



Environment

MATTERS AT THE WORLD BANK



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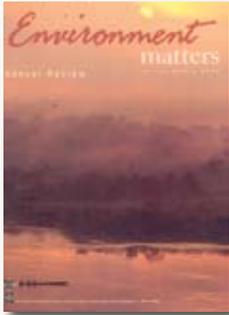
toward sustainable development • 2006 Annual Review



REPORTING ON ENVIRONMENTAL SUSTAINABILITY

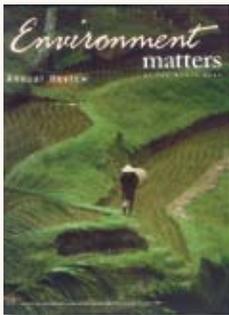
A Ten-Year History

1996



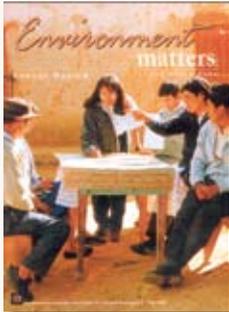
- The first edition of *Environment Matters* Annual Review took note of the growing number of client country **national environmental action plans**, many supported by the World Bank. It also highlighted the strong growth in environmental lending in the preceding decade. The active environmental portfolio stood at almost \$12 billion in financing for 153 projects in 62 countries.

1997



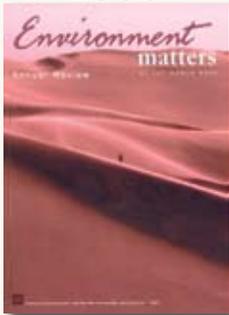
- At the UN Earth Summit in New York, 5 years after Rio, President Wolfensohn reaffirms the Bank's commitment to addressing environmental concerns such as climate change, biodiversity, ozone depletion, desertification, and clean water.
- World Bank and World Wide Fund for Nature (World Wildlife Fund) announced the **WWF/WB Global Forest Alliance**, a partnership for forest conservation and sustainable use.

1998



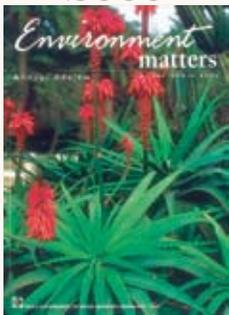
- The **World Commission on Dams**, sponsored by the World Bank and the World Conservation Union (IUCN), is launched.
- The World Bank launched a **Marine Market Transformation Initiative** to support more environmentally and socially sustainable practices in the production of marine goods and services.

1999



- President Wolfensohn puts strengthening governance at the center of the development agenda.
- The new **Pollution Prevention and Abatement Handbook** was presented. Designed for Bank staff, it also became an international point of reference for investors, other development agencies, commercial banks, and insurance companies.

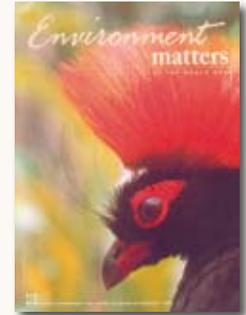
2000



- The World Bank launched the **Prototype Carbon Fund (PCF)**, a mechanism for lowering emissions of greenhouse gases. The PCF was the first market-based mechanism to address climate change and promote the transfer of finance and climate-friendly technology to developing countries.

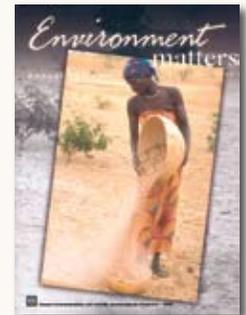
A \$150 million **Critical Ecosystem Partnership Fund (CEPF)** was launched in August to help safeguard the world's most endangered biodiversity "hotspots."

2001



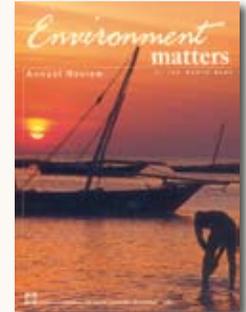
- The World Bank adopted a new **Environment Strategy** that aims to further integrate environmental concerns into the Bank's projects and programs.
- The World Bank announced that it would join with Asian cities to launch a **Regional Clean Air Initiative** to manage urban air quality.

2002



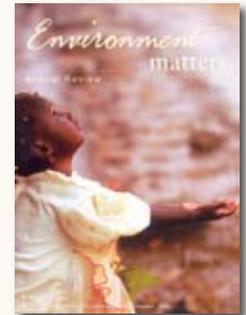
- The year of the **World Summit on Sustainable Development**, *Environment Matters* reported on a joint initiative by a group of major donors to articulate how poverty reduction and environmental management are linked. It argued that environmental degradation is not inevitable as a result of economic growth.
- \$100 million each from the **Community Development Carbon Fund (CDCF)** and the **BioCarbon Fund** are to provide financing to reduce greenhouse gas emissions.

2003



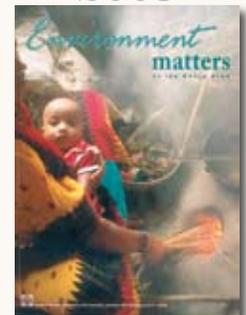
- If current trends continue, 4 billion people will live under conditions of severe water stress by 2025, particularly in Africa, the Middle East, and South Asia. Financing the needs of the water sector will require no less than \$100 billion per year over the next 20 years, the 2003 issue reported.
- The World Bank Group announced its formal endorsement of the **Extractive Industries Transparency Initiative**.

2004



- Faster economic growth is key to meeting the MDGs by 2015, but integrating environment into this growth is crucial for making the dream of a world free of poverty sustainable. *Environment Matters* brought together a wide variety of external and internal voices on how to achieve this.

2005



- Close to one-fifth of the burden of disease in developing countries can be attributed to environmental risks. *Environment Matters* reported on the Bank's multitude of activities to counter these risks.
- The **Millennium Ecosystem Assessment (MA)** was completed. The World Bank co-chaired and contributed in many ways to this quite comprehensive study. A major finding of the MA was that 15 out of 24 ecosystem services examined are being degraded or used unsustainably, but the MA also points to ways of reducing degradation.

LETTER FROM KATHERINE SIERRA

VICE PRESIDENT, SUSTAINABLE DEVELOPMENT



The world's population is increasing rapidly, mostly in developing countries. With growing numbers of people comes an expanding need for basic goods and services such as water, food, energy, sanitation, housing, and transport. Meeting these needs depends on our ability to govern our use of resources and ecosystems in a sustainable way. In the World Bank, we believe that environment must be intrinsically linked to our key development activities. This year we have reorganized our work to assure this comprehensive approach by forming the new Sustainable Development Network. In it, we are fully integrating units responsible for meeting basic human needs and infrastructure services with environmental and social units that guide our actions. This reorganization will enable a more dynamic assimilation of sustainability analysis into our core development activities.

Development and conservation are often considered trade-offs, but the time has come to set aside the myth that economic growth must lead to environmental degradation, or that sustaining the environment harms people's options for growth and development. The poor are fundamentally dependent on the health of their environment, and managing natural resources well is vital to fighting poverty in developing countries. A major challenge is in recognizing—and accounting for—these environmental benefits and costs, including resource depletion and population growth.

Factors such as climate change, invasive species, and water scarcity will increase the challenges. Because some of these factors are difficult to control, we must seek to manage those factors that are most tied to human behavior.

As well, confronting poor governance and corruption is a certain way of delivering greater benefits to the poor and a healthier environment for all. In support of good governance, the World Bank is:

- Working with our country partners to improve public governance capacity over environmental resources, and enhance their tools for accountability and transparency
- Strengthening demand for better governance through institutions such as a free media, vibrant civil society, and a flourishing, competitive, and responsible private sector
- Tightening controls for corruption in World Bank projects to ensure that resources are used for the intended purposes
- Developing stronger collective and collaborative action with developed and developing country partners, the private sector, and civil society

Poor countries face difficult trade-offs. Our role as responsible global partners is to support countries as they work to solve these challenges in a sustainable way. From forests and fisheries to agricultural lands and water supply, the survival of human societies depends upon healthy systems and the sustainable use of these resources. Otherwise, our efforts to reduce poverty, hunger, and child mortality will not be enduring. The World Bank is committed to working closely with all of our development partners not just to protect but also to enhance our planet for future generations.



Katherine Sierra
Katherine Sierra

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Notes:

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All tons = metric tons.

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and for which the Bank has a designated
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Regional pie charts on the Bank's envi-
ronmental portfolio: Objectives relating
to environment and natural resources
management (ENRM) issues are captured
within theme codes. Task team leaders
can assign up to 5 theme codes with either
a primary (P) or secondary (S) ranking.
ENRM portfolio refers to active projects with
any of the seven ENRM theme-codes: viz.
biodiversity, climate change, environmental
policies and institutions, land management,
pollution management and environmental
health, water resources management, and
other environment and natural resources
management.

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Welcome to *Environment matters...*

This edition of *Environment Matters* kicks off the start of the magazine's second decade, and returns to central themes of sustainable development—institutions, policies, and governance. While we can describe the kinds of policies that foster sustainable development, such policies will be fruitless without governments that act transparently and fairly, and without people—citizens, the private sector, and nongovernmental organizations—willing to hold governments accountable.

As many of this edition's articles describe, the Bank is engaged in these efforts in a variety of ways. Our program of technical assistance and analytical and advisory work is growing and is increasingly addressing questions of institutional capacity, performance, and coordination.

This year's edition has also benefited from the results of a reader survey that was part of the tenth anniversary 2005 edition of *Environment Matters*. The survey results provided information about who reads *Environment Matters*, where they live, their professions, how they use and what they expect from the magazine, and much more. For example, the bulk of the respondents work in academia and the government sector. Nearly three quarters of those affiliated with academia reside in client countries of the Bank, and over half of the respondents working for NGOs are located in the Africa and South Asia Regions. Twenty-five percent of respondents in client countries are affiliated with the government sector.

More than half of the respondents also provided write-in comments and suggestions about *Environment Matters*. For instance, a sizeable number of readers requested more individual case studies and examples of best practice. Many also mentioned a desire for the magazine to contain more statistics, graphs, and sources of information.

The survey confirmed that *Environment Matters* is a World Bank publication with a varied, worldwide, and avid readership. We are grateful to those who took the time to respond, and both the survey data and their comments have helped shape the magazine as we begin the next decade of *Environment Matters* with this 2006 Annual Review.



COVER IMAGES

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GOVERNANCE AND ENVIRONMENTAL MANAGEMENT

DIRECTOR'S OVERVIEW

— JAMES WARREN EVANS
ENVIRONMENT DEPARTMENT

Strengthening governance is now an integral component of the World Bank's approach to development assistance. Symptoms of weak governance include problems with the distribution of revenues, non-payment of taxes, restricted entry and competition in markets, questionable quality of the regulatory framework, poor control of corruption or graft, questionable attention to civil liberties, transparency and accountability, and instability or violence and crime. It is impossible to determine the developmental cost of poor governance, but world-wide bribery alone is estimated to exceed \$1 trillion dollars annually.

The management of water, forests, fisheries, wildlife, and other natural resources is too often subject to poor governance, which contributes to degradation—such as depleted soils, insufficient and polluted water, rapidly disappearing forests, and collapsed fisheries—and threatens the health and livelihoods of millions of people. These problems are particularly acute in poorer countries, in which people are most dependent on their natural resource base. In many developing countries, the costs of environmental degradation have been estimated at 4 to 8 percent of GDP annually. Yet such resources are a vital part of these countries' overall wealth. The World Bank's recent *Wealth of Nations*

found that in poor countries (excluding oil states) natural resources make up 25 percent of total wealth, compared to 16 percent for produced goods and services.

The central focus of the World Bank's Environment Strategy and program is to promote poverty reduction while managing this natural wealth for current and future generations. This past year, the World Bank launched, in collaboration with donors, NGO partners, and other international organizations, a global program on sustainable fisheries—PROFISH. This initiative focuses on facilitating stakeholder dialogue, providing technical assistance and policy advice, and enhancing fisheries sector capacity and skills (see page 16). In addition, the World Bank's forest program is supporting regional forest governance activities to curb illegal logging and support the development of a more level playing field among legitimate forest operators (see page 12).

We have also:

1. Promoted mainstreaming of environmental analysis into development planning through country and sectoral environmental analyses, such as the Ghana and Guatemala studies.
2. Incorporated explicit policy reforms and monitoring indicators in new operations that support transparency and account-

ability in natural resource management, such as the recent development policy loans in Gabon and Cambodia.

3. Scaled up community-based natural resource management in investment lending to support greater community control and decision making, decentralization of service delivery, and protection of rights of communities living near forests, such as the Mexico Community Forest Project.
4. Supported strengthened disclosure and dissemination of environmental management indicators through the Country Performance and Institutional Assessments, which assess countries' current policies and institutional frameworks.
5. Collaborated with IFC to scale up public-private partnerships for improved corporate governance, focusing on natural resource certification schemes (particularly in forestry), voluntary codes of conduct, and corporate transparency initiatives.

Our Portfolio of Projects in Fiscal 2006

While placing greater emphasis on environmental governance, the Environment family has remained committed to our core business

of supporting poverty reduction, protecting human health, protecting water resources, strengthening forest management, and supporting innovative environmental policy tools. The program of analytical and advisory work is growing and is increasingly focusing on questions of institutional performance, coordination, and helping institutions improve their capacity.

In fiscal 2006, the World Bank approved 73 projects with environment and natural resources management content in 48 countries, amounting to \$1.4 billion in new commitments. Twenty-four of these new projects have objectives specifically targeting strengthening environmental policies and institutions. The total active portfolio with environment and natural resources management components was \$9.7 billion at the end of fiscal year 2006 (see Figures, right).

Throughout our portfolio, we are strategically seeking projects that demonstrate multiple benefits. In Senegal, for example, a World Bank-GEF project on Sustainable and Participatory Energy Management introduced sustainable forest management and successfully promoted the manufacture and sale of 250,000 improved wood stoves. This project helped improve the air that millions of poor women and children breathe, reduced poverty, stemmed the rate of deforestation, and lowered carbon dioxide emissions. Participatory activities were funded to develop detailed community-based forest and natural resource management plans.

In Colombia, Costa Rica, and Nicaragua, the Integrated Silvopastoral Approaches to Ecosystem Management Project seeks to compensate livestock producers who implement environmentally sound forest and pastoral systems. The project promotes land use change from systems characterized by low vegetation cover and minimal environmental attributes to more biologically

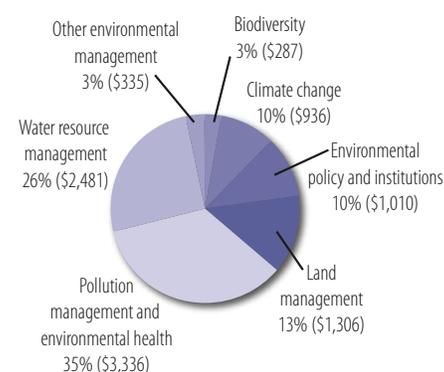
diverse and productive systems. Some of the environmental benefits that have been gained through these changes include biodiversity conservation, water retention, prevention of landslides and erosion, improved soil productivity, reduction of deforestation, and enhanced carbon sequestration. The project also focuses on enhancing the ability of the project partners and farmers to monitor land use changes, calculate the incremental environmental services gained (or lost) against their baseline, and reward producers who have made positive changes.

Our carbon finance business is demonstrating how greenhouse gas emissions can be reduced, while also providing local benefits, such as switching to cleaner fuels and cheaper energy sources. These initiatives include investments in more efficient transportation and industrial processes, and improved waste and land management. Capacity building, business development support services, and facilitation of dialogue at the community level are frequently key components of these projects.

The Challenge

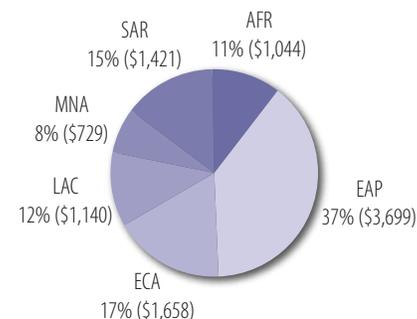
In this issue of *Environment Matters*, the emphasis on good governance underscores our commitment to work with clients and partners on building stronger institutions and systems for greater transparency and accountability. We focus our efforts on (a) changing bad policies, such as those that permit high levels of discretion in economically important sectors; (b) promoting and building institutional capacity that enables agencies to disclose to the public more information about environmental quality and associated decisions; (c) devolving aspects of resource management to communities, with mechanisms for checks and balances; and (d) promoting public policies that support responsible environmental and social

ACTIVE ENVIRONMENTAL AND NATURAL RESOURCE MANAGEMENT PORTFOLIO, END FY06



Percentages based on commitment amounts. Figures in \$ millions.

ACTIVE ENVIRONMENT AND NATURAL RESOURCE MANAGEMENT PORTFOLIO — REGIONAL DISTRIBUTION, END FY06



Percentages based on commitment amounts. Figures in \$ millions.

behavior by the private sector, including collaborating with IFC in the implementation of its environmental and social performance standards.

The World Bank's work with partners and clients on governance and the broader environmental agenda is enormously exciting. Working with all sectors of society, we will strive to make more accountable the institutions that serve the public's daily needs and guide our resource decisions. This is one of the most daunting development challenges.

TACKLING GOVERNANCE IN THE FOREST SECTOR



Current Challenges in Russia and the Way Forward

Valery P. Roshchupkin
Chief
Federal Forestry Agency
Russian Federation

Access to information, stakeholder participation, and accountability are key elements of good governance that protect not only the rights of people and communities, but also their natural environment. The Russian Federation, as the custodian of 22 percent of the world's forests, has recently emerged as one of the major contributors to international efforts to improve forest governance and combat illegal logging and associated trade and corruption. Since 2004, the Government of the Russian Federation and the World Bank have worked closely on developing and launching the Europe and North Asia Forest Law Enforcement and Governance Ministerial Process. This process has already secured high-level political commitments from 44 participating governments and the European Commission for practical actions at national, regional, and international levels, among both producers and consumers. With the explicit endorsement of President Putin, the Government of the Russian Federation is poised to implement its own comprehensive National Action Plan to Combat Illegal Logging and Illegal Timber Trade.

— Kristalina Georgieva, Country Director, Russian Federation

Illegal turnover of timber and, in particular, illegal logging are on the list of the hottest issues in the forest sector of the Russian Federation. The official 2005 statistics show documented illegal logging at the level of 0.89 million cubic meters. In the same year, the results of remote-sensor monitoring of forest utilization in the seven largest forest regions of Russia identified an additional 1.16 million cubic meters of timber harvested with legal infractions. This makes a total of at least 2 million cubic meters of timber from documented illegal logging operations. In and of itself, this figure is disturbing.

Indirect estimates by international experts indicate that the real volume of illegally harvested timber may now be at the level of 10 percent of total annual wood harvest in Russia, reaching up to 18–20 million cubic meters. Even if these estimates are overly alarmist, it

would still be safe to assume that the actual level of forest infractions is substantially higher than the officially documented level.

The bulk of illegal logging takes place in the near-border regions of Russia: the Far East, the Northwest, and Siberia. Hence, it is directly linked to the export of illegally harvested timber to international markets.

The analysis of the root causes of illegal logging and related trade and corruption shows that it is only possible to address and combat them through a comprehensive set of measures. These include proactive use of the Europe and North Asia Forest Law Enforcement and Governance (ENA-FLEG) process to garner international cooperation, as well as engagement on the part of the federal executive branch (including

fiscal and law-enforcement agencies), regional administrations, the business community, environmental NGOs, and civil society.

Russia began implementing an interagency plan for combating the illegal logging and timber trade in 2002. The November 2005 Ministerial Conference on Forest Law Enforcement and Governance in Europe and North Asia, which was held in St. Petersburg, has recommended that participating countries develop a higher-level document—a national action plan.

At a high-level meeting in April 2006 on the country's forest sector development, President Putin instructed the Government of the Russian Federation to develop and approve a set of measures aimed at resolving these issues.

The work is about to be finalized. The proposed actions can be grouped into six main building blocks:

- Improvements in the legal and regulatory framework
- Improvements in public management systems
- Improvements in workflow organization of forest use
- Development of social and economic mechanisms
- International cooperation
- Administrative support

The new Forest Code of the Russian Federation, which is pending, will guide the substance of the first four of these blocks. Under this code, in 2007, Russia's forest management system will enter a fundamentally new phase, based on decentralization of forest management, which means delegating to the regional administrations the full set of rights and responsibilities in forest use, regeneration, and protection.

Special attention is being paid to the development of a federal system of remote sensing (aerial and satellite) to monitor forest utilization status. In 2005, this monitoring system covered 53 million hectares of forests; in 2006, it was expanded to cover over 100 million ha. Within the next two years, the system will be expanded to about 300 million ha, which represents almost the entire area of intensive forest use in Russia. Work is also under way to develop a unified system of interagency information exchange regarding forest inventory, forest use, turnover of forest resources and wood products, price and tax monitoring, and legal infraction statistics.

Expansion of certified forests through the development of a national system of voluntary forest certification will also contribute to a wider confirmation of the legality of timber.

The expected Federal Targeted Program on forest sector development should become an effective tool for increasing value-added wood

processing capacity; creating new jobs in the regions with current concentrations of illegal logging; promoting vertical integration in the forest industry; and saturating the market with wood products of legal origin.

The program of social policy measures is also essential. It includes specific steps aimed at developing a public image of respectable entrepreneurial behavior in the forest industry, setting up mechanisms for its promotion, and engaging civil society in the system of forest relations and environmental awareness-raising within the population at large.

In terms of cooperative international actions, we assign particular importance to our participation in the international working group on (a) developing a common understanding of FLEG-related concepts, definitions, and terms; (b) development of a common system of timber measurements and accounting; (c) development and implementation of agreements on the exchange of electronic information on timber product movements and customs clearance; and (d) collaboration within the framework of the United Nations Convention Against Transnational Organized Crime.

We expect that full implementation of the proposed plan of action will yield the following results:

- A reduction in the volume of illegal logging by 20 to 30 percent in the first two years
- An increase in the rate of detection of illegally harvested wood by up to 50 percent of the estimated volume
- An increase in budgetary revenues by 2 billion rubles (\$75 million) a year
- An improvement in ecological conditions and forest vitality in the affected regions
- An improvement in the international image of Russia in the area of forest management and forest utilization

In conclusion, I want to reiterate that our commitment to improved governance in the Russian forest sector has received strong support both domestically and internationally. By offering a candid assessment of the problem and starting an open and inclusive process to define ways to address it, we have been able to bring together foresters and forest-dependent communities, the private sector and civil society organizations inside Russia, as well as our key trading partners and consumers of our timber products abroad. This gives hope that the alarming trends in illegal logging can and will be reversed, for the benefit of Russia's forests, the Russian people, and the world as a whole.

HOW MUCH HAVE WE ADVANCED?

Access to Information and Participation in Environmental Issues in Chile



Andrea Sanhueza
Executive Director
Corporación, PARTICIPA
Chile



Inspired by the Rio Summit and Principle 10 of the Rio Declaration, in 2000 a group of nongovernmental organizations from various parts of the world created The Access Initiative (TAI). TAI is intended to drive the implementation of commitments related to access to information, participation, and justice in environmental decision making. TAI has grown significantly; it currently has 32 member organizations in Latin America.

TAI developed a methodology to evaluate the extent to which national governments have fulfilled their commitments to develop or improve the legal framework that protects access to public information, access to justice, and public participation in decision-making processes involving public policies.

During 2004–05, the evaluation was carried out simultaneously in seven Latin American countries: Bolivia, Costa Rica, Chile, Ecuador, Peru, El Salvador, and Mexico.

Chile is recognized for its high standards of social, political, and economic stability, which constitute an important achievement in widening the scope of democratic governance. In issues like access to public information and citizen participation, however, the country encounters problematic situations that need to be urgently addressed.

To face the major deficiencies in guaranteeing access to public information and participation, both at the legal and practical levels, utmost importance should be given to the following areas.

Chile, unlike the majority of the other countries being studied, does not guarantee in its Constitution either the right of access to public information or the right to participate. An important legal improvement occurred in August 2005, however, when a constitutional reform was promulgated establishing the principle of public disclosure of “the acts and resolutions of agencies of the State, as well as their grounds and their procedures.” Furthermore, the reform established that the reasons to declare information secret or confidential must be stipulated by law.

This advance is not yet fully reflected in the daily practices and behavior of Chilean public administration, which still shows its cultural fondness for secretive practices. Recently, for example, the Inter-American Court on Human Rights ruled against the Government of Chile for refusing to release environmental information in 1998. The Court urged the government to improve the existing norms and to train public officials on procedures to release information.

In the context of the TAI, some of the practical exercises carried out in Chile show some important weaknesses that deserve to be mentioned:

- The majority of public officials involved in the cases being studied were unaware of the regulations regarding access to public information.
- There is no public policy designed to guarantee that, in case a request of information is filed in the incorrect department or institution, it is redirected to the appropriate one. As a result, many information requests are left unanswered.
- Generally, public information is presented in a way that is not easy to understand for the general public, especially in rural areas.
- Access to information is usually concentrated in cities and is more difficult for communities or areas that are far from urban centers.
- There is a lack of information on certain areas, such as the economic and environmental priorities of the region.

Regarding the right to participate in environmental issues, the only legislation that exists in Chile regulates participation in the Environmental Impact Assessment System (SEIA). This system provides a time frame of 60 days to participate, during which the proponent has to implement a consultation process to determine public opinion about a project. This legal obligation implied significant progress on this issue, although in many instances the procedure is merely formal and doesn't incorporate the most important observations and proposals that are formulated by the participants.

There is no other regulation in Chile that refers to citizen participation in public policies or programs. In general, participation depends on the interest of the authorities in charge, the capacities of their teams or advisors, and the resources available.

The cases about the right to participate that have been evaluated provide interesting examples of how, little by little, the state is beginning to open itself up to citizens. One case that stands out is that of the creation of the National Policy of Fish Farmers. This established a national commission for implementation and follow-up on the policy. The members of this commission, who had also supported the revision of the policy, expressed a high level of satisfaction with the process, which provided an opportunity for them to have a real influence on decision making. They also recognized that it is a unique initiative that should be repeated in the future and in other fields.

Compared to other countries, the legal conditions in Chile linked to civil society capacity building also pose a major obstacle. For civil society organizations to be recognized by law, they have to be registered as either foundations or corporations and they need the approval of the president of the Republic.

Some of the main recommendations of the 2004–05 evaluation for Chile include the following:

Access to information

- Guarantee that the current legislation on issues of access to information is fulfilled by the public services in a manner that ensures effective access to public information.
- Train public officials on procedures for releasing information.
- Make efforts to provide information in a comprehensible way for all the people.

Access to participation

- Increase the level of citizen participation in the formulation, execution, and evaluation of plans and policies.
- Institutionalize the participation processes, which cannot depend exclusively on the interest and discretion of the authorities. For example, the evaluation proposed the creation of an instruction manual about basic aspects of citizen participation. This would make it possible to avoid the excessive pressure that now falls on the SEIA.
- Increase the time periods for formulating observations in environmental impact studies, thus generating citizen participation in early stages of the project cycle as well as in its later phases. Although this is promoted by CONAMA, the Chilean Ministry of Environment, its implementation should not remain subject to political willingness to comply.

In sum, based on the facts described above, it is not possible to conclude that effective access to information and participation exists in Chile. With the constitutional reform of 2005 on our side, we plan to continue striving to give the public the tools and means to take part in state affairs.

SEAFOOD CERTIFICATION AND SUSTAINABILITY



John White
Director for Development
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What happens on, in, and under the sea matters. As consumers of seafood, as producers, retailers, processors, and as restaurateurs, we all want to know if there will be fish on our plates tomorrow. There will not be if things go on the way they have been. Fish is the basic source of protein for many millions of people. It is increasingly sought by health-conscious people worldwide. Demand is rising inexorably, having doubled over the last 30 years. But most consumers either do not know, or ignore, the facts: that (a) fish are not in inexhaustible supply (half of world fish stocks are fully exploited and another quarter are overexploited or depleted); (b) marine conservation issues are too often played down; and (c) the ever more technologically advanced fishing industry is in some cases spreading the problems of overfishing and environmental degradation worldwide. The collapse of some major fisheries has shown how, in a short time, marine ecological disaster can become a reality and not just a prediction.

The seafood industry is complex. But tackling the problems it faces is not insuperable; far from it. Transformation of the industry so that it operates on a sustainable basis is possible. Both consumers and producers, and all those in the industry up and down the supply chain, can play a part in reform. This is a case in which individual actions can influence corporate behavior. Governments and regulatory authorities have opportunities to help promote sustainability and marine conservation while achieving social and economic objectives.

There is increasing evidence from retailers that consumers want to know where seafood products come from. They want assurances that

these products are from well-managed fisheries. They are probably not overly interested in stories about complex supply chains. They want a simple, consistent, visible signal that they can trust what they are buying. And retailers want to be sure that claims for sustainability made by suppliers are credible, easy to explain to customers, and verified by independent parties.

These challenges can be met and market forces can be harnessed to bring about changes in behavior that will promote the sustainability of marine resources. The Marine Stewardship Council (MSC), an independent international charity, provides a mechanism to do this through an eco-labeling and certification program.

Under the MSC program, fisheries voluntarily apply to be assessed by independent third-party certification bodies against the MSC's Environmental Standard. If a fishery passes, then products from that fishery can carry the MSC eco-label with the following declaration:

"This product comes from a fishery which has been certified to the Marine Stewardship Council's environmental standard for a well-managed and sustainable fishery."



Appraisal under the MSC standard involves investigation of the health of relevant fish stocks, of the impact of the fishery on the ecosystem in which it operates, and of the effectiveness of the fishery management system in place. Certification is the strongest signal available that a fishery is run responsibly and that it has the capability to contribute to maintaining fish supplies in the long run and in a

Michael Cockerhan



manner that will safeguard the marine environment. The program is the only marine certification and labeling program in the world to be fully consistent with the UN Food and Agriculture Organization's Voluntary Guidelines for the Eco-labeling of Fish.

There are now 21 fisheries around the world that have been certified to the MSC standard. A further 16 are under full assessment and some 20 other fisheries are in the pre-assessment process. These fisheries represent about 3.5 million tons of seafood. This total masks significant presence in certain key species groups—for example, 32 percent of the global prime white fish catch and 42 percent of the global wild salmon catch are now either certified or under assessment.

Equally important, major retailers—particularly in the United States, Germany, and the United Kingdom—are increasingly interested in the possibility of a sustainable approach to the seafood industry. WalMart, for example, has committed itself to sourcing all its fresh and frozen seafood from MSC-certified sources over the next 3 to 5 years. This encourages suppliers to these retailers to become certified under the program. By empowering consumers to make informed choices when buying seafood, labeling provides incentives to encourage more fisher-

ies to enter the program and so increase the proportion of sustainably caught seafood available.

The certification program offers fisheries a way of proving that they operate in a way that consumers and retailers increasingly see as desirable. Product differentiation is real. But beyond short-term gain, fishers in certified fisheries know they have also established the foundations for securing their long-term livelihood through embracing sustainable measures and practices. For governments, reversing the decline in fish stocks, improving conservation of the marine resource, and securing livelihoods can help stimulate economic development and regeneration. Promoting and achieving sustainability confers multiple benefits, both private and social.

Governments can take a number of actions that will encourage fisheries to seek and achieve certification successfully. They make and enforce regulations that can help fisheries meet the requirements of the MSC Standard. For example, governments can ensure that allowable catch limits are set on the basis of the best scientific advice and then enforced. They can take and implement measures to combat illegal and unregulated fishing. They can set strong, wide-coverage, ecosystem-based management standards for fisheries that include minimizing by-catch and discard problems. Positive actions by the public sector that promote sustainability are feasible, desirable, and necessary.

The MSC program is open to fisheries worldwide and on any scale. To help more fisheries join, we will improve the quality and consistency of the certification process. We want to see more fisheries from developing countries enter the program and will ensure the continued relevance and application of the MSC standard to them. We will also continue to work in partnership with developing world stakeholders to help them benefit from the program. Certification can offer the potential for premium prices, access to new markets, preferred supplier status, and the potential for attracting new investment. It will help longer-term food security, as more fisheries operate on a sustainable basis. Marine eco-labeling and certification is already contributing to the achievement of the Millennium Development Goals by addressing hunger and poverty and the need for a sustainable environment.

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Combating Illegal Logging and Corruption in the Forestry Sector

Strengthening Forest Law Enforcement and Governance

The widespread failure of forest governance—characterized by illegal logging, associated illegal trade, and corruption—directly undermines sustainable economic growth, equitable development, and environmental conservation. It puts at risk poor and forest-dependent populations, which rely on timber and non-timber forest products; undermines responsible forest enterprises by distorting timber markets and reducing profitability; and results in a loss of government revenue that could be invested in sustainable forest management or general economic development.

Illegal logging and other forest crimes of various kinds are common in many parts of the world and often involve players in both producer and consumer countries. The World Bank estimates the market value of global annual losses from illegal cutting of forests in public lands at over \$10 billion—more than eight times the total official development assistance flows for the sustainable management of forests.

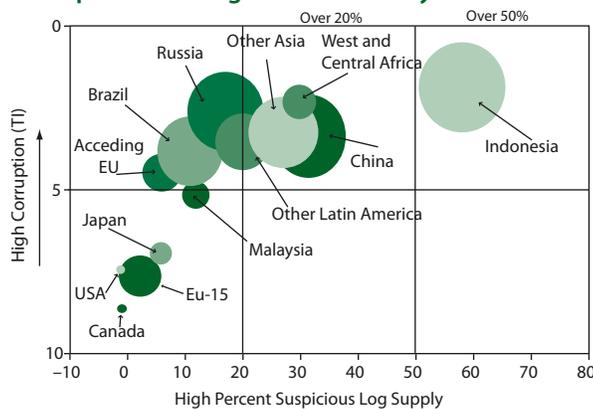
Corruption—another symptom of weak forest sector governance—is evident in the

form of bribes, extortion, kick-backs, protection money, and, most sinister of all, the erosion of institutions beyond the sector and across the economy. More often than not, it will facilitate the occurrence of illegal acts, especially large-scale illegal logging (see Figure, right, indicating a high correlation between illegal logging and corruption). About \$5 billion per year is estimated to be lost due to uncollected taxes and royalties on legally sanctioned timber harvests due to corruption (World Bank 2002 estimate).

Fundamental Causes

A combination of high scarcity rents, discretionary powers, and low accountability are the fundamental drivers of illegal logging and corruption in the forest sector. Unlike other resources, forests provide a wide range of public benefits only when they are preserved (for example, through watershed protection, carbon sequestration, and biodiversity pro-

Corruption and Illegal Forest Activity



Note: Bubble size represents the volume of suspect roundwood, including imports.
Source: Seneca Creek Associates 2004.

tection); and they provide private benefits (such as timber rents) principally when they are harvested. So there is a need for high levels of intervention to assure optimal and sustainable levels of harvesting, while at the same time ensuring adequate protection of the public benefits.

Typically, state forest management agencies are entrusted with managing the conflicting objectives of conserving global assets and generating resource rents. These agencies are underfunded, and their officials work for meager salaries. But since timber is scarce relative to demand (and harvesting costs are

Voluntary Corporate Codes of Conduct to Promote Legal and Sustainable Forestry

Corporate codes of conduct are voluntary initiatives by which corporations, either independently or as members of associations, commit themselves to follow self-defined principles of social and environmental responsibility.

IKEA's long-term goal is to source all wood in the IKEA range from forests certified as being well-managed. Recognizing that conditions to support responsible forestry must be in place before certification can be achieved, IKEA works with a "staircase model" to promote legal and sustainable forestry among its suppliers. This model has four levels to establish minimum requirements on wood material, and uses a step-by-step approach to place higher demands on suppliers. Requirements include the legal sourcing of wood products. IKEA, in partnership with WWF, has developed a wood tracking system to ensure that there are no leakages along the chain of custody. The partnership has also established producer groups committed to extracting only legally sanctioned harvests.

Stora Enso, a European timber and paper company, actively works to combat illegal logging and related illegal activities where it operates. The company's strategy to ensure the legal origin of its wood purchased in Russia includes:

- Recognizing and analyzing the risks related to legality and sustainability issues
- Focusing on long-term partnerships and investments
- Having local representative networks
- Increasing its own logging operations
- Keeping the supply chain as short as possible
- Offering training and cooperation to promote supplier's awareness of sustainability issues
- Having active stakeholder dialogue and development projects

While it is too early to assess the impact of such initiatives, they are likely to become increasingly important instruments in the fight against illegal logging and forest corruption.

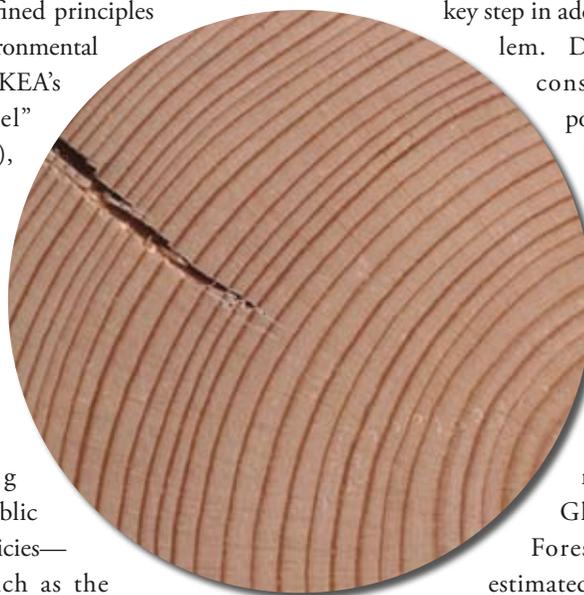
Sources: World Bank 2006, IKEA 2006.

low), the rents from depleting forests remain high, and there are strong incentives to subvert regulations and pay bribes to capture a greater share of the resource. In addition, forestry officials usually operate in remote areas, far from public scrutiny, and with broad discretionary powers. Forest officers may have a great deal of latitude to certify compliance with the law, or collude in illegal acts. The propensity for malfeasance and the incentive to accept bribes in these circumstances is clearly high. With limited oversight, abundant rents, and poor incentives, the opportunities for corruption abound. Neither production areas nor protected areas are immune from corrupt practices and illegal logging.

A Search for Solutions

Demand-side interventions. Controlling scarcity rents by reducing demand for timber requires implementing environmentally and socially responsible procurement policies at all levels. In the case of corporate codes of conduct, corporations, either independently or as members of associations, commit themselves

to follow self-defined principles of social and environmental responsibility. IKEA's "staircase model" (see Box, above), which raises the standards expected of their wood suppliers in a step-wise manner, is a promising approach in this regard. Strong alignment of public procurement policies—in countries such as the United Kingdom, Denmark, and Japan—with legally sourced timber is also a



key step in addressing the problem. Developing green consumerism holds potential to streamline demand once "green" timber can command a reasonable price premium.

Increasing timber supplies. The multistakeholder Global Vision for Forest 2050 Project estimated that plantation forests—managed exclusively for wood and fiber on just 4 percent of forest

STRENGTHENING FOREST MANGEMENT AND GOVERNANCE IN INDONESIA

lands—could meet 50 to 60 percent of world demand in 2050. Clearly, investing in industrial plantations is a feasible approach to the elimination of scarcity rents. The Bank has been actively supporting plantation development in countries such as China and India. Forest certification is another approach to increasing the supply of timber from well-managed forests, and can help control illegal logging and other forest crimes. Currently, about 140 million hectares of forests are under various types of certification schemes. There is huge potential for expansion, especially for tropical forests.

Monitoring, increasing transparency, and accountability. The remoteness of forests offers rich opportunities for illegal logging and corruption. Detection, monitoring, and surveillance are important tools in combating these problems. The use of satellite data offers a cost-effective method to monitor forest cover. It also provides the option for a variety of stakeholders to use this information for effective surveillance and detection of forest crimes. Innovative approaches are being successfully implemented in Brazil, Cameroon, India, Indonesia, and Russia. Where local capacity is inadequate, hiring an independent forest monitor can make a positive contribution to increasing transparency and accountability, as has been done in Cambodia, Cameroon, and Ghana, for example. In Bolivia and Ecuador, systems of independent surveillance and monitoring by the public have brought forest operations into open scrutiny and promoted improved accountability on the part of public officials.

As indicated above, making headway in this difficult and complex area requires action on several fronts.

As part of its wider effort to promote sound forest management, the Bank currently finances more than \$300 million in forest law enforcement and governance activities in its portfolio of forest projects. See Box, right, for a description of forest governance work

Indonesia's forests are among the most extensive, diverse, and valuable in the world. Covering over 70 percent of the total land area, the Indonesian forest estate generates income and jobs, and provides livelihoods for millions of people, as well as nearly 10 percent of non-petroleum export revenues.

Indonesian President Susilo Bambang Yudhoyono has made improving forest governance and curbing corruption top priorities and has directed relevant government agencies to accelerate efforts to curb illegal logging, one of the main problems in forest

sector management. Poor governance, corruption, and law enforcement have hampered Indonesian government's ability to effectively manage forests, collect forest revenue, attract forest investment needed to revitalize Indonesia's timber industry, promote Indonesia's timber products in international markets where demand for legal timber is growing, and thus ensure that Indonesia's forests make an important contribution to the economic and social development of Indonesia.

Indonesia's good forest governance initiative is built upon two pillars: *transparency* and *the rule of law*. In consultation with civil society, donor agencies and the private sector, the Ministry of Forestry and other relevant institutions have begun, with the support of the World Bank, two parallel, complementary initiatives designed to improve the fundamental pillars of forest governance:

Promoting Transparency

The initiative's goal is to make accurate and up-to-date forest sector information continuously available to decision makers. This includes: a) improving the *information management process* that generates and archives information on Indonesia's forest and timber resources; b) establishing a *comprehensive disclosure policy* that clearly articulates what information can be publicly disclosed and what is confidential; c) developing *effective disclosure mechanisms* that allow multiple stakeholders to access accurate and up-to-date information on Indonesia's timber and forest resources; and d) encouraging an *improved decision-making process* able to use the information.

Promoting Transparency

Promoting Law Enforcement

The government is implementing and supporting a comprehensive framework of measures, designed in extensive multistakeholder consultations, to prevent, detect and suppress forest crimes and improve law enforcement in Indonesia. This framework includes the following: a) support for the establishment of a *forest crime case tracking system* that will allow multiple stakeholders to monitor and hold the government to account for its law enforcement operations and judicial processes; b) assistance with the implementation of Indonesia's *anti-money laundering* legislation, as it relates to forest crimes; c) continued support for an *interagency forest law enforcement strike force*; and d) support for participation by the Indonesian government in the *Asia FLEG process*.

Promoting Law Enforcement

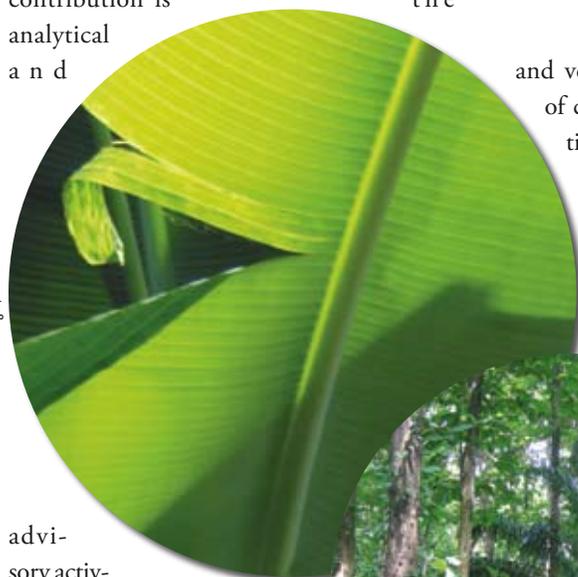


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supported in Indonesia. Some of the specific areas addressed in Bank projects are:

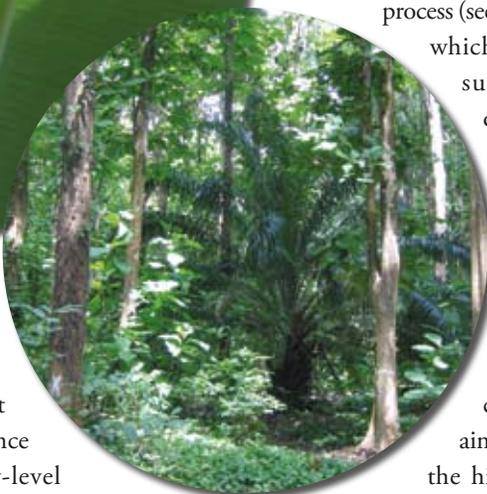
- ◆ Development of forest policies, regulations, and management plans
- ◆ Capacity development for public agencies to better address forest crimes
- ◆ Support for public awareness activities
- ◆ Support for natural resource inventories, transparency in concession allocation, forest certification, and chain-of-custody verification
- ◆ Development of forest monitoring and law enforcement reporting systems
- ◆ Provision of equipment and capacity development for staff responsible for management of protected areas

In addition to financing investment projects and related technical assistance, an essential and increasingly important part of the Bank's contribution is the analytical and



Both images, Klaus Sanders

advisory activities carried out for client countries. In recent years the Bank has produced several important publications that include discussion of forest law enforcement and governance issues ranging from country-level assessments of illegal logging and other forest crime to thematic assessments on issues such as reforming forest fiscal systems,



and verifying and monitoring the chain of custody and legal compliance in the timber industry.

Since 2001, the Bank has also been actively involved in catalyzing a high-profile Forest Law Enforcement and Governance (FLEG) process (see Box, above), which is strongly supported by development partners and key country governments alike. The regional FLEG processes have aimed to create the high-level political commitment and the political space at national and regional levels to address issues related to illegal log-

THE REGIONAL FOREST LAW ENFORCEMENT AND GOVERNANCE (FLEG) MINISTERIAL PROCESSES

Three Regional FLEG ministerial processes have been initiated so far—in East Asia (2001), Africa (2003), and Europe and North Asia (2005). All three FLEG processes have been remarkably successful in eliciting high-level political commitment and fostering a spirit of shared responsibility. Strong partnerships have been formed among various producer and consumer governments, development agencies, civil-society organizations, and forest industry companies and their associations sharing a common concern with improving forest governance. The ministerial processes have also been successful in drawing the attention of policy makers to new and innovative tools—such as customs collaboration and anti-money-laundering laws—to combat illegal logging and forest corruption.

On the demand side, FLEG recognizes the responsibility of “consumer nations” (through controlling demand-side pressure) and has built on initiatives such as the G-8 Forest Action Program on illegal logging. On the supply side, the FLEG process addresses the underlying causes of corruption and illegal logging. The FLEG umbrella includes a joint approach by producer and consumer countries, including technical meetings where experiences with FLEG issues are shared, intergovernmental negotiations for the drafting of a declaration and/or action plan, and stakeholder dialogues supporting these negotiations. The processes seek to create the political commitment and analytic foundations at the national and regional levels to effectively address these complex and politically sensitive issues.

ging and other forest crime in partnership with governments and other major stakeholders from civil society and the private sector.

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Governance in the Environmental and Natural Resource Sector

Combating Illegal Fishing

The successful development and implementation of environmental laws is a particular challenge in many developing countries, whether it is in the forest, fisheries, or mining sectors. Deficiency in the rule of law in almost any sector encourages corruption and prevents sound growth. The Bank has demonstrated that countries with better governance tend to experience faster economic growth than those with poor governance, and thus have more resources to invest in education, social safety nets, and sound environmental management, all of which are critical for sustainable development.

Resources and Conflict

Governance failures in natural resources can lead to conflict and ultimately to violence. Many governments in Latin America, for example, have faced difficulties in reconciling indigenous rights to natural resources with those of other groups, including commercial interests, which has often led to conflict. Sustained conflict and political violence can,

in turn, also lead to uncontrolled, devastating depletion of natural resources.

In recent years, some of the worst armed conflicts within World Bank member countries have been connected to efforts by one group to control dwindling environmental resources at the expense of another group. Post-conflict countries often suffer from damaged physical infrastructure, scarce employment opportunities, reduced foreign investment, increased capital flight, and weakened governing institutions that can lead to further damage to environmental capital. This is especially true where displaced populations are often forced to live in ecologically fragile areas. The resulting depletion of the host's forest and water resources can instigate new conflicts between displaced populations and the local community.

IUU Fishing

The governance challenges in the fisheries sector are a good illustration of the complexities faced by many developing nations. Illegal, unreported, and unregulated ("IUU") fishing

is a serious global problem, one of the main constraints to the achievement of sustainable fisheries. For the implementation of the 1995 Code of Conduct for Responsible Fisheries, an International Plan of Action to Prevent, Deter and Eliminate Illegal, Unreported and Unregulated Fishing (IPOA-IUU) was adopted by the FAO Committee on Fisheries in 2001. IUU fishing represents a major loss of revenue, particularly to some of the poorest countries in the world, which are highly dependent on fisheries for food, livelihoods, and revenues. It proliferates mostly where governance is weak and where countries fail to meet their international responsibilities.

How extensive is IUU fishing? A recent study (MRAG 2005) used empirical information available from the literature and examined ten developing countries around Africa and in Oceania that are suffering from differing levels of IUU fishing. The estimated loss to illegal or pirate fishing is shown in the Figure, right.

By extrapolating the average percentage of IUU fishing from the case studies to the whole world, the study estimates the total value of the IUU catch at \$9.5 billion. This



Desirey Minikh

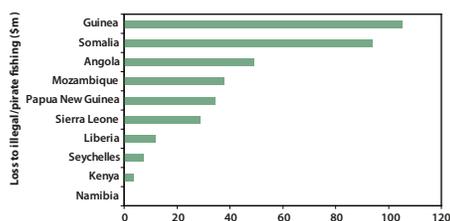
estimate should only be used for illustrative purposes; more case studies are needed to develop a better global estimate.

The basis for extrapolation to the whole of sub-Saharan Africa is much stronger because the study includes cases in all representative areas and for all fishery and country governance types in this region. The estimate for the total value of all IUU fishing across sub-Saharan Africa is about \$900 million.

The potential for gain to the national economies in African countries is illustrated in the Figure at top right.

Using the World Bank's governance indicators, another study (Kaufmann, Kraay, and Mastruzzi 2004) found that the level of gov-

Estimated Cost of IUU Fishing in 10 Selected Countries (millions of dollars)

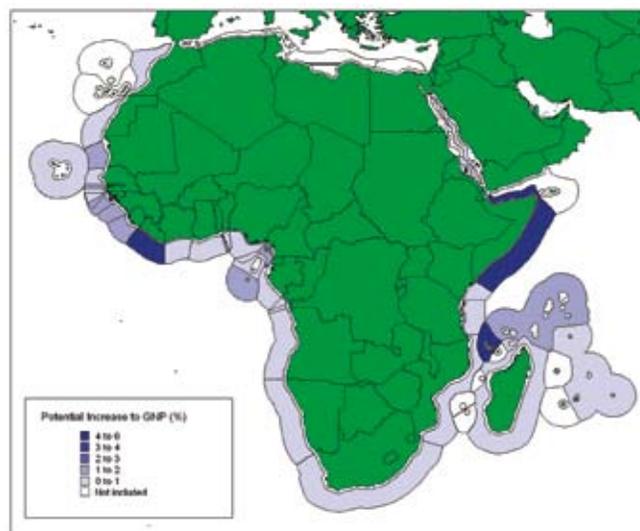


Source: MRAG 2005.

ernance was the strongest factor in explaining the level of IUU fishing. The study also found that compliance increases with increasing monitoring, control, and surveillance activity—for instance, the number of inspections—but at a decreasing level as full compliance is approached.

IUU fishing is not only a problem in developing countries, but can also be a serious challenge for fisheries in northern waters. For example, the northeast Arctic cod stock in the Barents Sea is jointly managed by Russia and Norway. Over the last 10 to 15 years, the spawning stock biomass has been rebuilt to well above the “precautionary level.” Since 2002, however, there has been a sharp increase in IUU catches; estimates of the yearly quantity of such catches range from 70,000 to 166,000 tons. Based on 70,000 tons of illegal catch, the yearly economic loss to Norway alone has been estimated at \$245 to \$260 million (1.6 to 1.7 billion NOK). The loss to Russia is probably in the same range (Vassdal 2005, Misund 2006, ICES 2006).

Potential Increase in GNP with Elimination of IUU Fishing



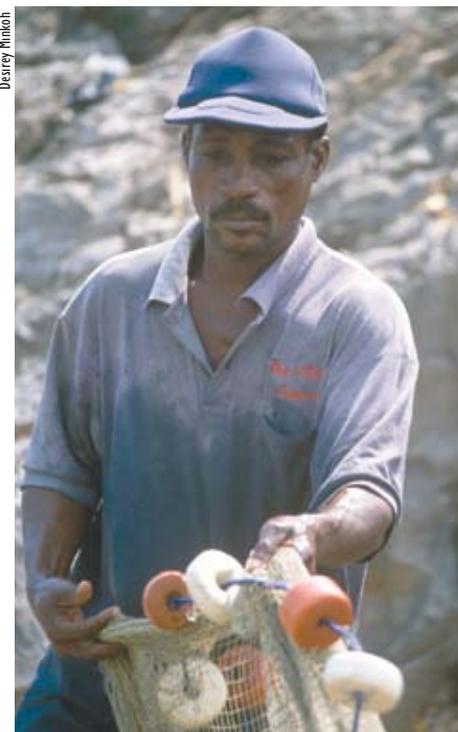
Source: MRAG 2005.

regional colleagues—has helped member states develop environment-related legislation that is legally and economically sound, as well as enforceable.

The World Summit on Sustainable Development (WSSD) in Johannesburg in 2002 took the long-term sustainability of global fish resources very seriously and called on

The Bank's Role

The United Nations Conference on Environment and Development, held in Rio de Janeiro in June 1992, made clear in its Agenda 21 report that international financial institutions should help developing countries implement their multilateral environmental treaty obligations, and that implementation should include adopting and implementing sound environmental and natural resources legislation. Since that time, the Bank's Legal Department—working closely with members of the Environment Department and



Desirey Minikh

Summarized Goals of the WSSD Plan of Implementation on Fisheries and Aquatic Resources

Year	Goals	WSSD Plan Reference
No time frame	Assist developing countries in coordinating policies and programs at the regional and subregional level aimed at the conservation and sustainable management of fishery resources.	30(g)
No time frame	Strengthen donor coordination and partnerships among international financial institutions, bilateral agencies, and other relevant stakeholders to enable developing countries to develop their national, regional, and subregional capacities for infrastructure and integrated management and the sustainable use of fisheries.	31(g)
2004	Deter and eliminate illegal, unreported, and unregulated fishing through implementation of the international plan of action. Establish a regular process under the United Nations for global reporting and assessment of the marine environment. Implement the Global Program of Action for the Protection of the Marine Environment.	31(d) 36 (b) 58 (e)
2005	Assist in implementing FAO international plan of action for the management of fishing capacity.	31(d)
2006	Achieve substantial progress (by the next Global Plan of Action Conference) to protect the marine environment from land-based activities.	33 (d)
2010	Encourage the application of the ecosystem approach.	30(d)
2012	Develop and facilitate the use of diverse approaches and tools, including the ecosystem approach, the elimination of destructive fishing practices, the establishment of marine protected areas consistent with international law and based on scientific information, and the integration of marine and coastal areas management into key sectors.	32 (c)
Not later than 2015	Maintain or restore (fisheries) stocks to levels that can support the maximum sustainable yield with the aim of achieving these goals for depleted stocks on an urgent basis.	31 (a)

Source: United Nations 2003.

the international community to take specific actions to meet specific targets, including deterring and eliminating IUU fishing through implementation of the international plan of action and the maintenance and restoration of the world's fish stocks to sustainable levels on an urgent basis and not later than 2015 (see Table, above).

The World Bank, with its capacity to combine policy dialogue at the highest level with specific investments, is well placed to work with international agencies and analytically with governments in key fishing nations to assist in reaching the goals of effective sustainable fisheries management. Successful fisheries management systems need to meet objectives in at least three domains: (1) biological (conservation and sustainable use objectives); (2) economic (wealth and efficiency objectives); and (3) social (meeting equity objectives, in

terms of access to resources, distribution of benefits, and human welfare).

A successful management regime must also reflect a realistic political consensus among key stakeholders, and have the institutional capacity to define an appropriate balance among these contending domains and objectives. In addition, successful management must adapt itself to changes in the fishery.

The challenge is to maintain economic growth and development, but to avoid overfishing and the ecological problems of today, and to establish institutions, values, and practices that will safeguard fish resources for tomorrow. Improved governance of fisheries at the local, national, and international level is a prerequisite for sustainable use of fish resources.

There are myriad Bank efforts to address failed governance in the natural resource sector. In the fisheries sector, the Bank's portfolio includes (a) analytical work, including economic and sector work on sustainable fisheries (Mauritania, Senegal, Guinea-Bissau, Cape Verde, Sierra Leone, Ghana); (b) coastal and marine biodiversity management projects (The Gambia, Guinea-Bissau, Guinea); (c) support for marketing, processing, small-scale fisheries, and job creation; and (d) activities to strengthen sector governance, build capacity, and promote alternative livelihoods to fishing.

Several Bank projects seek to address illegal fishing and the depletion of marine resources through the promotion of co-management and enforcement of marine protected areas.

In Senegal, the objective of the Integrated Marine and Coastal Resources Management Project is to increase the sustainable management of marine resources through a system of co-management. The system involves two local institutions: (1) the local artisanal fisheries councils, and (2) the local fishers' committees. In the project pilot areas, the committees have initiated and elaborated specific projects for the management of local fisheries, with co-management agreements between the Ministry of Fisheries and the local fishers' committees. The implementation of the co-management system requires that the government provide support services such as (a) vessel registration; (b) assessment of fish resources and allowable catches; (c) a system of monitoring, control, and surveillance of industrial vessels; and (d) effective enforcement.

In Tanzania, the Marine and Coastal Environment Management Project is intended to strengthen the sustainable management of the Exclusive Economic Zone, territorial seas, and coastal resources with the participation of coastal communities. The project seeks to establish and support a network of marine protected areas built on integrated coastal

management strategies that empower coastal communities. The Fisheries Act (2003) provides a framework for community-managed areas with the establishment of Beach Management Units, defined in the act as “a group of devoted stakeholders in a fishing community whose main function is management, conservation, and protection of fish in their locality with the government.”

The Bank has also established a new Global Program on Fisheries (PROFISH), a programming and funding partnership between key fishery sector donors, international financial institutions, developing countries, stakeholder organizations, and international agencies. The partnership seeks to establish a national consensus on the design and implementation of sector strategies and plans for sustainable fisheries, and to mainstream these policies and plans into national economic planning frameworks. Good governance is at the heart of the PROFISH agenda, which addresses issues of illegal fishing, corruption, and equitable access to fisheries resources.

Governance and Anticorruption

Governance and anticorruption have been prominent themes in the work of the World Bank for nearly a decade. The Bank has adopted a comprehensive approach to governance that emphasizes work at the country level (in the Country Assistance Strategy (CAS), country dialogue, diagnostic work, and Bank-financed operations), at the level of Bank operations, and at the global level.

When preparing a CAS, for example, the strategy is to give explicit consideration to the implications of corruption and weak governance on the overall objective of poverty reduction and the nature of risks posed to the Bank. Addressing noncompliance and extra-legal activities in the natural resource sector is



a key way of delivering greater benefits to the poor and a healthier environment for all.

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Good Governance for Good Water Management

Effective management of water resources is vital to sustainable development. Governments across the world have spent considerable effort and resources to move toward that goal. This article argues that good governance is an essential aspect of effective water resource management and one that often receives less attention than it merits.

What exactly is water governance? It usually refers to “the range of political, social, economic and administrative systems that are in place to develop and manage water resources, and the delivery of water services, at different levels of society” (Global Water Partnership, 2003). The literature states that governance rests on two core values: inclusiveness (ensuring that all members of the group receive equal treatment) and accountability (ensuring that those in authority answer to the group they serve if things go wrong, and are credited when things go well). For water resource management, governance processes determine decision making about water storage, types of water use, regulation of extraction from aquifers, regulation of discharges, and allocation between competing

uses, including allocations to maintain basic environmental services (see Box, below).

Water resource management faces specific challenges in water-scarce areas, where there is intense competition among users and among different types of use (agriculture versus tourist development, for example, or

agriculture versus instream flows to protect the environment). This results in overextraction of aquifers and overuse of surface waters. Scarcity also concentrates pollution loads. While advocating changes in governance arrangements, we recognize that this type of reform is politically challenging, and that reform efforts often end in stalemate. In this

WHAT MAKES WATER GOVERNANCE PARTICULARLY CHALLENGING

Governance is a challenge for any corporation or public service. Water has several characteristics, however, that present additional complications for governance structures:

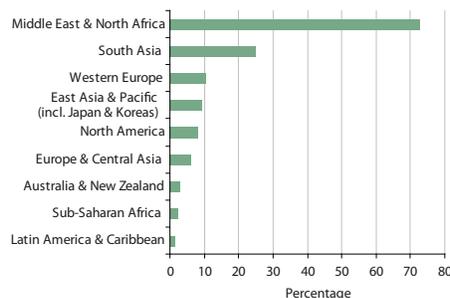
- Water has an emotional and often spiritual dimension for many users.
- Rivers, lakes, coastlines, aquifers, and infrastructure are often common-pool resources; that is, when one member of a group uses the resource it is not available for others in that group and it is possible for members of the group to stop others getting access to it.
- There is significant uncertainty about the amount and quality of water available from year to year, in terms of both stocks and flows.
- Investments in water infrastructure provide a mix of public and private benefits. A dam, for example, provides public benefits such as flood protection, but also stores water for individual households or businesses to use.
- Water management often requires large investments of public funds that are difficult for the general public to evaluate at the planning stage and are vulnerable to capture by special interests.
- Water resources usually must be managed across different time-frames and at different scales (local, regional, national, international).



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to expensive rehabilitation or replacement. Lack of effective stakeholder involvement and a coordinated approach across organizations also limits the benefits of such investments. In addition, repeated droughts have often thwarted these attempts, forcing authorities to cut supplies unexpectedly from farmers that depend on irrigation and to ship or truck water into major cities at great cost because they have insufficient water to serve the urban systems. Many aquifers in MNA and SAR are severely depleted or degraded (see Figure, below). Climate change is predicted to worsen this situation in many parts of the world.

Percentage of Total Renewable Water Resources Withdrawn, by Region



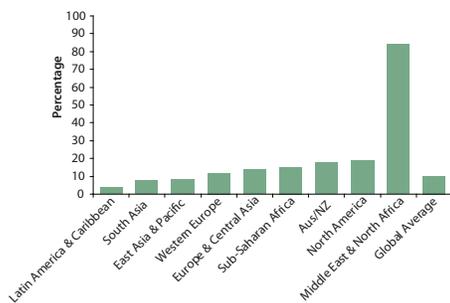
Source: Bucknall (forthcoming).

Good water governance depends on a number of factors, including strong policy, legal, and regulatory frameworks; more effective implementing organizations; a civic determination to improve water governance; and appropriate investments. Each of these factors is elusive, particularly in developing and middle-income countries, but several countries are beginning to address these issues.

article, we provide examples of communities and public authorities that have improved water governance even within the prevailing political economic realities, and that could provide models for use elsewhere. We take examples from very different water-scarce areas of the Middle East and North Africa (MNA) and South Asia (SAR).

Countries in both regions have made considerable investments to buffer themselves from irregular rainfall, either within their borders or closer to the source of the river in the case of rivers that flow across national borders (see Figure, below). Often, these investments receive little maintenance, however, leading

Proportion of Freshwater Resources Stored in Reservoirs, by Region



Source: Bucknall (forthcoming).

Strong Policy, Legal, and Regulatory Frameworks

Many states in India (including Andhra Pradesh, Madhya Pradesh, Karnataka, Tamil Nadu, and Gujarat) have implemented laws transferring responsibility for the manage-

ment of irrigation systems to farmers to improve decentralized service delivery performance and empower stakeholders. The state of Maharashtra has promulgated an ambitious water regulatory act that seeks to clarify entitlement frameworks. But political instability and the tendency of governments—especially those formed from disparate coalitions—to undertake regressive populist measures often undermines efforts. Several MNA countries have made efforts to rationalize the regulatory frameworks governing water, including Morocco with its comprehensive water law in 1995.

Improved Effectiveness of Institutions

Over the past decade or so, many MNA countries have sought to consolidate institutional responsibilities for water management, clarify roles, eliminate overlapping functions, and establish mechanisms to coordinate across water-related sectors such as energy, agriculture, planning, and environment. These efforts have certainly not resolved the institutional problems, which remain daunting, but do represent an improvement on the previous situation.

In addition, some countries have begun decentralizing institutional responsibility. For example, Morocco has established agencies to plan water allocation at the level of the river basin, and other MNA countries are developing similar institutions.

Several countries in the region are experimenting, albeit in a limited way, with release of data to the public and inviting community groups into the planning processes. The Tamil Nadu Water Supply and Drainage Board has successfully demonstrated fundamental changes related to attitudinal transformation, perspective change, and institutional reorientation to improve its service delivery.

Reform of irrigation and drainage institutions in South Asia is much more difficult, but many states and provinces are initiating efforts to improve water productivity through institutional capacity building.

Moves to decentralize responsibility for managing infrastructure to users are under way in India and some MNA countries. These efforts have improved irrigation services and cost recovery, and have often had positive impacts on the empowerment of local communities. These efforts to decentralize control of water infrastructure are particularly noteworthy in the highly centralized context of most MNA countries.

Desire to Improve Water Governance

Many South Asian systems could see significant progress if irrigation departments realized their core business is that of a reliable irrigation service provider and farmers realized they were the clients, and not recipients of the largesse of departments and the vagaries of nature. Leaders need to commit to increasing transparency and improving internal and external accountability. Some underlying problems contribute to (and result from) poor governance, such as asymmetry in socioeconomic conditions, access

to information, and the level of development of different stakeholder groups. For example, studies show that water user associations are more effective where there is more equity in land ownership among the group members. Opportunities for improving water governance may be greatest in those areas emerging in both regions where these underlying circumstances are in the process of changing, that is, where economic growth is rapid, education has become more widespread (especially for girls), and where urbanization is accelerating.

Political will is crucial, but it does not arise on its own. It depends on changes in political

DIVERSE WATER INSTITUTIONS NEED CUSTOMIZED ACTIONS TO IMPROVE GOVERNANCE

Water institutions come in different forms. One typology could be as follows:

BY MANDATE

Water Resources Management Institutions. The core function of these bodies is to determine the best set of policies and investments to manage water resources (storage, extraction, quality, flood protection, transfers) and to manage the process of allocation among sectors. Some focus only on planning; others have implementation roles. They often multi-task; in South Asia and some MNA countries, water agencies also manage irrigation, sometimes leading to intractable conflicts of interest.

Service Delivery Institutions. These are responsible for providing consumers with water supply, sanitation, irrigation, or hydropower services. Recently, Nepal and India, Morocco, Tunisia, Yemen, Jordan, Egypt, and other countries have improved governance structures for these types of institutions, with positive results in terms of services. The specific models vary, but most of the reforms have included measures to help users communicate with service providers to make their preferences clear, informing them about service problems. The governance improvements also include processes to ensure that service providers respond to reasonable requests from the public.

BY STAKEHOLDER TYPE

Government. Critical government agencies include those (1) at the national level, such as ministries of water resources/irrigation/water supply; (2) the provincial/state level, such as irrigation departments/provincial irrigation and drainage authorities, rural water supply departments, and state water and drainage boards; and (3) other levels, such as district administration and other sectoral agencies.

Multistakeholder/Basin Organizations. Stakeholder organizations are important forums for structured discussions, whether for a small watershed, intrastate basin, interstate basin, or international basins. The Palar and Thambiraparani basin boards in Tamil Nadu were the first broad-based basin organizations set up in South Asia, and have provided useful forums for discussion and gradual increase in responsibilities. Many more are now under development. The Nile Basin Initiative is leading to increasing international cooperation on information and investments under difficult circumstances.

Community-Based Organizations. These include decentralized governance structures such as local governments or water user associations, which are intended to help improve interaction and accountability between service providers and the client.

Private Sector. Private service providers may well be one important stakeholder in the water governance equation in the future. Morocco and Jordan have some private involvement in water supply services, and Morocco and Egypt have embarked on public-private partnerships for irrigation. It will be important to align their incentive structures to provide effective services while safeguarding social goals.

Civil Society. Civil society organizations have played an important role in keeping social and environmental issues on the radar of investment discussions, particularly in South Asia. Some NGOs have also started providing water services.



circumstances, demands from stakeholders, and leadership. Many factors can drive decisions for reform. At the national level, the most sweeping reforms have often arisen in the wake of some major crisis. This can be an economic or fiscal crisis that stimulates countries to increase cost recovery for public investments in irrigation, water storage, and water supply. Or it can be an environmental disaster such as a series of droughts or floods. It is important to move toward systematic approaches to addressing these problems rather than “band-aid” approaches to each crisis.

Making Appropriate Investments

It is not enough to invest only in water infrastructure. If government agencies are to play an important role in good water resources regulation and effective service delivery, it is crucial they invest in their staff, as well. This includes job training; taking advantage of the IT revolution to develop effective information systems for management and communication, including GIS-based tools; and improving office infrastructure, such as generators, filing systems, and furniture. Many of these sound trivial, but many institutional reforms have withered for lack of such investments. Of particular importance is to use these improvements to strengthen communication and outreach to communi-

ties to generate broad-based consensus on water governance.

Is It Time for Real Change in Water Governance?

Problems of water governance have often been neglected by governments, the public, donors, and development agencies as being too intractable to deal with. In any country, however, a range of technical solutions for water problems could work if governance arrangements are good and could fail if they are poor.

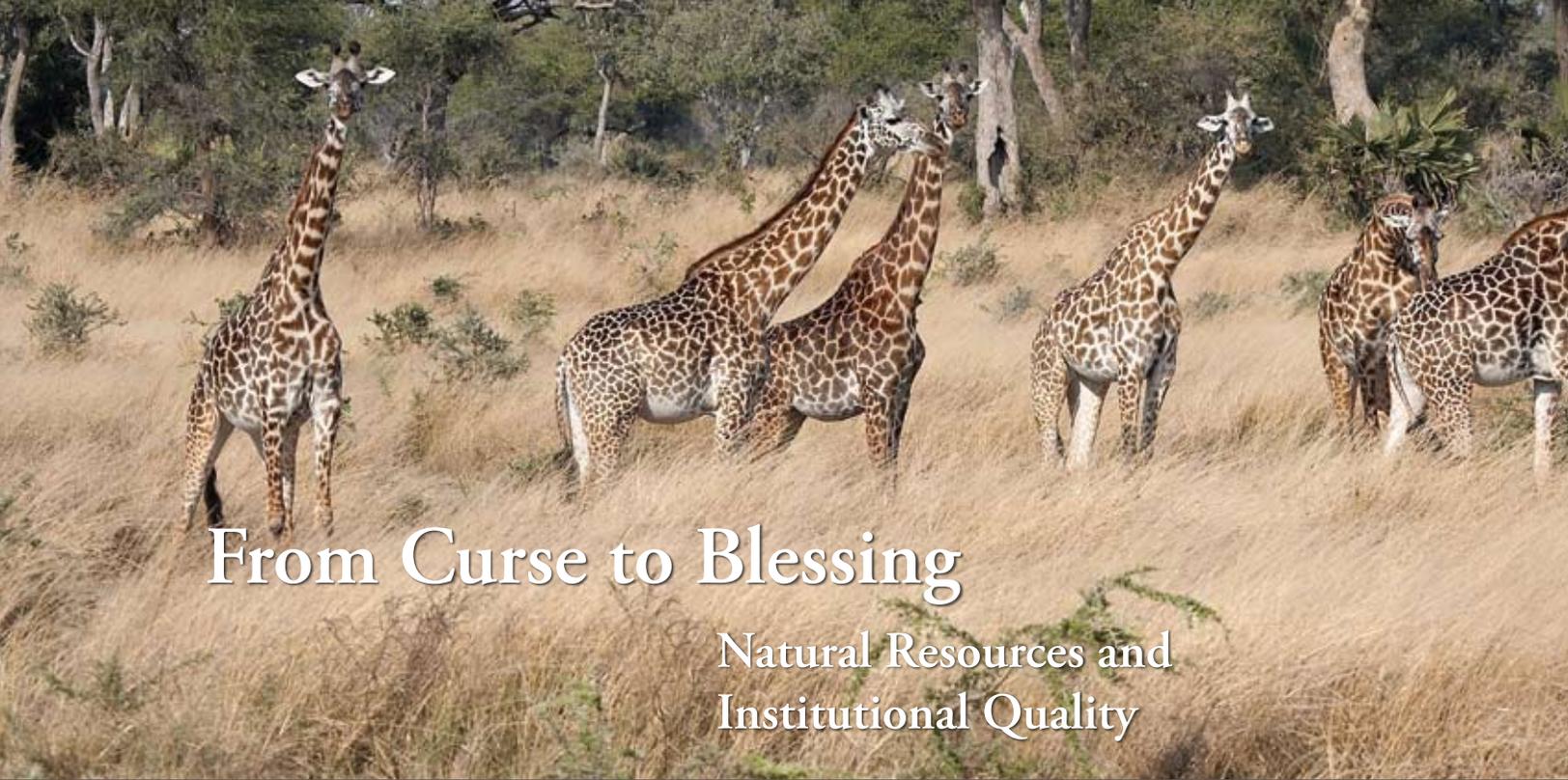
Clearly water governance is influenced by the overall governance circumstances of the particular country or local area. There is a need to address often-overlooked difficult issues of institutional objectives, incentives and motivation; skills, tools and partnerships; staff performance management; corruption and political interference; financial autonomy; accountability; and benchmarking in a systematic manner, to complement the focus on investments. Yet water managers need not wait helplessly until the governance environment improves. On the contrary, local, small-scale initiatives have led to valuable improvements, even when the broader environment is not conducive to such changes.

Addressing water governance at any scale can help address the aspirations and frustrations of the developing world and allow water resources and related services to meet the challenges of the next century.

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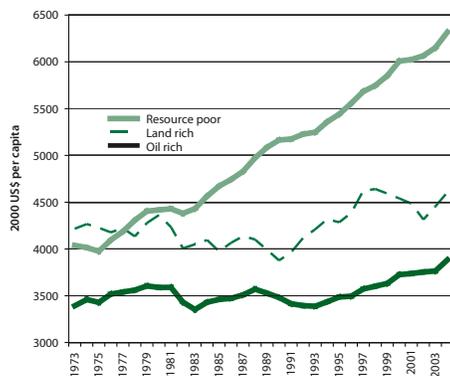
From Curse to Blessing

Natural Resources and Institutional Quality

Can a country have plenty of natural resources and yet fail to grow and develop? The resource curse paradox is more than a “worst-case scenario.” There is robust empirical evidence for a negative relationship between natural resource wealth and economic growth (see Figure, below).

While Gelb (1988) coined the expression, many economists have analyzed the resource curse hypothesis and attempted to explain it. Explanations for the phenomenon include:

The Resource Curse—Natural Resource Endowment and Real GDP Growth



Note: Oil-rich countries are those that in 1973 ranked among the top 15 percent in terms of energy and mineral rents as a percent of GDP. Land-rich countries are those that in 1973 ranked among the top 25 percent in terms of agricultural land per person. Countries from Eastern Europe are excluded. Source: WDI 2006.

- ◆ Long-run declines in primary product prices, which deprive countries of important financial resources over time
- ◆ “Dutch disease,” where a booming natural resource sector leads to exchange rate inflation, decreasing the competitiveness of the industrial sector
- ◆ Composition of the natural resource export base, where capital-intensive production processes—such as sugar, cotton, or mining—are characterized by weaker growth linkages compared to labor-intensive production processes, such as food grains or tree crops
- ◆ Government complacency linked to the “easy rents” generated by natural resource booms, which reduce incentives for economic reform and diversification. Easy rents often lead to high public consumption rather than investments

No comprehensive theory exists: some explanations fit the performance of a subset of countries, but are unable to explain a number of exceptions. For example, initial dependence on staple-crop cultivation has been blamed for the poor performance of the Caribbean states. Yet, in the western United States, staple crops are thought to

have provided positive linkages to growth. In every case, there seems to be a key factor that escapes measurement: the interaction between government behavior and natural resource wealth. Natural resources are gifts that require proper management to provide sustained growth. The ability to do so is what we call good environmental governance.

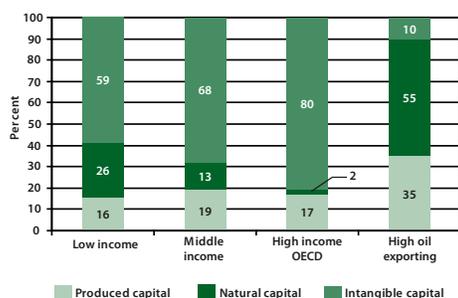
Where Is the Wealth of Nations?

Good governance is crucial to transform natural resource wealth into good economic performance. This is especially true in developing countries, where natural resources play a major role in the composition of wealth. In low-income countries, according to estimates prepared by the World Bank (2006), the natural capital share (26 percent) of total wealth is much greater than the share of produced capital (16 percent) (see Figure, above right). The composition of natural wealth in poor countries emphasizes the major role of agricultural land (70 percent), followed by subsoil assets (17 percent) and timber and



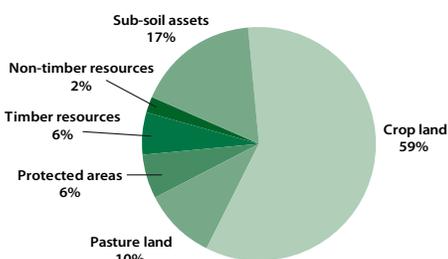
Kirk Hamilton

Composition of Wealth by Income Group



Note: High oil exporters are treated separately.
Source: World Bank 2006.

Composition of Natural Wealth in Low-Income Countries



Note: Oil countries excluded.
Source: World Bank 2006.

non-timber forest resources (8 percent) (see Figure, above).

Another important fact: the preponderant form of wealth worldwide is intangible capi-

tal—an amalgam including human capital and the quality of formal and informal institutions. The share of intangible capital in total wealth rises with income. Oil-exporting countries are the exception, with a very low share of intangible capital (10 percent) – this is another manifestation of the resource curse, indicative of very low rates of return to all assets in these economies.

What does this all mean? Achieving sustained growth entails managing a complex portfolio of assets, in which the elements are not just buildings and machines, but natural and human resources as well. Natural resources are special economic goods because they are not produced. If properly managed, they will yield rents that can be an important source of development finance. Resource policy, fiscal policy, political factors, institutions, and governance structure all have a role to play in transforming them into sustained growth.

Natural Resources and Governance

Auty and Gelb (2001) argue that natural resource wealth partially determines the development paths of countries, while increasing the likelihood of political failure. Resource-poor countries engage earlier in labor-intensive competitive manufacturing. The result is faster diversification, higher saving rates, and faster accumulation of produced, human, and social capital. “This sequence requires a political state that has sufficient autonomy to sustain a coherent economic policy and the objective of raising economic welfare,” according to Auty and Gelb.

Resource-rich countries may also pursue this virtuous circle of competitive industrialization, but their reliance on the primary sector tends to dampen industrialization. Moreover, natural resource rents favor the creation of factional states in which those managing the

rents tend to create mechanisms to control economic and political power. Rents are deployed through indirect means such as trade protection, unproductive job creation, and overextended public expenditure. This results in lower investment efficiency and finally slower economic growth.

So much for the theory, but do the numbers confirm the hypothesis that natural resource riches are associated with poor government performance? Each year, the World Bank prepares the Country Policy and Institutional Assessment (CPIA), which evaluates the quality of a country’s present policy and institutional framework. In addition, Kaufmann, Kraay, and Mastruzzi (2005) aggregate data on six dimensions of governance: (1) voice and accountability; (2) political instability and violence; (3) government effectiveness; (4) regulatory quality; (5) rule of law, and (6) control of corruption. The Table at the top of page 26 provides average values of eight governance measures for three groups of countries: resource-poor, land-rich, and oil-rich International Development Association (IDA-eligible countries. In all cases, resource-poor countries perform better than their resource-rich peers. Oil-rich countries tend to have very low performance in political stability and rule of law. Land-rich countries tend to underperform on the CPIA score and government effectiveness.

Breaking the Curse

The negative relationship between natural resource dependence and governance need not be deterministic. Is there a recipe that a government can pursue to escape the curse? While guessing the intentions of government officials is not easy, judging their policies is much more straightforward. After all, governments’ key task is to administer a country’s wealth. Using our expanded measure of wealth (expanded to include natural resources

Natural Resource Abundance and Governance Indicators (IDA Countries)

		Resource		
		poor in 2003	Land rich in 2003	Oil rich in 2003
IDA Resource Allocation Index (CPIA) (Scale: 1–6)	2005	3.5	3.1	3.2
Environment CPIA (Scale: 1–6)	2005	3.2	3.0	3.0
Voice and Accountability (Scale: 0–100)	2004	41	33	24
Political Stability (Scale: 0–100)	2004	38	33	18
Government Effectiveness (Scale: 0–100)	2004	32	24	26
Regulatory Quality (Scale: 0–100)	2004	35	30	24
Rule of Law (Scale: 0–100)	2004	34	28	19
Control of Corruption (Scale: 0–100)	2004	35	28	20

Note: This table refers to IDA countries only. Oil-rich countries are those that in 2003 ranked among the IDA top 25 percent in terms of energy and mineral rents as a percent of GDP. Land-rich countries are those that in 2003 ranked among the IDA top 25 percent in terms of agricultural land per person.

Source: WDI 2006; Kaufmann, Kraay, and Mastruzzi 2005.

and intangible capital), it is possible to link performance to the actual changes in value of the portfolio.

Substitution between types of assets (for example, oil on the ground versus factories and PhDs) is possible most of the time. Atkinson and Hamilton (2003) find that countries that escaped the resource curse used resource rents as a source of investment rather than a source of public expenditure. Such countries have been transforming natural capital into produced capital. The sustainability rule of thumb is a simple one: invest the rents from the exploitation of natural resources.

The policy rule is particularly useful when it comes to managing nonrenewable resource

rents. Exhaustible resources, once discovered, can only be depleted. The key policy issues are investing resource rents effectively and maintaining fiscal stability. A successful recipe includes avoidance of external debt, diversification of the economy, and the use of public expenditures to counter the boom-and-bust effect of the natural resource market. For example, by keeping a sharp focus on the fiscal aspects of natural resources, Botswana has achieved remarkable economic performance (Sarraf and Jiwaji 2001) (see Box, below).

Unlike sub-soil assets, living resources are a potentially sustainable source of resource rents—truly a gift of nature. The key policy issue is to achieve a sustainable level of har-

vest. Forests and fisheries are two cases in point. Efforts to address overfishing in Mauritania constitute an example of successful management—to the ultimate benefit of the country's economy (see Box, right).

Sustainable management of renewable natural resources requires clear and enforced property rights (individual or communal) to provide incentives for investment and long-term management of the resources. A crucial aspect in natural resources governance is the involvement of the relevant actors.

Local communities are simultaneously the problem and the solution to local-level environmental threats. Community-based natural resource management can trigger a virtuous cycle of conservation and poverty reduction. Shyamsundar, Araral, and Weeraratne (2005) show that increased local control of natural resources motivates long-term investments and favors management accountability and performance. Putting local communities in charge also allows a reduction in the fiscal burden of central governments, maximizes revenues, and avoids inefficient expenditures. For example, the CAMPFIRE project in Zimbabwe allows state authorities to share the benefits of ecotourism with the local communities. The state retains nearly 50 percent of revenues. The remaining 50 percent is redistributed to wards and in turn to households.

Whatever the level of government, good management is a precondition for good performance. Natural resources are “governance-intensive” assets. In low-income countries, natural resources make up a very significant share of the total wealth, one that is substantially larger than the share of produced capital. Sound management of these natural resources can support and sustain the welfare of poor countries, and poor people in poor countries, as they move up the development ladder.

BOTSWANA — THERE ARE NO SUSTAINABLE MINES, BUT THERE CAN BE SUSTAINABLE MINING COUNTRIES

Since its first diamond mine was discovered in 1967, Botswana experienced strong and sustained growth that led it from being one of the poorest economies in Africa to one of the rare success cases in the continent, avoiding the problems experienced by other resource-rich countries. The recipe for this success has been a set of policy rules grounded in avoiding fiscal deficits. The government uses a Sustainable Budget Index (SBI) in order to ensure sustainability. This measures the ratio between consumption expenditures and non-resource revenues. As long as the SBI is less than one, the government can be sure that natural-resource capital is not being consumed. This achievement has not been easy. Public investment has often gone into low-growth sectors such as defense and agriculture, while it has crowded out private investment, slowing economic diversification. However, the overall fiscal strategy has worked. The government has avoided excessive spending in the good times and drastic spending cuts when diamond prices have fallen, as in the early 1980s and 1991.

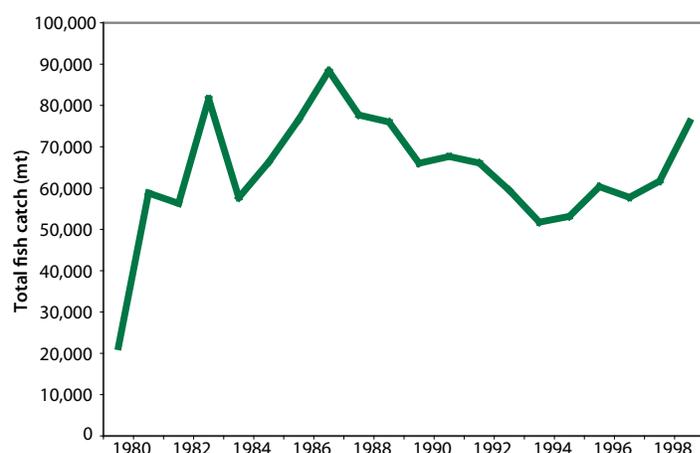
Source: World Bank 2005.

MAURITANIA — FISHING FOR GROWTH

Mauritanian fishing grew remarkably in the early 1980s and was expected to be a major source of growth in the next two decades, generating jobs, foreign exchange earnings, and budget revenues. By mid-decade however, heavy overfishing and other problems led to a collapse in fish revenues, with sharply lower catches, threatening to undermine the country's growth prospects.

As part of an International Monetary Fund–supported adjustment strategy, a series of reforms were introduced in the 1990s to improve management and surveillance of fishing activities. The Mauritanian government brought in ambitious tax reforms to improve competitiveness, eliminate trade distortions (including a new fishing agreement with the European Union), and make taxation more transparent.

These measures proved successful. By 2002, the fishing catch had increased again, contributing to an improvement in the overall economic performance of the Mauritanian economy.



Source: World Bank 2005.

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Sub-Saharan Africa Region



IBRD 31567R SEPTEMBER 2006

Klas Sanders

MADAGASCAR

Improved governance is widely acknowledged to be absolutely vital for development in Africa. Further, poor access and management of natural resources—in short, the governance of natural resources—has been a significant factor in the region's history of conflict. The World Bank's Africa Action Plan identifies improved governance and strengthened institutional capacity as essential to building capable states. Improving the governance of environmental resources is an integral part of the broader governance issues affecting each country. The Africa Region's Environment Strategy elaborates on this commitment to reduce poverty through better environmental management and governance. The key elements include:

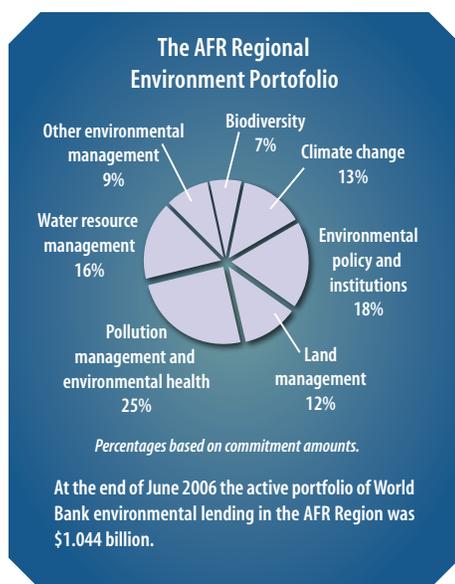
- 🌐 Integrating environment into development and poverty reduction strategies
- 🌐 Building an enabling environment and the institutional and human capacity for sustainable and equitable private sector-led economic development
- 🌐 Encouraging decentralization and community-driven development

🌐 Linking local and global environmental objectives

There are 143 active Bank-supported projects in the Africa Region with an environmental theme in their classification. Of these projects, about 70 percent identify and address key policy, regulatory, and governance issues (see Figure, top of next page).

The World Bank Africa Region uses four broad tools to address the critical environmental governance problems facing Sub-Saharan Africa:

1. Developing regional partnerships—such as TerrAfrica, ALive, the Congo Basin Forest Partnership (CBFP), and the Strategic Partnership for Fisheries in Africa—to scale up and intensify efforts to improve governance
2. Strengthening the analytical base through country environmental assessments and economic and sector work
3. Highlighting forestry and governance issues in the national development agendas—through investment projects, development policy loans, and partnerships



- Supporting good environment and natural resources management (ENRM) governance at the local and grass-roots levels, with tools such as community-driven development and producer-organization projects

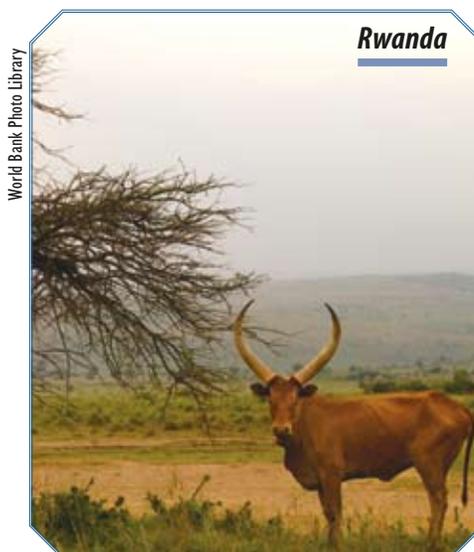
Regional Partnerships

The World Bank has supported several regional partnerships, including TerrAfrica to promote sustainable land management, ALive to support sustainable livestock development, the Strategic Partnership for Fisheries in Africa to improve fisheries management, and the Congo Basin Forest Partnership.

TerrAfrica. Launched in 2005, TerrAfrica is a partnership among Sub-Saharan African countries, donor countries and agencies, civil society, and the research community, designed to address the land degradation agenda in support of the implementation of the United Nations Convention to Combat Desertification (UNCCD) and of the NEPAD Comprehensive African Agricultural Development Program (Pillar 1), by promotion of a new framework for scaling up harmonized support for country-driven SLM approaches in sub-Saharan Africa. It provides technical assistance to bring governments, multilat-

eral organizations, and donors together on a regional level, promoting cross-sectoral coordination, harmonization of efforts, and knowledge/best practice dissemination. The World Bank hosts the TerrAfrica Secretariat. The GEF Strategic Investment Program will serve as an investment vehicle to support Sub-Saharan Africa countries in their efforts to rapidly scale up sustainable land management on the ground.

African Livestock Development (ALive). Livestock is a pillar of the African rural economy, representing about 27 percent of total GDP for agriculture and providing livelihoods for around 160 million rural and peri-urban poor (67 percent of the region's rural population). ALive is a World Bank initiated multistakeholder platform that seeks to remove the constraints to a sustainable livestock sector.



Strategic Partnership for Fisheries in Africa. The GEF-supported Strategic Partnership for Fisheries in Africa, which is implemented by the World Bank, includes a \$60 million GEF grant fund over the next 10 years for co-financing projects aimed at strengthening fisheries governance and the sustainability of fisheries in Africa. It also includes a GEF medium-sized project grant to support a regional advisory committee (chaired and managed by the African Union) that includes regional fisheries management bodies, the

UN agencies, and NGOs from throughout Africa. The intended output of the partnership will be a portfolio of 10 to 12 projects, co-financed by IDA and/or other donors at a ratio of 3 to 1, so the \$60 million will leverage an additional \$180 million.

Congo Basin Forest Partnership. The CBFP, established in September 2002, brings together some 30 governmental and non-governmental organizations, including the World Bank, to enhance communication and coordination among activities to improve the sustainable management of the Congo Basin forests and the standard of living of its dependents. CBFP is aiding the harmonization of forest policies, regional consultations, creation of transboundary protected areas, ratification of international conventions and other collaborative frameworks, and generation of innovative financing.

Building a Sound Analytical Base for Governance

Environmental governance issues in the region are increasingly being tackled through country-specific approaches that emphasize broader dialogue with governments. The World Bank is supporting activities that strengthen the knowledge base for governments in several client countries, including Nigeria, Ghana, Ethiopia, and Senegal.

For example, in Nigeria, a country environmental analysis (CEA) estimated that the costs of environmental degradation were about 9 percent of national GDP, significantly higher than most other developing countries, and judged that there was limited capacity to deal with the problems. Some of the governance problems identified included (a) the lack of clarity regarding the overall regulatory and enforcement functions of the Ministry of Environment, and the mandates of federal, state, and local governments; (b) ambiguities in formal rules; (c) diver-

gence between formal and informal rules and behaviors; (d) poor disclosure of information, and thus poor accountability; and (e) exclusion of local governments in state-level decision making. The study pointed out that these weaknesses related to broad public sector governance issues, such as lack of transparency and predictability of budgets, frequent changes in leadership, corruption, and unclear mandates for delegating responsibilities between federal and state levels.

Similarly, in Ghana the Bank partnered with DFID, the British aid agency, to examine the impacts of environmental degradation. The study estimated the cost of environmental degradation at about 10 percent of GDP annually, representing a loss of about one point of growth, through unsustainable management of the country's forests, land resources, wildlife, and fisheries, as well as through health costs related to water supply and sanitation and indoor and outdoor air pollution.

Subsequently, the World Bank-funded Ghana Country Environment Analysis helped the Government of Ghana assess its key environmental priorities, the environmental implications of key economic and sector policies, and the country's institutional capacity to address these issues. The CEA reaffirmed the need to develop oversight and governance mechanisms for environmental

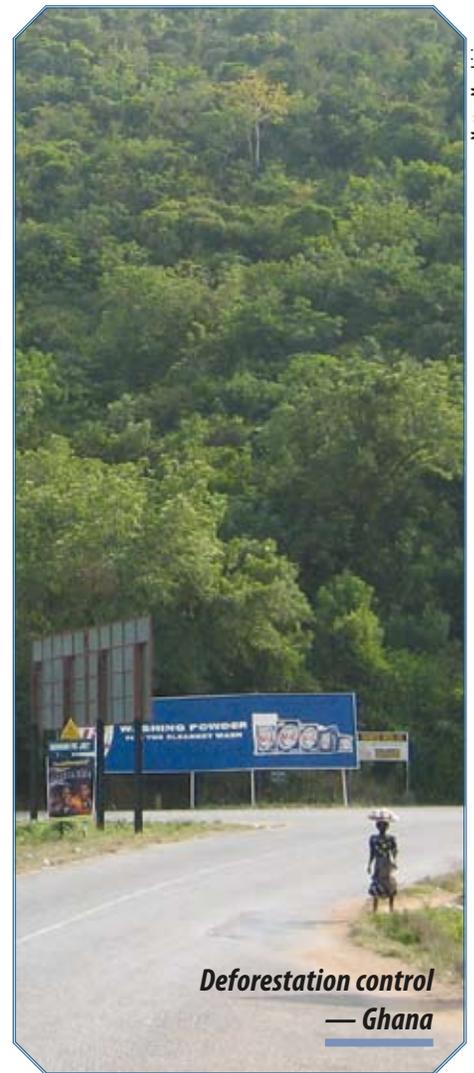
management functions for both government and development assistance programs.

Forestry and Governance

The Africa Region has supported efforts to improve governance in the forest sector through regional partnerships such as Africa Forest Law Enforcement and Governance (AFLEG), policy lending in countries such as Gabon, environment investment projects, trust-fund financed projects, and economic and sector work in countries such as Liberia and the Democratic Republic of Congo.

Africa Forest Law Enforcement and Governance. The AFLEG project is a regional initiative coordinated by the World Bank to strengthen forest governance. It seeks to decrease illegal logging and deforestation by providing incentives for forest-dependent communities to reduce illegal activities.

Gabon and Cameroon—Forest/Natural Resources Development Policy Lending (DPL). In Gabon and Cameroon, forests, biodiversity, and other natural resources are critical for rural livelihoods and economic development and are globally significant. These resources have been dominated by patronage and vested interests and managed unsustainably. In recent years, both countries embarked on promising reforms and devel-



Deforestation control
— Ghana

Matteo Marchisio



Land management challenges
— Eritrea

Karen Brooks

oped sector-wide multi-donor programs. The World Bank has supported these programs with DPLs focusing on transparency and civil society participation, law enforcement, empowerment of local communities in managing their resources, and protection of the ecosystems. The DPL program builds on previous experience and emphasizes building of political will and government commitment over provision of physical inputs, by linking results to disbursements and integrating sector dialogue within the countries' PRSP and overall reform agenda. The program has contributed to the strengthening of the countries' financial management systems with fiduciary safeguards such as the use of dedicated accounts, audits, and technical assistance. Full socio-environmental assessments were conducted, and imple-

mentation of the socio-environmental plan was an important trigger. It is expected that the institutional and policy strengthening will contribute to better governance and equitable management of natural resources in Gabon and Cameroon.

Liberia Forestry Governance Program.

After the imposition of UN sanctions on Liberian timber helped shut down Liberia's highly corrupt timber sector and bring an end to its long civil war in 2003, the World Bank turned to the Liberia Trust Fund and a grants program for Low-Income Countries under Stress (LICUS) to promote a more transparent and accountable forestry sector in Liberia. As part of its overall effort to support reforms and reconstruction in Liberia, the Bank works with a coalition of donors—called the Liberia Forestry Initiative—to build transparency, sustainability, and good governance in the management of Liberia's commercial, conservation, and community forests. In February 2006, a presidential decree canceled all forestry concessions after a thorough Forest Concession Review that was highly praised internationally and by the UN Panel of Experts on Forestry. A LICUS grant funded a new institutional design for the Forest Development Authority, a forestry inventory, a log-tracking system, a legal advisor for the concession review, the tax policy reform, and the preparation of the recently approved forestry law.

Democratic Republic of Congo—Forest in Post Conflict. Since 2002, the World Bank, together with other development partners, has worked with the government to address major policy issues in this post-conflict country. The DRC has the largest forest resource in Africa, and the second largest tropical forest worldwide. Significant steps have been taken, such as the return of 25.5 million hectares of noncompliant logging titles to the public domain, the establishment of a moratorium on new allocations, a gradual increase in annual forest rental fees, and the approval of a new Forest Code.

Nigeria and Community-Driven Development (CDD) — The National Fadama Development Project

In Nigeria, the National Fadama Development Project is supported by a grant from the Global Environment Facility to address land degradation issues in the Fadama floodplain ecosystems. The project supports direct investments in human and physical capital, building the capacity of community organizations and local government, strengthening income generation opportunities, and promoting socially harmonious and environmentally sustainable management of natural resources.

The key lessons learned thus far include: (a) CDD approaches are effective tools for moving resources directly to organized and legally constituted community groups; (b) socially inclusive development planning enhances group cohesion and reduces resource conflicts; (c) good quality facilitation support is essential for real empowerment of community organizations and for successful implementation of the CDD approach; (d) a robust monitoring and evaluation system—indispensable for impact measurement and performance monitoring—is critical for success; and (e) a mechanism to ensure the integrity of funds disbursed at the community level is essential for accountability and to avoid potential elite capture and/or abuse of funds.

Cross-border NRM governance issues in Post Conflict Cote d'Ivoire, Liberia, and Guinea. In the aftermath of the conflict in Cote d'Ivoire and Liberia, the Bank has initiated analytical work to examine effects of the conflict on natural resources management. It will identify a set of simple and feasible opportunities for improved natural resource management that will benefit the poor, ex-combatants and their families, and displaced people to maximize sustainable use of natural resources as well as governance.

local government, and community-based civil society organizations such as producers' organizations. The key principles of these approaches include empowerment of the poor and other marginalized groups, responsiveness to beneficiary demand, autonomy of local institutions associated with greater downward accountability, and enhancement of local capacities. Programs have been implemented in Nigeria (see Box, above), Niger, Burundi, Cameroon, Kenya, and Ghana, among others.

Strengthening Local Governance

A number of community-driven development projects are strengthening local governance capacity in the area of environmental and natural resources management by supporting decentralized sectoral structures,

Further Reading

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Nigeria Second Fadama National Development and Critical Ecosystem Management Project (Nigeria). 2006. World Bank.

<http://www.terrafrica.org> — Strategy Note, Business Planning Framework and additional information

<http://www.cbfp.org> — <http://webapps01.un.org/dsd/partnerships/public/partnerships/14.html>

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INDONESIA

Nearly a decade ago, the simultaneous occurrence of the East Asian financial crisis of 1997 and a regional environmental crisis manifested by raging forest fires illuminated basic weaknesses in policy and institutional frameworks in the financial and environmental areas that jeopardize the region's development. The economic downturn that followed the crisis created an opportunity to reexamine the relationship between economic growth and the environment and to increase the emphasis on issues such as corruption, illegal practices, and lack of accountability—all of which are crucial in promoting sustainable economic growth. Most of all, it reinforced the importance of poverty reduction for poor communities that depend on natural assets for their livelihood.

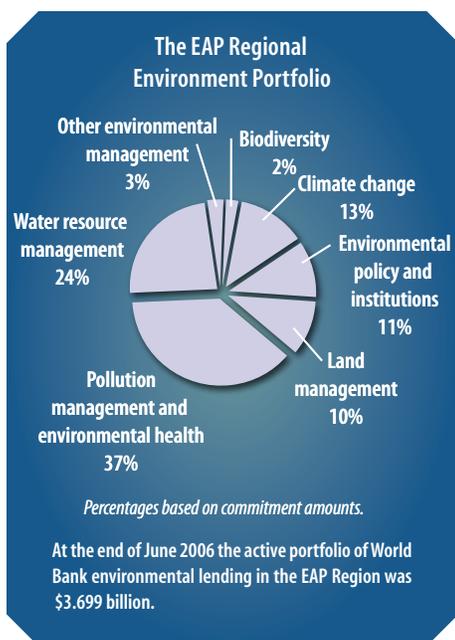
Over the past year, the Bank has been working with client countries to strengthen environment and natural resources governance, focusing on (a) voice and participation of stakeholders and developing the demand and constituency for good environmental governance; (b) transparency and information disclosure to enable sectoral

monitoring, improved decision making and accountability; and (c) law enforcement and compliance with environmental regulations, frameworks, and conventions at the national and international levels.

The East Asia and Pacific Region lending portfolio has focused on projects that address pollution management and environmental health and water resource management. At least 11 percent of the portfolio supports strengthening environmental policies and institutions (see Figure, top of next page).

Community Involvement and Public Participation

At the end of the 1990s, East Asian countries began, to varying degrees, a transition to a more participatory society. The Philippines has a vibrant community of some 60,000 environmental NGOs and civic groups, which have been active in establishing partnerships



with business and the government to raise awareness about environmental stewardship. In Thailand, the government is gradually increasing its support to community-based initiatives thanks to Article 290 of the new Constitution, which advocates a stronger role for civil society in environmental management. In Vietnam, the latest five-year environmental action plan recognizes a limited role for communities in implementation and in environmental monitoring.

Since 2000, the Bank's pioneering program on Faiths and Environment has been helping counterparts in Cambodia, Indonesia, and Mongolia strengthen social accountability and civic engagement in forest and biodiversity conservation and protection. Through the multiyear Poverty-Environment Nexus Program, the Bank has been exploring demand-driven environmentally sustainable approaches to poverty reduction in Cambodia, Lao PDR, and Vietnam. Finally, the *Environment Monitor* series continues to be a successful tool to help disseminate information about environmental indicators and to engage and inform stakeholders on key environmental trends at regional and country levels. The two latest issues focused on coastal resources management for the Philippines and biodiversity conservation in Vietnam.

Transparency and Accountability

Improved transparency about environment and natural resource management by governments and corporations could contribute to better governance and support long-term poverty reduction. The Asia Forest Law Enforcement and Governance (FLEG) initiative brings timber-producing countries in the Asia-Pacific region together with various timber-consuming countries such as the United States, United Kingdom, Japan, China, and Canada to combat illegal logging associated with trade and corruption through a systemic governance and law enforcement approach. Indonesia is spearheading unprecedented forest governance and transparency initiatives to manage forests, collect forest revenue, attract forest investment needed to revitalize the timber industry, and promote Indonesia's timber products in international markets. In consultations with civil society, development agencies, and the private sector, the Ministry of Forestry and other relevant institutions have launched (a) the Forest Transparency Initiative, which aims at making reliable and up-to-date forest infor-

mation available to decision makers through the development of a sectoral disclosure policy; and (b) the Forest Law Enforcement and Governance initiative to implement and support a systematic, comprehensive framework of measures of prevention, detection, and suppression of forest crime.

Launched in Johannesburg in 2002, the Extractive Industry Transparency Initiative (EITI) is a global multistakeholder process involving governments, business, and civil society that specifically aims at promoting transparency in the extractives industries. East Timor joined EITI in 2003 to create a Petroleum Fund and ensure a transparent and equitable administration of future revenues from oil and gas activities. Given the importance of mining resources for the country's economy, Mongolia entered EITI in 2005. The National Forum for Mining, Regulation, and Environment, held in Ulaanbaatar in May 2006, attracted 380 participants and provided the opportunity for a forward-looking discussion on how to move toward sustainability in the mining sector.



Public Information Disclosure

Over the past decade, public information disclosure programs have been emerging as one of the most effective policy tools for improving environmental management as well as the reputation of firms in the region.

Since 1995, the Government of Indonesia has been implementing the Program for Pollution Control, Evaluation, and Rating (PROPER) to inform the public about the environmental performance of the country's industrial sector and to improve Indonesia's weak legal system for enforcing environmental regulations. Participating companies get a performance rating, which is disclosed to the public through a formal press conference and publication in newspapers. Starting in 2001, PROPER targeted not only water pollution, but also air pollution, hazardous waste treatment, and community relations, and its ranking coverage has expanded from 85 factories in 2002 to 466 in 2005. In 2002, PROPER was complemented by the Good Environmental Governance program, which monitors and ranks the environmental performance of cities to encourage local government responsiveness to citizens' environmental concerns, as well as citizens' participation in local environmental governance. By its third year, some 133 local governments had signed on to the program.

Modeled on PROPER, China's GreenWatch Program represents the most ambitious approach to public information disclosure to date in the region. Launched in 1998, the program is unique in breadth; it covers all major air, water, and toxic pollutants for more than 5,000 industrial enterprises. In the Philippines, the Department of Environment and Natural Resources (DENR) is considering adopting an information disclosure program for beach water quality to promote better environmental management at the local level. The Beach Eco-Watch Pro-

Illegal Wildlife Trade in the East Asia and Pacific Region

A recent World Bank discussion paper—*Going, Going, Gone... The Illegal Trade in Wildlife in East and Southeast Asia* (2005)—looks at the key driving forces behind the growing illegal wildlife trade and provides some suggestions on how the World Bank, through its lending and non-lending activities, can contribute to curbing this negative trend. As a result of rapid economic growth, regional demand for illegally traded species has been increasing rapidly, particularly in China, where the growing popularity of traditional medicine has raised demand for many endangered species products, such as tiger bone, which is used for treating arthritis and other joint ailments, and rhino horn used for the treatment of fever. Another study—*Silent Steppe: The Illegal Wildlife Trade Crisis in Mongolia*—found that the trade in wildlife is a major contributor to the Mongolian economy. The trade in fur, for example, is estimated to be about \$100 million, making it possibly the third largest contributor to the country's economy behind mining and tourism. This contribution, however, is not sustainable and has led to significant population declines in many species.

gram would rate beaches according to suitability for recreation and water quality, and help raise awareness of the need for adequate sanitation and sewerage in coastal areas for sustainable tourism.

The Bank's technical and analytical work promotes greater public information disclosure by raising awareness about the magnitude of environmental challenges in the region. An ongoing economic sector work quantifies the physical (including health) and economic burden of air and water pollution in China, further underscoring the urgent need for addressing these issues. Two studies found that wildlife trade in the region is significant, but is not sustainable (see Box, above). In addition,

a technical assistance grant in Mongolia is facilitating increased public access to information (see Box, below).

Compliance

Compliance with national and international conventions and agreements is a key component of good environmental governance. Under the Global Environment Facility (GEF), two demonstration projects dealing with persistent organic pollutants (POPs)—PCB Management and Disposal Demonstration and Demonstration of Alternatives to Chlordane and Mirex in Termite Control—have been approved by the Bank's Board of Directors. In the context of the post-Kyoto

Mongolia Governance Assistance Project

In Mongolia, laws and regulations protect the public's right to environmental information, but this right is severely constrained by bureaucratic hurdles, an absence of venues to obtain such information, and low public awareness. Even when agencies would like to disclose information, they often lack the budget and the capacity to do so. As a result, the lack of information sharing adds to a general lack of trust in officials and a public perception that political wrongdoing is common and acceptable.

Under a five-year technical assistance grant, the Governance Assistance Project (GAP) includes a public information disclosure program targeting the number and quality of environmental impact assessments, and a country-wide awareness campaign to broaden access to information about environment and natural resources management. GAP is meant to strengthen efforts by the Ministry of Nature and Environment and the State Inspection Agency toward sustainable environmental management.

framework on climate change, the East Asia and Pacific Region worked with the Government of China to establish the China Clean Development Mechanism Fund and successfully completed the China HFC-23 Emission Reduction Project for 129 million tons of emission reductions.

EAP has also been working with client countries to strengthen their safeguards systems. In Vietnam, a joint donors' review of environmental assessment policies and practices has been finished and an action plan for narrowing the gap with respect to international standards is under discussion with the government. In the Philippines, the assessment of the country safeguards systems generated interesting discussion among NGOs, civil society, DENR, and the donor community. In Indonesia, the Bank is supporting the strengthening of the environmental impact assessment process in the context of the government's decentralization policy.

Looking Forward and Key Upcoming Challenges

Increasing attention to governance as the enabling condition for poverty reduction and economic growth, and the ensuing pressure to "raise the bar," require moving from general discussions to tackling specific sectoral governance issues. The region is well-positioned for (a) scaling up public-private partnerships for improved natural resource governance, with a focus on certification and tracking schemes for commodities (such as timber), and voluntary industry codes of conduct for sustainable resource management, including increased emphasis on corporate social responsibility initiatives (see Box, at bottom right); and (b) given the pace of decentralization, pioneering innovative ways to tackle natural resource management and environmental governance issues at the sub-national level.

— World Bank Institute —

Strengthening Environmental Governance in China

The World Bank Institute's recent work on the environment in China has been geared toward promoting good environmental governance and institutional capacity building through multistakeholder participation. Current China learning programs identify strong cases of local proactive governance that have significantly improved environmental actions at local and regional levels, as well as "bottlenecks" that hinder good governance actions. In the process, the China program has gained deeper knowledge on the drivers and links of good practices on the ground, and used the new knowledge and lessons learned to strengthen governance for environmentally sustainable actions and investments.

WBI has worked with the China State Environmental Protection Administration (SEPA) to train their directors across the country to support China's environmental regulation, policy, and law enforcement. Reflecting serious water challenges in China, WBI has worked closely with Ministry of Construction, SEPA, and Ministry of Water Resources on technical assistance and training on water and wastewater regulation. WBI has also assisted the government to mainstream and upstream environmental concerns in the policy and planning process, through its Strategic Environmental Assessment Training Program.

Corporate Environmental and Social Responsibility

Voluntary improvements in environmental performance by the private sector have considerable potential to increase environmental compliance in the EAP region. Corporate Environmental and Social Responsibility activities in EAP countries are on the rise. Over 6,700 organizations in the region, most of them in China, have obtained ISO 14001 certificates. About 190 participate in the Global Compact, which promotes commitments to environmental and labor-related principles. Some large companies are also members of the Global Reporting Initiative (GRI) and follow the GRI's environmental reporting guidelines. In addition, eco-labeling programs have been established in China and Taiwan, Malaysia, the Philippines, and Thailand. The Philippines, Taiwan, and Thailand are also members of the Global Eco-labeling Network, which promotes cooperation, information exchange, and harmonization of eco-labels.

In the coming year, EAP will continue to move toward a more consistent and results-oriented approach to governance. Among the key initiatives to be developed are the Forest Transparency Summit in Indonesia, which will launch a comprehensive set of disclosure policies for the sector; the Asia Ministerial Meeting on Forest Law Enforcement and Governance to scale up existing commitments toward transparency, enforcement, and control of illegal logging and trade of illegal timber products; the launch of the second round of activities financed by the Mongolia—Netherlands Trust Fund for Environmental Governance; and the scale up of the PROPER and Good Environmental Governance programs in Indonesia, as well as country-specific policy action to respond to the disclosure of the CPIA ratings.

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Mining, Industry, and Energy

Several Bank-financed projects are mobilizing public and private investment and pro-

moting public discussion and participation in order to close down obsolete mines and industrial plants in a way that minimizes environmental and social impacts, or to rehabilitate them and update production technologies, often in the context of priva-

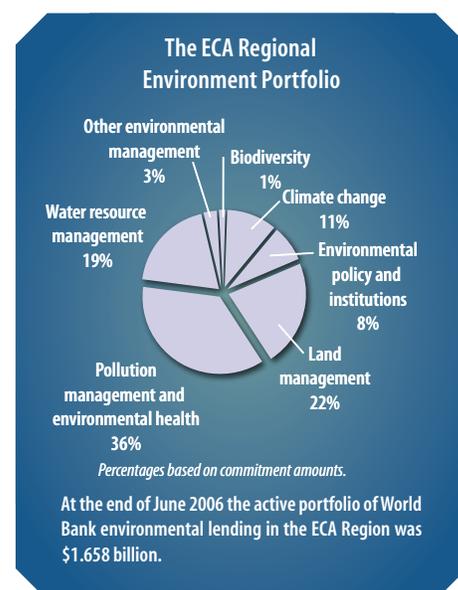
Closing and Rehabilitation of Obsolete Mines

One of the great challenges facing post-socialist governments in the ECA region is the legacy of obsolete, inefficient, and highly polluting mines, power plants, and industrial facilities, many of which continue to operate and serve as an important source of jobs and income. In Kosovo, the production of lignite coal and coal-produced electricity is considered an important source of economic growth, provided that the existing infrastructure is rehabilitated and expanded, and the industry is aligned with the regional electricity market. Private sector investment is a key to reaching these goals. The Bank is supporting Kosovo's Lignite Power Initiative, which seeks to create an enabling environment for reputable investors to develop Kosovo's lignite resources in a transparent, competitive, fiscally responsible, and environmentally and socially sound way. The Clean-up and Land Reclamation Project will help the Kosovo Energy Corporation (KEK) remediate ash dumps and reclaim about 650 ha of land around the existing Kosovo A thermal power plant. The project will ensure proper disposal of the material, build capacity within KEK to continue clean-up operations, implement good mining practices, and rehabilitate land that can be used for community development purposes and for agriculture. At the same time, the Lignite Power Technical Assistance Project will support government institutions to manage and regulate new investments in the sector. This includes development of new environmental legislation and a framework for resettlement, since future mining and power generation development could have a major impact on ambient air quality, the local landscape and groundwater system, and could also require some resettlement.

tization. At the same time, they support the creation of a regulatory framework that promotes responsible investment and operation (see Kosovo examples in Box, below left).

Likewise, in the energy sector innovative projects are mobilizing both public and private finance, with a growing focus on stimulating investments in energy efficiency and renewable energy. The Bank is assisting ECA countries through a variety of approaches, ranging from upgrading district heating infrastructure and public facilities to reducing heat losses and air pollution and promoting power generation from renewable energy sources.

Some projects use traditional public sector financing. The Belarus Social Infrastructure Retrofitting Project is helping the Belarus government install new high-efficiency boilers and heating substations, renovate interior lighting, and refurbish windows and other infrastructure in 600 schools, kindergartens, orphanages, hospitals, and other public buildings. Obsolete district heating systems are a target, requiring investment in both strengthening local regulatory capacity and upgrading infrastructure. Examples include the district heating projects in Croatia, Bulgaria, and the Kyrgyz Republic. (See lending portfolio in Figure, below).



Increasingly, however, the emphasis is on stimulating private sector investment in energy efficiency and renewables by creating an enabling policy environment, improving access to financing sources, and providing incentives, including access to global carbon markets. For example, the Croatia Energy Efficiency Project will establish a utility-based energy service to develop and aggregate capital for energy efficiency projects and build up the local knowledge and mechanisms needed for financiers to invest in such projects. Energy efficiency projects in Bulgaria and Romania aim to develop self-sustaining, market-based financing mechanisms to increase investment in energy efficiency enterprises.

In Turkey and Armenia, renewable energy projects seek to stimulate production of privately owned and distributed power from renewable sources by developing sustainable, market-based financial mechanisms (for example, a Renewable Resource Fund) and by providing technical assistance to local investors, financial institutions, and state agencies to create an enabling regulatory and market environment. Among projects involving the carbon market, the Georgia Methane Leak Reduction in Gas Pipeline Project will potentially capture 24 million tons of carbon and pioneer a new methodology for estimating volumes of methane leakage from large pipe networks.

Environment and Public Services

Many ECA countries are working toward structural reforms to modernize the delivery of environmental services such as solid waste and wastewater management. The objective is to shift the sector away from the obsolete, vertically integrated public monopolies of the socialist era toward more decentralized, responsive, financially efficient approaches. Progress in laying the appropriate legal and regulatory environment and building implementation capacity is uneven across the

region, however. The Bank is helping countries put the necessary elements in place. For example, the Kazakhstan Ust-Kamenogorsk Environmental Remediation (Industrial Waste Treatment) Project will build institutional mechanisms for monitoring and control of ongoing groundwater pollution from historic industrial waste disposal sites. In Bosnia-Herzegovina and Tajikistan, World Bank projects are strengthening the capacity of municipal governments to manage infrastructure and services, including water supply and wastewater management. In Uzbekistan, the Bank is facilitating the introduction of solid waste composting to help Tashkent increase the efficiency of its landfill operations and sell methane emission reductions in the carbon market. Projects in Moldova and Tajikistan are supporting the development of water users' associations in rural areas.

Natural Resources Management

Many ECA countries are in the process of transferring land and other natural assets from state or collective ownership to private ownership or management. This presents challenges in ensuring transparency and equity in the transfers, as well as in coordinating among the property owners and holders of use rights where this is needed for sustain-



Armenia

able resource management. Here also, establishment and strengthening of user groups is an important strategy, as exemplified by Bank projects in Albania, the Kyrgyz Republic, Armenia, and Tajikistan. Another key is improving the government agencies and systems involved by making them more efficient and accountable; projects to strengthen and increase the transparency of land allocation and registration systems are ongoing in Albania, Azerbaijan, Bosnia-Herzegovina, Croatia, Macedonia, Romania, Tajikistan, and Ukraine.

Forests are a critical economic and environmental resource in ECA. For example, Russia contains over 20 percent of the world's forests and is the largest producer of boreal softwood products. Forestry is also a sector with a history of mismanagement in many countries. The Bank has been providing technical assistance to support Russia's efforts to reform forest policy and institutions,



The Lim River Valley

Russia Forest Policy Dialogue Technical Assistance Program

In early 2003, a strong reform climate in Russia created a window of opportunity for deep policy, legal, and institutional change. Building upon previous sector work, the Russia Forest Policy Dialogue Technical Assistance Program (2003–06) was launched with the goal of instituting more sustainable forest management and creating a favorable investment climate for responsible forest industry operations.

The program has supported studies, regional workshops, and training on a range of related topics, including forest certification (in collaboration with World Wildlife Fund), forest auctions/leases and information management systems, and management of high conservation value forests. It has promoted participation by stakeholders such as NGOs, academic institutions, and the private sector. For example, the new Russian Forest Code, expected to be approved in 2006, incorporates many inputs from public discussions supported by the program. The new code is expected to greatly increase the efficiency and transparency of forest auctions and allocation of forest leases, including providing greater security, which should attract more responsible, long-term investment.

The technical assistance program also helped to introduce the Russian forestry community, which had been relatively isolated, to international best practices. It created an environment of trust and political commitment in the country, resulting in Russia taking the lead in launching the Europe and North Asia Forest Law Enforcement and Governance ministerial process in 2005.

In April 2006, President Putin endorsed the concept of the National Action Plan against Illegal Logging and Associated Trade. This is expected to have a profound impact on forest sector policies in Russia.

with the aim of making a transition to sustainable and transparent forest management within the context of broader economic and administrative reforms (see Box, above). The Bank is also serving as catalyst, convener, and secretariat for the Europe and North Asia Forest Law Enforcement and Governance (ENA-FLEG) process, and is supporting the preparation of action plans to combat illegal logging in Bosnia, Albania, Romania, Georgia, and the Russian Federation.

The management of economically important natural resources such as land, fish, forests, and water is increasingly being addressed through an integrated approach covering ecological systems such as river basins and coastal zones. Often this involves transboundary resources and issues, which require bilateral or multilateral institutional structures for cooperative planning, implementation, and monitoring. For example, Bank-supported ecosystem-based water management projects

are under way in Albania, Tajikistan, Kazakhstan, and Uzbekistan.

Role of the European Union

The European Union (EU) exerts a strong influence in the ECA region, serving as a model for policies, legislation, and standards and as a major source of financial and technical support for implementing policy reforms. It also provides a strong incentive for reform in the form of access to a large and lucrative market for products that meet its stringent requirements. The experience of the first Central and European accession countries shows that meeting environmental and health standards presents one of the greatest challenges to those aspiring to join or trade with the EU. While many have made significant progress in harmonizing policies and laws with EU directives

and guidelines, secondary legislation and implementation capacity are lacking. The World Bank is helping the newest member states of the EU, as well as accession and pre-accession countries, to fill these gaps.

In the agriculture sector, a number of Bank projects are helping to equip farmers and processors with the information, technology, regulatory framework, and capital they need to understand and meet strict EU standards for both food quality and production processes. In Romania, projects are helping build the government's capacity to implement new food safety regulations, for example the Nitrate Directive, through support to farmers in better manure management, and the Natura 2000 program, whose focus is biodiversity conservation and landscape management.

Meeting environmental (and other) EU standards is a key goal of programs in other sectors as well. The Energy Community of Southeast Europe Program seeks to create an efficient regional energy market closely linked to the EU's internal energy market; the Romania Municipal Services Project provides technical assistance to help agencies apply for EU grants to upgrade public infrastructure and services; and a Bank-supported study is helping Kazakhstan apply EU procedures to its petrochemical industry. The Bank is also helping countries develop the capacity to adopt complex, multisectoral EU instruments such as the Water Framework Directive (which calls for ecosystem-based management of rivers and lake basins) and the Strategic Environmental Assessment (SEA) Directive, as in the project funded by the Bank/Netherlands Partnership Program in Albania and Montenegro.

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Latin America and Caribbean Region



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Bryn Saxe

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Almost 30 years have passed since countries in the Latin America and Caribbean region began to systematically address environmental problems. Most of the policy interventions adopted in the mid-1970s, the 1980s, and early 1990s were command-and-control regulations based on national standards that were sometimes too ambitious or that did not reflect the domestic environmental, social, and economic conditions. The first generation of environmental policies achieved valuable political goals and eventually helped improve environmental quality in many countries and urban areas in the region (for example, Mexico City). Moreover, these policies led to the establishment of organizations (ministries and specialized agencies) and governance approaches to environmental and natural resource management. At the same time, civil society became more aware of environmental and natural resource problems and lively and diverse environmentalist movements (composed of nongovernmental organizations, academics, and business organizations) flourished in most countries in the region.

These achievements notwithstanding, the first generation of environmental policy was criticized on various fronts. Business and industry organizations as well as economists criticized these policy interventions as inefficient and inflexible. Others said that standards did not consider the local social, political, economic, and environmental conditions. Furthermore, some critics argued that various stakeholders, average citizens, and minority groups were excluded from the process of building a regulatory framework.

Starting in the second half of the 1990s, more recent interventions incorporated reforms designed to make implementation more flexible. Some countries introduced economic instruments in an attempt to increase the efficiency and cost-effectiveness of environmental regulation. Similarly, in some countries, authorities began to consult regularly with stakeholders. In the absence of other opportunities to discuss development projects, the environmental arena frequently became the forum for debating projects, policies, and programs linked to energy, transport, mining, urban development, and other sectors. As a consequence, citizens and commu-

nity representatives are more involved in the development and implementation of environmental and natural resource programs such as watershed management.

The World Bank is using a wide range of lending and non-lending instruments to improve environmental governance. For example:

- Country environmental analyses—such as Guatemala’s—are helping illuminate difficult issues involving trade-offs between preservation and growth.
- Development policy loans are supporting reforms to improve environmental governance in Colombia, Mexico, and Brazil.
- In Brazil, the Bank is supporting an innovative collaboration among a broad range of stakeholders for managing ecological corridors.
- In Mexico, the Bank is supporting an innovative endowment fund for the management of protected areas, as well as efforts to improve local forest management by strengthening community governance structures.
- In Argentina, the Bank is supporting efforts to strengthen governance practices in the solid waste management sector.

Country Environmental Analyses

A country environmental analysis (CEA) helps to systematically evaluate a country’s environmental priorities, the environmental implications of key policies, and the country’s capacity to address its environmental priorities. Country Environmental Analyses have been conducted in Colombia, El Salvador, Dominican Republic, Guatemala, and Peru.

Guatemala’s CEA illustrates clearly the challenges involved in shaping environmental

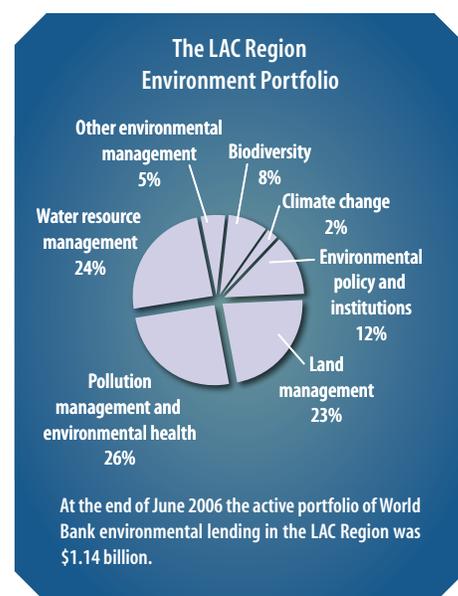
policy. Some of the most difficult policy issues facing Guatemala may involve trade-offs between preserving natural systems and pressing forward with economic growth, including developing oil and gas fields and expanding the road network and agricultural frontier. This is especially relevant because adoption of the Dominican Republic–Central America Free Trade Agreement (DR-CAFTA) is expected to accelerate economic growth and expand infrastructure, which should promote investment and expand exports.

Based on the best regional and international practices, the Guatemala CEA concluded that mainstreaming environmental considerations into sectoral policies was the best way to enhance the effectiveness of environmental policy. The report also stressed the need to improve the quality of regulations, especially those that could complement an overloaded environmental impact assessment (EIA) system; the importance of engaging civil society by improving information and participation mechanisms; and the need to provide the right incentives by promoting compliance through achievable requirements combined with credible sanctions to violators, rather than by trying to change behavior by threatening violators with criminal charges that are ultimately not enforced.

CEAs guide environmental assistance and capacity building supported by the Bank. The governments of Guatemala and El Salvador have asked for technical assistance to implement some recommendations of their respective CEAs, mainly to introduce strategic environmental assessments. In the case of Colombia, the CEA led to a development policy loan (DPL) that supports environmental governance improvements.

Development Policy Loans

Development policy lending is rapidly disbursed policy-based financing, which the



Bank provides to help the borrowing country address actual or anticipated development financing requirements and to support policy reforms in key sectors (see Figure, above). The Colombia Sustainable Development/Development Policy Lending Program is supporting a number of reforms to improve environmental governance. It is developing a results-based framework to monitor progress toward goals directly linked to the Millennium Development Goals (MDGs), as well as supporting improvements in inter-institutional coordination and public participation in environmental decision making.

The program’s first phase led to a presidential decree that made regional environmental authorities accountable for achieving MDG-linked indicators. Through commitments to these specific results, the program fosters better alignment between national and regional priorities. At the regional level, this results-based approach helps authorities to be more strategic in reaching the MDGs, improves inter-sectoral coordination, and creates greater transparency in monitoring the effectiveness and efficiency of environmental management. The DPL program is also helping the Environment Ministry adapt its Technical Advisory Council on environmental policy and regulation to become a better forum for cross-sectoral coordination and

to give marginalized groups a greater voice in environmental decision making. The first operation of the Colombian DPL amounted to \$150 million.

There are two additional environment-based DPLs in Mexico and Brazil. In Mexico, the DPL is being used to support the government's efforts to mainstream environmental issues in key sectors (energy, forestry, water, and tourism) through the establishment of coordination mechanisms. In the case of Brazil, the DPL is supporting the country's goal of balancing economic growth with social development and the improvement of environmental quality. The Mexican and the Brazilian DPLs total \$600 million and \$1.2 billion, respectively.

Brazil — Governance in Ecological Corridors

In the Ecological Corridors Project in Brazil, a truly innovative collaboration among a broad range of government institutions, civil society, and the private sector has led to the development of a structure for managing ecological corridors that responds to the needs of all stakeholders and enjoys a high degree of ownership and support. For example, in the Central Atlantic Forest Corridor (CCMA in Portuguese), which includes parts of the states of Espírito Santo and Bahia, nearly 100 institutions participate in state and corridor-level management committees that provide strategic direction for the CCMA. These committees have representatives ranging from the state Secretariat of the Environment, Agroforestry Department, and military service to the National Environmental Institute (IBAMA), representatives of indigenous groups, quilombolas (settlements founded originally by escaped slaves), agricultural associations, and environmental NGOs. Members elect committee leadership directly.

The work of the committees has been key in building the wide base of support for the CCMA that exists today in Bahia and Espírito Santo. Committee members review

— World Bank Institute —

The National Capacity Development Program in Brazil

In 2005, the World Bank Institute and Brazil Country Office launched the National Capacity Development Program. This multiyear technical assistance program supports the Government of Brazil's effort to establish the National Environment System in Brazil's 5,600 municipalities.

The Bank's program will help strengthen the ability of environmental practitioners, technical staff, and advisers who work for the Brazilian Government to effectively implement NES across all levels of government. The program includes a monthly seminar series delivered via Global Distance Learning Network (GDLN) and affiliate networks; short face-to-face and distance learning courses and workshops; and direct technical assistance to key stakeholders at the federal and state levels. It is supported by the Ministry of Environment, the Ministry of Cities, the Ministry of Mines and Energy, Petrobras, Caixa Economica, National Confederation of Industry, Banco da Amazonia, Banco do Nordeste, GDLN, and the Brazilian Institute for the Environment and Renewable Natural Resources (IBAMA).

operational plans for the project, collaborate in monitoring efforts, participate in field workshops, and disseminate information on the corridor to the stakeholders they represent. Because the interests of these stakeholders are incorporated into the design and implementation of corridor management activities, and because each stakeholder group has representation in the management structure, there is a high level of ownership of the CCMA and support for the cutting-edge concept of ecological corridors. Each stakeholder group also contributes unique resources and perspectives, which have greatly improved corridor management. The role the state and corridor committees have played in the CCMA is now considered a model for participatory governance in Brazil and beyond.

Mexico — Participatory Decision Making through the Fund for Protected Areas

The Mexican Fund for Protected Areas (FANP) is an innovative collaboration involving the National Council for Protected Areas (CONANP), a public organization—comprised of representatives of conservation organizations, the academic community, the business sector, and local communities—that is responsible for managing federal protected

areas and conservation programs supported by the fund's endowment; the World Bank, which acts as the implementing agency for the Global Environment Facility, the fund's initial and main donor; and FMCN, a private organization that is responsible for managing the fund's endowment and for raising additional financial support.

FANP's endowment has grown from \$16.48 million—provided by GEF for 10 protected areas in 1997—to \$50 million in 2006, involving 12 donors and supporting 21 protected areas. One of the elements of its success is the participation of many sectors of society. The project relies on participatory arrangements at different levels: the advisory councils in the protected areas; the FANP Technical Committee at the project level; and CONANP at the national scale.

The advisory councils have two important tasks: (1) reaching consensus with regard to the use of natural resources; and (2) allocating investments to sustainable activities. The FANP technical committee is charged with defining budgets, solving operational problems, and seizing funding opportunities. Its members are named by CONANP and ratified by the FMCN Board, which reflects the private-public nature of the program.



Oaxaco community-managed forestry project

— Mexico

Mexico — Community Forestry

In Mexico, 80 percent of forest lands are formally owned by indigenous communities and ejidos. These forms of collective ownership resulted from the agrarian reform that began after the 1910 revolution and did not conclude until the late 1980s. Recently, emerging community-managed forests in Mexico represent a unique model where communities are managing their forest for commercial timber production, thus generating important economic, social, and environmental benefits in poor indigenous and non-indigenous rural areas. With technical and financial support, community forestry enterprises have been able to manage their forests and learn complex processes of industrial production.

The Bank-supported Mexico Community Forestry Project (PROCYMAF) works with indigenous communities and ejidos to improve natural resources management and conservation and increase the range of forestry-based income generating op-

tions. There is a strong focus on creating and strengthening community governance structures at different levels. After almost 10 years of operation, PROCYMAF is widely recognized (nationally and internationally) as a model of government intervention that supports rural development in forested areas with a strong participatory approach.

Argentina — Better Governance for Solid Waste Management

The Argentina National Urban Solid Waste Management Project aims to promote high governance standards in solid waste management. With 80 percent of the loan directed to investment in new sanitary landfill facilities, the project is uniquely positioned to foster use of best governance practices in the sector. Three governance dimensions are essential for the project: voice and accountability, government effectiveness, and control of corruption.

Comprehensive stakeholder consultation processes are required to guarantee that is-

sues arising from the construction and operation of the new landfills, including site location and environmental impacts of both construction and operation, are clarified and addressed. Moreover, participating municipalities are obliged to establish a legal and regulatory framework and minimum cost recovery standards. In most cases, to take advantage of scale effects, municipalities will have to agree on rights and responsibilities as well as on monitoring and enforcement methods. Such measures will improve government effectiveness in Argentina's solid waste management sector. Finally, to minimize the risk of corruption, municipalities will apply the Bank's procurement guidelines. Each process will be reviewed by the Bank procurement specialists and project team.

Challenges Ahead

The region has made progress in reducing emissions and protecting natural resources, but questions persist about whether existing institutions are capable of fully addressing the pollution and natural resource problems that LAC countries will face as a result of increased economic activity in a context of increasing global competition. Solid governance mechanisms are especially needed to manage natural resources and the environment effectively because effective management requires both the coordination of numerous groups of people with diverse interests and taking a long-term perspective. The recognition of the importance of governance presents an opportunity to re-think the purposes and priorities of environmental policy and to develop pragmatic approaches to promote sustainable development in the region.

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Middle East and North Africa Region



IBRD 31565R SEPTEMBER 2006

Nathalie Abu-Ata

EGYPT

Although mainstreaming environmental issues into development is progressing, most countries in the Middle East and North Africa (MNA) region still face several challenges in enacting and enforcing environmental regulations. The World Bank remains committed to helping MNA countries continue the significant strides they have made over the past ten years.

Recently, MNA's economic situation has improved dramatically, buoyed by record high oil prices. Over the past three years, economic growth in the region has averaged 6.1 percent per year, up from 3.7 percent annually during the 1990s. This economic windfall is far from evenly distributed, however, with the poorer economies benefiting less than in previous oil booms and suffering more from increased energy prices.

At the same time, the major environmental issues, such as water scarcity and land degradation, persist and, in some cases, are worsening. Major urban centers add increasing pollution-related illness-

es and growing solid waste management problems to the mix. Most MNA countries are making significant progress in developing the legal frameworks necessary to address these issues, but providing enforcement mechanisms through functioning regulatory bodies still remains several years away.

In response to these challenges, the World Bank's MNA environment strategy focuses on three key areas to mainstream environment via measures that improve both the quality of life and promote the sustainability of economic growth:

1. *Better public sector efficiency and environmental governance* through the strengthening of institutions responsible for overseeing environmental laws and engaging the participation of civil society in decision-making processes. In the past year, MNA has continued to work with Iran to strengthen its Ministry of Environment through the Environment Management and Support Project; conducted region-wide training on the cost of environmental degradation; and approved the second

Egypt Pollution Abatement Project (\$20 million IBRD).

2. *A more efficient safeguard system* based on better informed policy, program, and project planning, and on predictable environmental guidelines for development projects financed by both the public and private sectors. This requires development of environmental protection laws based on incentives and economic instruments, a workable system of environmental assessments, a well-structured learning program, and the use of strategic environmental assessments (SEA) as a tool for the decision-making process. In 2006, the Yemen Second Rural Access Project (\$40 million IDA) prepared an SEA that can be used as a guideline for all rural roads, whatever the source of financing. In addition, the Mediterranean Environmental Technical Assistance Program (METAP) continued its work training national experts on environmental impact assessment preparation and expanded the program to include private consultants from MNA countries.
3. *Lowered environmental health risks* through the development of health- and poverty-related prevention and mitigation measures in MNA's projects. Progress here can be made by including an environmental health component in water supply, sanitation, and municipal waste projects, and enhancing local communities' knowledge of the negative impacts of poor hygiene practices. In fiscal 2006, projects included the Tunisia Urban Water Supply (\$38 million IBRD), Morocco Urban Water Supply and Sanitation (\$60 million IBRD), and Yemen Fisheries Resource Management and Conservation (\$25 million IDA).

The World Bank helps countries mainstream environmental issues through three major avenues: regional partnerships, specific sector work at the regional and national levels, and lending programs.

Partnerships

Regional partnerships are instrumental to implementing the goals of the MNA environment strategy. Active World Bank partnerships include the Mediterranean Environmental Technical Assistance Program, the MNA Regional Water Initiative, the Nile Basin Initiative, and the Africa Stockpiles Program.

The Mediterranean Environmental Technical Assistance Program is a multi-donor partnership providing technical assistance to two-thirds of the MNA countries. It has active programs to improve solid waste management, train public and private sector practitioners in better preparation and management of environmental impact assessments, and institute sound integrated coastal zone management practices for more sustainable coastal development. It serves 15 countries, including Algeria, Egypt, Jordan, Lebanon, Libya, Morocco, Syria, Tunisia, and the West Bank and Gaza.

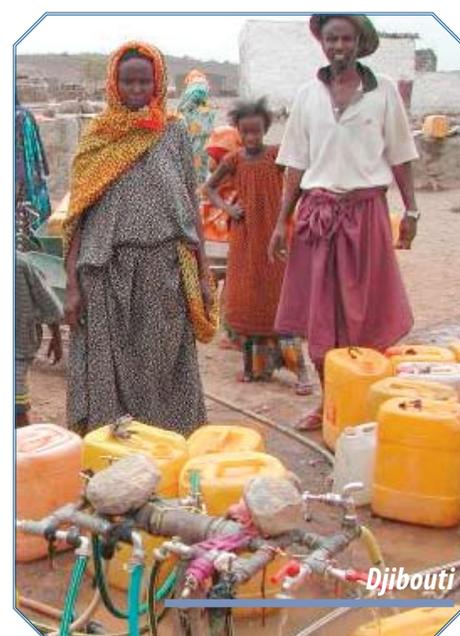
The MNA Regional Water Initiative brings more than 20 countries together to promote sustainable practices in the water sector, as water scarcity is the major environmental threat facing the region. The initiative promotes innovation and knowledge sharing on best practices in water policy reforms, water resources management, and sustainable water supply services. National, regional, and global experiences are highlighted and information is shared through the development of national water assistance strategies.

The Nile Basin Initiative includes all of the Nile riparian countries in a regional partnership guided by a shared vision "to achieve sustainable socioeconomic development through the equitable utilization of, and benefit from, the common Nile basin water resources." The Initiative is working with the Bank on the implementation of sectoral regional capacity building projects, including one on transboundary environmental action.

The Africa Stockpiles Program is a World Bank–Global Environment Facility–financed initiative to safely dispose of several thousand tons of obsolete pesticides that have accumulated throughout the African continent over the last four decades. These dangerous chemicals threaten particularly the poorest and most vulnerable communities through the contamination of food, water, soil, and air. The objectives of the program are to clean up all obsolete pesticide stocks in Africa and to establish preventive measures to avoid future accumulation.

Sector Work and Lending Programs

Sector work focuses on issues like water resources management, land degradation, and the economic costs of environmental degradation. The major focus of MNA's regional sector work for 2006 is the MNA Development Report on Water. Several new approaches to governing water use are being tried. The Box at the top of page 46 illustrates work to get greater participation by women in sustainable development. Other sector work in 2006 includes a water assistance strategy for Iraq; water sector reform and a rural water and sanitation strategy for



Meskrem Brhane

Promoting the Role of Rural Women in Sustainable Water Management in Egypt

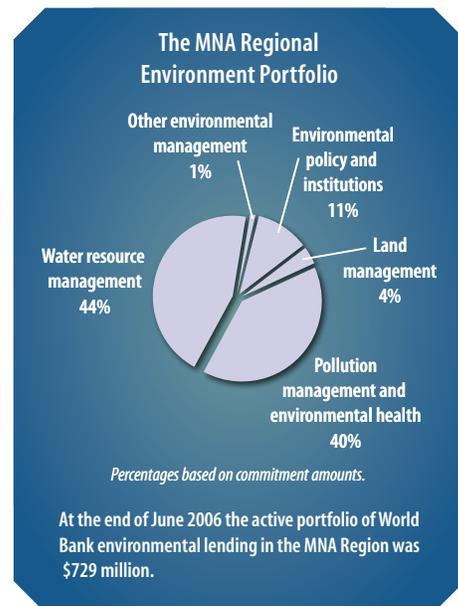
A new activity entitled the Catalytic Role of Women in Effecting Sustainable Development aims to promote sustainable water management among local communities, particularly rural women. In connection with ongoing rural development and agriculture projects in Egypt like the Sohag Rural Development and Third Integrated Irrigation Improvement Management projects, the Bank is financing this activity through an Egyptian NGO, the Center for Development Services. Training is provided to rural women in improving water quality and hygiene. The program is particularly important in rural Egypt, where illiteracy rates among women are as high as 62 percent. This innovative program provides necessary tools and approaches for better hygiene, develops effective messages for local media, and promotes stronger networks between rural communities and leaders. By focusing on gender issues in a rural setting, the activity specifically and intentionally addresses the limited participation of women as a basic cause of the failure in attaining better results in the high priority areas of governance, water scarcity, and empowering women. Since women are most often the users, providers, and managers of water in rural households and the guardians of household hygiene, they have a strong incentive to acquire and maintain safe water facilities.

Iran; work on strategic environmental assessments in Yemen and Djibouti; developing the use of country systems for environmental safeguards in Tunisia; agriculture reviews for Morocco, Tunisia, and Iraq; coordination of environment and health interventions in Djibouti; work on environment and health in Yemen; and a study of nongovernmental organizations for the West Bank and Gaza.

MNA also organized a regional conference in Kuwait to share knowledge gained over

the past several years through studies on the costs of environmental degradation for Algeria, Egypt, Iran, Lebanon, Morocco, Syria, and Tunisia.

In fiscal 2006, the Bank committed \$1.7 billion in IBRD and IDA loans for the region, including \$726 million for activities with designated environmental and natural resource management components that are expected to have significant positive environmental impacts. At least 11 percent of this



support is specifically for strengthening environmental policies and institutions (see Figure, above). In the past year, environmental mainstreaming in MNA has benefited from increased awareness and access to carbon financing mechanisms and credits as they are applied to planned investments in areas like energy, solid waste management, sanitation, and transportation.

Carbon Market—MNA on Board

In fiscal year 2006, the situation regarding carbon finance operations improved dramatically through greater awareness of financing opportunities, building national and local understanding of the requirements for project development, and helping to identify and develop potential projects.

To date, MNA has signed three emissions reduction purchase agreements (ERPAs)—two in Tunisia and one in Egypt—that would purchase more than 4.5 million tons of CO₂ equivalent. All these reductions will be generated through Bank lending operations coupled with carbon finance projects in the solid waste sector. Additionally, MNA has seven carbon finance projects identified in the pipeline and is discussing several more.



Integrated Land and Water Management in Iran

The Alborz Integrated Land and Water Management Project is located in Mazandaran Province on the shores of the Caspian Sea. The project seeks to achieve integrated land and water management by (a) increasing agriculture productivity through improved irrigation and drainage systems and participatory management mechanisms; (b) reducing soil erosion and sediment yields through better upper watershed management; and (c) protecting the water environment downstream through improved hydrological/water quality monitoring, reservoir operation, and pest management.

The project is piloting a new approach to governing water use in the watershed by establishing a River Basin Water and Soil Committee that will address basin-level water allocation and water quality problems, leading eventually to better natural resource management and conservation. The committee will coordinate between the two major agencies—the Mazandaran Jihad-e Agriculture Organization and the Mazandaran Regional Water Company—and the various water users in the river basin, including representatives from agriculture, forestry and wildlife, fisheries, and urban users. In total, through the various user communities participating in the committee, over 1 million people will have influence over management of their local water resources.

The World Bank Institute has been assisting in capacity building for this project through consultation workshops, south-south learning, and formation of water-user associations. The longer-term goal is to scale up this new model of water governance throughout Iran in order to better balance all of the competing demands and interests for water use within other watersheds.

Combining Lending with Carbon Finance for Pollution Reduction in Egypt

Egypt's ambitious development and industrialization policies, coupled with a rapidly expanding population (estimated to reach 86 million by 2020), is putting heavy pressure on the country's environment, as elaborated in the 2005 Country Environmental Analysis and the 2002 study on the cost of environmental degradation. Building on the success of the first project, the Second Pollution Abatement Project aims to demonstrate, in the Egyptian context, the applicability of market-based approaches toward achieving significant pollution abatement in selected hot spots in the Alexandria and greater Cairo regions. The goal is at least 75 percent reduction of pollutants emitted by companies in each of the selected hot spot areas. The Second Pollution Abatement Project will manage a line of credit specifically for industrial pollution abatement, and provide technical assistance to strengthen the capacity of the Egyptian Environmental Affairs Agency.

An innovative component of the project helps Egypt to take advantage of the opportunities offered by the emerging carbon market. This sub-program will set up a sustainable pollution abatement program with the revenues from the sale of emission reductions generated under the Kyoto Protocol's Clean Development Mechanism. The project also contributes to Egypt's efforts to address climate change. The first carbon finance operation covers two landfill sites (Borj El Arab and Al Hammam in Alexandria), which are expected to generate emission reductions equivalent 3.3 million tons of CO₂, of which the World Bank will purchase 1.1 million tons of verified emission reductions until 2015. A share of the revenues generated will be used to support the Egyptian Environmental Protection Fund, which will be used to finance Egypt's sustainable development agenda. It is hoped that lessons will be learned from this project that can be transferred elsewhere in Egypt and other MNA countries to reduce emissions in the coming years.

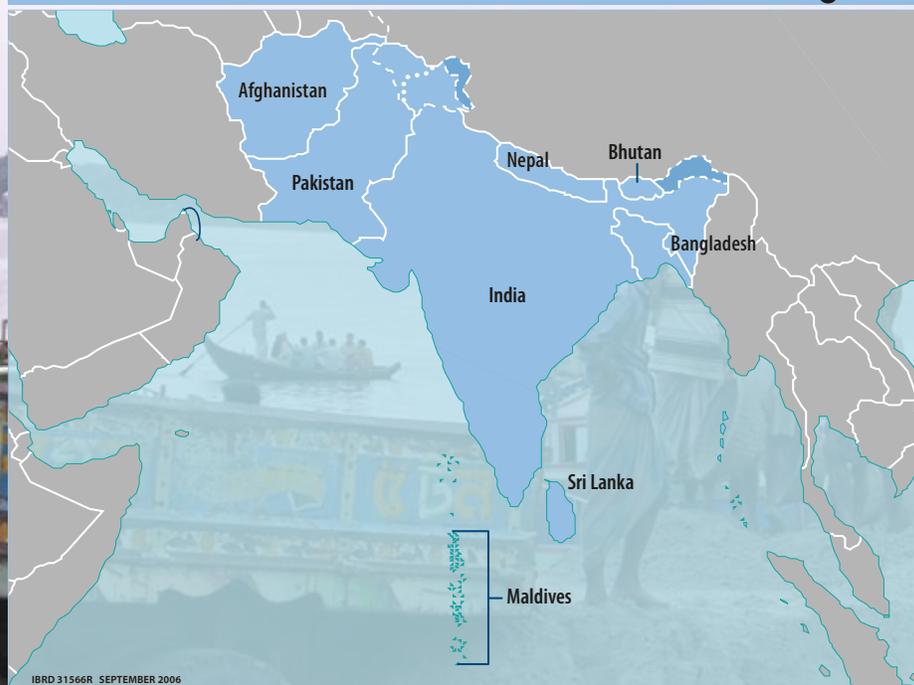
In 2006, the Second Pollution Abatement Project in Egypt (see Box, above) included a carbon finance sub-program that facilitates verified emissions reductions under the Clean Development Mechanism. In Tunisia, the two carbon finance operations—the Jebel Chekir Landfill Gas Recovery and Flaring and the Nine Landfill Gas Recovery and Flaring projects—are the first fully blended carbon finance operations in the region. These operations are coupled to a Bank lending operation in the municipal solid waste sector planned for fiscal 2007. They constitute the first attempt to capture and flare landfill gas at the Greater Tunis Landfill (Jebel Chekir site) and nine other landfills distributed over Tunisia. Emission reductions to be generated are estimated at 4.9 million tons of CO₂ emitted, with the bank agreeing to purchase 3.05 million tons of verified emission reductions up to 2015.



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South Asia Region



Adriana Damianova

BANGLADESH

South Asia has achieved impressive macroeconomic results over the last five years and remains the fastest growing region in the world. Ambitious economic reforms have paid dividends, resulting in record growth rates exceeding 5 percent in most countries, buoyant levels of private sector investment, and manageable fiscal balances. Economic growth has created both environmental pressures and opportunities, however. The World Bank estimates that economic losses from environmental degradation amount to as much as 5 to 6 percent of GDP across the region. Environmental issues are therefore a serious economic concern, and addressing these issues can yield a substantial development dividend. This message is reinforced by other assessments of environmental performance such as the Environmental Sustainability Index, which show that natural resources are under considerable stress. Air and water pollution have emerged as major health hazards, water scarcity is a problem through much of the region, the productivity of rangelands has declined, much of the region's natural forest cover has been degraded, and its biodiversity is in danger.

The environmental problems in the region are enormous and growing. High population growth, rapid urbanization, and the growth of pollution-intensive industries have created a host of economic and environmental risks emerging from poorly managed externalities such as municipal, industrial, and hazardous wastes and deteriorating air quality. The rapid expansion of small- and medium-sized industrial units has created additional challenges for regulators. Environmentally related health risks account for about one-fifth of the total burden of disease. This is comparable to malnutrition and is larger than all other preventable disease factors.

About 80 percent of South Asia's poor live in rural villages and depend on natural resources. Declining productivity due to overgrazed pastures, soil erosion, and watershed and forest degradation has accentuated rural poverty and threatened livelihoods. The environmental impacts of forest degradation are of heightened international concern where globally significant biodiversity is threatened. Most of South Asia's endemic mammals—and all of its charismatic

species, such as the tiger, Asian elephant, and Asiatic rhinoceros—are classified as either threatened or endangered. Recognizing the linkages between natural resource management and rural livelihoods, most countries have introduced policies to improve the sustainability of natural resource use, though policy implementation remains uneven.

Environmental Degradation—Threat to Growth and Poverty Reduction

Growth has changed the nature of environmental pressures. Urban degradation and industrial pollution are growing in importance relative to other categories of environmental damage. Rapid urbanization is a major challenge in the region, calling for cost-effective and sustainable approaches to provide safe water and sanitation for its burgeoning urban population. In the coming decade, Mumbai and Dhaka are predicted to join the club of “mega-cities” with a population in excess of 20 million inhabitants. Already there are more slum dwellers in Mumbai than there are inhabitants in all of Norway. Accord-

ingly, vulnerability due to poverty is also on the increase in the urban environment.

Climate variability and climate change are predicted to increase the frequency and severity of droughts, floods, and cyclones. There is growing recognition that, no matter how robust mitigation measures are, some climate change is inevitable and therefore it is vital for these countries to begin adaptation measures. The region’s problems are somewhat unique: while aggregate greenhouse gas emissions are large and growing rapidly, emissions are still among the lowest in the world on a per capita basis. An important objective of the Bank’s engagement is to help lower the carbon intensity of development.

Simultaneously, there are emerging pressures for improvement and change throughout the region. Economic growth has provided the region with the resources and opportunity to address environmental concerns. Rising prosperity has been accompanied by greater public awareness of environmental issues and a growing demand for improved environmental management. Growth in many regions has been accompanied by a shift from pollution-intensive forms of economic activity to cleaner and more environmentally benign forms of production, particularly in

the service sector. Globalization has created further incentives to harness environmental gains. The reputational risks associated with environmental problems, coupled with the need for exporters to comply with international environmental norms, have highlighted the importance of environmental issues to policy makers.

Environmental Governance—Challenge to Sustainability

An over-arching theme across the region is the need to improve environmental governance and strengthen incentives for behavioral changes and investments that lead to better environmental quality. The most important governance issues are access to environmental information, transparency and consultation for accountable decision-making, adequate institutional capacity for credible enforcement, and economic policies that promote improved environmental performance.

Greater access to environmental information at all levels and understanding of the impacts of environmental degradation will create demand for environmental services. Equally, greater awareness of the health risks of indoor air pollution could significantly reduce exposure and change household patterns. Public investments in capital infrastructure to protect water quality in mega cities will require strong civil society support, based on an understanding of the costs of inaction. Private investment to control pollution will require public pressure for compliance, based on information regarding sources of pollution and its impacts. India has passed the Right of Information Act (RIA), which provides an opportunity for businesses and regulators to improve public access to information and develop programs for improving environmental management. A recently cre-



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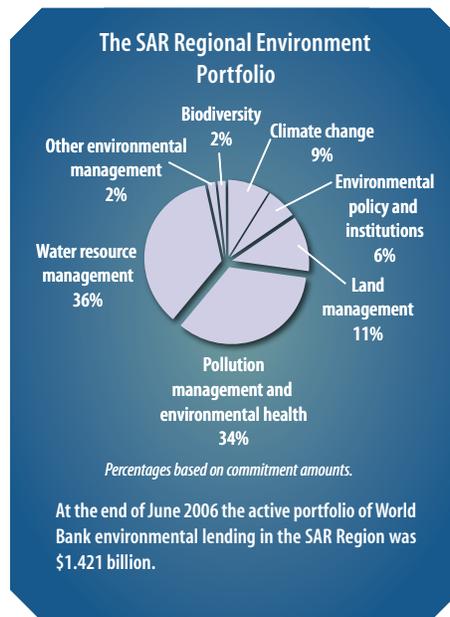
Bangladesh

ated Information and Facilitation Center at the Ministry of Environment and Forests is an excellent vehicle to make environmental information easily available to the public. In the Notification for Re-Engineering of the EIA Process (2006) in India, the “public hearing” has been replaced with “public consultation,” reflecting a paradigm shift in the process.

At the same time, across the region there is a considerable scope for more effective environmental decision making, institutional accountability and transparency, and enhanced credibility through broadened public consultations. Empowering local governments to address emerging priorities such as urban air quality, and pollution from small and medium industries, will require greater integration among various levels of government. Municipal and local governments appear to be best positioned to address local environmental concerns. India is a pioneer in devolving more powers to, and building the capacity of, local governments—a process that was set in motion by the 73rd and 74th Constitutional amendments aimed at improving environmental quality with broad citizen and sector participation.

As the credible threat of regulatory enforcement remains central to environmental governance, so too is the establishment of the institutional capacity to deliver effective regulation. The lack of effective mechanisms for inter-agency coordination is too often at the root of environmental management problems in the region, including difficulties with enforcing compliance. Policies that promote economic incentives can complement regulatory approaches to addressing the environmental challenges of rapid urban growth, industrialization, and infrastructure development.

Most South Asian countries have established legislative and institutional frameworks to address their environmental problems. Despite these structures, regulatory capacity does not match the changing needs of



a rapidly growing economy, particularly in vulnerable ecological settings.

Toward Strengthening Environmental Management

The Bank recognizes the need to support growth by enhancing its environmental sustainability and addressing the poverty–natural resource degradation links. The Bank is increasingly using core operations in the infrastructure and rural development sectors to support and mainstream sustainable development through planning and assessment tools that help balance natural resource use and optimize benefits to people through improved project designs and improved environmental management practices. The lending portfolio reflects the importance of water resource management, pollution management, and environmental health (see Figure, above). Focused interventions have been developed in the following areas:

- *Strengthening the risk management framework to support development assistance.* With high levels of population density, there is a heightened need to manage environmental risks

and public perceptions of these risks, particularly in the context of growing environmental awareness in the region. Increasing the effectiveness of risk management requires a focused and strategic approach to project-level safeguards complemented by a broader engagement and dialogue on environmental policy and management systems. This has resulted in a highly proactive approach to address systemic institutional and capacity weaknesses using a range of instruments for deepening client dialogue and providing assistance to sector agencies.

- *Providing knowledge support to governments in managing environmental issues.* The Bank supports mainstreaming the environment by strengthening analytical and empirical work to fill critical knowledge gaps in subregions and sectors of significant Bank intervention. The Bank has completed analytical work (Country Environmental Analyses) in India, Pakistan, and Bangladesh and a number of subregional assessments, including the Andhra Pradesh Adaptation to Drought and the Orissa Growth and Environment studies, as well as country water resources assistance strategies in Bangladesh, India, and Pakistan. Work is ongoing in Nepal, Sri Lanka, Pakistan, Bangladesh, and India.

- *Focus on institutional capacity building.* The Bank is supporting efforts by countries in the region to strengthen the capacity of their environmental and sectoral agencies to address the new challenges and provide incentives for compliance by expanding the policy toolkit. The India Capacity Building for Pollution Management Project builds on lessons from considerable past experience in India and internationally for designing more effective area-based pollution management programs, particularly for such new priorities as industrial effluents and hazardous waste management.

Addressing environmental health risks.

The Bank is working closely with national and provincial governments to develop strategic programs that strengthen the capacity of environmental agencies to identify and reduce ambient indoor and outdoor pollution levels. There is an expanding Air Quality Management Program in Bangladesh and a deepening engagement on air quality in India and Pakistan. The Bank has also developed programs to address indoor air pollution in India, Bangladesh, and Nepal. An innovative project in India aims to improve the capacity of environmental institutions to manage pollution on industrial estates and in the small and medium industry sectors. It promises to identify cost-effective ways to tackle complex issues such as waste management and site contamination.

Tackling environmental impacts of urban growth. The Bank is addressing the environmental challenges of rapid and unplanned urban growth of the mega and soon-to-be mega cities of South Asia. The Dhaka Environment Management Project under preparation seeks to demonstrate the benefits of sound environmental management principles.

Improving the sustainability of natural resource management. A Sustainable Land Management Country Partnership Program in India will help promote mainstreaming of environmental issues in rural projects. A land management project in Bhutan aims at optimizing benefits and enhancing the sustainability of shifting agriculture. Further, the Bank is investing in managing ground and surface water and in institutional capacity building programs for improved basin management across the rural/urban interface and across sectors. The Bank is also investing in the conservation of protected areas using Global Environment Facility (GEF) resources in India, Sri Lanka, and Pakistan.



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Global commons agenda. A significant global commons agenda has been developed to (a) help countries in the region implement the Montreal Protocol and (b) improve the sustainability of the internationally shared fisheries in the Bay of Bengal.

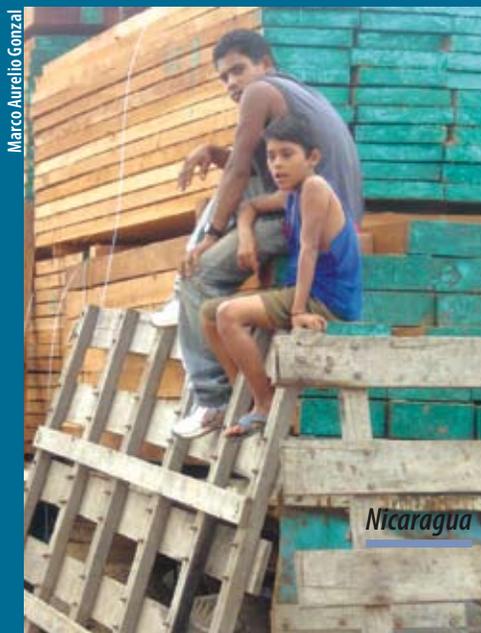
Climate change. Low-carbon development will ultimately require significant shifts in energy policy and regulation, modes of investment planning, and openness to energy trade. In this context, the World Bank Group is actively engaged in (a) providing and expanding support to energy sector governance, combined with strategic investments in generation, transmission, distribution, and end-use efficiency that will help create an enabling environment for reforms; (b) analytical support and dialogue that focuses on an enhanced understanding of the potential for energy trade within and beyond the region, potentially including support for specific bilateral trade initiatives; (c) analytical work and dialogue on long-term energy security that will also integrate low-carbon options and con-

siderations; and (d) core operations in the energy, infrastructure, environment, and rural sectors to support sustainable development and climate change management objectives, including the development and application of renewable technologies throughout the region (ranging from large-scale hydro projects with proper environmental and social safeguards to small-scale renewables in Bangladesh, India, Nepal, and Sri Lanka), forestry and agriculture projects, and support to low-carbon and more energy-efficient industrial processes. To maximize the impact of available global environmental financing instruments, the Bank is helping the region shift to greater use of programmatic approaches in providing carbon finance and GEF assistance to improve access to low-carbon opportunities in the core operations.

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The Role of the Private Sector in Natural Resource Management

A Focus on Forests



Marco Aurelio Gonzal

Large parts of the global private sector continue to rely on natural resources either as part of companies' core business or in their supply chains. One such resource is natural forests. The estimated total value of forest products worldwide is approximately \$1 trillion per year, and demand is growing as population and income levels rise—particularly in developing countries.

Firewood and charcoal currently represent as much as 90 percent of the total forest harvest in regions such as Africa and South East Asia. Natural forests are the source of 75 percent of these removals, including firewood. As living standards increase, so too do demands for other forestry products such as paper, housing, furniture, and packaging. An increasing portion of the demand will have to be met by relying on new plantations on previously de-forested or other suitable lands, and by otherwise sustainably managing natural forests.

Protecting or expanding existing forest cover globally is necessary to preserve biodiversity, maintain water quantity and quality, provide a carbon sink, provide goods such as food and medicine, and to protect it as a potential source of future benefits. Shrinking natural forests and huge losses in biodiversity, combined with increased public scrutiny and growing pressure from investors, are therefore driving a change in the way companies view and manage these resources. Market demand for more sustainable forestry and nature-based products is also creating commercial incentives for better forest management.

At the same time, there is growing recognition of the rights of communities that live in forests. Many governments have enacted reforms in recent years around concessions for commercial use of national forests. This is creating opportunities for communities to own the forests that they have traditionally lived in and to engage in sustainable business partnerships with the private sector.

For companies, this can mean a more efficient and reliable supply of wood or other resources, as well as the potential for added value, such as processing before the product reaches them. For communities, this can mean an opportunity to develop skills, create more local employment, earn a higher premium for processed products, and channel higher returns into benefits such as education and infrastructure. Communities can also enjoy more secure land rights through formalized contracts and greater access to international markets as a result of international industry certifications.

IFC's Role

The International Finance Corporation (IFC), the World Bank Group's private sector arm, is committed to good corporate governance as well as social and environmental sustainability in all its investments. IFC encourages its clients to operate in an environmentally and socially responsible fashion. In the forest products sector—where IFC's investments have averaged \$250 million per year over the last four years—this is demonstrated through the adoption, by clients, of environmental and social management systems, the use of independent certification to attest to sustainable forest management where appropriate, and the application of sustainability throughout the supply chain.

Relying on certification schemes and industry voluntary codes of conduct are just some of the ways that companies can ensure that their products are sourced sustainably, and thereby gain greater market and consumer confidence.

Proactive approaches to the governance of natural resources—such as collaboration with governments and other stakeholders, fair compensation to stakeholders for loss of traditional access to resources, and conflict resolution relating to distribution and shared use of resources—can also significantly reduce reputational and business risks and



Huilacollo
— Peru

increase the long-term positive impacts of private sector development.

New Standards for Private Sector Investment

In February 2006, IFC adopted a new set of performance standards on social and environmental sustainability, which provide clear requirements for client companies when IFC undertakes a new project or finances an existing enterprise. They include a new standard that replaces IFC's previous policies on natural habitats and forests, and establishes a more integrated approach to sustainable natural resource management.

The new standard on Biodiversity Conservation and Sustainable Natural Resource Management applies to projects in all habitats, whether or not those habitats have been previously disturbed and whether or not they are legally protected. Among other things, it requires companies seeking IFC investment to assess potential impacts on the various habitats and communities concerned, avoid or minimize negative impacts, and enhance positive ones. Overall, clients are to manage natural resources in a way or at a rate that enables people and communities to provide for their present social, economic, and cultural well-being while also sustaining the poten-

tial of those resources to meet the reasonably foreseeable needs of future generations, and safeguarding the life-supporting capacity of air, water, and soil ecosystems.

When developing appropriate certification and management systems, the standard therefore emphasizes engagement with relevant stakeholders, such as local communities, indigenous peoples, and civil society organizations representing consumer, producer, and conservation interests.

Promoting Change in the Marketplace

IFC's standards for private sector investment are some of the highest in the world and provide a global benchmark. They have been adopted by commercial banks as the basis for the Equator Principles, which now cover more than 80 percent of global project finance. The Principles provide a significant incentive for emerging market companies to improve the way they manage risk and identify opportunities.

IFC also increasingly provides technical assistance to improve the capacity of the private sector and of communities to develop innovative and more sustainable models for governance of shared natural resources. The following examples show various approaches that have sought to combine commercial vi-

ability with the interests of people and protection of the environment.

Creating Sustainable Wood Supply Chains in Indonesia

In Indonesia, home of one of the planet's richest ecosystems, forest area the size of 300 football fields is estimated to be cut down every hour—70 percent or more of it illegally. Sustainable wood is responsibly sourced timber that can be traced back to a forest that has been verified as well managed or is part of an ongoing certification process. A Sustainable Wood Program, managed by IFC through its Program for Eastern Indonesia Small and Medium Enterprise Assistance (PENSA) is linking saw mills, furniture manufacturers, and buyers to help them gain business advantage from using responsibly sourced timber. Through training and technical assistance, the program is providing market opportunities to producers who use sustainable wood, and providing on-the-ground support to international buyers who want to procure materials responsibly in Indonesia. The program enables forest product buyers to track where their timber comes from and shows how better inventory management can improve manufacturing margins. Assistance in improving production processes further increases wood recovery and reduces waste.

In May 2006, IFC-PENSA successfully assisted the first Acacia plantation in Indonesia to gain membership in WWF's Global Forest and Trade Network (GFTN). The 50,000 hectare plantation is owned by PT Inhutani II, a Kalamantan-based, state-owned enterprise. The GFTN endorses responsible forestry enterprises and links them with international buyers seeking sustainable timber products. This recognition is a major milestone for plantation forestry in Indonesia and shows international confidence in the Indonesian market to deliver sustainable wood products. IFC has also been assisting small- and medium-sized furniture manufacturers to capitalize upon this opportunity, by training them to dry Acacia timber prop-

erly, stain the wood, and create products for the international market.

Improving International Market Access via Better Forestry in Nicaragua

Nicaragua's wood sector has great potential to contribute to the economic and social development of the country. Demand for wood products is high due to a global boom in the housing and construction market, which in turn has attracted the interest of international investors. International demand for products made with environmentally certified wood has also grown. Over 78 percent of Nicaragua is covered by forests. Annual exports total \$11.6 million, of which 99 percent is raw timber. These conditions provide interesting opportunities for local firms to engage in higher, value-added activities, while addressing global consumer concerns about deforestation and the environment.

IFC's Project Development Facility in Latin America and the Caribbean designed a pilot project drawing on the World Bank's Program on Forests (PROFOR), a multi-donor partnership, as well as on the increasing international interest in the sector. Analysis showed that timber resources in Nicaragua are owned by local communities, and local firms in the sector are almost exclusively small businesses. The project helps link local suppliers with international buyers, potentially making the wood sector an important pillar of the Nicaraguan economy.

In February 2004, the facility began a small and medium enterprise (SME) supplier project, linking Exchange, a high-end furniture designer to approximately ten SME outsourcing companies. In March 2005, the facility partnered with the World Wildlife Fund (WWF) in a complementary pilot project to provide technical assistance to five carpentry businesses and two forest communities. The pilot promoted environmentally sound lumber harvesting and provided

market information on certified lumber. It also worked with local firms to target high-end international markets sourcing certified wood.

Sales to international buyers quickly exceeded targets. The SMEs increased their exports by \$59,000. The project showed that forest communities can benefit from selling sawn lumber, which commands a much higher price than raw timber. Prices rose by a factor of 12 and forest communities reported increased sales by \$120,000. Moreover, the project contributed to the certification of 4,662 hectares of a community forest under the Forest Stewardship Council (FSC) certification system – the largest NGO providing environmental and social certificates for responsible forestry management. This represents a 27 percent increase in total certified forest in Nicaragua.

The facility plans to expand the pilot to include more forest communities and small businesses. It will provide training in firm-level business management and production techniques, and sustainable forestry management advice by creating a Forest Management Company that will offer technical assistance to forest communities. It will also explore the possibility of setting up a capital fund to provide local firms and communities with working capital.

The strength of the pilot results has encouraged replication of the model in other countries. WWF is now supporting a similar project in Panama. The facility is using the experience to develop projects in Bolivia and Peru, and the IFC PEP Africa Facility is also using the model to develop in other countries.

Identifying Barriers to Sustainable Community-Based Forestry in Africa

In 2004, IFC's Social Responsibility Practice Area commissioned two feasibility studies

to examine opportunities and constraints in Gabon and Ghana for the development of a community-level, sustainable forestry sector. The studies revealed several key challenges. They found that the difficulty of securing tenure and resource rights was a significant disincentive to businesses wishing to acquire concessions or logging permits. Moreover, as concessions or permits are often of short-term tenure, they don't provide a good basis for the medium- and long-term planning and management needed for good forest management, including achieving formal certification.

In Gabon, community forestry enterprises were found to be ill-equipped to comply with the requirements of a recently introduced forest law, particularly with regard to preparing and implementing a forest management plan. In Ghana, constraints were linked to the process and legal basis of concessions' allocation. Many suppliers also lacked adequate financing needed for bidding and competing for the concessions.

Capacity constraints presented challenges in both countries. These included lack of sufficient understanding and demand for sustainable logging, and lack of knowledge regarding regeneration capacity of the forest and its biodiversity status. The study also highlighted the importance of being able to demonstrate to other parties (buyers and investors) that forestry practices are sustainable, equitable, and transparent.

Companies seeking to operate sustainably in these markets can address some of these issues through effective sourcing and purchasing policies, by providing training and capacity building for suppliers, and by encouraging best practice by harvesting companies.

For more information on IFC's sustainability initiatives, visit www.ifc.org/sustainability

This article was prepared by Louise Gardiner, (202) 458-0596, lgardiner@ifc.org, of IFC's Sustainability, Knowledge and Communications Department.

SHARING THE BENEFITS

THE FUTURE OF FOREST MANAGEMENT AND THE ROLE OF THE PRIVATE SECTOR

There is no doubt that environmental change, investor pressure, and a new attitude by many companies is changing private sector approaches to the management of natural resources. This is evidenced by two clear trends: more proactive assessment of risks and identification of new business opportunities through the diversification of ecosystem services.

Where companies used to respond in a reactive, ad hoc manner to risks when their operations utilize or impact natural resources, they are gradually taking a more rigorous approach to risk assessment, preparing corporate strategies and taking steps to manage impacts responsibly. In so doing, they are protecting their license to operate and continued access to resources.

A case in point is Forest Trends' Business and Biodiversity Offset Program, in which leading mining, oil and gas, and construction companies are undertaking voluntary biodiversity offsets to ensure their new infrastructure projects bring about "no net loss" of biodiversity. This strengthens their relationships with regulators and communities—which are increasingly financially material—and helps them access capital.

Banks and asset management companies are also playing an important role in the process. Loan conditions, such as the IFC's Performance Standard 6, require biodiversity offsets for capital projects in certain circumstances and are part of the revised Equator Principles, which are based on IFC standards and used by leading commercial banks to assess risk in their investments. To find out if engaging with companies on this issue works, Insight Investment, a London asset manager, teamed up with Fauna and Flora International in 2003 to compare quality of management on biodiversity in 36 mining, oil and gas, and utility companies. Insight then engaged with the companies to encourage them to improve their performance. When the team repeated the "Biodiversity benchmark" in 2005, the scores in each sector had improved substantially.

At the same time, the private sector is becoming more imaginative in identifying new business opportunities through better governance of natural resources. In the forestry sector, investors and companies are starting to see ecosystem services as valuable commodities. A "multiple-asset approach" to forestry has been developed by Forest Trends' Business Development Facility with funding from the International Finance Corporation. It helps forest operators move from a single-asset approach, where cut timber is seen as the only real value of forests, to a business model that diversifies revenue streams for companies and communities by capitalizing on non-timber products and services that generate higher real returns on the forest asset.

This diversified approach benefits the business as well as local communities. Companies can increase their profits and improve their relationships with stakeholders. Communities gain new opportunities to participate in the value chain for forestry products. The success of initial ventures in this area is helping to set new standards for sustainable forest management, particularly in developing economies.

A partnership with Forest Trends and the International Finance Corporation this year led to a successful diversification of operations by Precious Woods, a pioneer in sustainable forestry operating in the Amazon. In June 2005, the company acquired an 80 percent stake in a local renewable energy biomass plant, to which it has started supplying waste woods from its forest operations. Energy sales from the renewable energy plant as well as sales of carbon credits under the Kyoto Protocol—resulting from the plant's switch from diesel to biomass, the reduction of stockpiled waste wood, and avoiding transportation of diesel into the Amazon—will provide Precious Woods with additional revenue of \$10 million in 2006. It will also secure a reliable source of electricity to a nearby town of 70,000 inhabitants. The project is expected to offset more than 1.4 million tons of CO₂ over a ten-year period. It shows that alternative revenue streams from forest ecosystems can benefit local communities and the environment and make good business sense.

This article was written by Michael Jenkins, president of Forest Trends, and Kerry ten Kate, director of the Business and Biodiversity Offset Program at Forest Trends. Forest Trends is a Washington, DC, non-profit group that supports initiatives such as company-community forestry partnerships, independent forest certification, and increasing investor awareness of the benefits of an integrated approach to governance and natural resource management. For more information, visit www.forest-trends.org.



World Bank Group Goes Carbon Neutral

In June 2006, The World Bank Group became “carbon neutral” in its Washington, D.C. offices, its spring and annual meetings, staff commuting, and all operational travel from headquarters.

This small but symbolic contribution means that the emissions from these activities have been offset through investments in renewable energy and energy efficiency, and through the purchase of verified emissions reductions from projects in developing countries. More specifically, carbon neutrality was achieved through:

- The purchase of green power for 100 percent of electricity consumption (107 million kilowatt-hours) through renewable energy certificates, which pay for the incremental cost of using clean energy instead of traditional fossil fuel energy
- The voluntary purchase of 59,400 tons of carbon dioxide equivalent in verified emissions reductions from projects in developing countries

Airline travel accounts for around 40 percent of the World Bank Group’s carbon dioxide emissions. Emissions from the spring meeting in Washington and annual meeting in Singapore were included in the calculations.

Over the past several years, the World Bank has made available a wide range of indica-

NEW ONLINE ENVIRONMENT DATABASE

tives—including the *Little Green Data Book* and *Country Environmental Factsheets*—to help the development community track progress on a series of development issues. This year the World Bank has brought all of these environmental indicator initia-

tives together into a single online environment database. This one-stop source provides access to the most widely used, official-source environmental data available from the World Bank and other international agencies. Whether for state-of-the-environment reporting, measuring environmental performance, or reporting on progress toward sustainable development, the new database is a valuable tool for policy makers and researchers alike. To access the database, go to www.worldbank.org/environment/data.



CHINA'S BIG STEP FORWARD IN CARBON EMISSIONS TRADING

The largest emissions reduction project on record was agreed to last year when two Chinese companies signed two emission reductions purchase agreements worth \$998.8 million. The contract between the World Bank’s Umbrella Carbon Facility and the two private chemical companies—Jiangsu Meilan Chemical Co. Ltd. and Changshu 3F Zhonghao New Chemicals Material Co. Ltd., both from Jiangsu Province—is equivalent to a reduction of about 129.3 million tons of carbon dioxide annually.

The Umbrella Carbon Facility was established to draw from



The World Bank Carbon Finance Unit

multiple sources of funding, including the Bank’s existing carbon funds, to purchase large volumes of carbon emissions from pre-identified projects on behalf of governments and private firms. More than 75 percent of the money in the facility represents private capital.

The contract signed with the two Chinese companies will result in reductions of HFC-23 (triflu-

oromethane), one of the most potent greenhouse gases, with a global warming potential that is 11,700 times that of carbon dioxide. It is generated as a waste gas in the manufacturing process of HCFC-22, which is used as a refrigerant and a raw material for other products. HFCs are among the six greenhouse gases covered under the Kyoto Protocol.

The World Bank also signed a Memorandum of Understanding with the Chinese Ministry of Finance to collaborate in the design and development of a Clean Development Fund (CDF), in which revenues accruing to the Government of China as a result

of the sale of emission reductions will be used to support sustainable development activities.

“With this project, China will move to the forefront of countries making contributions to global efforts to mitigate the effects of climate change,” noted Teresa Serra, the World Bank’s East Asia Sector Director for Environment and Social Development. “The creation by the Government of China of a Clean Development Fund from the government’s share of revenues also provides a unique opportunity to redirect carbon finance toward capacity building and sustainable development activities in China.”



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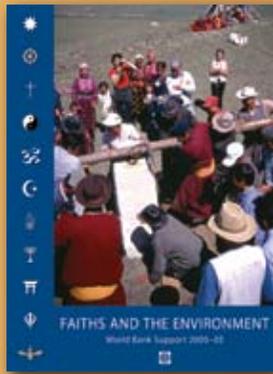
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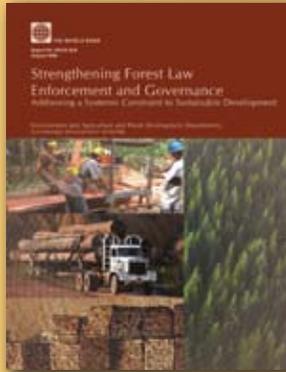
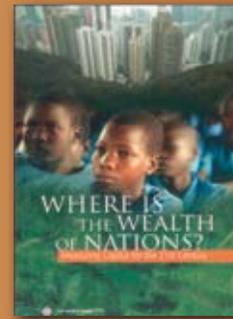
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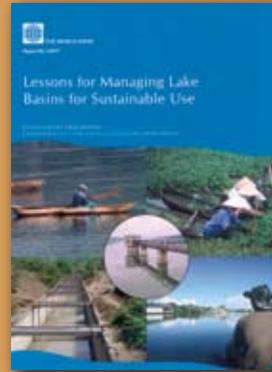
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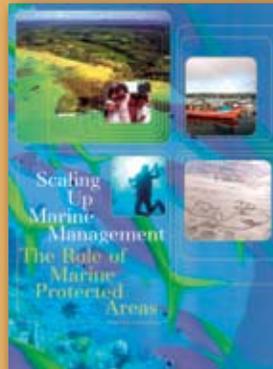


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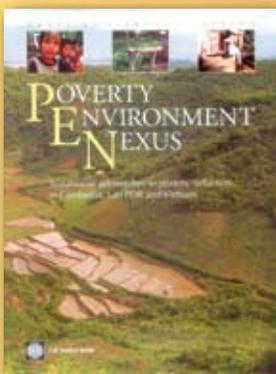
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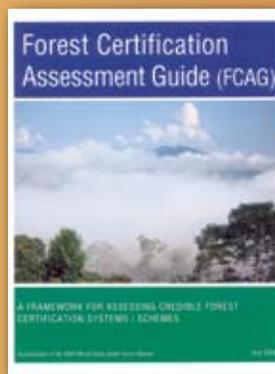
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