A GUIDE TO

WORLD RESOURCES 2002–2004

Decisions for the Earth

Balance, Voice, and Power

UNITED NATIONS DEVELOPMENT PROGRAMME

UNITED NATIONS ENVIRONMENT PROGRAMME

WORLD BANK

WORLD RESOURCES INSTITUTE

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World Resources Institute Washington, D.C.

How we decide

and *who* gets to decide

often determines *what* we decide.

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SUMMARY

DECISIONS FOR THE EARTH

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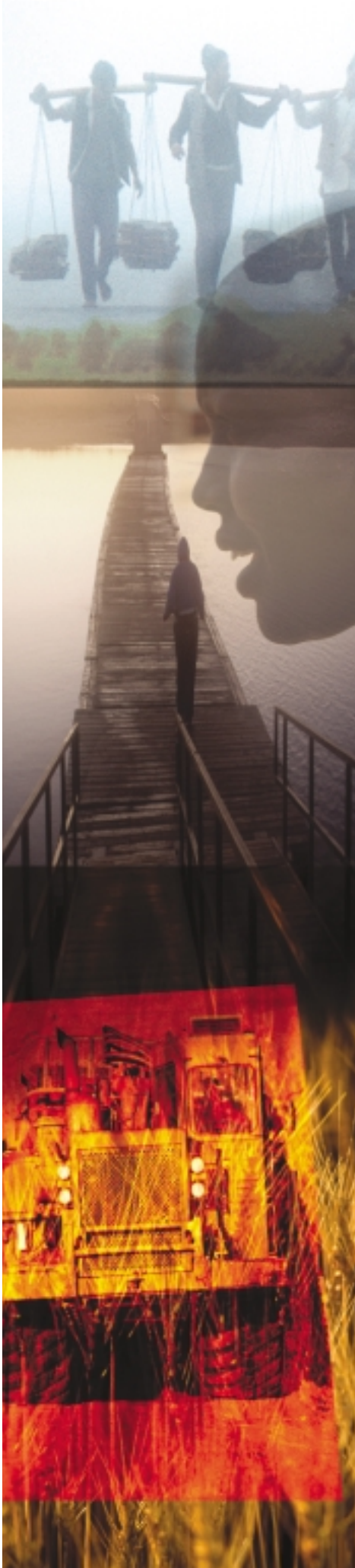
Who should decide whether to build a road or a dam, or how much timber or fish to harvest? What difference does it make if the public is consulted? Do democratic rights and civil liberties contribute to better environmental management? Should local citizens or advocacy groups have the right to appeal a decision they believe harms an ecosystem or is unfair? What is the best way to fight corruption among government bureaucrats who manage our forests, water, grasslands, and parks?

These are all questions about *how* we make environmental decisions and *who* makes them–the process we call *environmental governance*. How we decide and who gets to decide often determines *what* we decide, so questions of governance are crucial. That is especially true today, when our decisions stand in stark relief against a backdrop of dying reefs, degraded forests, and dirty air–the reflection of our past failures.

World Resources 2002–2004 focuses on the importance of good environmental governance. We explore how citizens, government managers, and business owners can foster better environmental decisions–decisions that meet the needs of both ecosystems and people with equity and balance.



The Goals of the Report

World Resources 2002–2004 has three goals. The first is to define in everyday terms what environmental governance means and how it relates to today's environmental trends and social conditions. That involves probing what lies behind the environmental decisions that shape our lives. It means enumerating the variety of players and decision points that mediate our impacts on Earth's ecosystems. It requires examining whether decisions are made transparently and the public accountability of the decision-makers. It involves exploring the role of good information and public participation in environmental affairs. It means looking at the rights and responsibilities that come with private and public ownership of the environment. These are all elements of how we exercise our authority over the planet, which is really what environmental governance is about.

The second goal is to assess the state of environmental governance in nations around the world. How close are we to embodying good governance practices? Measuring our governance performance is difficult. For example, how should we measure transparency of government agencies? What constitutes adequate public participation in resource-related decisions? What is an "effective" law or regulation?

Until now, no one has undertaken a systematic study of environmental governance indicators. Here we report on a first attempt to do this–the *Access Initiative*. This groundbreaking effort, undertaken by an international consortium of public interest groups, assesses the openness and accessibility of environmental decision-making in nine nations. The results of the Access Initiative give a detailed picture of how well the public in the surveyed nations can participate in local and national decisions about the natural environment they inhabit. They offer a guide to better governance by identifying the kinds of information and involvement people require to become active partners in the management of ecosystems.

Our third goal is to advance the thesis that attention to better environmental governance is one of the most direct routes to reversing the world's environmental decline. In practice, better governance must translate to more inclusive processes for making decisions about natural resources. Institutions must clearly integrate environmental concerns into everyday activities and economic decisions. Natural resource management agencies like forestry, agriculture, mining, and environment ministries need to reshape their mission and structure around maintaining the health of ecosystems.

In this report, we consider ecosystems as the fundamental biological engines of the world economy and the foundations of a sustainable future. They form the physical anchor for our consideration of environmental governance. For our purposes, environmental governance is only effective if it leads to fair and sustainable management of ecosystems.

What Is Environmental Governance?

Who let this happen? Who's responsible for this mess? These are typical questions people ask in reaction to a local environmental disaster or to the steady deterioration of global environmental conditions. For most people, it is not obvious who is "in charge" of the environment, or how decisions are made about developing, using, or managing ecosystems.

Governance is about decisions and how we make them. It is about the exercise of authority, about being in charge. It relates to decision-makers at all levels–government managers and ministers, business people, property owners, farmers, and consumers. In short, governance deals with who is responsible, how they wield their power, and how they are held accountable.

In this report, we look at governance specifically as it relates to the environment, and we try to evaluate it from the perspective of public empowerment and participation: Who has a voice? Who is empowered to make decisions that affect ecosystems and the communities that depend on them: is it local communities? private corporations? government agencies? international trade organizations?

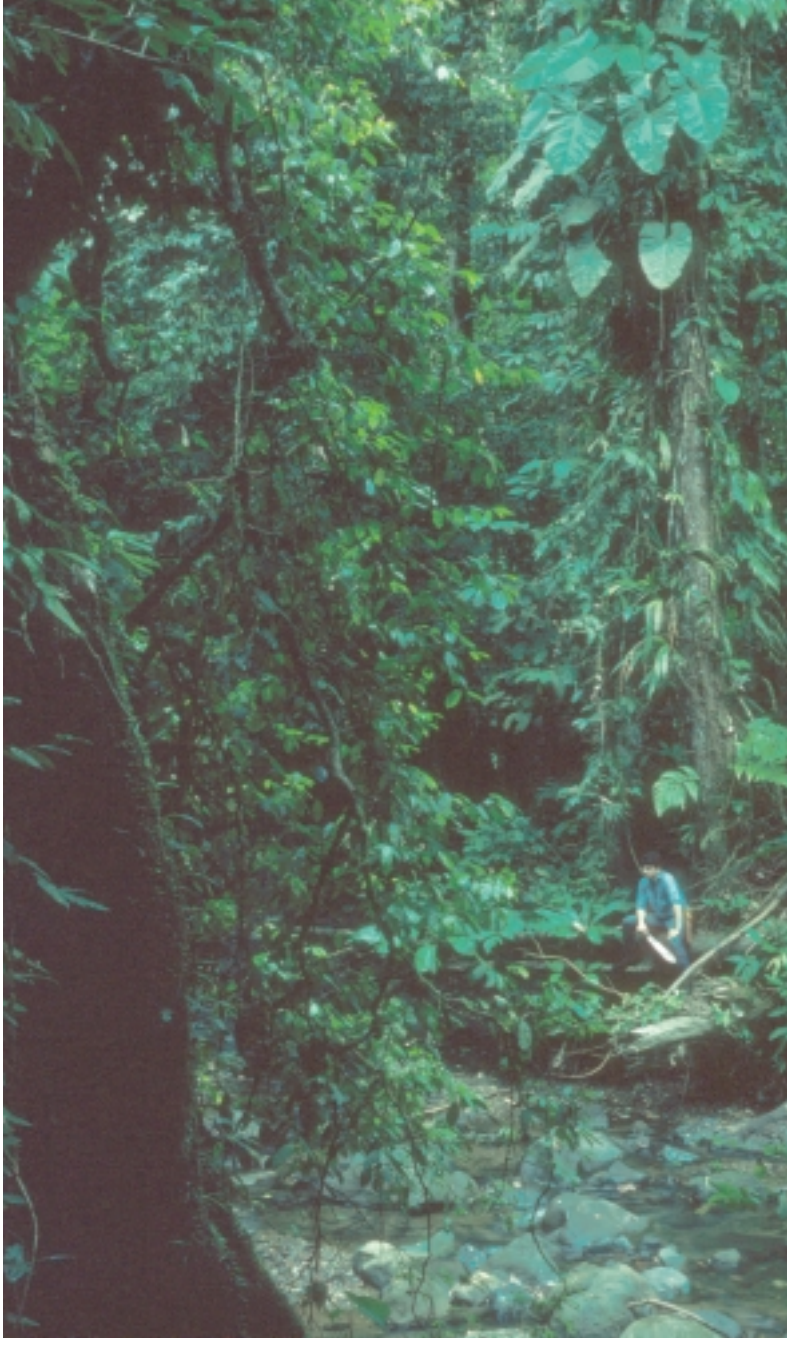
Property rights, water and mineral rights, and other use rights granted by the state are an important aspect of these questions. How are these rights awarded? To what extent should the public be involved when the exercise of these rights affects the surrounding environment and human communities? What about indigenous groups and the poor who are frequently denied these rights? What if no one "owns" a resource, such as deep ocean fish stocks, and there is little effective control over its use–an absence of authority? These are governance matters as well.

Environmental governance is also about the manner in which decisions are made: in secret or in public? Who has a seat at the table during deliberations? How are the interests of affected communities and ecosystems represented? How are decision-makers held responsible for the integrity of the decision process and for the results of their decisions?

Unfamiliar but Everyday

Although the term *governance* may not be familiar in common parlance, the themes of governance are all around us. U.S.-based Enron Corporation's misleading energy trading practices. Human displacement by China's Three Gorges Dam. "Salmon wars" between the United States and Canada over harvest limits for Pacific salmon. The struggle over whether genetically modified foods should be labeled or barred from trade. The political battle surrounding the Kyoto Protocol to address climate change. These cases deal with secret decisions, decisions that lack local backing, disputes over rules, fairness, protecting the public interest.

In fact, governance issues–and matters of environmental governance in particular–are extraordinarily dynamic today.



The right of citizen participation; the transparency of organizations and processes; the need to address public corruption; the right to obtain information from governments and businesses about environmental conditions, pollutants, or land use decisions; the extent to which environmental protection should be included in global trade agreements: all of these are the subject not just of academic policy discussions, but daily newspaper articles and hot public debate.

We see governance at work in the decisions about whether we will log or graze a certain area, build a road through a park or a large undeveloped parcel, divert water from a river for farms or houses nearby. These decisions have obvious and immediate environmental impacts.

But governance also encompasses all the ways we exercise authority over the environment more generally, including how we set the timing or the overall strategy of management actions like timber harvests or fishing limits, and how we

Environmental governance is the exercise of authority over natural resources and the environment.

determine their financing and enforcement. Even the setting of economic policies such as tariffs on imported logs, subsidies for fishing boats or renewable energy, or giving a green light to foreign investment in a natural gas pipeline, are important aspects of environmental governance since these policies determine the economic incentives that drive business decisions that impact the environment.

Environmental governance is inevitably associated with *institutions*—the organizations where official authority often resides. These commonly include the government ministries of environment, agriculture, mining, or finance, or environmental regulatory agencies. But governance also encompasses oversight or advisory groups, corporate councils and trade groups, and even private think tanks and advocacy groups that help to formulate policy. Overall, then, environmental governance takes in the whole range of institutions and decision-making practices that communities use to manage their environment and control natural resources.

Sometimes we use the term governance very broadly to describe not just the process of decision-making, but the actual management actions—where and when to log, or how to limit fishing or distribute grazing permits—that result. In other words, in our day-to-day experience we intertwine environmental governance and ecosystem management, which is where the real impact of decisions becomes visible. In truth, environmental governance goes beyond the actual decisions on how to manage natural resources to include the decision-making framework—the laws, policies, regulations, bureaucracies, and formal procedures—within which managers make their decisions. It sets the larger context that either enables or constrains management.

Does It Reach Beyond Governments?

A common mistake is to confuse governance with *government*—the set of institutions we normally associate with political authority. Clearly, governments are important players in how ecosystems are managed and how natural resources are exploited or conserved. National laws and regulatory frameworks set the formal rules for managing natural resources by recognizing discrete property, mineral, or water rights. They also establish the legal mandates of government agencies with responsibility for environmental protection and resource management. It is these government institutions that we frequently associate with big environmental decisions and the responsibility to govern nature.

Governments also act internationally (often through the United Nations) to set ground rules about pollution, water use, fishing fleets, and other activities that affect resources across political boundaries. One of the most visible aspects of this global environmental governance is a large set of international environmental treaties, such as the Convention on Biological Diversity, the Kyoto Protocol on greenhouse gases, the Convention on the Law of the Sea, and the Montreal Protocol to protect the stratospheric ozone layer. Multinational bodies such as the World Bank and the World Trade Organization are also assuming greater environmental significance in an increasingly globalized and interdependent world economy.

But environmental governance goes beyond the official actions of governments. Sometimes, corporations or individuals act in the state's place to harvest or manage resources. For instance, states may grant forest or mining concessions to companies for a fee, allowing them broad discretion to cut trees, build roads, or make other important land use deci-

sions. Or the state may privatize once-public functions like the delivery of water, electricity, or wastewater treatment, again putting a host of environmental choices–from water pricing to power plant construction–into private hands.

Nongovernmental organizations (NGOs) such as environmental organizations, civic groups, labor unions, and neighborhood groups have become potent advocates for better and fairer environmental decisions in the last three decades. The actions of industry groups, trade associations, and shareholder groups also influence the way companies do business by promoting or obstructing cleaner processes, better environmental accounting practices, or by pointing out the financial liabilities of business practices that harm the environment.

Governance includes our individual choices and actions when these influence larger public policies or affect corporate behavior. Voting, lobbying, participating in public hearings, or joining an environmental watchdog or monitoring group are typical ways that individuals can influence environmental decisions. Our actions as consumers are powerful governance forces. For example, the choice to purchase environmentally friendly products like organic produce, certified lumber, or a fuel-efficient car influences the environmental behavior of businesses through the marketplace. Consumer choices can sometimes be as powerful as government regulations in tempering business decisions that affect the environment.

Governance and Ecosystems

An ecosystem is a community of interacting organisms and the physical environment they live in. They are the productive engines of the planet—the source of food, water, and other biological goods and services that sustain us. To be effective, environmental governance must lead to fair and sustainable management of ecosystems. However, ecosystems bring special governance challenges.

Ecosystem scales differ: Ecosystems exist at multiple scales, from a single stream, bog, or meadow, to a major river system or regional forest. How can management structures be tailored to match?

Uses and users vary: Ecosystems produce many different goods and services—fish, timber, crops, recreation—and must serve many different stakeholders, from local residents to commercial harvesters. Not all these uses and users are compatible, but what is the optimum mix? How are trade-offs made and disputes resolved?

Threats are cumulative: Many ecosystem threats, such as habitat loss or agricultural run-off into waterways, come from cumulative actions that occur at different scales and from different sources. How can environmental policies address these large scale and integrated threats?

Recovery while in use: Most ecosystems are already impaired in some way, but they remain under heavy use. How can use be moderated to allow recovery without disenfranchising those who depend on ecosystems for subsistence and employment?

Our Dependence and Impact on Ecosystems

Annual value of global agricultural production	**$1.3 trillion**
Percentage of global agricultural lands showing soil degradation	**65%**
Population directly dependent on forests for survival	**350 million**
Decline in global forest cover since preagricultural times	**50%**
Population dependent primarily on fish for protein	**1 billion**
Percentage of global fisheries overfished or fished at their biological limit	**75%**
Percentage of world population living in water-stressed river basins	**41%**
Percentage of normal global river flow extracted for human use	**20%**
Percentage of major river basins strongly or moderately fragmented by dams	**60%**
Percentage of Earth's total biological productivity diverted to human use	**40–50%**

WHAT'S AT STAKE?

Much of today's environmental degradation is a direct result of poor environmental governance.

- The depletion of many marine fish stocks, such as cod, blue fin tuna, or patagonian toothfish, stems from the failure of government fishing ministries to limit and allocate fishing rights among a growing number of fishers that use increasingly effective fishing gear. In many countries, no effective authority exists over fishing activities, resulting in open access and unrestricted exploitation. The fact that many fish stocks–such as salmon and tuna–move between the waters of two or more nations has led to conflicts and magnified the governance failure.

- The disruption of the world's river systems with dams and canals that alter the normal hydrological cycle is often the result of compartmentalized decision-making, in which plans to build dams, extend irrigated agriculture, and fill wetlands have been formulated without considering the impacts on downstream water users or the aquatic environment itself.

- Deforestation is often catalyzed by timber companies that gain access to forest resources through corruption, and is exacerbated by the failure of government agencies to enforce forest protection laws, or get beyond management approaches that emphasize commodity production rather than forest health.

- At the global level, the refusal of the United States and a few other nations to embrace the Kyoto Protocol or negotiate other measures to systematically cut greenhouse gas emissions is the result of disagreement over a fair way to distribute the costs of such emission reductions.

The inability of government institutions to manage ecosystems for their health rather than simply for maximum yield, to fairly apportion costs and benefits of natural resource use, to manage resources across departmental and political boundaries, or to confront the disease of corruption are hallmarks of poor environmental governance. Business decision-makers have compounded these problems by marginalizing environmental concerns in their business models.

As a result, ecosystems remain at great jeopardy, and with them the livelihoods and continued well-being of communities everywhere. Poor communities are particularly vulnerable to failed governance, since they rely more heavily on natural resources for subsistence and income, and are less likely to share in property rights that give them legal control over these resources.

Nonetheless, improved environmental governance holds promise for reversing ecosystem degradation by a more careful balancing of human needs and ecosystem processes.

- In the Indian states of West Bengal, Orissa, and several others, a change in the states' forest policies has led to a significant recovery of degraded forests and the biodiversity they harbor. Rather than treat local people as interlopers on state-owned forest lands, the state is allowing local communities to manage some of the forests themselves. Local people share the increased productivity of the recovering forests with the state, providing a strong incentive for long-term stewardship and self-policing.

- In the Philippines, cooperation among government officials, non-governmental organizations (NGOs), religious leaders, and the media has helped reduce illegal logging.

- In the United Kingdom, a law requiring industrial facilities to provide information to the public about toxic releases led to a 40 percent reduction in releases of cancer-causing substances to the air over the past three years.

- South Africa's recent water reforms take an unusually far-sighted, ecologically grounded approach to resource management. Laws enacted in 1997 and 1998 mandate that the country maintain an environmental "reserve"–the amount of water that freshwater systems require to remain robust–while also ensuring access to a basic provision of water as every citizen's "right," and vastly expanding the scope for local participation in water management.

- At the international level, the Montreal Protocol on Substances that Deplete the Ozone Layer–a treaty concluded in 1987–has been instrumental in nearly eliminating the manufacture and use of chemicals that harm the stratospheric ozone layer in developed countries. And through the treaty's innovative financing mechanism, developing countries have already cut their consumption of these chemicals by half, on the way to fully phasing them out by 2010.

Better Governance, Better Equity

One of the strongest arguments for encouraging better governance is that it requires us to focus—not just on the technical details of how to manage, but on the social dimension of natural resource use and ecosystem management. This includes how we value ecosystems, how we set the goals for our management, how we negotiate trade-offs between conflicting uses or goals, and how we make sure the costs and benefits of our decisions are equitably shared. In fact, a focus on governance adds an explicit consideration of *fairness* to the goals of ecosystem management.

Science and technology can help us answer questions about what kinds of management actions are most *effective* in protecting or restoring ecological integrity. For example, con-

Seven Elements of Environmental Governance

1 **Institutions and Laws:** *Who makes and enforces the rules for using natural resources? • What are the rules and the penalties for breaking them? • Who resolves disputes?*

Government ministries; regional water or pollution control boards; local zoning departments and governing councils; international bodies like the United Nations or World Trade Organization; industry trade organizations. • Environmental and economic laws, policies, rules, treaties, and enforcement regimes; corporate codes of conduct. • Courts and administrative review panels.

2 **Participation Rights and Representation:** *How can the public influence or contest the rules over natural resources? • Who represents those who use or depend on natural resources when decisions on these resources are made?*

Freedom of Information laws; public hearings, reviews, and comment periods on environmental plans and actions; ability to sue in court, lodge a complaint, or demand an administrative review of a rule or decision. • Elected legislators, appointed representatives, nongovernmental organizations (NGOs) representing local people or other environmental stakeholders.

3 **Authority Level:** *At what level or scale—local, regional, national, international—does the authority over resources reside?*

Distribution of official rulemaking, budgeting, and investment power at different levels of government (e.g., district forest office, regional air pollution control board, national agriculture ministry, international river basin authority).

4 **Accountability and Transparency:** *How do those who control and manage natural resources answer for their decisions, and to whom? • How open to scrutiny is the decision-making process?*

Elections; public oversight bodies; performance reviews; opinion polls; financial audits; corporate boards of directors; stockholder meetings. • Availability of public records of rules, decisions, and complaints; corporate financial statements; public inventories of pollutant releases from industrial facilities, power plants, and water treatment facilities.

5 **Property Rights and Tenure:** *Who owns a natural resource or has the legal right to control it?*

Land titles; water, mineral, fishing, or other use rights; tribal or traditional community-based property rights; logging, mining, and park recreation concessions.

6 **Markets and Financial Flows:** *How do financial practices, economic policies, and market behavior influence authority over natural resources?*

Private sector investment patterns and lending practices; government aid and lending by multilateral development banks; trade policies and tariffs; corporate business strategies; organized consumer activities such as product boycotts or preferences; stockholder initiatives related to company environmental behavior.

7 **Science and Risk:** *How are ecological and social science incorporated into decisions on natural resource use to reduce risks to people and ecosystems and identify new opportunities?*

Science advisory panels (e.g., Intergovernmental Panel on Climate Change [IPCC]); natural resource inventories (e.g., Food and Agriculture Organization of the United Nations biennial State of World Fisheries and Aquaculture report); ground- and satellite-based ecosystem monitoring programs (e.g., Millennium Ecosystem Assessment); national censuses and economic tracking; company health, safety, and environment reports.

Information Technology: A Map to Accountability

Around the world, individuals and civil society are gaining influence over resource decisions once made only by the elite. In part, this reflects a new ability to gather and wield environmental information as a lever for greater government accountability. Global Forest Watch (GFW), a nongovernmental organization dedicated to monitoring and publicizing what goes on in the world's forests, is an example of the potential for new information technologies to change old governance patterns.

The Technology of Access

The satellite image that Susan Minnemeyer has created of Cameroon's forests is a treasure map: a detailed key to the region's timber resources and routes of access. Minnemeyer, head mapper for GFW, adds information layer by layer to enhance the image: she outlines areas leased by the government to private firms for harvest, park boundaries, and logging roads–both new and existing.

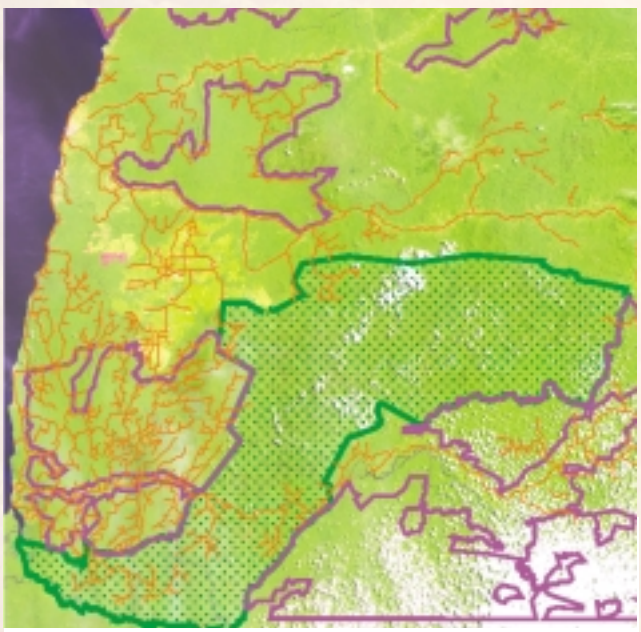
Using mapping capabilities (called *geographic information systems*, or GIS) developed over the last two decades and a network of on-the-ground observers, GFW has broken the usual government and industry monopoly on forest information. By providing independent oversight of how forests are used and who reaps the benefits, GFW encourages transparency in local forest decisions—such as who can harvest timber, build roads, establish plantations or farms—and helps to detect and restrain illegal logging and under-the-table deals by forest bureaucrats.

Information Is Power

Oversight requires vigilance, technology, and teamwork. Many of the new forest roads on Minnemeyer's map are legitimate access roads into active timber concessions, but others impinge on parks and protected areas or zones not yet legally open to logging. When the mapping team finds those, they contact observers on the ground who can verify illegal activity. In each of eight forest nations, GFW teams up with local forest advocates who monitor the activities of loggers in their areas, access government and timber company records when possible, and press the case when irregularities are found.

This application of new technology, focused and interpreted with local expertise, has brought unaccustomed access to forest officials and government decision-makers. In the past, when local environmental advocates met with government regulators to discuss oversight of logging concessions, they were often dismissed, even though they had direct knowledge of abuses and infractions. Often, when they asked officials for maps of forest concessions to check their findings, they were told that none existed. Today, they can bring their own maps—credible, computer-generated, and easy to update. While forestry officials may not be authorized to release maps like GFW's, they may be willing to correct, update, or at least endorse the forest maps that GFW produces—in the process confirming data they would not have volunteered.

With accurate and timely data available at the click of a mouse, reporters are more willing to cover stories that would otherwise be vague. In Canada and the African nation of Gabon, Global Forest Watch maps, accessible via the Internet, have formed the basis for newspaper and magazine articles detailing trends in forest use. Using GFW's web-based maps and his own knowledge of Gabon's political scene, one journalist linked many errant logging companies to close associates of the country's top politicians.



A satellite image of southwestern Cameroon showing Campo Ma'an National Park (green) and logging concessions (purple) in the area. Logging roads digitized from 1999–2001 satellite imagery are shown in orange.

Brokering Change

By compiling information and making it freely available to all—governments, local citizen groups, industries, environmental nongovernmental organizations (NGOs), and international wood consumers—Global Forest Watch strives to be an honest broker of forest information. This comprehensive information can be a powerful force for better resource management. The Swedish furniture maker IKEA uses GFW data to avoid buying uncertified wood from the world's remaining intact forests. Reliable information is so important to their green

marketing strategy and corporate image that they help fund GFW's data collection. Other large wood consumers like Home Depot in the United States are also starting to support responsible forest management, and are eager for better information on the harvest practices of their timber sources. By giving these large customers the tools to pressure major exporting nations, GFW begins to change the incentives for good forest management.

The success of GFW shows that technological innovation can be a catalyst for changing how decisions are made and who shares in the decision-making process. Unfortunately, new technologies can just as easily undermine sound decision-making and public participation. The same satellite data and mapping software that GFW relies on to track forest trends can also be used by industries to locate prime timber for quick extraction. And the same communication technologies that allow environmental networking and encourage media coverage can facilitate public graft and illegal logging, and make it easy to transfer ill-gotten gains offshore.

As new standards for disclosure make data more available, technology will increasingly supply ecosystem information to the people who need it in a form they can use. At their best, neutral brokers such as Global Forest Watch allow the forest ecosystem to speak for itself, assuring regulators, stakeholders, and consumers that the data they are using are as complete and unbiased as possible.

For more information about Global Forest Watch, visit *www.globalforestwatch.org.*

servation science can estimate how large an area of forest we should preserve to ensure the survival of various species of wildlife or plants. Atmospheric science can model how quickly greenhouse gas emissions must be reduced to stabilize their build-up in the atmosphere and avoid catastrophic changes in the global climate system.

However, conservation science cannot tell us how best to resolve conflicts between local communities and logging companies over the fate of the forest, and atmospheric science cannot tell us how responsibility for reducing emissions should be distributed. These are governance questions involving the balance of ethical and moral concerns, social and economic goals, and the tolerances of the natural system.

Similarly, economic analysis can answer questions about the most *efficient* methods for achieving various ecosystem management objectives. For example, economic analysis can inform the design of a system of taxes and subsidies to encourage electricity producers to build more efficient power plants, or to encourage polluting factories to reduce their emissions.

But economic analysis cannot tell us how best to respond to community concerns over the siting of those power plants and factories. Again, it is the challenge of governance to answer the questions: "What's fair?" and "What's the right balance?" in addition to giving insights into what is efficient and effective in the real world of competing interests.

The Aarhus Convention:

State-of-the-Art Access

The Aarhus Convention is an environmental treaty that turns the 1992 Rio Declaration's vague commitments to the principles of access into specific legal obligations. Since its negotiation in 1998 as a regional agreement among the countries of the United Nations Economic Commission for Europe (UNECE), 22 nations in Europe and Central Asia have become Parties to the treaty, and 40 have signed it. It entered into force in October 2001, and is now open to signature by all nations of the world.

The Convention not only recognizes the basic right of every person of present and future generations to a healthy environment but also specifies how the authorities at all levels will provide fair and transparent decision-making processes, access to information, and access to redress. For example, the Convention requires broad access to information about the state of air and atmosphere, water, land, and biological diversity; information about influences on the environment such as energy, noise, development plans, and policies; and information about how these influences affect human health and safety. A person does not need to prove "legal standing" to request information or to comment on official decisions that affect the environment, and the Convention requires that governments respond to requests for information from any person of any nationality within one month.

The Aarhus Convention also gives citizens, organizations, and governments the right to investigate and seek to curtail pollution caused by public and private entities in other countries that are parties to the treaty. For example, a Hungarian public interest group could demand information on airborne emissions from a Czech factory. For most signatory countries, meeting the standards of the treaty will require authorities to change how they disseminate environmental information to the public, to create new systems of environmental reporting by businesses and government, to improve the practice of public notification and comment, and to change judicial processes.

Adopting and implementing the Aarhus Convention's principles beyond its European base could provide a straightforward route to better access at a global level. But while there is growing interest in endorsing the Aarhus principles in Latin America, southern Africa, and the Asia-Pacific region, many countries perceive the treaty's concepts of democratic decision-making about the environment as too liberal or threatening to commercial confidentiality. Some countries are also reluctant to adopt a treaty that they did not have a chance to shape initially. Nonetheless, the Aarhus Convention stands as an example of real progress toward a global understanding of what access is and how it can be manifested in national laws and practices.

Principles of Environmental Governance

We have known the basic principles of good environmental decision-making for more than a decade. The 172 nations that attended the Rio Earth Summit in 1992 all endorsed environmental governance principles when they signed the *Rio Declaration on Environment and Development*–a charter of 27 principles meant to guide the world community toward sustainable development. The problem in applying these good governance practices is not their novelty, but the fact that they profoundly challenge traditional government institutions and economic practices.

Make Decisions at the Appropriate Level

Often, decisions about ecosystems and natural resources are made far from the resource–perhaps in a capital city or an agency's regional headquarters–by people who lack the local context or an understanding of their decision's local impact. In other words, decision-making tends to be centralized and isolated from the people and places affected. Sometimes, a better approach is to let local communities or neighborhoods make decisions about the resources around them. In many instances, drawing on local knowledge can bring more informed decisions that serve ecosystems and people better.

But local management may not be appropriate or practical in every instance, and there is a time and place for agencies above the local level to intervene, such as national or regional authorities. Generally, the appropriate level for decision-making is determined by the *scale* of the natural system to be managed. Management of a small forest could appropriately be undertaken by the surrounding communities, while management of a major river basin or an area of globally significant biodiversity might require cooperation across national borders. Thus, finding the "appropriate level" to place authority over ecosystem decisions sometimes requires devolving the authority to lower, more local levels of decision-making–called *decentralization*. At other times it involves relinquishing authority to higher levels with a greater geographic and political reach. This is especially true when tackling problems like air pollution and acid rain that have "transboundary" effects and require regional solutions.

Sometimes, the most effective recipe for environmental governance involves mixed responsibility–granting some kinds of authority to the local level and retaining others at a higher level. For example, it might be appropriate for a national wildlife management agency to retain the authority for setting annual quotas for hunting licenses based on large scale trends in wildlife populations. But decisions about whether, when, and how to award such licenses within the established quota might best be left to local governments or community organizations that can respond to local hunting practices and conditions.

Provide Access to Information, Participation, and Redress

The heart of good environmental governance is decision-making that is "accessible"–that is, decisions are transparent and open to public input and oversight. The Rio Declaration established that access has three primary elements–access to information, access to decision-making and the opportunity to participate, and access to redress and legal remedy. These three *access principles* must all be present for an effective system of public participation.

The first foundation of access is *information*: about the environment, about the decisions at hand and their environmental implications, and about the decision-making process itself. Without these, meaningful public participation is impossible. For example, communities have a right to know about contaminants in local drinking water supplies and their potential health impacts so that they can make informed decisions about whether to drink the water. Communities also need to be informed about proposed actions that might threaten drinking water quality–such as the opening of a hazardous waste storage site–so that they can ensure that their interests are represented when these actions are debated.

A second foundation of access is the *opportunity to participate* in the decision-making process itself–the chance to give input and influence the decision-makers. In addition to opportunities to provide input on specific projects–such as the siting of a dam or the size of a timber harvest–the public also needs a chance to weigh in on the design of more general laws, policies, or regulations. Thus, new framework legislation related to forests or mining, changes in policies on land use planning, and revisions to regulations governing automobile emission standards should all be subject to public hearings, comment periods, or other mechanisms to solicit public input, beginning at the earliest stages.

The third foundation of access is the *ability to seek redress or challenge a decision* if stakeholders consider it flawed or unfair. Usually, this translates to giving the public access to judicial or administrative remedies if public officials fail to perform their management or decision-making roles appropriately. For example, forest advocates may wish to challenge the accuracy of an analysis that managers have used to set the size and location of a logging concession. Or if a government agency refuses on the grounds of national security to provide information about a project or facility with significant environmental impacts, citizens may want to appeal that decision to an independent arbiter.

Integrate the Environment into All Decisions

The *integration principle* asserts that consideration for the environment should be part of every major business, resource, or economic development decision. This means making the environment a frontline factor in decisions rather than marginalizing it as something to be protected after the fact. Because ecosystems are affected by a wide range of decisions in every sector of the economy, ecosystem management and environmental protection cannot be the concern of environmental policy-makers alone. Ecosystems must be the responsibility of those charged with promoting agriculture and industrial development, as well as those focused on providing access to electricity, transport, and water services. They must be the concern of private businesses as much as public agencies, of financial investors as much as fisheries or forest managers.

A critical challenge is thus bringing the goals of environmental sustainability into the decision-making practices of organizations that do not see environmental concerns as part of their core mandates. For example, how can government agencies responsible for navigation and flood control be encouraged to conserve biodiversity when they alter the natural contours of rivers? How can the multinational development banks like the World Bank be encouraged to combine environmental sustainability with their efforts to reduce poverty? How can financial markets be altered to enable investors to include environmental performance as a factor when deciding which company's shares to buy? At least part of the answer is the improved practice of access and governing at the correct scale–the first two Rio principles. Participatory management and open, transparent decision-making about economic decisions gives people with environmental concerns the chance to raise them–to "integrate" their larger goals and priorities for the ecosystem with business decisions.

THE RIO DECLARATION: Key Governance Principles

Principle 4

In order to achieve sustainable development, environmental protection shall constitute an integral part of the development process and cannot be considered in isolation from it.

Principle 10

Environmental issues are best handled with the participation of all concerned citizens, at the relevant level. At the national level, each individual shall have appropriate access to information concerning the environment that is held by public authorities, including information on hazardous materials and activities in their communities, and the opportunity to participate in decision-making processes. States shall facilitate and encourage public awareness and participation by making information widely available. Effective access to judicial and administrative proceedings, including redress and remedy, shall be provided.

Adopted by 178 nations, June 1992, Rio de Janeiro, United Nations Conference on Environment and Development

INFORMATION

PARTICIPATION

JUSTICE

THE ELEMENTS OF ACCESS:
THE FOUNDATIONS OF PUBLIC PARTICIPATION

Why does this concept of "access" matter? Access to environmental information is important because an informed public is more alert to problems, more apt to challenge the conventional wisdom of government or corporate decision-makers, more capable of discussing the issues, and more likely to organize social and political change. Access to decisions matters because people want and need to shape the choices that affect their well-being—the quality of the air they breathe, the purity of the water they drink, the aesthetics of their neighborhood, or the wildness of their favorite place to hike. When people have access to justice—where independent courts supply remedy and redress free from politics—there is greater accountability for decisions that affect the environment.

The Access Initiative: How Open Is the Door to Participation?

In 2000, a global coalition of 25 civil society groups called the Access Initiative set out to measure the public's ability to participate in decisions about the environment. For this pilot assessment, the Access Initiative focused on laws and public experiences in nine countries: Chile, Hungary, India, Indonesia, Mexico, South Africa, Thailand, Uganda, and the United States. These countries represent a range of income levels, development paths, and cultural and political traditions. The findings, summarized here, give a good indication of public access to environmental decision-making around the globe.

The Access Initiative framed its assessment around the three elements of Principle 10 of the 1992 Rio Declaration, which asserts that access to information, to the decision-making process, and to a system of justice are all essential components of a comprehensive system of public participation. Assessment teams in each of the countries surveyed used a common methodology, including review of planning documents, legislation, and court cases; interviews with government officials and nongovernmental organizations (NGOs); questionnaires; requests for information; and media analysis. Using this material, the assessment teams measured how well public authorities provide:

1. **Access to Environmental Information.** Access to environmental information enables the public to make informed personal choices, contributes to the protection of the environment, and encourages improvement in environmental performance by industry.

   The Access Initiative focused on access to four critical types of environmental information:

- *Information about day-to-day environmental quality, such as air and water quality,* which helps people decide whether to exercise outside, drink water from the tap, or

take other actions to lessen environmental impacts on their health.

- *Information about environmental trends over time,* which creates a more enlightened public–one that is better able to connect its actions to environmental consequences and more likely to support policies that minimize environmental harm.

- *Information about pollution from industrial facilities,* which empowers NGOs, investors, neighbors, and consumers to press for responsible corporate citizenship.

- *Information about emergency situations and risks,* which enables people to protect their health or environment during events like a fire at an industrial plant.

These four categories represent a minimum standard for public authorities to use in providing environmental information.

To make their assessment, Access Initiative researchers looked at specific cases of government practice and industrial reporting. They rated governments on how well they generate and manage environmental information and on how easily citizens can obtain this information in a usable format and in a timely manner. They did not specifically rate the accuracy of the information, but stressed the effort made at its collection and dissemination. The assessment teams also examined the framework of laws and regulations in each country to determine its commitment to support people's access to environmental information through clearly defined and enforceable rights.

2. **Access to Decision-Making Affecting the Environment.** To get an indication of public participation in practice, the Access Initiative evaluated several specific kinds of decisions with environmental impacts and the degree to which a broad set of stakeholders or interested groups were able to participate early, easily, and substantively in each kind. Researchers examined how much opportunity the public has to influence:

- *National policies and plans,* including broad environmental and economic policies, such as South Africa's water management policy or Thailand's national provisions for siting power plants.

- *Provincial and local policies and plans,* like regional development plans in Hungary, and other subnational decisions that affect natural resources.

- *The design of environmentally significant projects,* like the licensing of a U.S. power plant.

Scores given for each of these categories were based on when and how easily people could participate and the degree to which authorities took public feedback into account. For example, researchers looked at when, how, and who was notified about pending decisions and opportunities for input, such as public hearings or comment periods. The teams also looked for the presence of laws and regulations ensuring people's right to participate in environmental decisions.

3. **Access to Justice and Remedy.** The Access Initiative evaluated whether individuals and organizations can seek legal remedy and redress when there is a failure to provide information or involve the public in decisions as required by law, or when citizens wish to dispute a decision or have it independently reviewed. Researchers scored countries on indicators of:

- *Enforceable rights and legal standing,* particularly the legal guarantees and provisions for access to information and participation that enable individuals and organizations to build a legal case. Just as important is the matter of "legal standing," or the eligibility to claim a legal right in court, file a suit, or post a grievance.

- *A process for review of disputed plans and policies,* including the presence of an independent, impartial, and ably administered judiciary, and the availability of review mechanisms in specific decisions like the awarding of timber or mining concessions.

Access Initiative research teams also looked at practical considerations that can limit access to justice, like the affordability of judicial and administrative services and legal help.

The Access Initiative findings provide more than just a picture of the state of environmental democracy in individual countries. The results reveal common accomplishments and failures across countries, pointing to the challenges that face most nations as they try to create effective national systems of access for their citizens.

ACCESS SCORECARD

How Much Can the Public Participate in Environmental Decisions?

THE ACCESS INITIATIVE is a first effort to systematically take stock of people's access to information, participation, and justice in decisions that affect the environment. This scorecard presents a comparative analysis of national assessments conducted by research teams in nine pilot countries: Chile, Hungary, India, Indonesia, Mexico, South Africa, Thailand, Uganda, and the United States.

High ●●●
Most cases had scores in the highest range. A high score does not necessarily represent the best practice possible.

Medium ●●●
Cases had scores in the mid range or showed great variation among cases.

Low ●
Most cases had scores in the lowest range. A low score does not necessarily represent the worst practice possible.

Access and **Quality** scores are averaged to yield an **Overall** score. Not all indicators were measured in all nine countries.

ACCESS TO ENVIRONMENTAL INFORMATION

How much access does the public have to:	Access	Quality	Overall
Information about day-to-day environmental quality			
Air quality information **FINDINGS:** The majority of countries make an effort to actively disseminate air monitoring data, at least in urban areas. The press, radio, or the Internet often provides daily updates. (7 cases assessed from 7 countries)	●●●	●●	●●
Water quality information **FINDINGS:** In six of the eight countries examined, data on drinking water quality were inaccessible, or only accessible with much effort. Often, data are fragmented among multiple agencies, making it difficult to get a complete picture of water quality. (8 cases assessed from 8 countries)	●	●●	●
Information about environmental trends			
State of Environment reports **FINDINGS:** State of Environment reporting processes are in place in eight of the nine countries surveyed. Six countries have produced at least two high-quality reports in the past decade. (18 cases assessed from 9 countries)	●●●	●●●	●●●
Information about pollution at industrial facilities			
Pollution compliance records from industrial sites **FINDINGS:** Industrial facilities report to the government on compliance with air and/or water pollution standards in all countries. Frequently, the reports were not available from the government although they could sometimes be obtained from companies themselves. (36 cases assessed from 8 countries)	●	●	●
A national inventory of industrial emissions **FINDINGS:** While countries generally require some kind of pollutant reporting from industrial facilities, only the United States specifically makes pollution data available to the public through a national inventory of pollution releases, by facility, in standard formats. Hungary and Mexico are developing similar inventories, called pollutant release and transfer registers. (9 countries assessed)	●	●	●
Information about emergency situations and risks			
Information about large-scale, highly visible accidents **FINDINGS:** The larger the scale of the emergency and the greater the media attention, the better the government effort to provide timely, accurate information in the cases examined. (8 cases assessed from 6 countries)	●●●	●●●	●●●
Information about localized accidents at private industrial facilities **FINDINGS:** Information about explosions and fires in private facilities is shrouded in secrecy. In four of five such emergencies examined, public authorities provided little or no information to local residents, or the information was supplied too late to be useful. (5 cases assessed from 4 countries)	●	●	●

Access is defined as:
- responsiveness by authorities to requests for information
- extent of active information dissemination
- provision of information in a range of formats and products
- timeliness and coverage during and after emergencies

Quality is defined as:
- clarity of content
- frequency of reporting
- breadth and coordination of coverage

ACCESS TO PARTICIPATION

How much opportunity does the public have to influence:

		Access	Quality	Overall
Participation in national policies and plans	**National environmental laws and plans** **FINDINGS:** Governments generally made adequate efforts to solicit or allow the public to submit comments on national policies or proposals about environmental issues. Maps and policy documents were readily available for public comment. (3 cases assessed from 3 countries)	● ● ●	● ●	● ●
	National sectoral policies (e.g., mining, power) **FINDINGS:** Efforts to incorporate the public's environmental concerns into plans for power provision and other sectoral decisions are minimal in cases examined. In two of the four cases examined, plans and policies underwent no review or consultation with affected populations or public interest groups. (5 cases assessed from 5 countries)	●	●	●
Participation in provincial and local policies and plans	**Provincial and local policies and zoning plans** **FINDINGS:** Participation and access vary widely at provincial and local levels; sectoral and issue-specific decisions are often made without broad input from stakeholders and without proactive efforts by relevant agencies to seek wider participation. (5 cases assessed from 4 countries)	● ●	● ●	● ●
Participation in the design of environmentally significant projects	**Projects requiring an Environmental Impact Assessment (EIA)** **FINDINGS:** An EIA process does not necessarily ensure public accessibility to the decision process. In cases examined, more effort was made to solicit public input in high profile projects with significant environmental impacts, but typically too late in the process to influence the result. (11 cases assessed from 7 countries)	●	● ●	●
	Projects not requiring an Environmental Impact Assessment (EIA) **FINDINGS:** Without a formal EIA, the right of the public to participate in decisions can be easily forgotten or ignored; these cases demonstrated a range of accessibility and quality of participation. (5 cases assessed from 5 countries)	● ●	●	●

Access is defined as:
- existence of opportunities to participate and the ability of the public to learn about these opportunities
- opportunity to learn about the outcome of environmental deliberations

Quality is defined as:
- inclusiveness of consultation
- timeliness of notification of opportunities to participate

ACCESS TO JUSTICE

To what extent does the public have:

		Access	Quality	Overall
Justice for all affected people	**Enforceable rights and legal standing in courts** **FINDINGS:** Most countries examined do not clearly define the scope of information in the public domain, agencies' responsibilities, or who has standing to pursue legal remedy. (9 countries assessed)	● ●	● ●	● ●
	A process of review for disputed plans and policies **FINDINGS:** In less than half the countries examined, the public can use administrative and judicial review to contest the way in which national or provincial policies were made. Justice is often expensive, complicated, and time-consuming. (9 countries assessed)	●	● ●	●

Access is defined as:
- legal standing
- affordability of legal help and fees
- the presence and diversity of mechanisms for dispute resolution and remedy

Quality is defined as:
- inclusiveness and clarity of legal mandates to disclose information
- inclusiveness of legal definitions of environmental information in the public domain

BOTTOM LINE: Governments scored high at providing their citizens with access to information, rated lower at providing opportunities to participate in decisions that affect the environment, and lagged on the provision of access to justice. A truly effective and empowering system of access requires the strong, integrated practice of all three principles.

Access Initiative Findings: The State of Access

Every country examined by the Access Initiative has sought in significant ways to widen citizen participation in environmental decision-making. However, people still have only limited opportunity to participate in the economic, political, and environmental decisions that affect their lives and their ecosystems. The Access Initiative findings show that governments in the nine countries surveyed scored highest at providing their citizens with access to information. They rated lower at providing opportunities to participate in decisions that affect the environment. Surveyed nations generally lagged on the provision of access to justice. A truly effective and empowering system of access requires the strong, integrated practice of all three principles.

Access to Information

Finding: Strong Laws, Weak Implementation

Strong laws guarantee access to information in all the countries examined–an important and encouraging finding. Since the Rio Earth Summit in 1992, the developing countries and transition economies included in the Access Initiative survey have introduced legal provisions and established the infrastructure for access to information. Three of the nine countries–Mexico, South Africa, and Thailand–have comprehensive legislation dealing with access to information, including constitutional guarantees to access, legislation addressing access to information generally, and legislation that specifically addresses access to environmental information. The other six countries have enshrined at least two of those three types of provisions in national law (see Table 1). Having the right to information embodied in law can offer many advantages, such as a consistent basis for applying and enforcing this right, and protection from having the right arbitrarily revoked or abridged.

Despite the general strength of legal provisions for access to environmental information, the implementation of these laws is typically weak among the surveyed countries. Government bureaucrats and agencies have wide discretion to decide what information is secret, what to share, how to share it, and with whom. Many important concepts–for example, what constitutes environmental information–are poorly defined. Few countries mandate that public agencies must maintain a

Table 1: Grading Legal Guarantees to Environmental Information

The Access Initiative looked for:	Country Assessments		
	Weak	Medium	Strong
Constitutional guarantees for access to information	**Chile and the United States** do not constitutionally guarantee the public's right to information.	**Hungary and India** do not guarantee the public's right to information in their constitutions, but court decisions have interpreted the right to free speech and a free press to include the right to information.	**Indonesia, Mexico, South Africa, Thailand, and Uganda** constitutionally guarantee the public's right to information.
Legislation addressing access to information generally, such as freedom of information legislation	**Uganda** has no special legislation on access to information.	**India and Indonesia** have Right to Information Bills pending legislative approval.	**Chile, Hungary, Mexico, South Africa, Thailand, and the United States** have freedom of information legislation.
Legislation specifically addressing access to environmental information	**Hungary, India, and Uganda** lack provisions specifically addressing access to environmental information. OR, access to different types of environmental information is treated in separate laws.	**No countries** in this category.	**Chile, Indonesia, Mexico, South Africa, Thailand, and the United States** have provisions that specifically support access to environmental information.

central environmental information service and few have established requirements for public disclosure of industry reports on compliance and environmental performance.

Finding: Room for Improvement in Access to Information

State of Environment reports are an important way for governments to inform citizens about their nation's environmental status. The Aarhus Convention, for example, requires signatories to publish State of Environment reports every three to four years. Access Initiative findings show that State of Environment reporting processes in most countries are good, providing citizens with long-term environmental trend data. This does not necessarily mean that the data provided are always accurate or complete (often they aren't), but does imply an effort by authorities to communicate at least a modicum of environmental information. Most of the countries examined have produced two or more State of Environment reports in the past decade, in both print and electronic form.

Citizens also have good access to data on outdoor air quality, such as the level of airborne particulates and ozone. The majority of countries make an effort to actively disseminate air monitoring data, at least in urban areas. The press, radio, or the Internet often provides daily updates.

By comparison, teams in six Access Initiative countries found no active dissemination of drinking water information to the public. Some countries, like Hungary and Thailand, disperse responsibility for collecting water data among multiple agencies and don't integrate the separate data collections into one comprehensive set of findings. For example, in Hungary, data on water quality are held by both the environmental inspectorate and the public health service; a citizen seeking a complete picture of Hungary's water situation must submit requests to both agencies.

Information about pollution from industrial facilities is the hardest information for the public to find, and is impossible to obtain in some of the surveyed countries. All the governments collect data on facility compliance with air and water laws, but of the nations surveyed only Hungary and the United States routinely make these data public. In Mexico, South Africa, and Uganda, researchers were unable to obtain any information about facility or sector performance from either companies or governments. Corporate rights of privacy are typically treated as paramount to the rights of individual citizens to know about their environment, limiting access to information about what companies discharge from their smokestacks and pipes. Most countries examined do not have an explicit policy limiting a corporation's rights to claim that information is confidential and requiring justification of that claim.

Newer public disclosure tools are also coming into play that, when more widely adopted, promise to improve accessibility of data on the environmental performance of private companies. Emissions inventories–which provide a listing of pollution emissions from each factory, power plant, or other private facility in standard formats–are among the most progressive. Among the nine countries evaluated, only the United States operates a mandatory emissions inventory (which it calls the Toxics Release Inventory) specifically aimed at making information available to the public. Hungary has a legal mandate to establish a similar system. Under a new law, Mexico is drafting regulations for mandatory public reporting by industrial facilities starting in 2003. Indonesia is moving toward greater disclosure of facility information through a public rating system that doesn't reveal specific data on company emissions, but does grade facilities on their environmental compliance.

Information on environmental emergencies such as large chemical spills into the water or air, explosions and fires at manufacturing plants, and even natural disasters like volcanic eruptions or earthquakes can have immediate bearing on citizens' health and safety, affecting their exposure to risk and their ability to evacuate disaster zones. Based on analyses of 13 emergency events, Access Initiative researchers found that access to information varies widely depending on the scale and nature of the emergency.

In the majority of cases, the public received adequate and timely information. However, governments generally made a greater effort to provide timely information during large-scale and visible emergencies than during smaller or more confined industrial accidents at private facilities. One reason may be that the larger-scale disasters draw greater media attention and occasionally international interest, motivating authorities in the spotlight to provide more timely and often more accurate information to the public about the immediate threats to health and the natural environment. However, researchers also found that once the attention fades, the public has little or no access to information about the long-term impacts of most events, regardless of their scale.

Access to Decision-Makers and Opportunities to Participate

Finding: Minimal Legal Rights to Public Participation

The right to public participation through hearings, environmental impact assessments, advisory groups, meetings with decision-makers, and other avenues is poorly articulated in the legal and constitutional frameworks of most of the surveyed countries. The majority of national legal frameworks:

- exclude certain groups or restrict them from participation
- don't require public participation in some sectors of the economy or for some development activities (such as the siting of forest or mining concessions) or
- lack adequate provisions for participation at different stages of the decision-making cycle.

With the exception of Thailand, public participation rights are not explicitly guaranteed in any of the constitutions or legal frameworks of the countries surveyed (see Table 2). Instead, public participation is usually articulated in government documents that are not legally binding, like public participation guidelines or manuals of "best practice."

Finding: The Burden Is on the Public

The Access Initiative found that opportunities to participate vary significantly depending on the government agencies involved, the scale and scope of the project under debate, and the type of policy under review. What stands out across the majority of cases, however, is that the onus of initiating participation in a decision-making process is on the public. In general, governments are not sufficiently proactive at seeking public input. This is true across the range of surveyed countries, regardless of economic development or income levels. For example, although Mexico provides broad constitutional guarantees to public participation, in practice, accessing documents pertinent to a decision or ensuring that a public consultation is carried out requires NGOs or affected communities to prove legal interest and to process formal requests.

Another common finding was that public participation is weak both at the early stages of decision-making and at the

Table 2: Grading Legal Rights to Participate

The Access Initiative looked for:	Country Assessments		
	Weak	Medium	Strong
Constitutional guarantees of public participation, freedom of speech, and freedom of assembly	**Chile, India, and Uganda** have constitutional guarantees, BUT the highest courts have limited their reach through decisions, or legal requirements limit how speech or freedom of assembly rights can be expressed.	**Hungary, South Africa, and Mexico** have strong constitutional guarantees for free speech and association, but they are not as well defined by the highest court's decisions.	**Thailand** includes the right to participation as well as broad freedoms of speech and assembly in its constitution. The **U.S.** Constitution includes strong protection of freedoms of speech and assembly.
Provisions for public notice and comment in sectoral policies and single development activities	**Thailand and Indonesia** have no such provisions.	**Chile, Hungary, India, and Uganda**: Notice and comment provisions are specified only for single development activities through EIA regulations.	**Mexico, South Africa, and the United States** have provisions requiring public notice and comment in specified types of both sectoral policies and single development activities.
Public notification and comment requirements for Environmental Impact Assessments (EIAs)	**Thailand** has no requirements for notification and comment for EIAs.	**Hungary, India, Mexico, and Uganda** require public notice and comment at the final stage of EIAs.	**Chile, Indonesia, South Africa and the United States** require public notice and comment at various stages of an EIA.
Broad legal definitions of the public and the public interest	**Chile, India, Indonesia, Thailand, and Uganda** do not define the public or the public interest in legal frameworks.	**Mexico** broadly defines the public interest in the constitution, but supporting legal regulations almost always restrict definition to persons affected or harmed by public or private action/decision.	**Hungary, South Africa, and the United States** broadly define the public and the public interest in legal frameworks.

end of the process when a decision's impacts are monitored and its effectiveness and acceptability reviewed. In other words, notification of opportunities to participate, circulation of project documents, and public consultations occur mainly in the middle stages of decision-making, when the parameters of the problem or possible solutions have already been defined and before they are actually implemented or adopted. This reduces "participation" to refining already-defined policies, projects, and solutions.

The use of Environmental Impact Assessments (EIAs) in most countries in the past 20 years has dramatically increased public access to decision-making that affects the environment. However, an EIA alone does not ensure adequate public participation. Access Initiative researchers found that all surveyed countries had provisions for public participation in EIAs. However, in practice, the public isn't consulted early enough in the process to really affect key decisions. In addition, officials often limit who is considered a "legitimate" participant and projects are selectively exempted from review and assessment that would require public involvement. Even if citizens are allowed to participate in the assessment process, there are very few provisions for actually incorporating their input into the final EIA report.

Access to Justice and Redress

When disputes arise over environmental decisions, or the public's rights to information and participation are ignored, a binding system of review and legal remedy is needed. Access Initiative researchers found that access to this kind of systematic dispute resolution by an impartial judiciary or administrative review was the weakest element of the three access principles.

Finding: Poor Procedures for Enforcement and Review

As mentioned earlier, countries have made much progress in the last decade in establishing a range of legal rights to environmental information and participation. Unfortunately, these rights are often not defined adequately enough to be legally enforceable, or the public is not given legal "standing" (the ability to appear in court or bring a legal suit). In other cases, there are no administrative procedures for reviewing decisions, registering complaints, and resolving disputes. The result is that the rights granted to the public in theory may not be effective in practice.

Access Initiative researchers found that in less than 50 percent of the cases they assessed was the public able to use administrative or judicial review to contest the way in which national or regional environmental policies were made. The situation is even worse when logging, mining, grazing, or other resource concessions are awarded or Environmental Impact Assessments are held. In most of these cases, either no administrative or judicial review is available or legal standing is limited to "affected" people, giving court and administrative officials the discretion to limit who actually has access. (See Table 3.) The efficiency, accountability, and independence of judicial systems also vary widely among the countries examined, undermining people's ability to enforce their access rights.

Finding: High Costs and Sluggish Processes

Legal costs are prohibitively high for the general public in all the surveyed countries. In Chile and Hungary, fees to register environmental cases can cost more than 20 percent of the average monthly income. Pro bono lawyers are typically available mainly in capital cities, not in rural areas. Only South Africa has a

Table 3: Grading Legal Rights to Review and Remedy

The Access Initiative asked:	**Country Assessments**		
	Weak	Medium	Strong
	Chile, Indonesia, Mexico, Thailand, and Uganda	**India and the United States**	**Hungary and South Africa**
Does a review process exist for decisions on projects with potential environmental impacts?	No review process is in place.	An administrative or judicial review process does exist.	Administrative review processes do exist.
	OR	**BUT**	**AND**
Who has legal standing to challenge these decisions?	Parties not participating in the decision-making process *have no standing* to challenge the decision.	Parties not participating in the decision-making process *have no standing* to challenge the decision.	Parties not participating in the decision-making process *do have standing* to invoke a challenge.

government-sponsored program with centers in the provinces that provide free legal help to the poor, and only the United States and Thailand have large national networks of pro bono lawyers.

Even where fees aren't a tremendous obstacle to justice, incidental legal expenses add up and the complexity and length of the legal process are a burden. This is particularly a problem for the rural poor and community organizations who lack the time and resources to pursue long court cases or to travel to cities to press a case.

Improving Access: What's Needed?

Better access will require investments to increase the supply of information and opportunities to participate that the government provides. Better access also will require greater demand for access rights from citizens, community organizations, and advocacy groups.

Improved Supply of "Access"

Strengthening legal provisions for access to information, participation, and legal remedy, and working with civil society organizations to implement those provisions are clearly critical steps toward more effective public participation in environmental decisions. But governments also must improve their capacity to generate and disclose information, and to solicit and respond to public feedback. For example, the UN Environment Programme stresses the need for countries to maintain a central environmental information service, and to commit to a practice of early consultation with stakeholders in environmental decisions. This includes ensuring that the public always has access to adequate information, including environmental impact statements, prior to participating in public deliberations.

All countries must improve the capacity of government staff to make access to basic environmental information easier. Agencies in many countries present bureaucratic barriers and maintain attitudes of secrecy that can easily exhaust a citizen attempting, for instance, to fight the siting of a new factory or request the review of a decision on forest policy. As a rule, governments aren't adequately training staff so that civil servants are aware of new legislation and its implications for their work, or helping staff understand the value of public input in decision-making. South Africa was the only country among the nine surveyed where all government agencies at different levels offer staff training on new rules about environmental information and public participation.

Donors can help with the task of building the government infrastructure and capacity to make access a reality. Tracking and disseminating environmental information, for example, is expensive. Poorer countries that maintain centralized inventories of integrated environmental information typically rely on funds from other governments and contributors. For example, Chile's environmental information system is supported through donor assistance, and Uganda maintains–with donor support–a highly effective and accessible public information system for health emergencies. Government commitment and the availability of resources also affects whether governments adequately train civil servants to provide information, involve citizens, or judge environmental cases.

Improved access is impossible without efforts by financial institutions–as the financiers of energy reform, electricity generation, water infrastructure, and other development projects with environmental impacts–to help nations apply the principles of good governance. Financial institutions must first adopt and apply the elements of public participation to their own operations and then promote transparent and inclusive decision-making by their clients through their lending policies and requirements. In Uganda, for example, agencies that have access to World Bank financing are more open to engaging the public in decision-making than those that don't because the World Bank has explicitly encouraged transparency through its lending policies there.

Increased Demand for "Access"

Most Access Initiative research teams commented on the limited levels of public awareness about environmental issues and access rights. Public authorities have a responsibility to build–directly and indirectly–the capacity of their citizens to exercise their rights to information and participation. Proxy measures of how seriously governments take that responsibility include their investment in environmental education and their efforts to create favorable environments for public advocacy groups and other nongovernmental organizations. For the most part, governments are investing in environmental education: South Africa, for instance, has trained staff to develop environmental education materials and incorporate them in regular curricula at all levels. Chile, Hungary, India, Mexico, and Thailand are also supporting environmental education efforts.

However, the countries examined by the Access Initiative vary in their treatment of and tolerance for environmental NGOs. These groups often act as vital catalysts for public participation in environmental decision-making, helping citizens to understand their rights of access and where to find environmental information, and often representing individuals and communities in public deliberations and in judicial disputes. South Africa offers a good example of a supportive climate for NGOs; they do not have to register in court or with a government agency in order to be recognized as a legal organization, and are permitted access to a diversity of domestic and international sources of funding.

Not so in other countries. Onerous registration requirements in Chile, Hungary, and Uganda; the absence of local funding sources in Uganda; and restrictions on foreign funding of NGOs in India limit the ability of public interest groups to form or operate in these countries. Accordingly, most governments can promote greater access by enhancing the capacity of local NGOs and working with them to draft new legislation, conduct education programs, and assess the strengths and weaknesses of access in government agencies.

Governance in a Changing World

The world of environmental governance is far from static. In the last two decades, the social and political conditions that shape environmental decision-making have evolved quickly.

Democratic Gains: Since the 1980s, the world has seen a significant trend toward democratization—the adoption of democratic principles of governance and public participation. Political and civil liberties don't guarantee good environmental decisions, but they do make it easier for citizens to stay informed, express their opinions, and hold decision-makers accountable. The population living under fully or partially democratic regimes has climbed from 2.5 billion in 1981 to 3.9 billion in 2001.

NGOs Awaken: Since 1985, the number of nongovernmental organizations (NGOs) such as environmental groups has more than doubled, with more than 40,000 now officially recorded. Using the power of publicity to keep officials accountable and filing high-profile lawsuits on the public's behalf, environmental NGOs have helped break open the closed decision-making loop where government bureaucrats and powerful business interests have controlled decisions on natural resources, bypassing public input.

Inexorable Globalization: Economic globalization—the growing interdependence of national economies—has been marked by a sharp increase in trade and international investment. These bring access to the products and financial opportunities of remote ecosystems, but often disconnect us from the environmental and human consequences of our choices. More than 60,000 multinational corporations now operate in a global marketplace with few environmental strictures and little transparency.

Increasing Privatization: Since the mid-1980s, governments have increasingly transferred to the private sector some of their powers to manage natural resources and provide services like drinking water supply, wastewater treatment, and electric power. One analyst estimates that water or sewer services provided by the private sector had reached some 385 million people by 2001. While this can bring greater efficiency and financial viability to these services, it can also bring serious social repercussions like job losses or increased prices, and a focus on the bottom line rather than sustainable management of the resource.

Lingering Corruption: Corruption is an important driver of natural resource degradation around the world. For example, experts estimate that some 70 percent of the logging taking place in Indonesia today is illegal, with corrupt officials often countenancing the crime. Corruption is, by definition, among the most corrosive forces against fair and participatory decision-making and one of the clearest signs of governance dysfunction. While corruption is still widespread, public attitudes toward it are changing and it has come under increasing attack worldwide.

Continuing Armed Conflict: Armed conflict and its accompanying political and social turmoil often short-circuit any systematic process of environmental management. War can create environmental refugees, leave government environmental agencies handicapped or destroyed, and substitute short-term security needs for longer-term environmental considerations. In 2000, there were 25 major armed conflicts in 23 countries around the world.

Emerging Information Technology: The international diffusion of information technologies—Internet access, mobile phones, pagers, faxes, e-mail, mapping software, satellite imagery—has changed the balance of power among governments, corporations, and nongovernmental organizations. These technologies are helping us to obtain, share, and act on environmental information quickly; build international networks; monitor environmental changes; and hold corporations accountable for their actions. Some 650 million people now use the Internet—an increase of almost 600 percent in the last five years.

What Is the State of Environmental Governance Today?

No one familiar with today's environmental trends could conclude that Planet Earth is well-managed. That truth alone hints at the generally poor state of our environmental governance at scales from local, to national, to global. Since the Rio Earth Summit in 1992, the capacity of Earth's ecosystems to sustain us has deteriorated in nearly every category we have measured. This is in spite of the global environmental treaties we have negotiated and the considerable progress we have made at understanding how ecosystems function. More often than not, we still fail to make environmental decisions that work for both people and ecosystems.

Grading Environmental Governance

How well have we put into practice the key environmental governance principles endorsed at the Rio Earth Summit a decade ago? The results of the Access Initiative and analysis of other governance trends like decentralization present a mixed picture, with some progress but much yet to be done.

Tentative Steps toward Decentralization and Regional Cooperation

The task of shifting responsibility for natural resource decision-making to the appropriate level–nearest to the resource and its users, but honoring the scale of the ecosystem–is very much a work-in-progress around the world. Decentralization is a case in point. At least 60 developing countries claim to be transferring political powers over local resources from a central authority to more local units of government. However, cases of true decentralization, where real authority is granted to a local institution that can be held accountable to local stakeholders–through elections or other means–are very rare.

National governments are seldom motivated to decentralize by an interest in protecting the environment. Instead, decentralization is often a response to pressures to downsize the civil service and reduce central government expenditures. As a result, decentralization often simply shifts the responsibility to manage natural resources to more local levels, but does not actually grant real authority to make decisions or allocate budgets. In other words, the local body simply becomes an agent to implement decisions made elsewhere, without local accountability.

Nevertheless, cases of more genuine decentralization in Bolivia, the Philippines, some states in India, and elsewhere give credibility to the belief that decentralization done well can bring environmental decisions that are more acceptable to local people and more effective at meeting the environmental management goals. In a pilot project in the Cambodian province of Ratanakiri, village committees given funds and autonomy by central authorities decided to map their local resources so they could manage them better–a direct response to the community's concern about protecting its resource base.

Besides decentralization, there has also been some progress in building regional institutions to manage ecosystems that cross national borders. River basin authorities such as the Mekong River Commission, the International Commission for the Protection of the Rhine, or the Nile Basin Initiative have evolved to coordinate development activities among the countries that share these watersheds.

Other mechanisms are also taking shape to address regional concerns. The European Union (EU) provides one of the best examples of what a regional body can accomplish in policy integration across borders, although it is only beginning to frame its environmental policies around ecosystems. Members of the EU have accepted a range of uniform environmental standards, monitoring criteria, and best practices to address transboundary pollution such as acid rain. The prospect of gaining EU membership has also pushed several European nations to bring their environmental standards and policies in line with the EU–often a significant improvement over their existing practices. Meanwhile, Europe's Espoo Convention provides a framework for conducting environmental assessments when proposed projects will result in impacts across borders.

Nonetheless, the development of regional mechanisms with real authority and a mandate to sustain ecosystems is still in an early stage. By and large, these regional efforts are few in number, with limited experience, and, with the exception of the EU, with powers that are often quite circumscribed so as not to infringe on national sovereignty. Enforcement mechanisms may be weak or nonexistent, and thus compliance is largely voluntary. At this point, such agreements may function best as conduits for information-sharing among parties–itself an important achievement. However, they have not yet become centers of management innovation or progressive transboundary thinking.

Access: A Gap between Policy and Practice

Governments are making decisions that affect the environment with a degree of openness and transparency that would have been unthinkable just a decade ago. Forty-four developed and developing countries have adopted "access to information" laws, which impose obligations for disclosure on the government. New environmental legislation is also starting to make more environmental information available to the public as a basis for informed participation.

Governments are also showing a greater understanding of the need to identify and incorporate public opinion when developing policies and plans. In the last 30 years, government agencies have expanded beyond just giving public notice or holding public hearings on high-impact projects to using consensus-building exercises, policy dialogues, and stakeholder advisory committees. And some corporations, even major polluters, are beginning to publicly report in greater detail on their emissions, practices, and goals. The entry into force in October 2001 of the Aarhus Convention, which enshrines a detailed commitment to access principles in international law, reflects the progress made by some countries in embracing good governance norms since the Rio Earth Summit.

But the recent findings of the Access Initiative suggest that the evolution to systems of access that are truly open, participatory, and effective is a gradual one. Much more must be done to transform government promises and legal commitments into a strong, integrated practice of access to information, public participation, and justice.

Many of the nine countries examined in the Access Initiative have enacted provisions guaranteeing access to environmental information and participation. Yet the countries surveyed share common weaknesses in implementing those laws and commitments. The provision of access remains more passive than active. Countries collect data on facility compliance with pollution regulations, but then fail to integrate that data across agencies or make it publicly accessible. Governments track changes in environmental quality over time, but fail to give the public access to different levels of detail or diverse presentations of environmental information. Countries pass new access laws, but fail to train public officials and judges about the new rights, and tolerate a lingering culture of secrecy and indifference to the public interest.

The onus is on the public to identify opportunities to make their opinions heard. The public is generally responsible for initiating participation or exercising their legal rights. On the positive side, governments are increasingly trying to involve the public in decisions on new projects by soliciting their input during the "environmental impact assessment" process. However, the public's input is all too often limited in scope or occurs too late in the process to be useful. None of the countries surveyed by the Access Initiative has a mechanism in place to track whether or how public comments actually influence decisions.

In terms of access to justice, more and more law or administrative courts are upholding people's rights to challenge environmental decisions, obtain information, or sue for damages. However, access to justice is limited in some countries by narrow interpretations of what information is covered under freedom of information laws, or who has legal standing to file a suit. High court costs and lengthy procedures are also formidable obstacles.

changes–such as new pollution rules–cause them to lose profits.

One area of progress stands out. Many local communities worldwide have proved willing to adopt action plans that try to integrate their social and economic goals with their environmental goals. More than 6,400 local governments in 113 countries have adopted or are in the process of formulating "Local Agenda 21" plans that identify ways these communities can move toward sustainable development by improving transportation efficiency, water and waste handling, and land use planning. These plans are largely self-motivated and self-financed, and show that the most creative energy for environmental integration is currently being generated at the local level.

Lack of Progress in Mainstreaming the Environment

One of the most basic explanations for the lack of progress in meeting the goals of the Rio Earth Summit is the continuing failure to integrate environmental thinking into mainstream economic and development decisions. At the national level, ministries of environment remain weak, and at best operate on the margins of significant policy decisions. Traditional economic models that fail to incorporate the costs of environmental decline continue to drive most decisions. The fact that no finance ministers or trade negotiators are expected to attend the 2002 World Summit on Sustainable Development in Johannesburg is one clear indicator of the continued marginalization of the environment and its estrangement from key economic areas of trade and finance.

In addition, agencies charged with natural resource management, including ministries of agriculture, forestry, and mining, still prioritize short-term production of commodities over long-term delivery of ecosystem goods and services. In both the European Union and the United States, for instance, only a fraction of the enormous agricultural subsidies dispensed annually is targeted to ecosystem conservation.

This lack of integration at the national level is projected into international economic policies as well. International trade and investment agreements continue to be developed without attention to how they may unintentionally undermine national and international environmental objectives. For example, even though the North American Free Trade Agreement (NAFTA) has been hailed for including an innovative environmental side agreement, it also contains a provision that could stifle domestic environmental regulation by allowing corporations to sue for compensation if regulatory

An Ad Hoc and Ineffective System of International Environmental Governance

As environmental awareness has taken root over the last three decades, nations have struggled to assemble a coherent system of global environmental governance. The most visible elements of this are the 500 or so international environmental agreements now in effect. About 150 of these are global treaties and the others include a more limited set of parties.

Some of these agreements have amassed credible records of success, such as the Montreal Protocol, the Convention on International Trade in Endangered Species (CITES), and some of the regional treaties. Three decades of negotiations on such treaties have also brought other benefits: greater international awareness of environmental issues, agreements on common goals and definitions, elaboration of useful partnerships, and a body of applied experience that will make future progress easier. Perhaps one of the most significant advances has been the emergence, through cooperative monitoring and scientific consultation, of a global capability to assess environmental threats more quickly.

Unfortunately, our assessments usually stop short of action. In fact, our prodigious efforts at environmental diplomacy have largely failed to make serious headway against the world's most pressing environmental challenges–at least as measured by current environmental trends. For example, the Conference of the Parties of the Convention on Biological Diversity–one of the prize outcomes of the Rio Earth Summit–recently admitted that in spite of the treaty, "biological diversity is being destroyed by human activities at unprecedented rates."

This poor overall record comes as little surprise. A recent United Nations University study points out that few environmental treaties contain specific targets and timetables or ade-

quate enforcement provisions, and financing is a perennial problem. A more systemic problem is that current environmental agreements have arisen in an ad hoc and largely uncoordinated fashion as each new environmental problem–acid rain, ozone depletion, climate change–has entered the public consciousness. They reflect a single-issue approach toward environmental stewardship and have not sprung from an integrated perspective that sees the common drivers of environmental decline, nor are they generally framed with particular reference to ecosystems.

International institutions created to specifically address environmental issues, such as the UN's Commission on Sustainable Development (CSD), the Global Environment Facility (GEF), and the United Nations Environment Programme, also face daunting tasks in facilitating a global consensus, efficiently discharging their broad mandates, and financing their activities. For example, while the CSD has provided an international forum for raising environmental issues, its effect on national policies and the implementation of Agenda 21–the Earth Summit's action plan for sustainable development–has been negligible. Meanwhile, a recent evaluation of GEF shows that it is maturing into a useful mechanism to help developing nations fund environmental priorities in a few key areas and to make progress implementing the terms of the environmental treaties they sign–an accomplishment that should not be minimized. Yet its success is necessarily bounded by its limited funds, and no one would contend it can adequately address the greater environmental financing needs of developing nations.

Current efforts are now underway to harmonize the many international environmental agreements so that global resources and attention are focused more effectively. Other efforts are attempting, through the next round of World Trade Organization negotiations, to make sure the global trading regime does not undermine national and international environmental laws. We can also take heart at the determination of the international community to carry forward the final negotiations on the Kyoto Protocol to address climate change, in spite of the unilateral withdrawal of the United States from the treaty. But these positive events will do little to address the fundamental reluctance that nations have shown to shoulder the domestic political and financial costs to make environmental treaties enforceable and living instruments that can stimulate meaningful national actions.

The Bottom Line

On a global basis, our capacity to consistently make environmental decisions that protect ecosystems, are informed by public input, and equitably meet human needs is poor. At the international level, there is rhetorical commitment to the goals of sustainable development and participatory decision-making. However, there is far less commitment to localizing these goals in national policies, decision-making practices, and the design of government agencies. As a result, public access to environmental information, to true participation, and to redress when the decision process fails, is still limited.

Other findings reinforce the inadequacy of our current environmental governance. National decentralization efforts have yet to lead to significant devolution of power over natural resource decisions to the local level. Trade and investment policies that drive our decisions are largely opaque to the public and indifferent to environmental concerns. The international agreements and institutions meant to address global environmental problems have robust missions, but weak enforcement powers and insufficient funding. Successes at the local level show that good environmental governance is possible, but can't be completely effective without strong national and international support.

Toward a Better Balance

Balance means making environmental decisions that foster ecosystem health, treat people fairly, and yet make economic sense. Finding this balance has eluded us, as global environmental trends clearly show. How do we move toward a better balance? At least five steps must define our drive for better environmental governance:

Invest in Governance Models that Respect Ecosystems

Our governance must fit the reality of how the biosphere is organized or it can't hope to match human needs with Earth's biological capacities. Ecosystems are the planet's primary biological units–the source of all the environmental goods and services we rely on for life, and the ultimate foundation of the global economy. They should therefore become the logical center of our management efforts and the point of reference for our environmental decisions–what we can call an "ecosystem approach" to environmental management.

If we want to make ecosystems the fundamental unit of management, we must encourage innovative governance that gives credence to this unit and makes decisions with reference to it. This means promoting decentralized management of natural resources in many cases, so that local stakeholders take a more primary role in governing the ecosystems they have a stake in. It calls for larger regional thinking as well–the current use of river basin authorities that link a larger group of users across many jurisdictions is an example. But these are not rigid or exclusive models, and in the real world a variety of new institutional and economic arrangements can develop that link users with the ecosystems they depend on, to the benefit of both.

In Quito, Ecuador, for example, city water users pay a small fee into a special fund to protect the watershed in the Antisana Reserve, source of the city's water supply. In this

way, city residents see themselves as stakeholders in a distant ecosystem, and have decided to help manage and pay for the vital service it renders. On a much larger scale, the Mesoamerican Biological Corridor project casts its vision of a biologically and economically viable landscape over seven Central American countries. The project links local community planning efforts and management of protected areas along the corridor route, with an emphasis on finding economic uses of the land along the corridor that will help maintain its ecological richness, such as low-intensity agriculture and forestry. The plan effectively combines regional ecosystem-based goals with a decentralized, community-based approach to landscape management.

In some cases, making our governance conform to ecosystems will mean reconfiguring existing management agencies or creating new institutions and relationships that better reflect the actual scale and dynamic of ecosystems. This does not imply wholesale abandonment of the centralized structure of most state agencies, which may continue to provide important coordinating, monitoring, or oversight functions, even as they give up some of their discretionary powers to other levels. But it does imply more flexibility in matching ecosystems to management structures.

Build the Capacity for Public Participation

Crucial to the success of reformulating our natural resource management to respect ecosystems is vigilant application of the principles of access and participation. Managing ecosystems inevitably involves making trade-offs among different types of ecosystem use. For instance, a forest can be managed to maximize timber and pulp production through intensive harvesting, but only by trading off some of its potential to support biodiversity, agroforestry, or nature-based tourism. Public participation provides the only reasonable means to negotiate such trade-offs in an equitable manner and to make sure the goals that drive the day-to-day actions of natural resource agencies reflect the priorities of the community of stakeholders.

Too often, however, public participation is hampered by a lack of capacity on the part of government agencies, the business community, and other governance institutions to supply relevant information, coordinate the process of public input, and digest this input. At the same time, the public often doesn't know its rights to environmental access or how to use them, and doesn't understand the full context of the decisions that affect their lives. Attention to both problems is required.

A first step is to make sure that governance institutions recognize, as part of their core missions, the need to build the capacity for public participation. That means committing staff and budget resources to making the opportunities for access clear and straightforward. It also means committing to build basic environmental literacy among the public. In the business community it means increased attention to corporate codes of conduct that recognize community interests, the adoption of clear environmental reporting processes that make the data publicly available, and the establishment of community liaisons and outreach.

Another important way to build social capacity for participation in environmental decision-making is to provide a good foundation for the growth of NGOs and other civil society groups. This means strengthening their rights of access to information through press freedom and freedom of information laws, and recognizing their right to represent their members in whatever forum decisions are being made. It also requires recognizing–and funding–their ability to respond quickly to community needs and provide services the government can't efficiently provide. Empowering civil society groups as environmental stewards thus means more than just official tolerance; it implies active support for partnerships between these groups, government agencies, and businesses.

Recognize the Standing of Every Stakeholder in Environmental Decisions

A commitment to building the capacity for public participation must include broadening the definition of who the affected public is. Within the "management unit" of the ecosystem, who should have standing to influence decisions or negotiate for some of the ecosystem's goods and services? Traditionally, the parties with influence and access have been few–creating public tension, local resistance to decisions, and a grossly unequal sharing of burdens and rewards. Equity and public acceptance of decisions on how to manage or develop a resource will only emerge if a broader approach to environmental standing takes root.

One useful model might be the "rights and risks" approach recently put forward by the World Commission on Dams to guide decisions on large development projects like dams. In this approach, anyone holding a right (such as a water right) or facing a risk from a proposed action (such as displacement by a dam) must have an opportunity to participate in the decision-making process. This includes not just those who reside in the ecosystem, but also those who depend on or value the ecosystem, no matter where they live. No rights are automatically considered superior to all others, and there is an attempt to avoid simply trading off gains and losses as a "zero-sum game." Where ecosystems are concerned, it is also important to recognize the standing of those who can speak for the ecosystem itself, whether they be members of an environmental or recreation-focused NGO, or scientists within a government agency responsible for managing the ecosystem.

Insist on Sustainability in All Sectors of the Economy

Many of today's environmental impacts originate in decisions outside the traditional scope of those decisions that focus on harvesting resources or managing parks. These impacts are driven by larger decisions on economic develop-

ment, trade, and investment. We have to expand our definition of environmental governance to include these areas if we want to make progress in reversing our environmental decline. It is not enough for natural resource agencies alone to adopt an ecosystem orientation and embrace a participatory approach to decision-making. The acceptance of environmental sustainability as a principal mandate must permeate every sector of government and business activity outside of the "environment" area as well.

Privatization is one example of how following this mandate could bring important and immediate benefits. When governments privatize the responsibility to deliver water or provide electric power, they must make sure they are also conferring the responsibility for environmental stewardship and equitable service as well. In other words, contracts should be structured to require or reward companies for water-saving practices, generating green power, or extending service to low-income areas, and other beneficial practices.

Environmental sustainability must also become a guiding principle for international institutions like the World Trade Organization (WTO), Export Credit Agencies, and other members of the international finance community. This means that they must explicitly recognize environmental protection as a legitimate factor moderating trade and investment policies. As a practical matter, it means making sure these policies do not directly or indirectly undermine current international environmental agreements or interfere with national environmental laws. These institutions must also embrace greater transparency and participation in their internal decision-making practices, which are now largely hidden from public view.

Measure Progress in Governance as a Key Environmental Indicator

Environmental governance is gaining a higher profile today than ever before. Discussion and experience have brought the international community to at least some agreement on good governance norms and their importance to better environmental performance over the long run. But in some respects, this has only emphasized how difficult it is to speak in detail on the state of environmental governance. Neither developed nor developing nations routinely assess indicators of transparency, participation, or civil society activity as a measure of environmental performance. As a consequence, it is impossible to measure our progress toward good governance goals.

The Access Initiative results demonstrate both the feasibility and the value of monitoring indicators of environmental governance, such as the extent of public access to environmental impact reports, or the ease of disputing a government decision in court. The Access Initiative framework provides a model that can be readily applied or adapted to the needs of individual nations. Adopting such a monitoring framework–either by the government itself or a local NGO–and making the results public, is probably the most immediate and clear-cut step nations can take to encourage better governance in the short term.

Decisions for the Earth

Governance is on the global agenda today as never before. As democratic movements flourish and NGOs awaken to new activism, issues of transparency and fairness have come into sharper focus. This is true in the environmental arena as well. In fact, there is growing dissatisfaction with environmental governance in countries around the world. A Gallup International poll in 2000 found that in 55 out of 60 countries surveyed, the majority of people did not think their governments were doing enough to address environmental issues. "Corrupt" and "bureaucratic" were the two most common descriptions used by people to characterize their governments.

At the same time, a global consensus has emerged on the basic principles of good environmental governance: access, participation, transparency, appropriate scale, and ecosystem-based. These form the basic toolkit for environmentally

Better Governance for Sustainable Ecosystems

Invest in Governance Models that Respect Ecosystems
Make ecosystems the fundamental unit of environmental management and governance.

Build the Capacity for Public Participation
Increase the public's environmental literacy and ability to give useful input into environmental decisions. Increase the government's willingness and capacity to deliver environmental information and digest public input.

Recognize the Standing of Every Environmental Stakeholder
Broaden the definition of who can participate in environmental decisions to include all affected parties.

Insist on Sustainability in All Sectors of the Economy
Incorporate sustainability into the mandates of agencies, businesses, and financial institutions beyond the usual environment and natural resource sectors.

Measure Governance as a Key Environmental Indicator
Monitor and publicly report on indicators of environmental governance like transparency, access to information, and public participation.

empowered and educated citizens—the most potent driver for better environmental decisions.

The future lives in the decisions we make now. Moving toward greater transparency and accountability in our decision-making, toward more participation and equity in our environmental choices, is the way we make better decisions for the Earth.

A World of Decisions

How are people around the world rising to the challenges of environmental governance? From the garden plot to the global commons, case studies in *World Resources 2002–2004* explore why it's so difficult to make inclusive and effective decisions about ecosystem use—and the infinite creativity, adaptation, and experimentation that success requires. Some case studies illuminate the power of an informed community, some the difficulties and benefits of integrating economic and environmental goals. Others examine the tensions between traditional approaches and new ideas, between immediate human need and long-term environmental health, between lofty goals and practical results.

Women, Water, and Work: The Success of SEWA

Throughout India, women are typically responsible for the family's water supply and often for crop irrigation, but men typically exercise the real authority over water-related decisions. In several Gujarati villages, "watershed committees" consisting mostly of women are beginning to change that dynamic. Bolstered by a unique trade union called the Self-Employed Women's Association (SEWA), women-led watershed committees have begun to take action, lining village ponds to prevent salt contamination, adopting water-saving farm practices and building rooftop rain collectors. As local aquifers gradually recharge and village ponds refill, the women find their voices have become more welcome and their experience more respected on other matters of village life.

Ok Tedi Mine: Death by Dumping

The developers of the Ok Tedi mine in Papua New Guinea, BHP Billiton, acknowledge that their dumping of mine waste into the local river has created an environmental disaster that threatens the livelihoods and food security of local people for at least the next 50 years. Yet the government of Papua New Guinea has granted the company unrestricted legal indemnity for all the pollution and destruction it has caused and that will occur in the future. With governments often eager for the financial benefits that a gold or copper mine can provide, accountability may be less likely to come from national laws and regulations than from public pressure, courts of law, and NGO efforts to ensure that mining communities have a voice in how their ecosystem is used and protected.

Going for Olympic Green

The athletes concentrate on bronze, silver, and gold, but the International Olympic Committee also focuses on green. In 1994, the Committee added "environment" to the Olympic principles of sport and culture. Usually, the city hosting the Olympics engages local civil society groups to help shape the game's environmental goals and pinpoint the region's priorities. The environmental ambitions of the host cities and the degree of local involvement have varied from game to game. However, many recent Olympics are demonstrating how large events, participatory processes, and creative public-private partnerships can be the means to integrate environmental and economic goals, and local and global interests.

Mind over Mussels: Rethinking Mapelane Reserve

The goal was laudable: to protect natural resources. But when the South African government set up the Mapelane

Nature Reserve on the coast of Sokhulu in 1984, they shut out locals who depended on the mussels gathered there. Years of violent conflict between park rangers, recreational collectors, and subsistence harvesters ensued. Now, nudged along by a University of Cape Town researcher, park staff are finding common ground with local harvesters by acknowledging the rights of local people to use the resource within sustainable limits, and working together with them to determine what those limits are and how they are best achieved.

Iranian Revolution: A Village Tests Environmental Democracy

Tapping their own energy, addressing their own priorities, exploiting their own creativity, the 2,700 residents of rural Lazoor, Iran are developing a model environmental initiative based on new ways of making decisions about agriculture, water, forests. Although centralized government control and planning remains strong in most of Iran, this tiny village and several others in the watershed have transformed themselves into grass roots democracies with full government support. In Lazoor, residents have planted almost 7,000 fruit and nut trees, constructed terraces and embankments to control flooding, and are weighing economic ventures such as a mineral water factory and a medicinal plant garden.

Chicago Wilderness: Saving the Urban Jungle

An unlikely coalition is weaving Chicago's 200,000 acres of parks and natural areas into an urban green infrastructure, as essential and valued as roads and sewers. The group, called Chicago Wilderness, pursues small neighborhood projects and biodiversity education in schools at the same time as it contributes to regional planning efforts. It includes scientific associations; local and national environmental organizations; county, state, and federal resource managers; regional planners; and private corporations. By emphasizing the contribution of natural habitat to the area's economy and lifestyle, Chicago Wilderness has begun to construct a reasonable model for urban ecosystem management that other cities are starting to replicate.

The Mesoamerican Biological Corridor: Following the Path of the Panther

In the mid-90's, when the Wildlife Conservation Society began a project called *Paseo Pantera* or *Path of the Panther*, they envisioned a chain of natural area corridors connecting existing parks and protected areas from Panama to Mexico. As the plan encountered the reality of a growing population with aspirations for a better livelihood, the continuous corridor morphed into a system of buffers and connectivity zones where economic development would take the form of lower-impact farming, forestry, and ecotourism. The compromise has made the project, also known as the Mesoamerican Biological Corridor, far more appealing to regional governments and development funders, but many question whether it will still protect the region's threatened biodiversity.

Charting a Course for Earth's Future

The Earth Charter is a declaration of common values and aspirations for a sustainable future. Individuals and organizations from around the world have collaborated in shaping it over the decade since the Rio Earth Summit. Four major principles and 16 specific goals speak to environmental concerns with an emphasis on social and economic justice and a respect for traditional knowledge and cultural diversity. Armed with this document, local communities and national governments are now exploring how to use the Charter's ethical vision as an educational tool, to focus dialogue, and as a framework for policy and action. An important challenge is to attach specific, measurable indicators to the Earth Charter, so that governments and local authorities can gauge their progress toward sustainability, inclusiveness, economic justice, and respect for nature.

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For more information

- About the *World Resources* report, visit **www.wri.org/wri**.
- About the Access Initiative, visit **www.accessinitiative.org**.
- About environmental statistics, conditions, and trends, visit **http://earthtrends.wri.org**.

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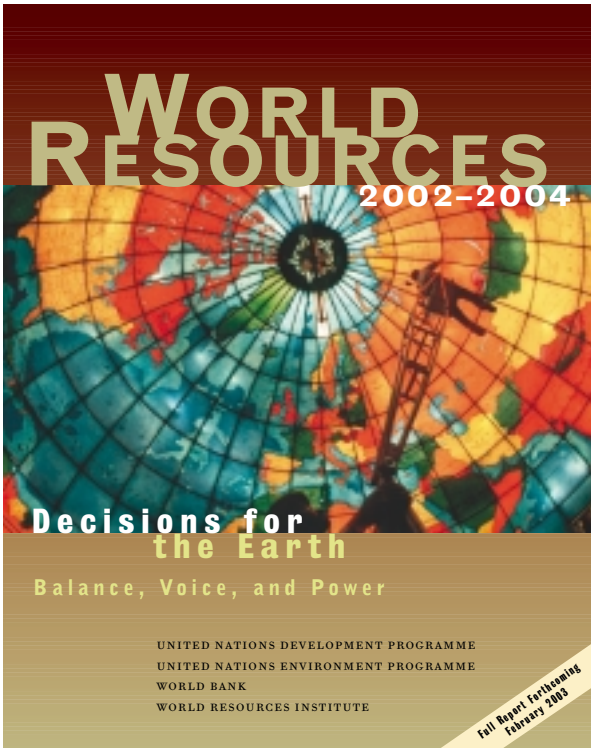

To order the complete report, *World Resources 2002–2004: Decisions for the Earth: Balance, Voice, and Power*, forthcoming in February 2003, or the companion CD-ROM with mapping software, *TerraViva!* World Resources, visit **www.wristore.com**.

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Page 2	India, Andra Pradesh, Rishi Valley, students in tree nursery, Mark Edwards/Peter Arnold.
Page 3	Man with machete in Costa Rican rainforest, William Burger, Field Museum
Page 4	Worker in terraced fields in Bali, Indonesia, Jeff Hunter/Getty Images
Page 5	Woman with tree seedling, Green Belt Movement, Kenya, William Campbell/Peter Arnold
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Page 23	Farmers in wagons, Bagan, Burma, Eric Meola/Getty Images
Page 24	Rice harvest, Sikha, Nepal, Nevada Wier/Getty Images
Page 28-9	Fisherman checking net, Carlos Casares, Argentina, AP/Wide World Photos

United Nations Development Programme

THE UNITED NATIONS DEVELOPMENT PROGRAMME (UNDP) is committed to the principle that development is inseparable from the quest for peace and human security and that the United Nations must be a strong force for development as well as peace. UNDP's mission is to help countries in their efforts to achieve sustainable human development by assisting them to build their capacity to design and carry out development programmes in poverty eradication, employment creation and sustainable livelihoods, the empowerment of women, the protection and regeneration of the environment–giving first priority to poverty eradication.

UNDP, at the request of governments and in support of its areas of focus, assists in building capacity for good governance, popular participation, private and public sector development and growth with equity, stressing that national plans and priorities constitute the only viable frame of reference for the national programming of operational activities for development within the United Nations system.

UNDP strives to be an effective development partner for the United Nations relief agencies, working to sustain livelihoods while they seek to sustain lives. It acts to help countries to prepare for, avoid, and manage complex emergencies and disasters.

Visit the UNDP website
http://www.undp.org

United Nations Environment Programme

THE UNITED NATIONS ENVIRONMENT PROGRAMME (UNEP) was established in 1972 as the environmental conscience of the United Nations. UNEP has created a basis for comprehensive, coordinated action within the UN on problems of the environment. UNEP's mission is to provide leadership and encourage partnerships in caring for the environment by inspiring, informing, and enabling nations and people to improve their quality of life without compromising that of future generations.

One of the most important functions of UNEP is the promotion of environmental science and information. UNEP has always recognized that the environment is a system of interacting relationships that extends through all sectors. It places, among other things, emphasis on environment for development. UNEP nurtures partnerships with other UN bodies possessing complementary skills and delivery capabilities and enhances the participation of the private sector, scientific community, NGOs, youth, women, and sports organizations in achieving sustainable development.

UNEP derives its strength and influence from the authority inherent in its mission–environmental management. UNEP has and will continue to play a pivotal role in caring for the environment for the future.

Visit the UNEP website
http://www.unep.org

World Bank Group

FOUNDED IN 1944, THE WORLD BANK GROUP CONSISTS OF five closely associated institutions: the International Bank for Reconstruction and Development (IBRD); International Development Association (IDA), International Finance Corporation (IFC); Multilateral Investment Guarantee Agency (MIGA); and the International Centre for Settlement of Investment Disputes (ICSID).

The World Bank is the world's largest source of development assistance, providing nearly $30 billion in loans annually to its client countries. The Bank uses its financial resources, its highly trained staff, and its extensive knowledge base to individually help each developing country onto a path of stable, sustainable, and equitable growth. The main focus is on helping the poorest people and the poorest countries, but for all its clients the Bank emphasizes the need for: • Investing in people, particularly through basic health and education • Protecting the environment • Supporting and encouraging private business development • Strengthening the ability of the governments to deliver quality services, efficiently and transparently • Promoting reforms to create a stable macroeconomic environment, conducive to investment and long-term planning • Focusing on social development, inclusion, governance, and institution-building as key elements of poverty reduction.

Visit the World Bank website
http://www.worldbank.org

World Resources Institute

THE WORLD RESOURCES INSTITUTE IS AN ENVIRONMENTAL think tank that goes beyond research to create practical ways to protect the Earth and improve people's lives. Its mission is to move human society to live in ways that protect Earth's environment for current and future generations.

WRI's program meets global challenges by using knowledge to catalyze public and private action: • *To reverse damage to ecosystems.* WRI protects the capacity of ecosystems to sustain life and prosperity. • *To expand participation in environmental decisions.* WRI collaborates with partners worldwide to increase people's access to information and influence over decisions about natural resources. • *To avert dangerous climate change.* WRI promotes public and private action to ensure a safe climate and sound world economy. • *To increase prosperity while improving the environment.* WRI challenges the private sector to grow by improving environmental and community well-being.

In all of its policy research and work with institutions, WRI builds bridges between ideas and action, meshing the insights of scientific research, economic analysis, and practical experience with the need for open and participatory decision-making.

Visit the World Resources Institute website
http://www.wri.org/wri

WORLD RESOURCES 2002–2004

WHO SHOULD DECIDE WHERE TO BUILD A ROAD OR LOCATE A dam? When is the public consulted? Can people appeal decisions they find unfair? *World Resources 2002–2004* examines how we make environmental decisions and who makes them, which is the process of environmental governance. The report argues that better environmental governance is one of the most direct routes to fairer and more sustainable use of natural resources. Decisions made with greater participation and greater knowledge of natural systems—decisions for the Earth—can help to reverse the loss of forests, the decline of soil fertility, and the pollution of air and water that reflect our past failures.

Tenth in the biennial *World Resources* series on the global environment, the report defines governance in everyday terms, with reference to a wealth of case studies. It assesses the state of environmental governance in nations around the world and summarizes results from the Access Initiative, a first-ever attempt to systematically measure governments' performance in providing their citizens access to environmental information, decision-making, and justice.

World Resources 2002–2004 also presents a wealth of national statistics on current environmental, social, and economic trends in more than 150 countries. The report departs from previous editions by making the full *World Resources* database freely accessible and searchable online in the companion website, EarthTrends (**http://earthtrends.wri.org**). The award-winning EarthTrends site also provides data tables, country profiles, maps, and feature stories about current conditions. In addition, the *World Resources* database is published on CD-ROM with mapping software as *TerraViva!* World Resources.

The *World Resources* series is produced by a unique collaboration of the United Nations Development Programme, the United Nations Environment Programme, the World Bank, and the World Resources Institute. This guide, prepared for the World Summit on Sustainable Development in Johannesburg, highlights issues that will be developed more fully in the main volume of the report, forthcoming in February 2003.

For ordering information, please visit **www.wristore.com**.

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