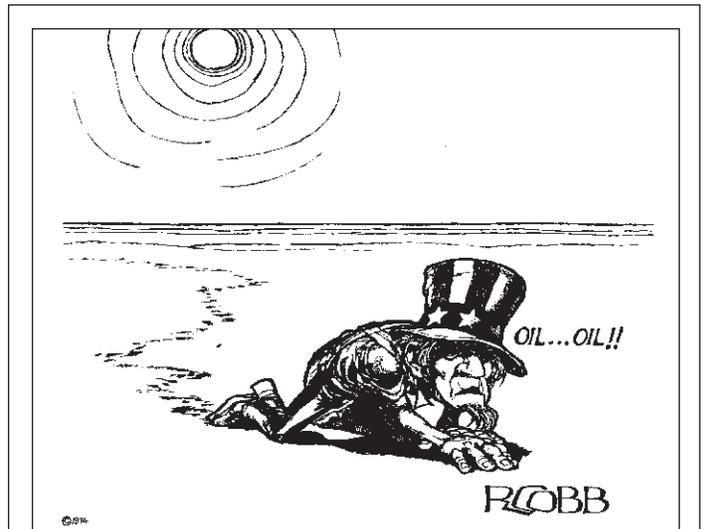
SOURCE: *Environmental Health Perspectives OnLine Journal*, March 10, 2003; *San Francisco Chronicle*, March 12, 2003

Adolescent Mothers

The poorest women start their childbearing earliest. In many developing countries, poor women start bearing children between ages 15 and 19. Their higher levels of pregnancy reflect early marriage, less ability to negotiate delays in sex and reproduction, and less access to family planning. Countries with low adolescent fertility overall have larger differences in fer-

tility between poorer and richer young people. The exception is Latin America, with a relatively high overall level of adolescent fertility and wide differences between the wealthiest and poorest. In Indonesia, the Philippines and Viet Nam, the poorest adolescents are nearly seven times as likely to have children as their better-off counterparts. In the Philippines, poor young women are nearly 11 times as likely to have a child. In all three countries, reductions in youthful fertility are systematically related to increases in wealth. In Morocco, adolescent fertility is much lower in wealthier than in poorer families. The wealthiest population subgroups in Europe and Central Asia have the lowest adolescent fertility. In some of the 22 countries reviewed in sub-Saharan Africa, adolescent fertility decreases with higher wealth.

SOURCE: *State of World Population, 2002, UNFPA*



Here we go again

In the mid-1970s, oil-exporting nations, mostly around the Persian Gulf, shocked U.S. oil companies and American consumers by cutting supply and hiking prices. The fossil-fuel-addicted U.S. policymakers, caricatured here in 1974 by "underground" cartoonist Ron Cobb, kept the nation hooked on oil, coal, gas and nuclear, even as natural energy sources became viable alternatives.

SOURCE: *News on Earth*, May 2001



VOICES

Critical Issues in Global Health

Critical Issues in Global Health, C. Everett Koop, Clarence E. Pearson, M. Roy Schwartz, Editors; San Francisco: Jossey-Bass, 2002. Divided into three major sections, the papers in this compendium of current international health issues examine health issues from a regional perspective in section one, the most vital public health issues in section two, and ways of finding solutions in the third section. Each chapter is written by a world renown expert and taken together, the book provides the reader with clear understanding of the most pressing current health issues for the twenty-first century. The topics include environmental and occupational health, global smoking patterns and tobacco control, family and reproductive health, population and health, urban health and an eye opening chapter on terrorism as a growing public health threat. Further information is available at www.jossey-bass.com

Children of the Monsoon: South Asia State of the Environment 2002. The Youth Version.

The United Nations Environment Programme (UNEP) launched two "state of the

environment" reports for South Asia; one targeting policy makers and the other written by youth. The South Asia State of the Environment Report identifies five key environmental issues: livelihood security, environmental disasters, industrialization, urbanization and biodiversity loss. It shows the region suffering from excessive land degradation, desertification and habitat fragmentation, depleting the wide variety of forest products that are an important source of food, medicine and income for indigenous people. Urbanization and poverty is a key challenge in cities, with freshwater supply problems being compounded by high population growth rate. As South Asia's economies have restructured towards industrialization, energy demand has risen fast, with dependence on coal for electricity production causing air pollution problems. The reports conclude that institutions and policy makers need to do more to integrate environmental and socio-economic factors into decision-making and to ensure trade liberalization does not compromise the environment and erode natural resources. The youth version was written by members of youth organizations which make up the South Asia Youth Environment Network (SAYEN), established by UNEP in Kathmandu in June 2002. The reports are available from www.rrcap.unep.org and additional information is available at UNEP's web site: <http://www.unep.org>

Journal of Water and Health

The World Health Organization (WHO) and the International Water Association (IWA) have joined forces to

launch a new professional publication, *Journal of Water and Health*. The new Journal is designed to bring up-to-date information on water and health issues to government officials and professionals whose work affects people's access to water and sanitation. The Journal will feature high-quality research on issues including disease prevention associated with water supply and sanitation, water resources management, microbial and chemical health hazards and insect vectors, and will span aspects of science, policy and practice. The first issue of the new Journal was issued in conjunction with the Third World Water Forum, held in Kyoto, Japan, March 15-22, 2003. Additional information is available from: <http://www.iwapublishing.com>

World Summit on the Information Society—Geneva (Switzerland), 10–12 December 2003; Tunis (Tunisia), 16–18 November 2005

The World Summit on the Information Society (WSIS) will be held in two phases. The first phase of the World Summit will take place in Geneva hosted by the Government of Switzerland from 10 to 12 December 2003. It will address the broad range of themes concerning the Information Society and adopt a Declaration of Principles and plan of action, addressing the whole range of issues related to the Information Society. The second phase of the World Summit will take place in Tunis hosted by the Government of Tunisia, from 16 to 18 November 2005. Development themes will be a key focus in this phase, and it will assess progress that

has been made and adopt any further plan of action to be taken. WSIS will provide a unique opportunity for all key stakeholders to assemble at a high-level gathering and to develop a better understanding of this revolution and its impact on the international community. It aims to bring together Heads of State, Executive Heads of United Nations agencies, industry leaders, non-governmental organizations, media representatives and civil society in a single high-level event. The scope and nature of the Summit will require partnerships with public and private entities, and such partnerships will be actively sought in the coming months. Further information is available at the WSIS website: <http://www.itu.int/wsis/>

America's Children and the Environment

A U.S. Environmental Protection Agency Report on children's health shows: 1) a two-fold increase in the rate of asthma over the last two decades; and 2) one of every dozen women of childbearing age has a blood mercury level that could restrict brain development in a fetus. The 173-page document, titled *America's Children and the Environment* is the second in an ongoing series of reports that brings together data from a variety of federal and state agencies, including EPA, the U.S. Department of Agriculture, the Centers for Disease Control, the National Cancer Institute and the California Department of Health Services. For the mercury data, EPA officials noted that the report is the first to assess and measure how mercury affects human reproduction. Additional information is available from: www.epa.gov

World Information Transfer is a Non-Profit, Non-Governmental Organization in Consultative Status with the United Nations, Promoting Health and Environmental Literacy.

World Information Transfer
BOARD OF DIRECTORS

Dr. Christine K. Durbak
Chair

Peter F. Sprague
Executive Vice Chair

Roland A. DeSilva
Vice Chair

Dr. Claudia Strauss
Secretary

Carolyn Comitta
Treasurer

Dr. Sophie Balk

Dr. Mohamed El-Banna

Dr. Ruth Etzel

Dr. Bernard D. Goldstein

Amb. Nina Kovalska

Dr. Michel Loots

Jonathan Otto

Dr. Scott C. Ratzan

Dr. William Rom

Dr. Luz Maritza Tennessee

Jay Walker

World Information Transfer
MISSION STATEMENT

**Knowledge brings new choices.
Education brings new knowledge.**

World Information Transfer, Inc., (WIT) is a not-for-profit, non-governmental organization in consultative status with the United Nations, promoting environmental health and literacy.

In 1987, inspired by the Chernobyl nuclear tragedy, WIT was formed in recognition of the pressing need to provide accurate actionable information about our deteriorating global environment and its effect on human health to opinion leaders and concerned citizens around the world.

WIT exercises its mandate through:

1. The publication of the *World Ecology Report*, a quarterly digest of critical issues in health and environment, published in five languages and distributed to opinion leaders around the world, and for free in developing countries.

2. The annual international conference on *Health and the Environment: Global Partners for Global Solutions* held at United Nations headquarters in New York since 1992. The world's leading authorities in the field of environmental medicine and science share their latest findings and discuss possible solutions with leaders in governments, business, organizations, and the media.

3. Development and distribution of CD-ROM projects focusing on sustainable development and human health and research on health issues as they relate to the environment.

4. Providing humanitarian relief to areas devastated by environmental degradation. Supplies and equipment are sent to schools, hospitals and orphanages in areas contaminated by the Chernobyl fallout.

5. Centers for Health & Environment providing centralized specific scientific data pertaining to health and sustainability issues. The objective of the Centers is to promote ongoing research, education and implementation of corrective programs. The first center was opened in Kiev, Ukraine, in 1992 and moved to Lviv, Ukraine, in 1996 to K. Levyckoho 11a, #15, telephone/fax: 322-76 40 39. The second opened in Beirut, Lebanon, in 1997, at Bir Hasan, United Nations Street, Al-Salaam Building, telephone: 961-1-853657.

WIT currently operates from headquarters in New York City with regional offices in Australia, Belgium, Canada, Costa Rica, Egypt, France, Germany, Holland, India, Iraq, Israel, Lebanon, Nigeria, Russia, Switzerland, Ukraine and USA.

WIT is on the Board of Congo (Conference of Non-Governmental Organizations) in Consultative Relationship with the United Nations.

We have not inherited the world from our forefathers...we have borrowed it from our children. -Kashmiri Proverb

World Information Transfer
WORLD ECOLOGY REPORT

World Information Transfer, Inc.
(ISSN #1080-3092)

451 Park Avenue South, 6th Floor
New York, NY 10016

Telephone: (212) 686-1996

Fax: (212) 686-2172

E-Mail: wit@igc.org

E-Mail: wit@worldinfo.org

Electronic edition available on:

<http://www.worldinfo.org>

Founder &

Editor-in-Chief: Dr. Christine K. Durbak

Managing Editor: Dr. Claudia Strauss

Contributing Editors: John Bartram
Dr. Ruth Etzel
Britta Husack
Dora Rak
Nanci Sarcinello
Peter Sprague

Circulation Manager: Carolyn T. Comitta

Language Editors:

Dr. Mohamed El-Banna-Arabic
Taras Prytula-Russian
Lidia Garrido-Spanish
Taras Prytula-Ukrainian

Consultant: Dr. Andrew Tuziak

Video Production: Alan Geoghegan

WIT Regional Director-North America:

Carolyn T. Comitta
18 West Chestnut Street
West Chester, PA 19380
Tel: (610) 696-3896; Fax: (610) 450-3804
E-Mail: wit@dplu.net

WIT Regional Directors-Eastern Europe:

Roma Havryliuk
Taras Boychuk
K. Levyckoho 11a, # 15
Lviv, Ukraine
Tel/Fax: (380) 322 76-40-39 & 76-68-18
E-Mail: wit@post.com

WIT Regional Director-Latin America:

Carmen Camacho Rodriguez
Apdo. No. 15-5000
Heredia, Costa Rica
Tel: (506) 260-8655; Fax: (506) 257-7586
E-Mail: cmcamach@una.ac.cr

WIT Regional Director-Western Europe:

Dr. Michel Loots
Oosterveldlaan 196
B-2610 Antwerp, Belgium
Tel: 32-3-448-05-54; Fax: 32-3-449-75-74
E-Mail: mloots@humaninfo.org

WIT Regional Director-Middle East:

Farouk Mawlawi
Al-Salaam Building-United Nations St.
Bir Hasan-Beirut, Lebanon
Tel: (961) 1-855573; (961) 1-853657;
(961) 3-305854
E-Mail: fmawlawi@inco.com.lb

WIT Regional Director-Oceania:

Gerry Lynch
Unit 3, 55 William Street
Double Bay, NSW 2028, Australia
Tel: 61 (2) 9328-6543; Fax: 61 (2) 9528-0546

WIT Regional Director-Africa:

Dr. Mohamed El-Banna
74 Sawra St. Heliopolis, 11541
Cairo, Egypt
Tel: (202) 368-2887; Fax: (202) 365-0492
E-Mail: mbanna@starnet.com.eg

WIT Regional Director-Asia

Haris Bazerman
Manhattan I/D - 35 Tai Tam Rd.
Tai Tam, Hong Kong, SAR, China
Tel: 852 2524 9063; Fax: 852 2524 6036
E-Mail: harismcb@netvigator.com

WIT MEMBERSHIP

Individuals and/or organizations can become WIT members and receive four issues of *WIT's World Ecology Report* and other membership benefits for a tax deductible annual fee as follows:

- Student \$15.00
- Individual \$25.00
- Organization \$50.00
- Supporter \$100.00

Life membership:

- Individual \$250.00
- Organization \$500.00

Membership is "FREE" in developing countries.

- Renewal
- Amt. Enclosed \$ _____

MEMBER INFORMATION

Date _____

Name _____

Affiliation _____

Mailing Address _____

Tel _____ Fax _____ E-mail _____

GIFT MEMBERSHIP INFORMATION

Date _____

Name _____

Affiliation _____

Mailing Address _____

Tel _____ Fax _____ E-mail _____

Please return this form along with a check made payable to:

World Ecology Report
451 Park Avenue South, 6th Floor, New York, NY 10016 USA

Point of View: Religion and Anxiety

The September 11th attacks against the United States revealed to the world what was well known to national intelligence authorities. Terrorists could kill thousands in a moment's time. The inhalation anthrax attacks that followed made it clear that anyone could fall victim to an anonymous act of biological terror. In the fall of 2001, Americans learned how fast and easy it is to become very frightened, and thereafter continue to realize how long it takes to know the consequences of fear.

Frightening the public has long been a goal of terrorists, and the actual or threatened use of nuclear, biological, chemical and radiological weapons has increasingly gained appeal among terrorist organizations which have tended to grow more violent during the 1990s. In that decade, the number of people killed or hurt with each terrorist act increased globally, and the USA and its interests became primary targets for international terrorist organizations. These groups had also shifted toward more extreme religious beliefs.

Home grown terror groups in the US reflected a similar pattern illustrated by the bombing of the Murrah federal building in Oklahoma City in 1995, and the 1998 murder of an upstate New York doctor by a religious extremist abortion foe. The bombing of the Murrah building in particular aroused fears about the safety of office buildings across the nation. The murder of students at Columbine High School in Littleton, Colorado in 1999, although not considered an act of terrorism, resulted in widespread fear

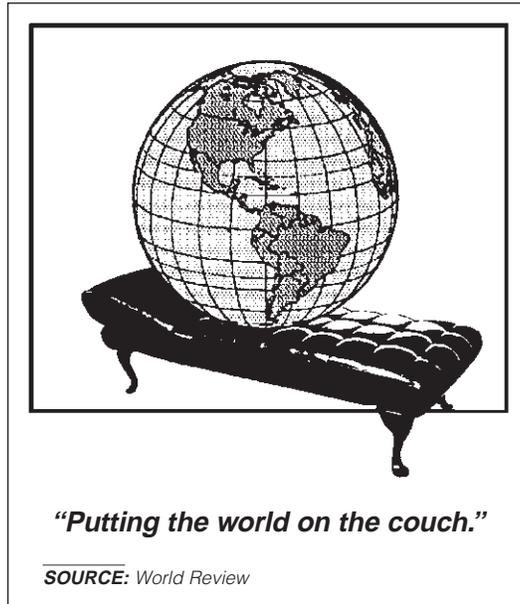
among school students and their families about the security of local school buildings. The two boys who murdered fellow students may have been motivated by a set of extreme cultist beliefs mixed with revenge.

Current research on terrorism indicates that extremist religious belief is growing as a motivator for terrorism worldwide. The Rand Corporation estimated in 1968 that none of the eleven international terrorist groups it studied were motivated by religion or revenge. In a 1994 study of 49 international terrorist organizations, Rand identified one-third as religious in motivation, and by 1995 religiously motivated terrorist groups accounted for 58% of the deaths from terrorist acts.

Nothing breeds fear like a random, anonymous attack against civilians going about their daily lives, and the threat from nuclear, biological, chemical or radiological weapons has no equal in inducing

widespread and sustained fear. As terrorists seek to maximize fear, the public increases its reliance on government for protection creating the opportunity for the curtailment of civil liberties in the interest of preventing more destruction, catching the attacker and relieving a generalized state of anxiety. Many people seek out religion to deal with the stresses induced by fear. Unfortunately, some whose anxiety is extreme could find relief within extremist religious groups who blame and terrorize others as a way of coping with their own fears.

SOURCE: *Critical Issues in Global Health, Ch. 31 [see Voices column]*



HOW YOU CAN HELP:

WIT is a non-profit, international, non-governmental organization, in consultative status with the United Nations, dedicated to forging understanding of the relationship between health and environment among opinion leaders and concerned citizens around the world. You can help us with your letters, your time, and/or your donations.

World Information Transfer **WORLD ECOLOGY REPORT**

451 Park Avenue South, 6th Floor
New York, NY 10016

"Never doubt that a small group of thoughtful committed citizens can change the world. Indeed it's the only thing that ever has."

Margaret Mead

NON-PROFIT
ORGANIZATION
U. S. POSTAGE PAID
FORT DODGE, IA 50501
PERMIT NO. 4