

Resources

Institute

**Ideas into Action** 

WASHINGTON, D. C.

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World Resources Institute provides information, ideas, and solutions to global environmental problems.

Our mission is to move human society to live in ways that protect Earth's environment for current and future generations. Our program meets global challenges by using knowledge to catalyze public and private action.

### To reverse damage to ecosystems.

We protect the capacity of ecosystems to sustain life and prosperity.

### To expand participation in environmental decisions.

We collaborate with partners worldwide to increase people's access to information and influence over decisions about natural resources.

### To avert dangerous climate change.

We promote public and private action to ensure a safe climate and sound world economy.

### To increase prosperity while improving the environment.

We challenge the private sector to grow by improving environmental and community well-being

### From the President

WRI puts ideas into action to change the world.

"In the Summer of 1997, eighteen environmental protesters were arrested as they sought to block logging operations in the Great Bear Rainforest in British Columbia. The Great Bear, they said, was a remnant of ancient forest too precious to cut. In court, they pointed to WRI's ground-breaking study, *The Last Frontier Forests*, the first global account of the loss of original forests – 80 percent gone and disappearing rapidly — to explain their actions.

Our work is not designed to spur civil disobedience, but it is intended to catalyze action. Action is urgent in a world that must reverse the accelerating trends of biotic impoverishment, climate destabilization, and ecosystem destruction, even while it finds means to provide new opportunity to more people.

Our tools are information, ideas, and communication. In the pages that follow we report on our work to bring ideas into action, to dispel myths with facts, and to meet problems with practical solutions: Global Forest Watch, an innovative global network to marry satellite data to the work of local activists. The Safe Climate, Sound Business collaboration in which we worked with major companies to develop measures to make preventing global climate change a good business opportunity. The Millennium Assessment project in which we are coordinating the work of a score of institutions to catalyze a first-ever global assessment of the current and future capacity of the world's ecosystems to continue to provide the environmental goods and services.

Those protesters were found to be in contempt of court. But we were astonished and fascinated when the largest of the logging companies operating in British Columbia showed up in our offices seeking advice on how to shift their practices toward sustainability. Ideas can indeed be put into action to change the world."

### Jonathan Lash

has led the World Resources Institute as its president since 1993 and co-chaired the President's Council on Sustainable Development and the Organisation for Economic Co-operation and Development's High-Level Advisory Group on Environment.

# From the Chairman

WRI is working as well as any institution in the world to put sustainable development into practice.

"WRI has done all kinds of good worldwide on environmental issues. I was in Buenos Aires in November 1998 for the international negotiations on climate change. I could see firsthand the excellence of the WRI staff, the deep respect that representatives of foreign governments held not just for Jonathan Lash but for all the staff of WRI. I wasn't surprised that they had this level of understanding and respect, but it was really gratifying to see how many people in the world understand the excellence of this institution and the work that it does.

The global concern for environmental action has had a deep impact on me. As a result of my two tenures as director of the U.S. Environmental Protection Agency, I saw the global nature of environmental problems. If we made progress in the U.S. but did not mirror that progress across the world, the chances of reversing global environmental deterioration were really quite slim.

As the U.S. representative to the World Commission on Environment and Development, or the Brundtland Commission, I had the opportunity to travel the world to assess the best direction for environmental action worldwide. Out of that experience came the report, *Our Common Future*, which proposed the concept of sustainable development as the way in which the world deals with the environmental and social problems created by the legitimate desire for development.

The concept of sustainable development is central to the work at WRI. Being able to help the world understand and pursue pathways of development that are consistent with protecting the environment is a broad and important assignment. I think WRI is working as well as any institution in the world to put sustainable development into practice."

### William D. Ruckelshaus,

chairman of WRI's Board of Directors since 1998, is a principal of the Madrona Investment Group in Seattle, Washington.

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Kenton R. Miller Vice President for International Development and Conservation

**Donna W. Wise** Vice President for Communications

# **A Record of Achievements**

1982	WRI is founded under the direction of James Gustave Speth as the world's first organization devoted
	to understanding the interconnections between environmental protection and economic developmen
1984	WRI's first major conference, The Global Possible, brings together 75 world leaders from 20 countries to develop an action agenda for environment and natural resource issues.
1985	WRI helps to organize the first international meetings on climate change and ozone depletion, held in Villach and Vienna, Austria.
1986	WRI helps to organize the first U.S. Congressional hearings on global climate change.
1986	World Resources debuts as a unique periodic global assessment of environmental conditions and trends.
1988	WRI merges with the North American office of the International Institute for Environment and Development (IIED), expanding WRI's role in the developing world.
1989	WRI pioneers natural resource accounting, a practical new system to track consumption of natural resources.
1990	WRI's participation in the Montreal Protocol negotiations builds the case for helping developing countries reduce emissions of CFCs and other ozone-depleting gases.
1990	WRI's feasibility study, commissioned by the U.N. Development Programme, lays the foundation for creation of the Global Environmental Facility.
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1991	WRI develops a statistical index of greenhouse gas emissions to help countries measure their share of pollutants.
1992	After three years of collaboration with partners worldwide, WRI launches the Global Biodiversity Strategy, which plays a major role in the development of the Convention on Biological Diversity, signed at the United Nations Conference on Environment and Development in Rio de Janeiro.
1996_	WRI develops the first natural resources accounting model of the U.S. agricultural sector. Results are used by the U.S. Senate Agriculture Committee to improve environmental effects of pending farm legislation.
1996_	WRI merges with the Management Institute for Environment and Business (MEB), increasing WRI's focus on working with business to solve environmental problems.
1997_	WRI combines satellite imagery, computer technology, and data to produce the first scientific assessment of the world's large, intact natural forest areas.
1997_	WRI's analyses inform the U.S. delegation in negotiations on the Kyoto Protocol on Climate Change.
1998	WRI works with businesses to develop ways to combat climate change while ensuring profitability. As a result, General Motors publicly affirms its support for climate protection.
1999	WRI moves to its new office space, a model of innovative environmental design.
1999_	WRI commits to reduce its own CO <sub>2</sub> emissions to zero by 2005.
1999	WRI develops the first indicator of carbon intensity, relating emissions to economic growth.
2000	WRI launches Global Forest Watch, the first independent network for real-time monitoring of forest frontiers around the world.
2000	World Resources 2000's pilot study of ecosystems presents the U.N. General Assembly with a model for a comprehensive Millennium Assessment.

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A team of exceptional people

A program to meet global environmental challenges

A commitment to put ideas into action.

### "When WRI was founded in 1982, our goal

Jonathan Lash

was to place questions of natural resource destruction, environmental pollution, and ecosystem degradation on the global agenda. We operated on the premise that on any particular issue there was a small, elite group that could set the international agenda and drive change, a set of official policy makers and the people who influenced them. We were convinced that solid science and sound policy analysis would be essential tools for setting that agenda. We were enormously successful.

Now, as our expertise and scope of work have grown, so has our family. Today we are 125 talented professionals from more than 20 nations, connected to a dynamic network of advisors, collaborators, international fellows, and partner institutions in more than 50 countries, using new information and communication technology to influence decisions once the closed province of elites.

The range of views expressed here, from some of our founders to some of our newest staff members, demonstrates that WRI is more than the sum of its history or the aggregate of its programs. We are a body of creative, committed individuals—WRI's greatest resources."

# A Team of Exceptional People



WRI, from the start, has had an international focus.

*"I've seen a lot of change* at WRI and in the environmental movement over 20 years. I began working with Gus Speth when he was a founder of the Natural Resources Defense Council and then moved with him to the Council on Environmental Quality in the U.S. government.

Gus started thinking of a place like WRI when he was at NRDC. The idea became a reality in 1982, with the help of the MacArthur Foundation. There were five of us at the beginning: Gus, Jessica Matthews, Wallace Bowman, myself, and another assistant. We started in a donated space, with three used typewriters that had come in the mail from the MacArthur Foundation, and boxes of resumes from wonderful people.

What made WRI different? It was originally conceived as a think tank for policy research. Most other NGOs then were pursuing legal actions or activism, mostly from a domestic perspective, without looking at broader policy questions. WRI, from the start, had a more international focus. One of our first conferences, The Global Possible, brought together people from different countries and cultures, some from our board of directors and others from governments, businesses, or international agencies. To reach an agreement, the participants were debating late into the night, and we were typing until three or four in the morning as the final recommendations were drafted. Now that kind of interaction among different cultures and different perspectives happens a lot, but then it was very unusual. One of WRI's main contributions has been to shift the environmental debate from a national to an international level by bringing people together at the table.

I feel privileged to have been here from the beginning, to watch WRI grow from 5 people to 125 and to reach out to the business and development communities. My job has remained interesting because of the growth of WRI. At the beginning, we saw our mission as establishing a credible institution, through research. Now, as WRI has established its credibility, we recognize that there needs to be more than research – there needs to be action, too."

Patti Adams, one of WRI's original employees, has been executive assistant to both WRI presidents.

### $W\!R\!I$ is one way to amplify the difference you can make.

"I worked at the local level in the Philippines as a human rights lawyer, especially defending indigenous peoples' rights to territory, to access to natural resources, to cultural autonomy and political autonomy. That experience led me to work at the national level both as a policy advocate and as a policy maker. I felt, after years of dealing at national and local levels, that it was time to push the issues that I believe in at the global level.

I decided that WRI was the place to do that for two reasons. First, WRI is a credible organization with a lot of influence on policy processes at the international level, particularly for the conventions I've worked on, such as the Climate Change Convention and the Convention on Biological Diversity. Second, WRI gives me a level of independence and freedom that one does not have in government or intergovernmental institutions.

We now have a policy infrastructure to deal with many environmental problems at the international level. But it's not moving, or it's moving too slow, because you have to move 150 or 170 countries to act together. WRI can play a positive role in accelerating the process.

My experience has always been to deal with environmental issues from a human perspective. Even as a government official, I was always the one whom my boss, the Minister of Environment, would send to talk to people about why a problem was happening. When you experience environmental issues as an engagement with human beings who will be changed by the outcome, you must change the way you look at the world. It becomes a much more beautiful world, but what you need to do becomes more urgent.

The question I always ask myself is, Is this making the world a better place to live in? Am I having an impact? It's a big world, and you try to find ways to amplify the difference you can make. Joining a group like WRI is one way to amplify the difference that you can make."

## Tony LaViña,

director of the Biological Resources program, is the most recent addition to WRI's senior staff. He came to WRI from the Philippines, where he was an undersecretary in the Department of Environmental and Natural Resources and lead negotiator in implementing the conventions on biological diversity and climate change.



# A Program to Meet Global Challenges To Reverse Damage to Ecosystems

Deteriorating biological resources threaten to disrupt the life-sustaining goods and services that ecosystems produce, such as water purification or erosion control. Human use of fragile ecosystems is placing an enormous strain on forest, marine, and agricultural systems all over the world.

### WRI's work:

Safeguards biodiversity by shaping international debates and negotiations. Promotes a safe, accessible, and environmentally sustainable food supply. Protects the world's diminishing frontier forests. Creates markets to protect clean air and water. Protects sensitive coral reefs and ends destructive fishing practices.

### $W\!R\!I$ explores environmental issues with rigor and focus on what to do about them.

*"WRI is a perfect place* to explore environmental issues. And not just explore them in a dry, analytical sense, but with rigor and with a focus on what we are collectively going to do about them. I believe whatever solutions we find have to be grounded in an understanding of the way the physical world works, but that we also have to be sophisticated about the way the policy and economic world works.

Our concept for a millennium assessment of ecosystems may be that kind of solution. In effect, it's saying that the world needs a way to evaluate scientifically how well ecosystems are performing. How long can ecosystems continue to produce the goods and services that we depend on? Most important, in building a process to evaluate what we know, how can we put that knowledge in a context that policy makers can use, one that will help communities, nations, and international institutions better manage the Earth's living systems? A pilot assessment will be featured in *World Resources 2000-2001*, which WRI will publish with the World Bank, UN Development Programme, and UN Environment Programme in September 2000.

I think it's also important to begin to envision how landscapes of the future are going to look. They're going to be more fragmented than they are today. They're going to have to support more people. They're going to have to be managed differently. So WRI's Critical Flows project, focusing on water issues, is exploring how to value services from ecosystems, such as water purification and erosion control. Similarly, Kenton Miller's project on Ecosystems, Parks, and People is beginning to envision what these landscapes of the future might look like and how we might actually have to manage them.

These projects are going to tell us something interesting and useful about how we might have to manage the world that this generation—our generation—is going to leave to our children. We need to fulfill our responsibility for stewardship and for ensuring that our children and their children are able to enjoy the bounty that we've had. But it's going to be a different world than we have now. And we need to face up to that and figure out how we're going to make it work."

### Tony Janetos, senior vice president and chief program officer, is co-chair of the U.S. National Assessment of the Potential Consequences of Climate Variability and Change. Before coming to WRI in 1998, he was a senior scientist at the National Aeronautics and Space Administration in the United States.

WRI seizes opportunities to make an impact.

*"When I arrived* in Suriname in 1993 on my first visit, I was taken aside by senior officials who had never met me before and told that their bosses in the ministry were taking huge bribes from Asian logging companies to hand over vast tracks of Suriname's rain forests. When I came back to WRI, we decided that we should look at this issue and try to draw some attention to it, which we did.

It became clear to us that the opportunity to make an impact lay around the government's statements that it was in the economic interest of the country to sign contracts with these companies. So we assembled a team of economists and the deputy head of the Harvard Law School. We looked at the contracts. We did economic analysis with Conservation International, and we presented a report, *Backs to the Wall in Suriname*, in 1995 which basically destroyed that myth. It showed that if Suriname signed these contracts they would lose far more money and much more than money, than if they did not go ahead with these contracts.

In the report we also looked at alternatives that the country might pursue, recognizing that their economy was in deep trouble. And we got together with some powerful people in the development community, including Enrique Iglesias, president of the Inter-American Development Bank, to put a counteroffer on the table. So we were able to say not only will you not make money out of these deals, but here's a better deal. And with this deal you get to conserve the forests and move toward sustainable development.

The most exciting outcome of this effort, which has involved many people from around the world, has been the creation of Global Forest Watch. It is the first global, independent effort to establish real-time monitoring of what is happening in those forest frontiers around the world. In key countries, Global Forest Watch with its local partners will be sharing information on the internet and through other means. It will evaluate not only current changes in the forest frontiers, but also the proposed logging, mining, and other operations. It will consider the deforestation likely to result from roads being planned to cut through the rain forests. People around the world will be able to see what the dangers are before these changes take place, and they can come up with better solutions, before it's too late."

Nigel Sizer, who began studying the Brazilian Amazon as a University of Cambridge doctoral student, joined WRI in 1991 and is now the team leader for WRI's Frontier Forest Initiative.

### WRI is enriching local and international policy debates with critical information and ideas.

*"The Way I think* of putting ideas into action is going out in the field, being with people in different places, and soaking up what one sees and hears, which stimulates the mind to think about what else could be done, what's needed here, or what can be learned here to use somewhere else.

Then one has to look for opportunities with partners to try it out — a new idea, process, or way of doing things — maybe try it out five or six times. If it makes sense, then find ways to generalize it and spread the word.

We followed this process in developing manuals on how to plan national biodiversity strategies. That was a test of ideas in more than twenty countries that led to our confidence that we were on to something. Our efforts built support for and helped to implement the international convention on biodiversity.

The final part of putting ideas into action is going back later to see what happened. We are following this process to put ideas into action through many of our key projects now, such as the Millennium Assessment, Critical Flows, and Ecosystems, Parks, and People. WRI is enriching local and international policy debates with critical information and ideas.

For the Ecosystems project, we're trying to get all the governments and organizations involved in the biodiversity convention, the desertification convention, and the climate change convention to see that the bottom line of all three is to get people to manage land, soil, and natural resources in a way that retains biodiversity, that keeps the soil organically rich, that retains carbon in the soil, and that achieves the highest level of productivity possible, so that we can have food and fiber security."

### Kenton Miller,

vice president for international development and conservation, has served since 1990 as international coordinator for the joint WRI/IUCN/UNEP Biodiversity Programme that produced the Global Biodiversity Strategy. Before joining WRI in 1988, he was director general of IUCN, the World Conservation Union.



### To Expand Participation in Environmental Decisions

Limited access to education and information, to technologies and resources, to markets and decision-making forums diminishes the well-being of people everywhere. These gaps in opportunity are an environmental tragedy, as well as a human one, because inequitable participation in economic and political systems leads to unnecessary degradations of natural resources.

### WRI's work:

Supports regional cooperation on resource management in the Mekong River system and the Mesoamerican biological corridor.

Assists partners in Africa and Eastern Europe to address the governance issues that impede environmentally sustainable development.

Determines the points of leverage for environmental advocates to influence public and private decision-making on international financial flows. *"My experience* in Indonesia provides me with a healthy skepticism about what a Washington-based organization can do that's most helpful to partners in developing countries. It's skepticism about how much global public policy processes matter to what's happening on the ground. So I think that helps me be realistic about the kinds of ambitions that we take on at WRI.

WRI got involved in Southeast Asia out of a strongly felt sense that things were changing really fast in the region. At the same time, decisions on the basic development path were not sufficiently taking into account the role of ecosystems in supporting national economies, nor the needs of the people for sustainable livelihoods.

We've worked with local partners to do an environmental impact assessment of a road planned in a transboundary watershed between Vietnam and Laos. We've held a workshop on trade in timber forest products. We've developed a database on what we know about forest cover change from satellite imagery. But as we've been developing this new program on institutions and governance, we've recognized that WRI's comparative advantage in this region is to look at development problems through a governance lens. What is it about the level of authority, institutional capacity, and participation in decision making that's leading to environmentally perverse outcomes?

In considering solutions, WRI shows its sensitivity to local political realities by staffing with people who really know the region, who can work closely with partners in the region, and who can be effective in ways that don't endanger ourselves or harm our partners politically. For example, we've taken development objectives, rather than explicit environmental objectives, as our entry point in dialogue with governments and partners in the region.

Thus, our dialogue on watershed issues does not involve preaching that we should protect the forests because there are important butterflies living there. Rather, the exchange is over the value of ecosystem protection compared with the economic costs of having to deal with the downstream flooding, water shortages, and the loss of fisheries, which will in turn compromise aspirations for national development."

### Frances Seymour

is director of WRI's Institutions and Governance Program. Before joining WRI, she worked on development assistance policy for the World Wildlife Fund and on community development projects in Indonesia for the Ford Foundation.

### Christine Elias,

now director for international cooperation, was team leader for WRI's Policy Research Capacity Initiative.  $W\!RI$  has partnerships with institutions around the world.

*"Through years of Work* at the grassroots level in The Gambia in West Africa, I saw first-hand how local conditions are very directly influenced by global trends and international actions. So, what drives me in my work at WRI is the need to provide analyses of global issues that contribute to the development, security, and livelihood of people on the ground.

WRI is actively engaged in the processes of the Convention on Biological Diversity, a global forum in which nations are deciding the future of ecosystems. The implementation of this critical convention is currently hindered because many countries don't have the policy research capacity they need to find actions that balance their national priorities against the global goals of the convention. I had the privilege of working on a partnership with three institutions around the world — the African Centre for Technology Studies in Nairobi; the Peruvian Society for Environmental Law in Lima; and the Regional Environmental Center in Budapest — to build an international constituency that would help strengthen national policy research capacity to implement the convention. We worked from the ground up, each of us in our respective regions, to draw people together on the issues. Then we shared our results across the regions to build global support, all the way until we reached the convention's global Conference of Parties. As a result, fourteen decisions were taken in support of improving capacity building for policy research and policy analysis. Those decisions were made by representatives from the 165 countries that are signatories to the convention. Each of the partner institutions has established its credibility and access to policy makers in their home region. Working together, we showed how our collective action produced results that were far greater than we could have achieved working alone."

John Mugabe

is director of the African Centre for Technology Studies.

"There is no way that countries can implement the Convention on Biological Diversity without the capacity to analyze tradeoffs between various policy alternatives. This is one of the most formidable challenges for countries, especially in the developing world. Our work with WRI and our other partners was just the beginning of a long and complex process in implementing the convention. We must continue to invest in such processes and partnerships."

### WRI is helping developing countries pursue a sustainable future.

*"When I graduated* in 1990 from the Graduate School of Journalism of the Chinese Academy of Social Sciences I was given a position as the editor of the English edition of *China Environment News*, and that was really the first time I got to enter the field of environmental protection.

I feel very lucky that I had probably one of the best jobs in China because I had basically two roles to play at the newspaper at that time. As the editor of the English edition of *China Environment News* my responsibility was to introduce China, especially the environmental issues, through the newspaper to the outside world. As a columnist of the world environment for the Chinese edition of *China Environment News* I was introducing the world to China.

I came to know WRI when I was still in China. Then at the end of my graduate program in environmental policy at the University of Maryland, now that I was in the United States, I called to see whether there was any opportunity for me to do an internship at WRI. I was lucky again, and I've stayed at WRI ever since.

One thing that was in my mind for a long time was that I really wanted to work on China-related issues. After a few rounds of brainstorming, WRI made a decision, first, that we're going to work on China issues and, second, that we're going to work on environmental health issues. After this decision was made, I went back to China and interviewed all the people I could think of, including public health people, environmental people, decision makers, and researchers. That really helped out tremendously. In fact, I collected a lot of information. I understood much better the institutional barriers in China and how to deal with them — even today, the biggest challenges are the institutional issues.

But in the last two years, we've seen a lot of positive changes. For example, the China EPA has put environmental health on their agenda as one of the priority research areas. Environmental health is also included at the national level in a five-year plan priority research project. This signals very positively that people in China are realizing the importance of these issues. And they feel that WRI is really playing a very important role helping China to pursue a sustainable future."

### Changhua Wu is director of China Studies at WRI and president of the Professional Association for China's Environment.



### To Avert Dangerous Climate Change

Climate change poses risks of far-reaching, irreversible, unanticipated changes in natural systems and human societies. The solutions depend on the will of nations and businesses to work together to stabilize atmospheric concentrations of greenhouse gases.

### WRI's work:

Promotes new technologies and new forms of enterprise to reduce global warming, while increasing prosperity.

Brings developing countries' concerns into international climate negotiations.

Analyzes the long-term causes and effects of climate change.

*"Climate change* is as much a development issue as an environment issue. WRI is really the only institution around that deals with these kinds of large-scale problems from the perspective of protecting both people and the environment. So coming to WRI seemed like a good fit for how I wanted to look at this issue and for how we're going to get the world's economies on a track to resolving the climate problem.

Most of the work we do on climate at WRI falls into three categories. First, the polarization within the business community led us to realize that we needed to work with the private sector directly to understand what they were concerned about and see how many we could help shift from being opposed or neutral to being neutral or supportive.

The second big area of work has to do with developing countries. Some of this work we do in partnership with developing countries; we also try to analyze the issues that seem most important to them. So we've looked at cumulative contributions of greenhouse gases. We've looked at per capita contributions, and we're starting to focus on contributions according to GDP level, because a lot of carbon emissions are associated with economic growth. So then the question is, How do we learn to put out fewer greenhouse gas emissions for every dollar of GDP that a country is earning? That's exciting. It requires technological change. It requires structural reform, pricing reform, and other good-government activities.

The third area of our work has to do with the rules of the game. Most of the rules for implementing the provisions of the Kyoto Protocol, which was agreed in December 1997, have yet to be written. So we're spending time on that. The Kyoto Protocol embodies some novel mechanisms to lower the cost of meeting the protocol's objectives. This includes various forms of emissions trading and raises important philosophical, legal, and practical challenges."

Nancy Kete, director of the Climate, Energy, and Pollution Program, recently joined WRI from the U.S. Environmental Protection Agency, where she was deputy director of the Office of Atmospheric Programs.

### Liz Cook and Paul Faeth

jointly led the Safe Climate, Sound Business project in 1998. Liz is co-director of WRI's Management Institute for Environment and Business. Paul is director of the Economics and Population Program. LiZ: "Our Safe Climate, Sound Business collaboration is a project that we undertook with General Motors, British Petroleum-Amoco, and Monsanto to create a vision of the future that would include a safe climate and sound business environment. We picked those companies as partners because their industries had traditionally been opposed to action on climate change, but the companies themselves were willing to sit down and try to find a way forward with us.

I am excited to say that, even though we developed a vision of how to solve the climate problem over the next 100 years, we concluded that, because the issue is so serious, we need to act now. Together, we published a comprehensive action agenda. The action agenda is what gives us a great springboard for continued activities with the business community. At WRI, we combine an ambitious vision of the future with pragmatic steps for getting there. Provocative and realistic advocacy – rooted in solid analysis – is an effective way to engage policy makers and business leaders. It's what draws me to WRI."

**Paul:** All of these companies that we've been engaged with are global companies. There are opportunities not just in the United States but in Europe and in many of the developing countries where they are expanding operations. After our release of *Safe Climate, Sound Business: An Action Agenda* in October 1998, GM invited us to visit their facilities in São Paulo to talk with their engineers. We met with the president to engage in conversations about how GM Brazil might also reduce greenhouse gas emissions. There are a lot of opportunities for a variety of companies to pursue, not just in the U.S. and Europe, but in the developing economies, too."

### Dennis Minano,

chief environmental officer for General Motors, worked with WRI staff on the Safe Climate, Sound Business project.

"We are pleased to be part of this bold and innovative approach where a unique combination of auto, oil, life sciences, and environmental organizations has constructively addressed the global climate issue with an action agenda that includes technology advancement and flexible market-oriented policies." **Rob:** "We've been working on a grass roots project within WRI to reduce our carbon dioxide emissions. Even though WRI isn't a big factory with smokestacks, we're responsible for quite a lot of emissions. Anytime you turn on a lightbulb, use a piece of paper, drive your car, or take a plane ride, you are using carbon-based fossil fuels. Burning those fuels releases carbon dioxide into the atmosphere, which traps heat, just like a greenhouse."

*Gwen:* "WRI is committed to going from slightly over 2,000 tons of carbon dioxide emissions a year down to 1,300 tons a year by 2001, which represents a 7 percent reduction from our 1990 emissions—the same level of reduction countries are being asked to make under the Kyoto Protocol. We've committed to reduce our net emissions to zero by 2005.

Many people think that addressing climate change is difficult and expensive. We know that it's not. There are a lot of simple steps that make sense, that are more efficient, and that improve our environment in other ways, so we want to take advantage of those opportunities. We have designed our new office space to incorporate energy-saving lighting, appliances, and communication technologies. We also want to do something that contributes to our other work at WRI. In the Safe Climate, Sound Business project, we set out an action agenda for businesses and governments. We thought that we should put our own recommendations into practice. We'll be reporting our findings and our progress at http://www.wri.org/wri/press/co2comm.html."

### Gwen Parker and Rob Day are leading the effort to implement WRI's commitment to reduce our carbon dioxide emissions. Gwen is a research analyst in the **Economics and Population** Program. Rob, now at the Kellogg Graduate School of Management, was an associate in corporate change for the Management Institute for Environment and

Business Program.



### To Increase Prosperity while Improving the Environment

To meet the aspirations of a growing population, we need to produce food without spreading toxic pesticides and fiber without degrading frontier forests. We need to develop energy sources without polluting the air or water and provide transportation without relying on internal combustion. WRI is setting the agenda for businesses to provide these goods and services without destroying the environment.

### WRI's work:

Encourages the information technology industry to create profitable markets that will also protect the climate, promote development, and improve environmental management.

Provides information to capital markets worldwide that will lead them to reward environmental leaders.

Helps business schools in North and South America to train future leaders in sound, sustainable business practices.

*"Ten years ago* I could not find a job that would take advantage of my MBA and my years with IBM, while allowing me to pursue my passion for protecting the environment. So I tried unsuccessfully to start several for-profit enterprises to clean up the environment and then had great success with MEB. We found that business people were receptive to the message that investments in a better environment could generate competitive advantage. We set out to prove it with case studies, to help business schools teach it, and to help companies do it. Then we found WRI, and it has been a great marriage of policy and practice, of science and management, and of the private and public sector.

Since the merger with MEB in 1996, WRI has engaged the business community in many ways. The MEB work focuses on business problems, such as making a financial case for protecting the environment, developing better measures, or enrolling business champions in the effort. We work on building demand for more sustainable products. We have worked with more than a dozen companies, including DuPont, Johnson & Johnson, Collins & Aikman, and Placer Dome. MEB also has an initiative that is developing new ventures in Latin America, and now in the U.S. We have a big effort to bring more environmental awareness to business schools in the U.S. and Latin America, and one emerging in China.

Two other areas in WRI have picked up on the value of connecting with industry. Both the politics and the action on climate are largely in the hands of industry, so the climate team has been engaging with companies like British Petroleum-Amoco, General Motors, and Monsanto. There's also a lot of work with the forest products industry. We are working with Macmillan Bloedel, which has made strong commitments to sustainable forest management, to analyze the financial benefit of these commitments and communicate our findings to Wall Street. We are also working with big forest product buyers, such as Home Depot and Ikea, to research the implications of buying more sustainably harvested wood."

### Matthew Arnold

is senior vice president and chief operating officer. He founded the Management Institute for Environment and Business (MEB) in 1990 to help business schools and corporations integrate environmental issues into business strategy.

### WRI is creating the market for investment in green enterprises.

### Patricia Londoño

draws on her business experience in Colombia as director of Latin American Business Enterprises and New Ventures within WRI's Management Institute for Environment and Business. *"The objective* of the New Ventures project is to foster Latin American environmental enterprises as a means of promoting social, environmental, and economic equity in the region. Our strategic starting points are Central America, Colombia, Brazil; and our sectors of focus are renewable energy, ecotourism, sustainable agriculture, sustainable forestry, information technology, and cleaner production.

Our initial objective was to support five to ten companies, by providing business development services and access to large-scale financing, but we're more ambitious now in terms of the impact that we want to see in the region. So we're building the mechanisms through which hundreds of environmental enterprises will reach financing.

Over the last year and a half we have worked as a business advisory service with model enterprises. Our demonstration enterprises ranged from small, early-stage companies — such as Comercio Alternativo, a Costa Rican distributor of organic food products — to a start-up enterprise that provides alternative fibers for cushions and dashboards in a joint venture with a multinational car company. We realized that the demand for our services far outstrips our capacity to deliver; there are far more than ten enterprises in need of business development services. So, we are creating a capital brokering service. By brokering, we can more efficiently mobilize resources, both human and financial, and direct those resources into sustainable enterprise.

In the upcoming year we will launch the first Latin American Environmental Business Competition and Investor Forum. We developed the competition and forum as the regional counterpart of the successful models used in the United States and Europe to promote entrepreneurship and investment. We've also created the Environmental Enterprise Corps (EEC), a corps of business and technical professionals, business faculty, and students, who will offer business development services to our environmental entrepreneurs.

The competition will generate a significant flow of proposals; the EEC will filter and improve the quality of the business plans; and the forum will serve as the brokering grounds for the best investments in environmental enterprise in Latin America."

*"I have worked with WRI* since its inception, initially as a Congressional staffer dealing with policy issues. I've seen the cutting-edge work that WRI has done over the years feed right into the public policy arena with great ideas of what needed to be changed. WRI has always had a high reputation, both domestically and internationally.

When I came to WRI in 1998, I thought bringing my expertise in the digital networking field would fit very nicely with some of the things that were being discussed within MEB and the initiatives on climate and forestry. For example, building upon WRI's report, *Taking a Byte Out of Carbon*, done in conjunction with Electronic Industries Alliance, we've started looking at how we can get digital companies excited about investing in clean, climate-friendly energy technologies such as photovoltaic systems (PV). PV is currently cost-effective for many of the 2 billion people without access to electricity. Rural PV systems can be competitively marketed for the equivalent of \$1.25 per kWh, less than many of these folks now spend for kerosene and other alternative power sources. Furthermore, PV micro-power offers one of the most climate- and environment-friendly forms of electricity generation.

PV micro-power also enables powerful applications of digital technologies, such as delivering cooperative extension services, promoting self-paced learning, facilitating community health training and telemedicine, and creating opportunity for global trading of village crafts via wireless satellite communication capabilities.

The aggregate market opportunity through micro-power is enormous. The Micro-power for Micro-enterprise project is helping to accelerate the pace at which this new technology is adopted. We are encouraging computer and wireless communication services to tap into and expand this vast market for wireless power."

### Michael Totten, co-director of WRI's Management Institute for Environment and Business, won the 1999 Lewis Mumford Award for contributions to the environment.



# A Commitment to Put Ideas into Action

For hundreds of years, enterprises have expanded and national economies have grown by using more resources, burning more energy, creating more waste. That economic growth has improved human well-being dramatically by providing more goods and services, by creating more opportunities for trade and employment, and by underwriting more investments in technology and education. But the historical process of growth has also degraded biological resources, depleted energy supplies, and polluted the water, the land, and the air. WRI believes the remedy to environmental problems lies not in reducing growth, but in breaking the connection between expanded prosperity and depleted resources. We are working with governments, businesses, and civil society to find new ways to use resources more efficiently and to take advantage of new technologies and new markets.

*"WRI is evolving* into being more than a think tank. Here's a perfect example. Starting in 1992, I was involved in the 2050 project that WRI did with Brookings and the Santa Fe Institute. We were looking at long-term sustainability issues over the next 50 years. Out of that came my book, *Which World? Scenarios in the 21st Century*, published in 1998, which has opened some new audiences to WRI because it speaks in journalistic language about scenarios for the future.

When we started the 2050 project on long-term sustainability, it was a fairly analytical, academic kind of study. But out of that book came some ideas about how one might use these emerging new information technologies to accelerate development. WRI is now carrying this forward, beyond the inception of the idea, to form partnerships that can actually put the idea into action.

For example, I've helped with others to develop our Communication 2000 Program. This internal capacity-building effort applies new communication technologies in areas where we see the greatest need for future growth: to expand WRI's outreach and facilitate work with partners. In combination with some of the digital map tools and indicators that WRI has been developing, these new communication channels will give someone managing a forest, grassland, or watershed in a developing country access to information tools never before available. And, of course, there are a lot of resource managers in the world, and that looks like a market, both to the people who sell the software or provide the communication links and to those who provide the data.

From these projects came the idea to develop a private sector conference on the use of information technologies for sustainable development, both for increasing human welfare directly around the world and for enabling better management of natural resources. The idea is essentially to use these very powerful technologies for a broader purpose, which is largely one that the companies involved haven't understood might be an important market for them. So we're starting by developing this conference as a way to bring producers and potential users of technology together. By bringing them together, we can help them to form partnerships that will put the idea of sustainable development into action."

Allen Hammond, WRI's senior scientist and director of strategic analysis, provides leadership for introducing new analytic approaches and new communication technologies.

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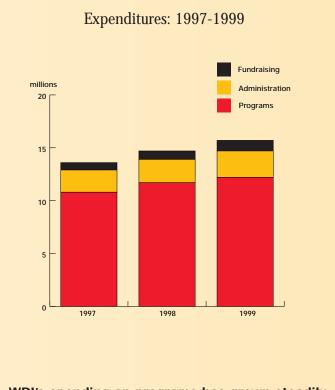
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**M.S. Swaminathan** Chairman, M.S. Swaminathan Research Foundation Madras, India

**Mostafa K. Tolba** President, International Centre for Environment and Development Cairo, Egypt

Victor L. Urquidi Research Professor, El Colégio de Mexico, A.C. Mexico, Mexico

**Ernst U. von Weizsäcker** President, Wuppertal Institute for Climate, Environment and Energy Wuppertal, Germany

### Julia Marton-Lefèvre

has been executive director of the International Council for Science and is now director of Leadership for Environment and Development (LEAD) International.

"WRI is at the forefront of efforts to seek greater communication and collaboration between the natural sciences and the human science community. We can't address environmental problems, human security problems, or food security problems without bringing together the knowledge of the hard sciences and the social sciences."

### Mustafa K. Tolba

was executive director of the U.N. Environment Programme before becoming president of the International Centre for Environment and Development in Cairo.

### "I was a founding father of the World Resources Institute,

with Gus Speth. When I see now where it has come since the beginning, I am proud to say that it is one of the most qualified institutions in the world to speak on environmental policy issues. WRI is having a major impact."

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