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Advancing Sustainable Development

The World Bank and Agenda 21



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(Continued on the inside back cover)

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Advancing Sustainable Development

The World Bank and Agenda 21

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Foreword

It has now been five years since most of the countries of the world committed to the policies and programs for environmentally sustainable development laid out at the Rio Earth Summit in *Agenda 21*. Along with other international agencies, the World Bank has sought to be an active partner with its client countries in implementing the priorities set at Rio.

While the past five years have brought some progress, it is not as much as we had expected—and certainly less than we had hoped. Tropical forest cover, wetlands, and other natural habitats collectively have declined by 3.5 percent. Global carbon emissions have increased by 4 percent. One-and-a-half billion people still live with dangerous air pollution, 1 billion people without clean water, and 2 billion people without adequate sanitation. During this period, the world's gross domestic product has increased by \$2.4 trillion, but investment in sustainable development has not kept pace. Furthermore, what has been invested has not been used as cost-effectively as it could have been.

This volume documents the active role of the Bank in assisting our clients to work toward the goals laid out at Rio. It is part of the stocktaking under way at the World Bank as we seek to review the past and plan for improved effectiveness in the future.

Part One takes a broad perspective by assessing some of the greatest challenges for the future and laying out six principles to guide our thinking.

1. Mainstreaming sustainable development. Tightening environmental and social policies, improving their implementation, and going beyond targeted programs to make traditional sectoral investments more environmentally friendly.

2. Integrating social and cultural dimensions. Recognizing the value of social capital and increasing the focus on participatory approaches to sustainable development, from consulting with locally affected people to substantively involving them in implementation.

3. Investing in effective partnerships. Forging strategic alliances with client governments, other multilateral and bilateral donors, the private sector, and civil society to build and share development knowledge and to enhance the design, implementation, and measurement of progress in attaining sustainable development.

4. Building and sharing knowledge. Tapping the living laboratory of development activities to acquire, organize, and disseminate knowledge about what works, where, and how.

5. Measuring progress differently. Developing and adopting tools and methods to better measure and value environmental change and its social and economic costs and benefits, with a view to improving the empirical basis for decisionmaking.

6. Mobilizing financial resources. Maintaining ODA flows and ensuring that they are used cost-effectively, reducing debt, and harnessing private capital flows for sustainable development by influencing international and local businesses to employ environmentally sound business practices.

Part Two addresses the majority of the chapters of *Agenda 21* in turn. It provides concise reviews of progress since Rio and related World Bank activities, lessons learned, and challenges and prospects for the future.

This study was conceived by Andrew Steer, director of the Environment Department, and executed under his leadership. It is presented by the World Bank not only as a part of our taking stock and planning for the future but also as a

means to generate discussion in the international community on how we all can better achieve the global environmental objectives that we set for ourselves in Rio.

Ismail Serageldin
Vice President
Environmentally Sustainable Development

Contributors

This publication was prepared by staff of the World Bank's Environment Department in close collaboration with other units in the Bank Group, including the International Finance Corporation, whose work directly pertains to the sustainable development issues outlined in *Agenda 21*. The particular contribu-

tors to each chapter are listed below.

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PART ONE

The World Bank and Sustainable Development

Challenges and Imperatives

Five years after the Rio Earth Summit is a good time to take stock. This global milestone is the theme of the Special Session of the United Nations General Assembly in June 1997 and of a series of international gatherings. The World Bank is actively participating in these meetings, with the purpose of learning from others, sharing ideas that we are developing at the Bank, and building effective partnerships for the future.

Overall, progress in the past five years clearly has not been what we had hoped. Investment in sustainable development has been inadequate as has been the cost-effectiveness of some of the investments. The loss of forests, wetlands, and natural habitats has not slowed to the extent we had hoped; thirteen of the world's fifteen major fisheries are still in decline; and targets under the Climate Change Convention for the year 2000 are unlikely to be met. Most important, we have made inadequate progress in improving the quality of life of the 3 billion people who still live on less than \$2 per day. Clean water and sanitation programs have expanded significantly, but only enough to keep up with population growth. Less than one-quarter of the world's population consumes three-quarters of its raw materials and produces 70 percent of all solid waste.

We have, of course, seen some remarkable examples of dedication, innovation, and success. We estimate that of the 100 countries that have prepared national environmental strategies, about half are beginning to see progress on the ground. Some countries are introducing changes that are becoming "best practices" for others to

follow and are pointing the way toward lasting solutions. The World Bank is pleased to be playing a constructive role in supporting many of these innovations. However, we also recognize that, with so much of the agenda for the twenty-first century yet unfinished, we must regard these successes as spurs to better performance rather than as sources of comfort that we are now "doing things right."

In the past five years, the World Bank has reshaped its overall portfolio, providing sharply increased support for human development, population, environment, and poverty reduction. In these and other programs, the Bank has become the major financier of programs addressing the objectives laid out in *Agenda 21*. These programs are documented in Part II of this report, and in the Bank's magazine, *Environment Matters* (Autumn 1996 and Spring 1997). We recognize, however, that the contribution to date has been inadequate. Every agency involved in promoting sustainable development needs to look hard for ways to improve effectiveness. The World Bank is certainly no exception.

The challenges facing the human race today are perhaps even greater than at the time of the Rio Earth Summit. Boxes 1.1 to 1.5 provide simple updates of five of the challenges that we regard as central. As we assess how the World Bank can best assist countries in addressing these challenges, we see a number of imperatives that need to guide the way that we (and other agencies) do business if we are to reach our potential effectiveness.

Box 1.1 Reducing poverty**The Five Central Challenges**

- Today, 1.3 billion people still live on \$1 per day. 3 billion live on less than \$2 per day.
- 1.3 billion are without clean water. 2 billion are without sanitation. And 800 million are malnourished
- These numbers have stayed roughly constant in the five years since Rio. The proportion of the world's population in poverty has fallen slightly, but the absolute number has stayed the same.
- We see a divergence of development paths, with a growing concentration of poverty in Africa. Average incomes in Africa are 1.4 percent lower than at the time of UNCED, while incomes in East Asia are up 9 percent.
- 130 million children are not enrolled in primary schools (103 million of these are girls). A child born in Africa today is more likely to be malnourished than to attend primary school.
- With the right policies and international support, the number in acute poverty could fall by half over the next quarter-century. And clean water could be made available to all.

Specifically, we need to give priority to:

1. Mainstreaming environmental sustainability into development activities
2. Integrating social and cultural dimensions in the development agenda
3. Investing in effective partnerships
4. Building and sharing knowledge more efficiently
5. Measuring progress differently
6. Mobilizing and multiplying finance.

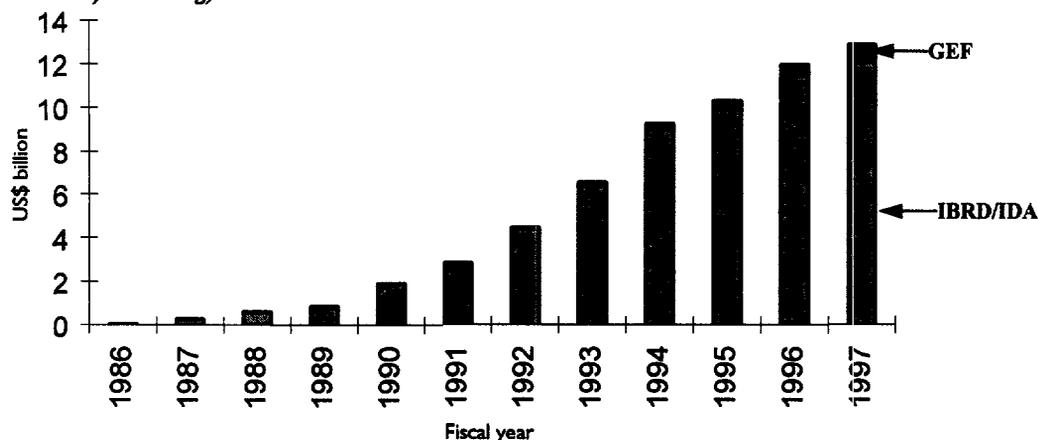
1. Mainstreaming Environmental Sustainability in Development Programs

A. Implementing the First Generation of Environment Projects

In the five years since Rio, there have been numerous programs *targeted* to improved environmental management. The World Bank, for

example, is now financing through the International Bank for Reconstruction and Development (IBRD) and the International Development Association (IDA) environmental programs in 70 countries and has committed nearly \$12 billion in loans for such programs, \$8 billion of which has been since Rio (figure 1.1). Such interventions—to reduce pollution, protect ecosystems, and build capacity for environmental management in developing countries—are vital and, for the most part, quite effective. In addition, as one of three implementing agencies of the Global Environment Facility (GEF), the Bank has approved 70 projects in more than 50 countries totaling \$670 million in GEF-grant financing since GEF's inception in 1991. Overall, for every dollar of Bank-GEF assistance, there is an associated dollar of IBRD or IDA resources, and two additional dollars of co-funding from others. These grants are designed to fund activities that will benefit the global environment in one or more ways: conserving

Figure 1.1 Active environment portfolio, fiscal 1986-97
(active projects currently disbursing)

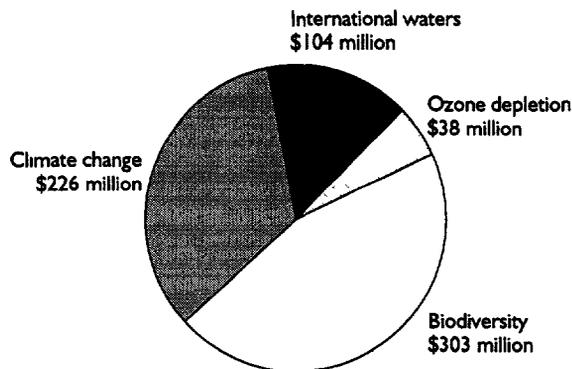


Active Environment Portfolio* \$12 billion (174 projects in 70 countries)

Active World Bank Portfolio* \$137 billion

Note: * Expected at end fiscal 1997. Targeted Environment Project = 9% of Total Active Portfolio

Figure 1.2 Bank/GEF projects by focal area
(approved portfolio of 70 projects totalling \$670 million through February 1997)



biodiversity, reducing emissions of greenhouse gases, protecting international waterbodies, or phasing out chlorofluorocarbons and other ozone-depleting substances (figure 1.2). GEF grants genuinely help countries meet their obligations under the Climate Change and Biodiversity Conventions; provide the economies in transition with resources to complete their phase out of ozone depleting substances and meet their obligations to the Montreal Protocol; underwrite durable partnerships between countries who share large water bodies to manage them sustainably; and build capacity, especially at the country level, to identify and address global environment challenges.

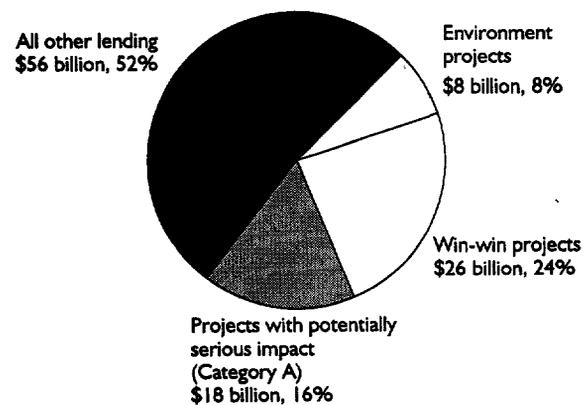
B. Integrating Environmental Sustainability in All Development Programs

However, as we focus on these targeted programs, it is equally vital that we ensure that *all* programs are transformed to reflect the most current understanding of environmental and social sustainability. Consider the World Bank's financ-

ing of development programs, for example. In the five years since UNCED, the Bank will have made loans from IBRD/IDA of around \$109 billion (figure 1.3). It is obviously vital that all these programs incorporate the principles of Rio fully.

Mainstreaming sustainability is accomplished in two ways. First, we must ensure no harm at the project level. The Bank's first-line approach includes assessing and reducing potential adverse environmental impacts of investments. The Bank has a leading position among multilateral development institutions in applying EA in the preparation and implementation of development projects and has positively influenced the practices of governments and other agencies. The Bank established its EA policy in 1989 and, since 1992, has made considerable progress in EA institutional and operational aspects. EA is now firmly rooted in the Bank's normal business activity, reducing the adverse environmental im-

Figure 1.3 World Bank lending since Rio: a green accounting, fiscal 1993-97



Note: All figures for fiscal 1997 are estimated.

Box 1.2 Doubling food production

- Today's population is 400 million higher than at the time of Rio and will grow at 800 million per decade for the next three decades.
- Food production will need to double in the next 35 years.
- The last doubling (the green revolution) occurred in just 25 years. It was driven by irrigation, chemical inputs, and high-yielding seeds and was 92 percent due to intensification.
- The next doubling will be less chemical- and irrigation-intensive and, without expanded agricultural research and investment, will require greater expansion of agricultural area, threatening valuable natural habitats.
- While experts disagree on projections, all agree that the next doubling of food production will be much more difficult than the last one.
- Declining attention to agricultural research and rural programs has positioned the world poorly for the future.

The Five Central Challenges

Box 1.3 Addressing energy: environmental linkages*The Five Central Challenges*

- Poverty alleviation will require access to, and efficient use of, energy.
- Today's global energy policies, which promote the inefficient use of fossil fuels and energy, are environmentally unsustainable, causing significant local (particulates), regional (acid deposition), and global (climate change) environmental degradation.
- 2 billion people are without access to electricity. Most cook using traditional biomass fuels, which lead to a high incidence of respiratory infections in children and chronic lung disease in women.
- Even today, 1.4 billion people are suffering dangerous outdoor air pollution. Assuming no changes in energy policies, it is estimated that 20 million people per year will die from respiratory problems by 2020.
- Energy use in developing countries is projected to more than triple in the next 30 years—even under optimistic assumptions of energy efficiency gains. By 2020, total energy use in developing countries will be double that of OECD.
- Energy services can be provided with much less environmental degradation through significant increases in energy efficiency, coupled with cleaner production. These changes will require national policies to "get the prices right," internalization of all environmental externalities, mobilization of scarce capital, and a significant increase in the rate of development and diffusion of new nonpolluting technologies.
- Shifting from current energy patterns (80 percent of all electricity is generated from fossil fuels) to climate-friendly patterns (say, 25 percent electricity from fossil fuels by 2050) will cost 1–2.5 percent of global GDP. The challenge is to (1) reduce this cost through carbon trading and other means, (2) build a consensus among citizens that the cost is worth it, and (3) negotiate an international system for compliance.

pacts of Bank-financed projects and influencing their design and implementation.

Second, we must move upstream from project-specific concerns to an integration of the environment in sector and national strategies. For the Bank, this implies rigorous application of environmental assessment (EA) and scrutiny of assistance strategies in traditional sectors such as agriculture, energy, and infrastructure. It also implies viewing macroeconomic support through the lens of sustainability, with a view to balancing economic, environmental, and social concerns. Good progress has been made in these areas over the past five years, but much more needs to be done.

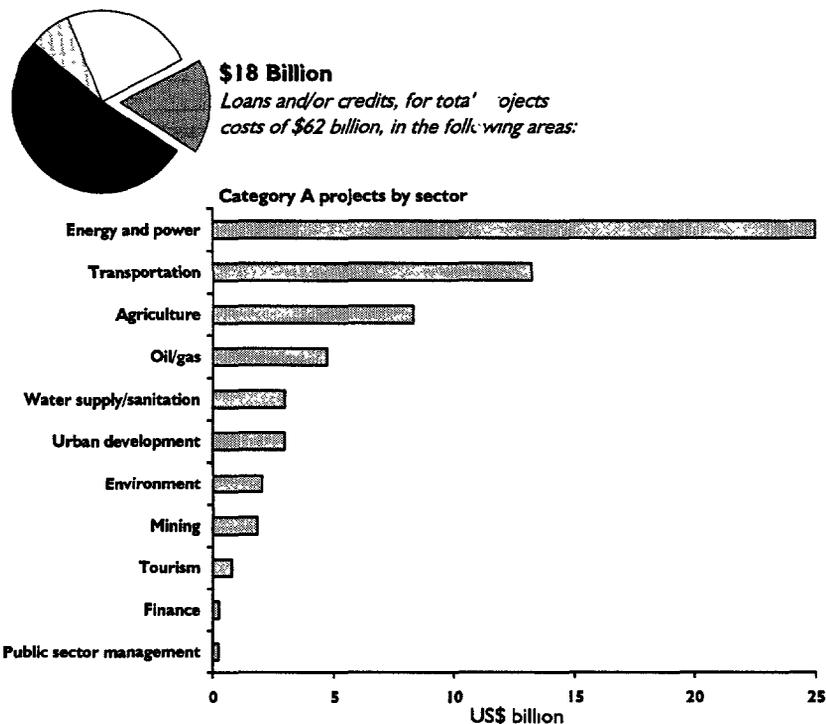
Since June 1992, 107 approved projects, involving commitments of close to \$19 billion and total investments exceeding \$62 billion, have been required to undergo full EA, including public consultation, while another 416 operations, entailing commitments of \$36.6 billion and total investments of over \$90 billion, have been subject to environmental analysis, including, in both cases, incorporation of measures to avoid, minimize, mitigate, or compensate for possible adverse impacts. Nearly half of the projects submitted to full EA were in the power and energy sectors, with another third in the agriculture and transport sectors, and roughly one-sixth in the water supply, sanitation, and urban development sectors (figure 1.4).

Nonetheless, although project-level EA can be very effective, its single-project focus is inherently limited. Application in a broader context—at sectoral and regional levels—moves EA from reactive to proactive and overcomes this limitation. Sectoral EAs analyze environmental issues in relation to policies, institutions, and development plans for sectorwide investment, rather than on a project-by-project basis, and therefore can suggest a broader array of options up-front to guide sectoral development. Sectoral and regional EA have been piloted by the Bank successfully, and this work will be expanded.

Moreover, while mainstreaming sustainable development in its entire portfolio is far from complete, the Bank is taking other proactive approaches to accomplish this goal. A major review on energy-environmental issues is underway, and a major new program for revitalizing Bank work on rural development has been launched. We are also developing and applying so-called global overlays, which involves re-examining sectoral policies and programs in the light of global environmental concerns, such as biodiversity and climate change, thereby adding a global environment dimension to traditional sectoral planning.

Over the past five years, as knowledge of sustainable development has emerged, the Bank has adapted standard approaches and pursued new ways of doing business in the more traditional sectors of its lending: agriculture, infrastructure, and energy.

Figure 1.4 Category A projects since Rio, fiscal 1993-97



Agriculture and Rural Development

A growing recognition of the environmental challenges of both extensification and intensification of agricultural production, and the nonmarket values of forests, wetlands, and other natural habitats has had a major impact on the Bank's portfolio in the rural sector. These resulted in a new focus on improved land, water, and forest management.

principles, in 1996 the United Nations Development Programme (UNDP) and the World Bank invited other partners to join in establishing a Global Water Partnership (GWP). The partnership would consolidate the existing UNDP-World Bank water programs and bring together key partners, not just from water supply and sanitation but also from irrigation, the environment, and related subsectors. The partnership aims to

Box 1.4 Conserving biodiversity and natural habitats

The Five Central Challenges

- As of today, only 1.7 million of an estimated 30 million species have been described.
- The loss of natural habitats (the principal reason for species loss) appears not to have slowed in the 1990s. Forests and wetlands are probably still being lost at 0.5–1 percent per year.
- Estimates of species loss over the next 50 years range from 10–40 percent. Either way, there is a crisis.
- Infrastructure, agriculture, extractive industries, and urbanization drive species loss.
- Economic growth (world GDP is up \$2.4 trillion since Rio) and population growth (up 400 million since Rio) are resulting in a massive expansion of the human footprint on the world's ecosystems.
- In the next three decades, with world population rising by 800 million per decade, energy and transport infrastructure of \$500 billion per year (in developing countries alone), and agriculture output doubling, the pressures on ecosystems will reach unprecedented levels.
- Addressing these challenges will require:
 - a. A revitalized rural strategy with agricultural research and intensification given the highest priority.
 - b. Ecological issues factored into all infrastructure planning.
 - c. Greatly strengthened conservation activities. Today 7 percent of the world's land is officially "protected," but this protection is in the form of "paper parks." Protected areas need to be expanded to 10 percent and protected seriously.

Box 1.5 Addressing social disruption and dislocation*The Five Central Challenges*

- As globalization is pulling the world together economically, social and ethnic strains are rupturing social structures and undermining development.
- The link between poverty and social disruption has become more pronounced; 15 of the 20 least developed countries have been involved in violent conflicts. More than half of all low-income countries have experienced major civil conflicts in the past 15 years.
- Over the past 10 years, 70 million people have become international refugees or suffered extended internal displacement. In Africa, nearly half of the countries produced refugee flows.
- 100 million mines are still scattered throughout 65 countries; 100 million more mines are stockpiled and ready for use.
- In many regions in the world, crime and violence are rising. Especially disturbing are the increases in violence against women and children. In Latin America alone, one estimate is that 6 million minors are victims of severe maltreatment, and 80,000 die each year.
- Some transition economies have seen an escalating spiral of collapse of trust, violence, and economic debacle. The de facto disappearance of government from many economic and social functions has forced millions of people to rely on informal, hidden, and sometimes illegal activities to survive.
- Crime and violence hurt development by eroding human and social capital and by destroying physical infrastructure. The effectiveness of development aid is undermined or nullified by violence.
- The agenda to combat crime and violence includes urban poverty alleviation; programs targeted at vulnerable and at risk groups (women and children); building social capital for urban neighborhoods; improved partnerships between government, civil society, and the private sector to prevent crime; and reform of the criminal justice system.
- On the positive side, there is hope that political reform will help. Countries with good civil and political liberties grow faster, and development projects there often perform better. Trust and civic cooperation, embodied as a rich civil society, reduce violence and enhance economic performance.

achieve a dual objective: to support country-level activities adopting internationally endorsed principles and to bring a global perspective to these activities.

Infrastructure

Bank activities to balance transport activities and environmental concerns have focused on two critical issues: addressing transport-related pollution and reducing urban congestion. The Bank's approaches to urban environmental management have changed significantly over time. A new trend focused on city-oriented, cross-sectoral, and cross-media management solutions promises to continue. It involves analyzing the relative magnitudes and impacts of the numerous pollution problems arising from various sources in urban areas and setting priorities for action among them. The Bank's transport sector policy priorities are addressed in the book, *Sustainable Transport: Priorities for Policy Sector Reform*.

Substantive changes are also underway in the management of industrial pollution, where the focus of Bank assistance is also shifting from pollution control to pollution prevention and to promoting cleaner industrial technologies, spelled out in such documents as the publicly available draft *Pollution Prevention and Abatement Handbook*.

Energy

The Bank supports energy production, conservation, and consumption that are efficient, private-sector-oriented, and environmentally and socially sustainable. It does this through dual means: improving demand and supply-side efficiency and management through energy sector and price reforms; and encouraging clean technologies. The five years since Rio have seen good progress on energy pricing. We estimate that subsidies on energy, which promote wasteful use of energy and serious pollution, have fallen by about half—although they still remain at about \$100 billion. The World Bank believes that these remaining subsidies should be phased out, with the resources saved being used for development programs to address poverty. Promoting cleaner technology is also an objective of the Bank's energy programs. The Clean Coal Initiative, the establishment of the Solar Development Corporation, and the launching (through the Bank Group's International Finance Corporation) of private venture capital schemes in renewable energy (see Part Two, chapter 23) are some of the current initiatives to encourage environmental technologies. A major review of the Bank's work on energy-

environmental issues is underway, with a focus on energy efficiency, pollution prevention, and climate change. The review, which will be completed by mid-1997, will recommend actions in each of these areas.

2. Integrating Social and Cultural Dimensions in the Development Agenda

A central thesis of UNCED was that social sustainability is equally as important as—and often linked closely with—environmental sustainability. Nevertheless, the implications of this truth are still rarely worked into public policy. While pinpointing what constitutes “socially sustainable” is still a matter of debate, consensus is emerging on key principles that underlie it. First, development activities must do no harm socially or culturally, implying that social impacts must be evaluated through tools such as social assessment and mitigated. But well beyond this, every effort must be made to target and reach the poorest to ensure full consultation and adequate participation of all stakeholders. It is also critical to support, and where necessary, restore and build social capital: culture and values, relationships, and institutions. Designing development interventions in a participatory manner and in a way that recognizes and enhances the crucial role that social and cultural capital play in the development process requires knowledge and, often, an attitudinal shift.

The Bank is taking steps towards a genuine social policy embracing issues of social capital and civil society. However, recognizing that much more could be done, President James Wolfensohn appointed a senior-level Task Force on Social Development to prepare a plan of action to ensure that the social dimensions of development are fully incorporated in Bank work. The task force concluded that, for the Bank to ensure that its work is socially sustainable, it must deepen its understanding of the social factors that affect and underpin development, adopt a multidisciplinary perspective, and employ complementary social and economic approaches.

At the project level, social assessment by professionals will gradually become the norm just as environmental assessment has. At the national level, the Bank will explicitly address issues of social capital in its Country Assistance Strategies

(CASs) for a number of key countries. The Bank is also expanding support for work in post-conflict situations, where social and institutional structures are severely weakened or destroyed. And, to help build and disseminate knowledge in this area, the Bank plans to devote the 1999 *World Development Report* to this theme. Finally, we are building our own skills in this area and will be seeking to work closely with others who have more experience. This is just a beginning, and progress will be monitored carefully.

3. Investing in Effective Partnerships

It is now obvious that most of the development challenges the world faces are not amenable to solutions from any single agency or group. One of the strengths of *Agenda 21* is its insistence on the role of all groups in society in promoting sustainable development. It is not merely that each group has its individual role to play, but that *acting together* the whole can be much more effective than the sum of its parts. At the Bank internalizing this message and implementing a new emphasis on effective partnerships is requiring a different way of doing business and a major attitudinal shift.

To this end, the Bank is investing heavily in partnerships with other multilateral financial institutions; United Nations agencies and bilateral donors; operational nongovernmental organizations (NGOs) with grassroots experience as well as research or technical NGOs, such as the World Conservation Union (IUCN), the Earth Council, and the World Wildlife Fund (WWF); academic institutions; and private sector organizations, such as the World Business Council for Sustainable Development. While these partnerships must be strengthened and deepened, they already have an increasingly direct and profound effect on Bank policy and strategic planning. They are also positively influencing the design quality and implementation of Bank-supported projects and programs. Partnerships with scientific institutions and technically oriented NGOs have enabled the Bank to tap into new networks of experts. Partnerships with bilateral donors, foundations, and the private sector are sparking innovation and leveraging greater support for ambitious joint initiatives. And partnerships with grassroots NGOs, sometimes “twinned” with international NGO mentors to develop local capac-

ity have extended the reach and the potential impact of Bank projects.

The Bank now commonly facilitates or brokers partnerships among client country governments and other institutions and organizations better placed than the Bank—and often the governments—to secure input from in-country stakeholder networks. These strategic partnerships have high payoffs in improving the overall quality and level of Bank assistance to developing countries for sustainable development. Close to 50 percent of new Bank projects now involve operational collaboration with NGOs to contribute to environmental assessments, provide technical assistance for project design and implementation, and act as contractors or implementing agencies. NGOs' involvement has demonstrably enhanced the design, on-the-ground implementation, and participation of local communities in Bank-supported projects.

The expanding collaboration between the Bank and NGOs is not limited to operational work but includes substantive input into policy and analysis. For example, at the Bank's request, the IUCN is increasingly using its global network of members and commissions to review Bank policy and program initiatives. A number of Bank environmental staff are members of IUCN commissions and program advisory groups. Similarly, the World Resources Institute (WRI), in partnership with UNDP, United Nations Environment Programme (UNEP), and the Bank, publishes biennially the *World Resources Report*.

Since 1993, the Bank has been working in partnership with other multilateral financial institutions (MFIs), such as the Inter-American Development Bank (IDB), Asian Development Bank (ADB), African Development Bank (AFDB), Caribbean Development Bank, European Bank for Reconstruction and Development (EBRD), and European Investment Bank (EIB), on environmental aspects of operations. Twice per year, environmental staff from the MFIs meet to exchange experiences and increase consistency in treatment of environmental challenges. Areas of mutual interest include environmental assessment, pollution control and abatement, public participation and social assessment, and environmental approaches in operations involving privatization and onlending to the private sector through commercial banks.

Similarly, bilateral donors play a particularly catalytic role in the Bank's work on the environment, including policy, analysis, and operations. In addition to cofinancing many environment projects in client countries with the Bank, trust funds provided by bilateral donors directly supported the Bank's work on the environment, including all aspects of the project cycle, economic and sector work, policy and best practice development, technical assistance, and training.

Partnerships with the private sector take on a variety of forms. A multistakeholder partnership which includes the private sector, the Forest Market Transformation Initiative (FMTI), involves the Bank and IFC, conservation NGOs, representatives of private sector forest-based industries, and forest and business research groups. It uses stakeholder fora and other mechanisms to identify the incentive structures needed to catalyze private sector actions that will make forest production systems more sustainable and compatible with biodiversity conservation. The collective hope of the FMTI is that this partnership can lead the change toward a more environmentally sustainable forestry industry.

We believe there is still a huge untapped potential in working together in this kind of multistakeholder partnerships to bring about the kinds of transformations in corporate, consumer, and official behavior that will be required if development is to become sustainable. Good stewardship is missing in most markets because corporate behavior, appropriate government policy, adequate stakeholder consultation, strong NGO and scientific involvement ensuring independent certification of good practice, and adequate financing are not there. The World Bank hopes to participate in other "market transformation initiatives"—renewable energy and marine industries are potential examples—and in promoting effective voluntary guidelines for corporate, consumer, and official behavior.

4. Building and Sharing Knowledge More Efficiently

We all need to recognize that we are on the steep slope of the learning curve when it comes to environmental sustainability. The development path laid out in *Agenda 21* was different from previous approaches, and with each year that passes we

are all gaining experience as to what works and what does not in making development sustainable. Some of the best innovations around the world are still experimental, and it is vital that we learn from these so that good practices can be replicated and failures avoided. The World Bank's project portfolio itself offers a remarkable "living laboratory" from which not only the Bank but others, too, can learn. But we recognize, too, that many of the best innovations come from others, particularly, from locally-led development efforts.

We are convinced that we and other agencies are still not managing knowledge well. Too much knowledge rests in "supply-driven" research reports and not enough in user-friendly systems available on demand to practitioners around the world. Recognizing this gap, the Bank will be investing heavily over the next three years in creating a knowledge management system for development professionals. New information technologies will facilitate this task, so that after a period when the system will be available to our own staff, we will make it directly available online to all. We are seeking partners in this effort. To help put knowledge management into place, we have recently organized our technical staff into "networks" of professional practitioners. They will be responsible for creating and maintaining the skill and knowledge base within their area of responsibility.

5. Measuring Progress Differently

The existing empirical basis in support of sustainable development decisionmaking remains unacceptably very weak. Indicators of whether environmental conditions are improving or worsening, as well as of the efficiency and effectiveness of policies and other management interventions, are essential inputs to better decisionmaking, yet are often lacking. The challenge is to develop better indicators to guide action and to monitor progress.

Indicators of Environmental Change

Working collaboratively over the past five years, the Bank and other international agencies, including the International Monetary Fund (IMF), the UN Statistical Office (UNSTAT), UNDP, UNEP, and various national governments have made significant conceptual and empirical progress in the

development and measurement of policy-relevant indicators of local and global environmental problems. This work has built a critical link between environmental and economic issues. A new Bank publication, *Expanding the Measure of Wealth: Indicators of Environmentally Sustainable Development* (Environment Department, World Bank 1997), highlights sectoral indicators for land quality, updated portfolio indicators on wealth and "genuine" saving (accounting for environmental depletion and degradation), analysis of themes such as poverty and the environment, and new policy indicators. A major innovation is the inclusion of human capital formation in the measures of genuine saving.

Policies and the Environment

The relative success on the ground of various policy reforms in developing countries vis-à-vis their effects on the environment is of great interest. The most straightforward examples of policies of environmental relevance are the so-called win-win policies to eliminate subsidies that damage both the economy and the environment. A new Bank publication, *Five Years after Rio: Innovations in Environmental Policy* (Environment Department 1997), surveys recent experience and assesses the relative performance of a variety of environmental policy interventions implemented since Rio.

Participatory Poverty Assessments

The standard, objective measures of poverty— income, household expenditures, dietary calories—have given way to new measures that recognize that a large part of poverty depends on the perceptions of the poor. To the poor, and particularly to poor women, poverty means much more than low income. It implies lack of access to credit and services, and social as well as economic isolation and vulnerability. Since Rio, the Bank has supported over seventy-two country poverty assessments. Increasingly, these have been participatory poverty assessments (PPAs), which directly engage the poor to share their own perceptions of poverty. These assessments should become part of standard practice as the basis for programs targeted at poverty reduction.

6. Mobilizing and Multiplying Financial Resources for Sustainable Development

Agenda 21 made it clear that progress towards sustainable development would require additional investment and finance. As the largest international development finance agency, the World Bank has a special role to play in helping to mobilize and channel financial resources in the service of sustainable development. There are three imperatives: the level of finance must be raised, the pattern of finance must be redirected, and the need for finance must be reduced.

Raising the Level of Finance

At the time of Rio, most discussions revolved around the need for new development assistance. Almost all industrial countries recommitted themselves to raising their foreign assistance levels toward the target of 0.7 percent of GDP. Unfortunately, this has not materialized. On the contrary, in 1995, development assistance as a share of donor country GNP fell to 0.27 percent, the lowest level in 45 years. This downward trend urgently needs to be reversed. Foreign assistance remains vital for reducing poverty and protecting ecosystems, although this case has not always been made as effectively as it ought.

The International Development Association (IDA) is the World Bank's concessional lending arm that provides interest-free loans to countries too poor to afford the market rates charged by the Bank's regular lending arm, IBRD. Key to the Bank's future role in these countries will be the eleventh and twelfth replenishments of IDA, which will cover the periods July 1996 to June 1999 and July 1999 to June 2002, respectively. The recent replenishment of IDA-11 was very challenging. After extensive discussions, 30 donors committed to contribute to IDA-11, which (when factoring in reflows and World Bank contributions) could lend as much as \$22 billion over the 3-year period.

This year will see the replenishment of the Global Environment Facility, a \$2 billion grant fund to address the global problems of climate change, biodiversity loss, ozone depletion, and the degradation of international waters. It is vital that GEF be replenished at a generous level. To ensure continued cost-effectiveness of its GEF programs, this year the World Bank undertook a

major review of its own processes for implementing the GEF, and as a result, has adopted a number of important changes to streamline processes, improve effectiveness, and mainstream global environmental concerns throughout the Bank's portfolio.

The good news on finance over the past five years is found in the private sector. Since 1992, net private sector flows to developing countries have tripled, and last year reached \$230 billion, five times the flow of official finance. This expansion of private finance has been a surprise, but should not have been. Some developing countries have simply become more attractive to investors. Investors respond positively to stable, well-managed economies with a track record of low inflation and market-friendly policies. More developing countries have followed better economic policies over the past five years, and this is paying off. Unfortunately, these gains have not been achieved across the board. Three-quarters of all private flows went to only twelve developing countries. Over the past three years, all of Sub-Saharan Africa (excluding South Africa) received just 1 percent of total private capital flows. The World Bank is working hard with African governments—and other countries that have not yet succeeded in attracting private flows—to help them create a more attractive business climate for private investors.

While international financial flows are essential for financing development, most of the requirements for investment must come from within developing countries themselves. Here, too, there has been good news. The same policies that are attracting foreign finance are also generating increased domestic savings, although the picture varies greatly across countries and regions. In East Asia, gross savings rates have risen to 38 percent of GDP, in comparison to 20 percent in South Asia, 19 percent for Latin America, and only 16 percent for Sub-Saharan Africa.

Removing pricing distortions can also have a powerful role on resource mobilization—and can often improve the environment at the same time. A dramatic example of this is the case of energy subsidies. In the five years since Rio, we estimate that energy subsidies in developing and transitioning economies have fallen from an as-

tonishing \$200 billion to about half this level. Reducing subsidies frees up resources for investment and dramatically reduces pollution by encouraging greater energy efficiency.

Changing the Pattern of Finance

Not only must the level of finance be raised, but also it must be redirected to finance more environmentally responsible investments. Private investment, in particular, has huge potential for good or harm. Each year, the private sector invests around \$4 trillion worldwide. For the developing world, this figure is around \$1.5 trillion. Worldwide, private investment is six times as much as government investment.

The primary way to ensure that private investment supports rather than undermines environmental sustainability is through sound environmental policies in the host countries. Some encouraging progress is being made here. The World Bank, for example, is assisting seventy developing countries in reforming their environmental policies. In about fifty of these countries, we are beginning to see real progress, although almost all countries still have a long way to go. The environmental policies that are emerging are different from those traditionally followed in today's industrial countries. The "new environmentalism" is more flexible, pro-business and cost-effective than earlier approaches (see box 1.6).

At the international level, there are also opportunities for "greening" private investment.

Box 1.6 Principles of the "new environmentalism"

A recent review of the seventy countries supported by the World Bank in their environmental reforms found the emergence of a "new environmentalism" characterized by the following principles:

1. Set priorities carefully.
2. Make every dollar count.
3. Harness win-win opportunities.
4. Use market instruments where feasible.
5. Economize on administrative and regulatory capacity.
6. Work with the private sector, not against it.
7. Involve citizens thoroughly.
8. Invest in partnerships that work.
9. Remember that management is more important than technology.
10. Incorporate the environment from the start.

Smart private investors are already recognizing that high environmental standards are good for business as well as for ecosystems. This has been the major message of leading groups such as the World Business Council for Sustainable Development. But in some cases, lack of knowledge, coupled with market imperfections, are impeding environmentally responsible investment. In these cases, modest support from official sources can help reduce risk and help generate self-sustaining private investment. As examples, the World Bank Group (through the IFC), in conjunction with the Global Environment Facility, is launching private sector venture capital funds for investments in biodiversity and renewable energy. By so doing, it is possible to generate \$20 of environmental investments for each \$1 of official funds.

Leading private companies are also setting themselves tough environmental standards to guide their own investments. This move is partly in response to pressures from domestic shareholders and public opinion and partly due to a recognition that long-term profitability is likely to depend on sound environmental performance. It is important that such voluntary standards be extended to become the norm among private investors. The World Bank is working with a number of private groups to encourage this process.

Using Finance More Effectively

Moving from the present to a more sustainable development path will require additional resources. But, it need not require as much as is often projected. Many of the traditional investments in the environment have been unnecessary or excessive, due to the lack of concern for cost-effectiveness. Western nations have achieved substantial improvements to their environments, but at an unnecessarily high cost, as "command-and-control" regulations have required specific technology-driven solutions. Today's developing countries cannot afford the high costs incurred by the industrial countries. A growing number of developing countries—as diverse as China, the Czech Republic, and Mexico—are basing their policies and investment plans on careful cost-effectiveness analysis. The World Bank has been supporting many of these countries in this work.

A key element in lowering the costs of environmental improvement is to allow the private sector—corporations, households, farmers—to make the decision as to how to reduce environmental damage. This is the purpose of the so-called market-based instruments. There are many such instruments, including effluent charges, deposit-refund schemes, performance bonds, and tradable permits. The good news is that almost all of them are being tried out somewhere. The bad news is that they are not being tried in enough places.

Such approaches can lead to dramatic savings even at the global level. Consider the issue of climate change, for example. Experts calculate

that it may cost industrial countries around \$250 billion per year to reduce their own carbon emissions to the extent required. Suppose, however, that these industrial countries could purchase reductions in carbon emissions in other countries, where costs are much lower. The annual cost of achieving targets would then fall by about two-thirds to about \$80 billion. The savings of around \$170 billion per year could then be shared among developing and industrial countries. The signatories to the Climate Change Convention will be deciding on whether to allow such “trading” of carbon permits at an important meeting in Kyoto in December 1997.

PART TWO

Responses to Agenda 21

Combating Poverty

Currently, more than 1.3 billion people in the developing world still struggle to survive on less than a dollar a day. In some regions, per capita incomes are actually declining, and crises in agricultural production and the environment promise to put people at greater risk in the years to come. In Sub-Saharan Africa, a child born today is more likely to be malnourished than to attend primary school, and the likelihood of dying before the age of five is the same as entering secondary school. In the face of these challenges, chapter 3 of *Agenda 21* states that “the struggle against poverty is the shared responsibility of all nations” and calls for policies that promote “development, sustainable resource management and poverty eradication simultaneously.”

Progress since Rio

The central objective of the World Bank is to help developing countries reduce poverty. In order to carry out its mission, the Bank has employed a three-fold agenda focused on broad-based economic growth, development of human capital among the poor, and establishment of social safety nets for those who are most vulnerable.

Broad-based Growth

Five areas are crucial for ensuring that the poor are able to maximize the benefits from economic growth:

- *Providing the necessary framework.* In recent years, the performance of low-income economies in South Asia has shown that labor-intensive

growth, rather than depressing productivity, actually engages more people in productive work, and adds to total earnings. Over the last five years, the Bank has allocated \$14 billion for economic reform, \$17 billion to increase agricultural productivity, \$10 billion for education, \$6 billion for urban development, and \$5 billion for water and sanitation.

- *Increasing access to credit and land.* As part of efforts to help the poor gain access to key productive assets such as capital and land, the Bank has supported institutions such as the Grameen Bank and is a partner in the Consultative Group to Assist the Poorest (CGAP), which aims to increase microcredit for poor entrepreneurs. Efforts have been launched in Albania, Niger, and Tunisia, among others. The Bank has also provided key technical assistance to countries pursuing market-assisted land reform. These include Brazil, Colombia, and South Africa.
- *Increasing the productivity of the poor.* Investments in basic education, agricultural extension, and business are essential to improve productivity. In this regard, the Bank has devoted \$17 billion over the past five years to promote productivity growth in agriculture. Increasingly, this assistance is being targeted directly to poor farmers.
- *Making markets work.* In recent years, the Bank has encouraged governments to lift unnecessary and burdensome regulations and taxes on start-up firms. Infrastructure investments have also focused on smaller-scale projects, such as rural roads or urban bike paths, that more closely reflect demand considerations.
- *Helping to overcome discrimination.* In order to help people marginalized by discrimination

reach their economic potential, the Bank has supported efforts aimed at both women and indigenous populations. In the case of women, it is supporting appropriate agriculture technology, the right to own land, and access to child care, education, and employment (also see chapter 17). In the case of indigenous populations, greater emphasis is being placed on local participation and extension efforts that build on local knowledge (also see chapter 19).

Developing the Human Capital of the Poor

To develop the ability of the poor to work their way up from poverty themselves, the Bank has dramatically increased its investments in human capital development, such that 16 percent of Bank lending is now dedicated to this purpose. Basic education is key in this regard, and there are three areas crucial to the Bank's efforts to help poor children:

- *Early childhood development.* Because good nutrition and education in the first few years of a child's life can have a lasting positive effect, the Bank has staked out new territory in recent years by supporting projects that integrate health, nutrition and early childcare services.
- *Primary education.* Although it has long been recognized that education is correlated with income, emphasis has often been placed on higher education to the detriment of primary education. This is particularly true, perhaps, in the developing world. To focus more on the truly poor, the Bank has increased its percentage of education money going to primary education from 34 to 45 percent in the last few years.
- *Educating girls.* Educating girls has a catalytic effect on every dimension of development from lowering fertility rates to raising productivity and improving environmental management. The Bank continues to reiterate this theme and push for increased educational opportunities for girls in regions where they experience discrimination.

Safety Nets

Because most poverty reduction efforts are focused on the working population, some people will necessarily be left out unless specific efforts are designed to meet their needs. These people include the sick, elderly, disabled, those in marginal areas, and those suffering temporary setbacks. The Bank now spends approximately

\$2 billion in safety net operations world-wide, from urban Africa to Mexico to the former Soviet Union.

Lessons Learned

Assessing the impact of Bank efforts to reduce poverty is necessarily complicated by external factors, such as overall economic growth in a country, price shocks, weather, and peace and security. The Bank continues, therefore, to make efforts to refine its evaluation techniques. Nonetheless, important lessons have been learned:

- Cross-country and time-series analyses of new data have confirmed that economic growth is critical in the fight against poverty in all regions of the world.
- Country-specific poverty assessments map poverty using different sources of information, including data on nutrition and education. These assessments can contribute greatly to target poverty reduction efforts and coordinate donor and government actions.
- Improvements must be made in linking poverty assessments, country assistance strategies, the resulting lending program, and dialogue with governments to establish more cohesive and comprehensive strategies.
- Much more needs to be done to improve monitoring of projects to measure the impact of poverty efforts "on the ground."
- Effective poverty reduction requires government commitment, strengthening of available capacity, and increased participation of beneficiaries.

Challenges Ahead

Poverty remains a tremendous challenge that no country has yet overcome. Future efforts must be coordinated among donors, governments, nongovernmental organizations (NGOs), and local communities. They will need to be better targeted, within the capacity of local institutions to implement, and more participatory. To these ends, the Bank will increase its use of country-specific poverty assessments, emphasizing the participatory type, to improve its understanding of the causes and dynamics of poverty, and to refine and tailor its strategy to different country situations. Furthermore, the Bank will monitor more closely the way its country assistance strategies incorporate poverty, and will continue to mainstream participation and social assessment in project design and implementation.

Linking Population with Sustainable Development

The relationship between population and sustainable development remains a complex and highly debated issue. Nevertheless, there is broad agreement that rapid increase in human population puts pressure on natural resources and the environment both directly, through increased need for employment and livelihood, and indirectly, through increased demand for goods and services. In many rural areas, growing populations demanding more food, employment, and livelihood have accelerated conversion of forests and other natural habitats to agriculture and other uses. Landless poor have streamed from rural areas into cities in search of employment, and the resulting rapid pace of urbanization imposes huge environmental challenges. While rural to urban migration eases the subsistence pressure for further encroachment on natural habitats, it increases the market pressure for food, timber, and energy. In addition, urbanization brings with it a whole set of pollution-related concerns stemming from sanitation, industry, energy, and transport. Recognizing the linkages between demographics and sustainability, chapter 5 of *Agenda 21* calls for increased analysis of demographic trends as well as broader dissemination of information on what these trends may portend.

Progress since Rio

Since Rio, the Bank has substantially increased assistance for population programs, and now commits over \$2.3 billion per year for new health,

nutrition, and population projects. As a key compiler of information on social and economic indicators in developing countries, the Bank continues to play a central role in mobilizing and disseminating basic information about demographic trends. It has also worked to incorporate that information into sector work and policy dialogue on linkages between population and sustainable development at the global, regional, and country levels. As a follow-up to Rio, the Bank's report, *Population and Development: Implications for the World Bank*, for the International Conference on Population and Development held in Cairo in 1994 emphasized the importance of linking population policy to core Bank agendas in poverty reduction and sustainable economic development.

Population issues have also gained prominence in the Bank's regional, country, and sectoral strategies. A recent regional example is the strategy for Sub-Saharan Africa, articulated in the Bank paper, *Toward Environmentally Sustainable Development in Sub-Saharan Africa: World Bank Agenda* (1996). As part of the effort to help its client countries formulate integrated national policies to take account of demographic trends, the Bank is seeking to improve the use of demographics in its country assistance strategies, which are the compacts that guide the Bank's work with its borrowers. Similarly, the Bank is exploring the impact of population in its country-level economic and sector work, such as the recent *Population Growth, Shifting Cultivation, and Unsustainable Agricultural Development: A Case*

Study in Madagascar (1994). At the project level, the Bank routinely takes account of projected changes in the growth and distribution of population, especially in such critical areas as water, sanitation, and land use.

Lessons Learned

One of the most important demographic lessons to emerge since Rio, and one which has major implications for the sustainability of economic development, is that *population momentum* is an increasingly important factor driving *population growth* in developing countries, particularly in large countries such as China, India, and Indonesia, where substantial fertility declines have already occurred. Even with these declines, these countries will still experience very large absolute increases in population. The reason is that while the current generation of mothers is having many fewer children than their mothers did, the numbers of new mothers have increased faster than fertility rates have declined. Furthermore, these large absolute increases will occur over the next two to three decades. The Bank has been working with its client countries to increase awareness of the momentum factor and to help them plan how to manage these very large increases effectively.

Another important lesson is that the links between demographics and sustainability are complex. It is intuitively clear that substantially larger numbers of people consuming much more than today and doing so in regions of the world which are already experiencing great environmental stress will have serious consequences. However, understanding the dynamics and measuring the adverse impact of these linkages is a major challenge. Decisions have to be made despite uncertainty and incomplete information. Fortunately, many of the actions that will help to encourage and maintain fertility declines—

increasing household incomes, decreasing child mortality, expanding educational and employment opportunities for women, and increasing access to family planning to help individual women avoid unwanted births—are desirable in their own right. Supporting them to avoid adverse longer-term environmental impacts represents a win-win scenario.

Challenges Ahead

As the world continues to confront the consequences of rapid population growth, the Bank will continue to promote sustainable development by meeting three important challenges:

- *Prevailing on policymakers to think and plan for the longer run.* First recognize the importance of timely actions to complete transitions to lower population growth rates and then develop strategies for coping with the very large increases in population that are upon us. The next two decades offer a onetime window of opportunity for effective action. Actions that fail to consider longer-term consequences will likely have devastating impacts.
- *Continuing the progress that was made in Rio and subsequently in Cairo, Beijing, and elsewhere to put a human face on population issues.* While recognizing the importance of links between population and sustainable development, many NGOs, particularly those representing women's perspectives, called for responses that put individual reproductive rights and health needs first. They grounded their position on basic principles of human dignity and evidence that this approach has been more effective and less costly than top-down efforts driven only by macrodemographic targets.
- *Mobilizing the financial and human resources needed for this effort.* The Bank will continue to play a major role at the policy level to address these issues, and will maintain its increased support for investments to implement programs of effective action in population and the environment.

Protecting and Promoting Human Health

The state of human health is closely linked to development. Impaired health lowers human productivity. At the same time, disease is often associated with poverty, manifested as illnesses caused by inadequate sanitation, malnutrition, or the lack of medical treatment. The poor take the brunt of the health impacts of air and water pollution, because they are the least able to reduce their exposure. They are also more vulnerable, because they are less healthy and less nourished. In order to improve human health, chapter 6 of *Agenda 21* calls for, among other goals, improvements in primary health care, particularly in rural areas; better control of communicable disease; protection of the most vulnerable; and reduction of the health risks from pollution.

Progress since Rio

The Bank's assistance in health has increased dramatically over the past five years. The average annual number of projects has nearly doubled since the early 1990s. Lending commitments for health, nutrition, and population have risen from \$0.9 billion in fiscal year 1992 to \$2.3 billion in fiscal year 1996. The World Bank is now the single largest external financier of health activities in low- to middle-income countries. Health assistance comprises 11 percent of total Bank lending, twice what it was five years ago.

Along with its lending activities, the Bank has contributed significantly to national and international debates on health policy through the following nonlending channels:

- *Policy analysis and research.* The Bank's seminal publication on health, *World Development Report 1993: Investing in Health*, has helped both the Bank and many countries reorder health policy priorities. Other World Bank papers on key topics to improve the quality of Bank work include *Better Health in Africa: Experience and Lessons Learned* (1994); *A New Agenda for Women's Health and Nutrition* (1994); and *Evaluating Health Projects: Lessons from the Literature* (1996). The Bank also cosponsored the Ad Hoc Committee on Research and Development report, *Investing in Health Research and Development* (1996), which will contribute to a global agenda for research addressing issues related to communicable diseases, maternal conditions, microbial threats, noncommunicable diseases, and health policy.
- *Country-specific sector work and dialogue.* Over the last five years, the Bank has undertaken country-based analytical studies in key areas such as financing, health care delivery systems, and health training in Chile, China, India, Jordan, Kyrgyz Republic, Malawi, Mexico, Poland, and Tunisia. These studies have served the dual purposes of educating Bank staff about health issues and client country needs as well as stimulating analysis, debate, and consensus-building among national decisionmakers.
- *Training.* The Bank is increasingly using training as a vehicle for dialogue on health policy, health sector development, and sustainable financing. A recent example was the regional policy seminar attended by ten southern African countries held in South Africa in 1996. A global course will be held in 1997 on health sec-

tor reform and sustainable financing. This course will feature an intensive six-week training program as well as locally adapted courses in six regional partner institutes.

- *Partnerships.* The Bank continued as a sponsor of the Task Force for Child Survival and Safe Motherhood Initiative and participated in major health conferences and scientific meetings. In collaboration with the World Health Organization (WHO) and other international organizations, the Bank hosted the 1997 International Conference on Innovations in Health Financing, the first major conference to focus on the full range of international health financing mechanisms. In its lending program, the Bank is working in consortia with other donors to improve coordination and resource mobilization, as in recent health projects in Bangladesh and Zimbabwe. The Bank also has strengthened its staff and created closer partnerships through secondments of technical staff from the Centers for Disease Control (CDC) and WHO.

Lessons Learned

While there have been dramatic improvements in health status globally, many countries have not progressed as well as expected. More attention needs to be given to ensuring access to cost-effective services, as well as focusing on efficient spending, quality in service delivery, and increased civil participation.

Bank analysis of the global disease burden and the costs of alternative interventions, undertaken over the last four years with WHO, has identified key interventions which are particularly cost-effective. These interventions include management of sick children, immunization, prenatal and delivery care, family planning, AIDS prevention, treatment of sexually transmitted diseases (STDs), chemotherapy for tuberculosis, school health, and tobacco and alcohol abuse prevention.

The importance of participatory approaches that engage clients, beneficiaries, and other stake-

holders in building strong local ownership and commitment has become increasingly evident. A growing number of Bank projects include financing for NGOs and community support. For example, in India the Bank has supported the participation of NGOs in the preparation and implementation of the new Reproductive and Child Health project, which has ensured incorporation of women's perspectives.

Challenges Ahead

To meet the key upcoming challenges to the health sector, the Bank is taking a tripartite approach:

- *Focusing on poverty alleviation.* The Bank will work with client countries to ensure access to high quality preventive and basic curative health services that address the needs of women, children, and the poor.
- *Enhancing resource mobilization and cost containment.* The Bank will work with client countries and the private sector on appropriate public and private roles in health. In middle-income countries, the focus will be primarily on preventing uncontrolled, escalating expenditures and unsustainable systems. In low-income countries, the focus will be on ensuring an adequate level of public funding and on using scarce resources most effectively.
- *Assisting in policy formulation and broad sector reform.* The challenge includes addressing problems such as inefficient, centralized delivery systems, poor management, human resources imbalances, information failures, poor quality of care, inequitable systems, and weak involvement of communities and the private sector. To improve planning, implementation, and health outcomes of projects, the Bank will be developing, in collaboration with other donors and client countries, better indicators to measure performance of health programs.

Promoting Sustainable Development of Human Settlements

Urban consumption patterns in industrialized countries severely stress the global ecosystem, while human settlement conditions in the developing world remain very poor, in part because of low levels of investment. People without income often lack shelter, even in the wealthiest societies. To improve the state of human settlements, chapter 7 of *Agenda 21* calls for a series of reforms and reallocation of resources. These include providing adequate shelter for all, improving management of human settlements, providing integrated environmental infrastructure, supporting sustainable energy and transport systems, and planning more effectively in disaster-prone areas.

Progress since Rio

Housing and land issues formed the mainstay of the World Bank's early urban programs, and the demand for projects in this area is still strong. Since Rio, however, the Bank has engaged in a strategic reconfiguration of its loan portfolio, designing and evaluating settlement projects based on their impact on the housing and urban land market as a whole, rather than focusing narrowly on single project outcomes.

The Bank has also sought to develop new ways to access cost-effective, long-term financing for settlements and services, including the development of mortgage and/or municipal credit markets in those countries with relatively advanced financial markets. To this end, it is facilitating

commercial bank entry into financing housing and land markets by developing projects that appropriately allocate financial, operating, and market risks between governments and private entities. To pool knowledge, share responsibilities, and leverage finances for settlement projects around the world, the Bank has forged cooperative arrangements with other donor agencies such as the United Nations Centre for Human Settlements (UNCHS) (Habitat), the United Nations High Commissioner for Refugees (UNHCR), the United Nations Children's Fund (UNICEF), the United States Agency for International Development (USAID), and the European Union (EU) in the design and implementation of settlement projects. Increasingly, the Bank has sought active stakeholder participation and support—from both governmental and nongovernmental entities (box 5.1).

The Bank's project appraisal and development processes have been adapted to lend in time and more efficiently to reconstruction activities in regions of the world torn by wars or natural disasters. The Bank is leading efforts in post-conflict reconstruction in Bosnia (box 5.2) and in the West Bank and Gaza. It has also responded rapidly to the decimation of settlements by natural disasters, with emphasis on settlements of the poor, who are particularly vulnerable. Emergency reconstruction activities, such as those sponsored after earthquakes in India and Turkey and after floods in Brazil, have focused on the short-term

Box 5.1 The case of El Mesquital, Guatemala

A community cooperative established in response to a health crisis that took the lives of 160 children in 1985 is taking the lead in identifying priorities and helping develop this inadequately serviced suburban area of Guatemala City. Through the identification of priority investments by the cooperative, the World Bank is lending to finance these targeted needs. Land development by extending essential infrastructure services to all of El Mezquital is envisioned to meet the demands of the community, which is paying for services and the purchase of developed land through the cooperative. By developing a targeted lending project that relied on stakeholder input to determine priority needs, the World Bank built grassroots support for the project, improving its chances to succeed.

need to repair shelter in the afflicted areas and restore their essential infrastructure services.

In addition, a new Historic Cities initiative is underway in which the Bank, the United Nations Educational, Scientific, and Cultural Organisation (UNESCO), academic institutions, foundations, and other governmental and nongovernmental entities are collaborating on the preservation and restoration of historic cities as culturally and economically viable entities.

Lessons Learned

Over the past five years, the Bank has learned important lessons about how to improve settlement projects and create a more favorable enabling environment. Experience has shown it is important to:

- Encourage governments to establish more efficient land and housing sector markets through appropriate policy reforms. Also, allow governments to focus their efforts on improving settlements and services for the poor, while not participating directly in the production and financing of shelter projects or delivery of shelter services
- Rethink the orthodoxy of land tenuring and cadastering to create a broader array of products for designing and evaluating land and shelter development projects
- Improve institutional capacities and arrangements to remove land and housing market imperfections and increase service delivery efficiency

- Recognize that infrastructure service delivery is an essential component of sustainable settlement projects
- Use appropriate mechanisms to encourage innovative design and construction of settlements as well as to allow competitive private sector participation
- Consider innovative ways of valuing projects and evaluating impacts related to land improvements, for example, by using target rates of return based on land prices as feasibility indicators for infrastructure projects.

Challenges Ahead

Despite the Bank's strategic refocusing of shelter and land projects, certain obstacles still need to be overcome. They include:

- Mastering the division of roles and the allocation of responsibilities between the public and the private sector
- Designing targeted subsidy programs that factor in affordability and transparency while minimizing the impact on financing arrangements
- Focusing on government's role in ensuring macroeconomic stability that specifically affects long-term finance issues in this sector.

Box 5.2 The case of Bosnia and Herzegovina

As a result of civil conflict in Bosnia and Herzegovina, in addition to the million displaced people, about 50 percent of the housing stock was damaged and an additional 6 percent totally destroyed, with no maintenance over four years. The housing reconstruction program aims to create conditions to enable the return of refugees and the displaced and to rapidly expand the usable housing stock for the entire population cost effectively. In addition, the program provides institution-building, management, and implementation support for designing appropriate housing policies. Although much has been achieved through the support for locally driven reconstruction by the World Bank, nongovernmental organizations, and other multi- and bilateral agencies, the situation in Bosnia and Herzegovina needs sustained support.

Among the lessons gleaned following a year of implementation has been the need to coordinate actions among donors, streamline contracting procedures for labor and materials, integrate infrastructure rehabilitation in the process, and maintain realistic expectations of outcomes.

Protecting the Atmosphere

Atmospheric pollution is an enormous and growing concern throughout much of the world, causing widespread health problems, particularly for the young and the elderly. Atmospheric pollution has caused ozone depletion and threatens to bring about climate change with widespread repercussions. To reduce pollution and protect the atmosphere, chapter 9 of *Agenda 21* calls for greater investment in scientific research, the promotion of sustainable development, the prevention of ozone depletion, and agreements to handle transboundary pollution issues, among other measures.

Progress since Rio

As evidence increasingly suggests that the old "pollution control" paradigm is no longer adequate, the Bank has shifted its emphasis in recent years to *environmental management*. Currently, the Bank has committed approximately \$526 million to 55 atmospheric pollution projects in 32 countries through the Global Environment Facility (GEF) and Montreal Protocol (MP). Of these projects, 7 are through IFC for \$29 million, and 1 is through the Inter-American Development Bank (IDB) for \$3 million. All the projects strengthen institutional capacity to monitor and enforce environmental management and, where appropriate, establish a sound regulatory and planning framework. Solutions being applied with the Bank's assistance involve privatization and public sector reform, movement toward financial sustainability through user charges and management autonomy, and the establishment of clear priorities to ensure that

environmental projects address the most important problems and do so in a cost effective way.

A prime area of focus is the effort to reduce atmospheric pollution ozone depletion caused by chlorofluorocarbons (CFCs). When countries around the world signed the Vienna Convention for the Protection of the Ozone Layer and its associated Montreal Protocol. They made a commitment to phase out all CFCs by 2010 (1996 for Organisation for Economic Co-operation and Development nations). The World Bank has participated in a number of initiatives designed to support its client countries as they attempt to meet these obligations:

- *Montreal Protocol*. Since 1991, as an implementing agency for the Multilateral Fund for the Montreal Protocol (MFMP), the Bank has approved over 460 investment projects (about 40 percent of all MFMP investment projects) at about \$210 million (nearly 50 percent of MFMP investment project resources). These projects have resulted in an annual phaseout of over 7,800 tons of ozone-depleting substances (ODS) weighted for their ozone-depleting potential and will ultimately result in an annual phaseout of over 42,000 tons.
- *Global Environment Facility*. Many countries with transition economies are not eligible to receive financing from the MP but are eligible under the GEF. Through the Bank as an implementing agency, the GEF is financing ODS phaseout in six economies in transition, including Russia. The value of the approved projects is now over \$85 million. They will ultimately result in an annual phaseout of over 18,000 tons of ODS.

- *ODS production phaseout.* The Bank is supporting a special initiative to help the Russian Federation phase out ODS production. Although ODS consumption in Russia has fallen over recent years, this trend could be undermined by the continuing availability of locally produced ODS. Illicit trade in Russian CFCs in Europe, North America, and developing countries also undermines the world community's efforts to phase out all CFCs. The production phaseout is probably the most cost-effective large-scale ODS phaseout in the world. In another special initiative, the Bank has been working with the Government of China on a pilot to phase out over 35,000 tons of ODS annually in the halon sector, used primarily in fire protection systems.
- *Market-based instruments (MBIs).* In 1996, the Bank undertook a study on market-based instruments to support ODS phaseout. The study identifies potential applications for conventional MBIs, such as taxes and tradable production permits, and recommends a national bidding system for MFMP grant distribution. A national auction would reduce costs to the MFMP since firms would have to compete for the Fund's resources and would have incentives to minimize their conversion costs.
- *Hydrocarbon refrigeration.* The Bank and the Governments of Germany and Switzerland have initiated a study on the global hydrocarbon domestic refrigeration market. The study's purpose is to evaluate the barriers faced by hydrocarbon technologies, determine whether they enjoy a level playing field relative to other alternatives, and assess their comparative environmental benefits.

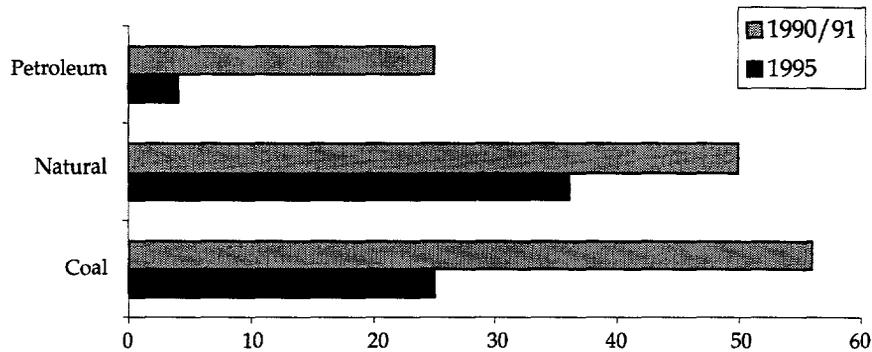
A second area of focus in the effort to reduce atmospheric pollution concerns the threat of global climate change. To meet the objectives of the 1992 United Nations Framework Convention on Climate Change (FCCC), nations will be compelled to improve energy efficiency and reduce reliance on fossil fuels. The Bank has taken the lead in helping countries reduce emissions and enhance sinks of greenhouse gases through a number of measures.

- *Mainstreaming climate change.* Evidence is growing that macroeconomic policy changes will strongly affect future greenhouse gas (GHG) emissions and that, in many cases, it is in a country's best interest to pursue actions that also capture climate change benefits. Foremost

among these win-win opportunities is the elimination of subsidies which damage both the economy and the environment. Preliminary results from tracking the changes in fossil fuel subsidies in Eastern Europe show that total subsidy levels on coal, natural gas, and petroleum products dropped from \$14.4 billion in 1991 to \$6 billion in 1995, 4.3 percent of the region's combined gross national product (GNP). Improvements in energy efficiency also reduce GHG emissions while aiding economic growth. Increasing evidence shows that, more than any other factor, changes in economic structure affect the future path of energy intensity and GHG emissions. A joint study by the Chinese Environmental Protection Agency, the State Planning Commission, the UNDP, and the World Bank isolated the factors that are responsible for reducing the energy intensity of the Chinese economy below the level that would be reached with static production technologies. Some 79 percent of the total expected decline in energy consumption per unit of output is a consequence of changes in the structure of Chinese industrial production. Macroeconomic and other policies can therefore have a larger impact on GHG emissions than any explicit mitigation option at the project level.

- *Global Environment Facility.* As a GEF implementing agency, the Bank emphasizes in its programming emissions abatement opportunities that are cost effective from a long-term global environmental perspective. Renewable energy and energy efficiency have been the major foci of investment activity. To date, the GEF Council has authorized \$220 million in GEF cofinancing of Bank renewable energy projects and \$92 million in energy efficiency investments (see figure 6.1). On average, each dollar of GEF financing has leveraged approximately four dollars in complementary private sector, World Bank, and other official capital flows.
- *Activities implemented jointly.* Activities Implemented Jointly (AIJ) under the FCCC AIJ Pilot Phase implies that countries contract with parties in another country to reduce that country's GHG emissions. AIJ can be an important mechanism for stimulating additional resource flows for the global environmental good. With Norway's cofinancing, the Bank has expanded its collaborative AIJ Work Program to clarify how AIJ and other market mechanisms can promote the Bank's client countries' interests.

Figure 6.1 Fossil fuel subsidy rates in five countries in Eastern Europe (percent)



Note: Liberalization in five Eastern European countries (Bulgaria, Former Republic of Czechoslovakia, Hungary, Poland, and Romania) has led to dramatic decreases in implicit and explicit subsidies on fossil fuel. Total fossil fuel subsidies fell from \$14.4 billion in 1990/91 to \$6 billion in 1995, a drop of 4.3 percent of GNP.

Source: International Energy Agency, World Bank, and calculations by John Dixon and Kirk Hamilton, Environment Department, World Bank.

Lessons Learned

Concerning national atmospheric pollution and ozone layer protection, perhaps the principal lesson learned is the need to shift priorities in developing countries. From an earlier preoccupation with setting standards and finding resources, environmental managers are increasingly recognizing the importance of cost effectiveness in formulating and applying solutions. Efficient resource allocation and "bang for the buck" have become post-Rio watchwords.

Regarding the protection of the global climate system, a different cost-effectiveness ethic prevails. Here the preoccupation must be on the efficiency of expenditures over the long term. Viewed in these terms, and given the enormity of the climate change problem, leveraging change takes on heightened importance. Influencing official development assistance and private sector resource flows must be a priority.

Challenges Ahead

The challenges in reducing atmospheric pollution lie in two principal domains. The severity of national and global pollution problems strengthens the case for identifying and implementing win-win policy reforms and investments. However, it is not clear how much such efforts will accomplish by themselves.

Going beyond win-win will require a concentrated commitment to mainstream pollution externalities into development planning and decisionmaking. Environmentally friendly alternatives should be evaluated early in the policy and investment cycle, and new resources must be aggressively mobilized to support these alternatives. This will also help identify the underlying synergies in addressing global, regional, and local pollution problems.

Managing Land Sustainably

Proper planning and effective management of land resources is necessary to protect the environment and ensure our future ability to gain sustenance from our surroundings. With this in mind, chapter 10 of *Agenda 21* calls for new approaches to conserving and protecting limited resources such as soil, fresh water, and vegetation. Signatories agreed to link social and economic development with environmental protection and, where possible, environmental enhancement. To achieve this goal, the chapter lists a number of management-related activities that nations and the development community should implement, recommendations in support of efforts to improve data and information systems, and a call for international and regional coordination and cooperation.

Progress since Rio

Since Rio, the Bank has been a key partner in assisting client countries with the development of policies and methodology related to land use planning and land management. One important role the Bank has played has been providing advice and helping arrange technical assistance for National Environmental Action Plans (NEAPs). The development and implementation of land use policies, land tenure systems, and land use planning processes are all recognized as key activities under the intensive environmental planning required by NEAPs. Moreover, to inform its country assistance strategies, the Bank has prepared Country Environment Strategy Papers (CESPs),

which include discussion of land policy issues, for Albania, Belarus, Bulgaria, Côte d'Ivoire, Ethiopia, Hungary, Iran, Kenya, Mali, Mauritania, Romania, Tanzania, Uganda, and Zimbabwe. As a result, most of the current projects in the Bank's agricultural and natural resources lending portfolios have environmental objectives with land use components. Examples are:

- *India Watershed Plains project.* Through the introduction of replicable soil conservation practices such as planting vetiver grass and reforestation, the project seeks to contribute to the reversal of ecological degradation in a variety of agroecological zones covering 265,000 hectares in the rainfed and dryland areas in the states of Gujarat, Orissa, and Rajasthan.
- *Mali Natural Resource Management project.* The project will introduce a land use system designed to reverse natural resource degradation in 150 farm communities. The nature of resource enhancing investments are being defined by local committees and include such practices as stone contours, water harvesting, and improved forest and wildlife habitat management.
- *China Loess Plateau project.* The project is aimed at increasing agricultural production and income in nine tributary watersheds of the Yellow River, while reducing soil losses with various conservation practices. These practices include terracing on slopes between 5 and 25 degrees, expanding forest cover from 14 percent to 28 percent of the land area, and constructing sediment control dams.

The Bank has also been very active in supporting the development of Forestry Action Plans, such as those for Ethiopia and Tanzania, which employ an integrated approach to the management of land resources. In addition, the Bank has supported several subregional initiatives, such as the Desertification Control Initiative in the Middle East and the Collaborative Research Initiative for Sustaining Rice-Wheat Cropping Systems in the Indo-Gangetic Plain, which address the issues of conflicting land uses and suboptimal land management.

In countries with highly skewed land ownership, redistributive land reform can have high equity *and* efficiency benefits. This is not a new insight, but land reform was discredited during the 1980s under the weight of unduly high-cost, government-administered land acquisition and redistribution programs. At that time, no practicable alternative was in sight. However, since Rio, the Bank has developed the concept of negotiated, or market-assisted, land reform and has provided technical assistance to countries interested in piloting this approach, including Brazil, Colombia, Guatemala, and South Africa. Together with the Food and Agriculture Organization of the United Nations (FAO) and the International Fund for Agricultural Development (IFAD), the Bank is establishing a learning network of interested partners.

Lessons Learned

Much has been learned since Rio about what kinds of land use planning and resource management work best. These lessons include:

- Land resource use will be most efficient when all stakeholders are involved in the negotiation and decisionmaking processes.
- Resource management must be pursued at the community level, using demand-based approaches. In rural areas, individual farmers, both men and women, as well as farmers' organizations, are crucial resources and must actively participate in planning and decisionmaking.
- Land registration facilities can have high payoffs in terms of increased on-farm investments and incomes, in circumstances where land disputes are common and land transitions are high-cost or high-risk.

Challenges Ahead

The main challenges facing the Bank, its clients, and partners in the upcoming years are:

- *To put in place all the ingredients of sustainable land management.* These include: improved technologies, land reform laws and regulations, and supportive institutional mechanisms at local and national levels. It will also be necessary to show through pilot projects that, by taking a longer view, farmers can increase production and increase their net returns by adopting environmentally friendly practices. Recently, the Bank helped launch an international consortium, the Soil Fertility Initiative, to disseminate appropriate technologies for organic and inorganic fertilizer, erosion control, and water management, as well as economic valuations of soil fertility benefits.
- *To develop decentralized information systems on land-related issues.* These include use of reliable indicators to assess and monitor changes in the conditions of the land and availability of this information to all stakeholders, including those at the grassroots. This will require innovative thinking and increased international and national coordination to develop (1) appropriate information dissemination systems, and (2) education and training on how to use the information as well as on how to negotiate on a more equal basis with other classes of stakeholders, such as commercial interests. Together the Bank, UNEP, UNDP, FAO, and the Consultative Group on International Agricultural Research (CGIAR) have launched a new program on land quality indicators.
- *To merge urban and rural interests by recycling usable organic wastes from urban communities for agricultural purposes.* This process includes use of compost and municipal solid waste to improve soil health and productivity, wastewater reuse for irrigation, and sewage-fed aquaculture. There are some successful waste recycling programs around the world, but for the following reasons the time is now right to make these practices universal: social behavior is changing from "throw away" to "recycle," and conventional methods of disposing of waste are becoming scarce, expensive, and/or socially and environmentally unacceptable. Moving in this holistic direction will have win-win benefits.

Combating Deforestation

Forests are immensely important to the world's ecology, affecting the climate both locally and globally, sequestering carbon, preserving rainwater, supporting biodiversity, and providing important renewable resources. Poor policies throughout the world, however, have caused widespread damage to forests or led to deforestation. In recognition of the need to reverse these trends, chapter 11 of *Agenda 21* calls on nations to strengthen the institutions in charge of conservation and management of forests and improve the level of knowledge and skills necessary to carry out these tasks.

Progress since Rio

Forest policy represents a relatively new concern for the World Bank. *The Forest Sector: A World Bank Policy Paper* was first printed in September 1991. That paper reflected the concern over rapid deforestation in the developing world, notably in tropical forest countries. It proposed a strategy based on international cooperation (particularly, transfers from richer countries to encourage biodiversity conservation and carbon sequestration in forested areas), policy reform and institutional strengthening in the forestry sector, resource expansion, and protection of valuable intact forest areas.

Since the Rio conference, the Bank has continued to invest in forest protection and sustainability, giving stronger emphasis to major cross-cutting issues such as poverty alleviation and participation in its interventions, and pursuing much more extensive partnerships with

NGOs and other interest groups in their implementation. Since 1992, the Bank has invested in approximately sixty projects with a major impact on forests—a total of \$3.1 billion in lending and associated cofinancing loans or grants. In addition, since 1992, the Bank has processed disbursements of approximately \$1.7 billion under the Global Environment Facility. Much of this has been directed toward projects involving forest biodiversity in some significant way. Although the assessment is subjective, most operatives in forestry within the Bank, in major NGOs, and in client governments believe that, since Rio, the Bank has worked both more extensively and more successfully with other interest groups in its forest-related programs. The Bank has participated in major international forest-based initiatives, such as the Intergovernmental Panel on Forests and the World Commission on Forestry, both of which are due to present findings to the United Nations Council on Sustainable Development later in 1997.

In 1994, the Bank reviewed implementation of its 1991 sector policy in its forestry portfolio. That review found that although significant progress had been made since 1991 in project design, the rate of deforestation has remained stubbornly high, at around 15 million hectares per year. In many countries, forests remain seriously undervalued, and controversy over objectives and practices continues to be a serious problem. The 1994 report recommended targeting poverty, integrating conservation and production objectives more successfully, stimulating appropriate

private sector investment, and monitoring non-forestry activities more closely for their impacts on forests.

Lessons Learned

In the years since Rio, the Bank has learned some important lessons about what is causing forests to become degraded or destroyed, but less about what can be done to stop this process.

Deforestation and the more hidden, but potentially far more extensive, problem of forest degradation occur because forests are undervalued in terms of their outputs (wood and non-wood) and their intrinsic value.

Because of poor incentives, different interest groups are not properly discouraged from using forests in an unsustainable manner.

- Commercial interests take a short-term, exploitative approach often utilizing powerful political and economic influence to achieve their ends.
- Poor communities living in or near forests are excluded from any meaningful share or role in the sustainable use of the resource, and thus turn to deforestation and conversion to other forms of land use as the only alternatives.
- Government agencies and others responsible for forest land decisionmaking frequently sanction or promote deforestation and conversion options, where proper evaluation and analysis would preclude them.

It is clear that efforts to preserve forests by denying people access to them will not work in the regions where deforestation is occurring most rapidly. Therefore, sustainable forest use, with adequate and well-planned zoning, is the best hope of stemming forest and biodiversity loss in most of the remaining natural forest which is accessible for human use. But such a pattern of use will only emerge if:

- Governments, donors, and other interest groups agree on reasonably detailed policy and institutional reforms.
- Governments then act to implement such changes, and donors act jointly to support these changes.
- The international private sector mobilizes more effectively, both on the supply side, by invest-

ing in sustainable options in forested countries, and on the demand side, by exercising strong preference for forest products from sustainably managed forests.

Challenges Ahead

To contribute to achieving these changes, the Bank will need to alter its approach to combating deforestation in various ways. These include:

- Interventions in the forests will be prioritized, according to the scale of the environmental, social, and economic impact in each case.
- In high priority countries or regions, an attempt will be made to develop a consensus on needed reforms and investments by working with client governments, other donors, and other interest groups including the NGO community and the private sector.
- After a strategy for change is agreed, the instruments available to the Bank—especially those related to major adjustment and country strategy implementation—will be reviewed for each priority country and included in a program of intervention in the sector.
- This strategy will be designed in close consultation with partners in government and other interest groups, so that a coordinated and effective effort is mounted.
- When designing its own interventions, the Bank will take greater account of other donor and interest groups' ongoing or projected programs. The Bank will also develop new or expanded ways of working with partners in the forestry sector. These include joint donor-private sector-NGO financing and implementation of major forests projects in selected countries, consultative mechanisms aimed at production of joint strategies and program design, and support for certification and other market-oriented mechanisms for improving incentives for sustainability.

These contemplated changes will not be easy, and the success of the new approach will rely heavily on finding common cause with clients and other partners. Even where agreement is possible, it may involve a prolonged consultative process, during which the Bank (and others) may have to postpone previously planned investments until sufficient direction has been attained. The effort to combat deforestation has been joined, but, clearly, much remains to be done.

Managing Fragile Ecosystems: Combating Desertification and Drought

Arid and semiarid lands are among the world's most inherently fragile ecosystems. Often, the same qualities that make these areas fragile also make them ecologically important, as their unique properties contribute to biodiversity in the regions themselves and to global biodiversity collectively. As a result, human encroachment on these fragile ecosystems, especially unsustainable use, can cause disproportionate harm to the environment and, ultimately, to people as well. To protect drylands ecosystems, chapter 12 of *Agenda 21* calls for improvements in the knowledge base, efforts to conserve soil and promote forestation, and programs to fight poverty and help drought-prone areas.

Progress since Rio

Chapter 12 of *Agenda 21* contains six program areas, each of which outlines measures at international, regional, national, and local levels to prevent and reverse the degradation of drylands resources.

At the international level, the most important action since Rio has been the conclusion of the negotiations on the Convention to Combat Desertification and subsequent ratification by state parties sufficient for it to enter into force on December 6, 1996. The convention places heavy emphasis on the involvement of nongovernmental organizations and the need for community-based, "bottom-up" approaches involving all stakeholders in drylands planning and management. The World Bank supported the convention during its drafting and negotiation and

anticipates being an active partner in its implementation by bringing an array of instruments to bear. By engaging in policy dialogue, providing technical assistance and project financing, and assisting in project implementation, the Bank looks forward to working with member states in addressing the challenge of desertification in its environmental, economic, and social dimensions.

From 1990 to 1995, the Bank financed 108 projects to improve natural resources management in drylands areas. The Bank's contribution totaled \$6.8 billion and leveraged an additional \$13.4 billion. Within this portfolio, 34 projects dealt primarily with land degradation. Bank financing for this portion totaled over \$1.3 billion and leveraged an additional \$0.9 billion. At present, 57 Bank-financed projects directed towards desertification problems are under preparation. Over the next three years, these project proposals are expected to result in an additional Bank funding commitment of \$2.3 billion and to leverage an additional \$2.7 billion.

Lessons Learned

Common characteristics of successful drylands projects are that they:

- Focus on the positive synergies among poverty reduction, economic efficiency, and environmental protection
- Are developed with, not for, the beneficiaries
- Are based on an integrated approach to natural resources and environmental planning and management, utilizing country-driven national environmental action plans (NEAPs).

An important lesson from earlier projects is that benefits cannot be adequately measured in terms of average outcomes. The focus has to be on probable outcomes and has to address the key question faced by drylands peoples: What can be done in an abnormally dry year? Well-intentioned drylands management projects will fail if they do not address, or reinforce, coping mechanisms in dry years.

An additional important lesson is that traditional knowledge, even more in drylands than elsewhere, is especially valuable. As rainfall declines, coefficients of variation increase. For drylands peoples, a dry year can be a matter of life or death, first for livestock, and second for human beings. Understanding traditional coping mechanisms and bringing them to the fore in project preparation are vital for successful project design.

Challenges Ahead

The 1996 ratification of the Convention to Combat Desertification was a major accomplishment. Major future challenges are:

- The analytical justification for investment in drylands management, rather than in health and education, is to enable drylands peoples to become more productive migrants. This justification has to be more clearly established. Doing so will require creative valuation of the multifaceted benefits of thriving drylands economies. Without this correct analysis being made widely available, governments and donors will invest elsewhere.
- The interrelation between extensive "rainy season" pastoralism and concentrated "dry season" forage resources has to be much better understood so that government policies and regulations can be based on full valuation of alternatives. In northern Nigeria and elsewhere, by greatly improving crop yields in low-lying depressions, *fadama* (gently sloping bottomland where water gathers) development has been widely hailed as successful. These low-lying areas have played an important, perhaps critical, role in providing dry-season forage for livestock that could be extensively grazed in "arid" areas during the rainy season. If the critical limit to extensive pastoralism is access to dry-season forage, *fadama* development has high opportunity costs that should be taken into account in assessing options.
- The question of *who* gains or loses must be addressed. *Fadama* development may be beneficial in aggregate, but what if the beneficiaries are relatively well-off sedentary crop farmers and the losers are relatively poor transhumant pastoralists? Compensation mechanisms will have to be devised if social, and perhaps political, problems are to be avoided.

Linking Sustainable Agriculture and Rural Development

As population continues to increase, most notably in developing countries, one of the great political and technological challenges facing the world is the need to increase food production sustainably. Chapter 14 of *Agenda 21* proposes a number of program areas aimed at meeting this challenge. It argues that the priority is to increase productivity of land and water already in use in order to avoid further encroachment on marginal land and natural, often forested, habitat. Chapter 32 of *Agenda 21* emphasizes the need to (directly) engage farmers and strengthen their roles.

Progress since Rio

Globally, the best measure of the adequacy of food supply to meet demand is the trend in world grain prices. Despite a sharp rise during 1994-1996, grain prices in 1997 are at almost the same levels as in 1992. This suggests that a large part of the challenge has been met, in the short run at least. But:

- Has productivity increased? Although no single index is appropriate, a good indicator is the trend in world grain yields. These yields grew at an annual rate of 2.1 percent during the 1980s but fell to less than 1 percent during the 1990s.
- Has encroachment declined? Again, no single indicator is appropriate, but it is very disturbing that the rate of deforestation in the tropics, of which agricultural encroachment is the principal cause, has not declined.
- Has sustainability improved? In view of the acute measurement problems, this question is

hard to answer. Techniques such as conservation tillage, integrated plant nutrition, and integrated pest management are being promoted in many Bank-financed projects and are being adopted more widely but not nearly fast enough.

Progress has been made in several programmatic areas in many countries. Working with a variety of partners, the World Bank has made major changes in its approach to rural development:

- In rural sector strategy and policy formulation, the scope of analytical work has been broadened from the agricultural sector to the wider rural economy, with sector adjustment operations incorporating win-win measures, such as removal of subsidies on agrochemicals and land tenure reform.
- As countries move beyond adjustment, time-slice funding of the public expenditure program, or sector investment lending, becomes possible. Earlier innovations in Morocco and Tunisia have recently been carried further in Zambia, where 150 projects supported by 20 donors have been integrated into an overall sectoral expenditure program. Similar exercises are coming to fruition in Kenya and Pakistan.
- In rural development, a "matching grant" approach to local and community-driven development was undertaken in northeast Brazil. This approach has turned around a large, poorly performing portfolio of area development projects and made it a flexible, participatory, and cost-effective poverty reduction program.
- In irrigation and drainage, the perennial operations and maintenance problem can be reduced

by transferring responsibilities for operations and maintenance from centralized or regional irrigation agencies to local users' associations. This was first shown on a large scale in Mexico, has been rapidly adopted in Turkey, and is being widely disseminated through a worldwide Participatory Irrigation Network.

- In natural resources management, a community-based approach to resource allocation, enforcement, and maintenance has proven successful in such diverse circumstances as Burkina Faso and southern Brazil. These experiences were started prior to Rio, but the evidence of success has come later.
- In rural finance, the emphasis has shifted from providing agricultural credit to supporting the development of rural financial services. This change was pioneered by nongovernmental organizations and predates Rio, although support for it has lately gained momentum, culminating in the 1997 Microcredit Summit. The Bank has supported successful institutional innovation in providing microfinance to the poor in circumstances as diverse as Albania (village funds) and Benin (savings and loans associations).
- In land policy and land reform, the Bank has led the development of new market-assisted approaches to redistributive land reform in South Africa and in Latin American countries including Brazil, Colombia, and Guatemala. Farm restructuring has also received much attention in Central Asia and Eastern Europe.
- Recognition is widespread in the Bank and, increasingly, in client governments, other donors, and civil society that public expenditure has to be focused on public goods and that government need not deliver such goods itself (or through parastatal organizations). During the 1980s, much effort was put into parastatal reform in the misguided belief that parastatals could be reformed. During the 1990s, the focus is on the more profound questions: What functions warrant public funding? What is the best delivery mechanism among the many (nonpublic) options?
- Public support of farmer organizations is justified for three reasons: (1) it provides a public good that would not otherwise be provided; (2) it ensures better quality and more cost-effective public (and private) rural services by a more demanding, contributing, and sophisticated clientele; and (3) it contributes to sustainable development because of the resulting increased capacity to manage and fund farmer organizations.
- There is now widespread recognition in the Bank and elsewhere that participation *matters*. The concept is not new but was often treated as a promising idea that needed to be tested. Now, the evidence is in. Participation is at the core of the progress recorded above in rural development, irrigation, and drainage, and natural resources management.

In institutional development, the Bank supported three different but related approaches: (1) decentralization of government (for example, in Brazil and Colombia), (2) empowering farmers (as in Burkina Faso and Mali), and (3) involving the private sector (for example, Chile, Estonia, and Nicaragua). The Bank has focused more on sustainable agriculture through support to farmers' organizations that aim to manage common resources more sustainably, market produce and ensure input supply, and ensure security of tenure. Also, over the past five years more women farmers were positively affected by Bank-supported projects than before.

Lessons Learned

Four lessons stand out because they cut across the diverse domains in which progress has been recorded.

Challenges Ahead

Three principal challenges lie ahead:

- *Complacency.* The success to date of agriculture in feeding the world has induced widespread complacency in governments, donors, and much public discourse. On the donor side, official development assistance (ODA) for agriculture has declined by 50 percent over the last decade. Interest was reawakened during the 1994-1996 grain price spike but soon dissipated. Attacking complacency is a major challenge to meeting the objectives set out in chapter 14 of *Agenda 21*. In most countries, significant poverty reduction still requires effective rural development. Therefore, the Bank has designated rural development as one of its six thematic priorities and will shortly issue its action plan, *Rural Development: From Vision to Action*, which the Bank will seek to implement with its many partners.

- *Research and information.* Obtaining increased productivity of land and water already in use will require a substantial, sustained investment in agricultural research. In many countries, particularly in Africa, investment in research is declining. Private investment in agricultural research, which far exceeds public spending, has probably increased over the last five years. This is to be welcomed, but the limits of private research have to be recognized. Many aspects of sustainable farming systems will not generate benefits that can be appropriated and thereby remunerate private research. Worldwide, investment in the Consultative Group on International Agricultural Research by its fifty-three public and private sector members declined in the early 1990s. Although this decline has been reversed, strong efforts will be required to retain the recent gains.
- *Information technology.* A related challenge is to increase investment in information technology to inform and empower rural people. It has enormous and often recognized potential, but there is still very limited investment in making it work for the rural poor.
- *Incentives.* Sustainable farming systems are more information-intensive than input-intensive. Sustainable farming will require more labor, and more skilled labor and management, than current farming systems. When incomes rise rapidly, as in much of East Asia, the opportunity cost of the extra skilled labor input required to farm more sustainably will increase and could offset gains made from reduced input use or higher yields. Farmers could find less sustainable farming more profitable. In this event, fiscal measures and/or regulations would have to be devised and enforced to promote sustainable farming. OECD countries have put in place a wide variety of such measures. Assessing when such measures will be required in developing countries and finding workable solutions for putting them in place will be a formidable challenge.
- *Pluralism.* It is easy to see how different types of farmers need different types of services, supplied by and paid for through different mechanisms. One major question will be the role of government: facilitator, implementor, financier, controller, or a combination thereof? Making the case for further strengthening the role of farmers will require better justification on economic, technical, environmental, and political grounds. Therefore, better indicators and more participatory mechanisms to use them need to be developed and employed.

Conserving Biological Diversity

The conservation and sustainable use of biodiversity, and the fair and equitable sharing of the benefits arising from its use, are fundamental to socioeconomic development and poverty alleviation. While biodiversity is being lost at an alarming rate, the welfare of the world's rural poor continues to be closely linked to biological resources, which often provide subsistence in the form of food, supplies, medicines, and shelter as well as employment and income from marketed biological products. In addition, biodiversity loss may rob future generations of genetic varieties that could be very important in medicine or new technology. Chapter 15 of *Agenda 21* calls for the entry into force of the International Convention on Biological Diversity (CBD), along with other measures to preserve genetic resources and promote sustainable development.

Progress since Rio

Many of the Bank's client countries have ratified the Convention on Biological Diversity. By doing so, they have formally acknowledged the priority they accord to conserving and sustainably using the world's biodiversity and protecting the ecological processes that shape and sustain it. The Bank is committed to helping its developing country partners meet their CBD obligations. Following considerable consultation with external stakeholders and partners, in fiscal 1996 the Bank finalized its Biodiversity Assistance Strategy (see *Mainstreaming Biodiversity in Development: A World*

Bank Assistance Strategy for Implementing the Convention on Biological Diversity, 1995) and presented it to the Second Conference of the Parties to the CBD in Jakarta. Underlying the strategy is the recognition that, while protected areas are important and necessary, they are not sufficient for biodiversity conservation. The reason is that significant biodiversity is located in land- and water-scapes outside protected areas, and the opportunity cost to developing nations of not using these resources is prohibitive. This strategy now guides the evolution of Bank support from the traditional focus on targeted government-led conservation efforts toward "mainstreaming" biodiversity concerns.

Targeted Conservation Efforts

Bank biodiversity lending has grown rapidly in recent years and totals \$956 million for 101 projects or project components in 56 countries. Of the total commitment, \$619 million represents borrowing by client countries through IBRD loans or IDA credits, and another \$337 million exists as grants to client governments from the Bank-administered Global Environment Facility or the Brazil Rain Forest Trust Fund. This investment has leveraged an additional \$536 million from other donors and borrowing governments, bringing the total commitment since 1988 to \$1.34 billion.

In addition to projects and project components with specific biodiversity objectives (the biodiversity portfolio), the Bank has supported many

other environmental projects (the environment portfolio) that may also have positive, although indirect, impacts upon biodiversity. Of these environmental projects, those aimed at improving natural resources management ("green" projects) and those designed to strengthen environmental institutions ("institutional" projects) may help conserve biodiversity through improved natural resources management and development of appropriate incentives and policies.

Mainstreaming Biodiversity in Productive Sectors

As part of its commitment to incorporate biodiversity into all its lending, the Bank finalized its Operational Policy on Natural Habitats (OP 4.40). This policy recognizes loss of natural habitat as the main threat to biodiversity and commits that the Bank will not support projects involving the significant conversion or degradation of critical natural habitats. Wherever feasible, other natural habitats are also avoided entirely by locating projects on lands already cleared or converted. Where avoidance is not feasible and environmental assessment indicates that a project would significantly convert or degrade natural habitats, the Bank requires that the project include acceptable mitigation measures, such as the establishment and maintenance of an ecologically similar protected area.

A key element of the Bank's Biodiversity Assistance Strategy is development of biodiversity-friendly sector policies and programs. For this purpose, in 1995 the Bank launched its Global Overlays Program, which seeks to develop the conceptual framework and toolkit for mainstreaming global environmental objectives in national environmental planning and Bank operations. The initial focus of the Global Overlays Program has been on mainstreaming biodiversity conservation in agricultural development. Toward this end, *Mainstreaming Biodiversity in Agricultural Development: Towards Good Practice* was presented to the Third Conference of the Parties to the CBD in Buenos Aires in November 1996 (published World Bank 1997).

Partnerships

The Bank's Biodiversity Assistance Strategy recognizes that successful conservation depends on active partnerships among stakeholders—government, local communities, the private sector,

NGOs, and international institutions. To this end, the Bank has worked actively with Conservation International, the World Conservation Union (IUCN), the World Wildlife Fund, the World Resources Institute, and many other national and international NGOs to explore the possibilities for support mechanisms to amplify the effectiveness of existing government-led conservation activities through NGO and community-based actions.

With its partners, the Bank has also provided support for biodiversity conservation by preparing regional biodiversity strategies and priority-setting exercises. For example, in collaboration with World Wildlife Fund, the Bank undertook a key priority-setting exercise for terrestrial ecoregions of Latin America and the Caribbean, *A Conservation Assessment of the Terrestrial Ecoregions of Latin America and the Caribbean* (World Bank in association with World Wildlife Fund, 1995). This book provides a regional overview of the conservation status and biological distinctiveness of 191 ecoregions that comprise the land-based natural habitats of Latin America and the Caribbean and demonstrates that high-priority areas for biodiversity conservation are located throughout the region.

Lessons Learned

In 1995, the Bank undertook an in-depth review of its support for biodiversity conservation. The main lessons which have emerged from this experience are to:

- Engage and empower local communities, indigenous peoples, NGOs, and other stakeholders as partners in designing and implementing projects
- Monitor and evaluate arrangements in projects against specific outcomes or processes and adopt an action-learning approach with the flexibility to take account of lessons learned during implementation
- Identify institutional weaknesses or instabilities that are frequently the source of problems. Nonetheless, also recognize that "problem projects" can still achieve gains—often complicating measures to gauge success or failure in biodiversity conservation
- Be as precise as possible in estimating in advance the amount of time that planning for protected area management will require.

Challenges Ahead

- For the Bank to play an effective role in pursuing biodiversity conservation and sustainable use, it must go beyond traditional targeted lending. The large scale of Bank investment in traditional natural resource sectors, such as agriculture, forestry, and fisheries, as well as in industry, energy and infrastructure—about \$20 billion per year—underscores the importance of integrating biodiversity conservation with economic development. The Bank's initial focus has been on mainstreaming biodiversity concerns in agriculture, with work being undertaken in all the Bank's regions. New efforts will focus on forests and land degradation, among others. The challenge remains to develop a toolkit for implementation of this new framework and to test the approach in a few countries.
- Sustainable use and biodiversity conservation also require addressing the social and economic

contexts. In the case of the rural poor, biological resources often provide the single most important source of economic and social well-being in the form of food supplies, medicine, shelter, income, employment, and cultural integrity. Successful biodiversity conservation also depends on sound policies and effective institutional and social arrangements. Because policy work and organizational structure usually fall outside the domain of traditional conservation, these are two areas on which the Bank must particularly focus attention.

- Recognizing that no one party has the franchise on wisdom in the complex and challenging area of biodiversity, the Bank must forge partnerships with local groups in areas where biodiversity is threatened. Even more than in other areas of sustainable development, successful efforts to preserve biodiversity require strong consensus.

Integrating Science and Biotechnology in Sustainable Development

Science and technology must play a central role in the movement toward sustainable development. Scientific research will be crucial in increasing understanding about how human activity affects the environment, especially in such complex issues as climate change. New technologies hold the promise of resolving many current problems if they are properly applied and disseminated. Biotechnology, the science of changing the genetic code in plants, animals, and microbial systems to create useful products and technologies, is quickly emerging, with great potential but also with pitfalls. With proper management, however, biotechnology can make significant contributions to sustainable development in a variety of areas, including health, agriculture, and pollution reduction, and the clean-up of toxic chemicals.

Chapters 31 and 35 of *Agenda 21* recognize the critical role of scientists, science and technology in the development process. These chapters emphasize that countries need to access, generate, and utilize knowledge to achieve sustainable development, and that dialogue among the scientific and technical communities and policymakers is essential. In recognition of the importance of biotechnology, chapter 16 of *Agenda 21* sets out program areas designed to establish enabling mechanisms for its development and use, especially within developing countries, and to foster internationally agreed principles on the proper management of technology.

Progress since Rio

Through IBRD, IDA, and the GEF, the Bank has assisted its client countries by facilitating interactions among scientists, engineers, economists, and policymakers. It has also established partnerships among these groups and civil society, environmental NGOs, and the private sector. Since Rio, the Bank has supported a variety of activities focused on the use and development of science and technology in general, and biotechnology in particular. These include:

- *Knowledge assessment.* In conjunction with the U.S. National Research Council, the Bank has recently developed a knowledge assessment process to help countries analyze their capabilities to participate in the knowledge revolution.
- *Capacity building through technology centers and universities.* The Bank has supported the development of capacity to enable policymakers and researchers to engage in science and technology. Specifically, the Bank has assisted a number of client countries to improve their scientific and technical infrastructure through technology centers and universities. Examples include a project in China to support reforms in technology policy and institutions to promote the development of clean, productive technologies; a project in India to support technology institutions and forty public sector research establishments; and a project in Africa to support university-level institutional capacity. The Bank has also supported and published studies, such as *Enabling the Safe Use of Biotechnology: Principles and Practice* (1996),

which increase public awareness and understanding of biotechnology policy issues.

- *Institutional and human capacity building through the Consultative Group on International Agricultural Research.* The Bank has supported infrastructure development to help create an environment conducive to promoting science, technology, and biotechnology, particularly through support to agricultural research. The Bank has worked closely with its partners in the CGIAR, a South-North coalition supporting sixteen agricultural research centers dedicated to promoting sustainable agriculture for food security in developing countries. Research will focus on increasing productivity, protecting the environment, preserving biodiversity, improving policies, and strengthening national research.
- *Institutional and human capacity building through Economic Development Institute (EDI) training courses:* EDI conducts multi-year, interactive learning programs for officials from developing countries to help them plan and manage their national investments more productively. About 4,500 policymakers participate in some 150 EDI program activities each year.
- *Partnerships.* The Bank is promoting innovative partnerships between national programs and advanced research institutes, both public and private. It is also promoting the development of a Global Agricultural Research System, which will help bring biotechnology products from the advanced research institutes to the fields of poor farmers in different parts of the world (see *The Emergence of a Global Agricultural Research System*, World Bank 1996). In addition, the Bank has developed the Banana Improvement Project, cosponsored by the Common Fund for Commodities and the FAO, which supports biotechnology research on important production constraints for developing countries.
- *Global environment.* The World Bank has been working closely with client countries utilizing the concessionary funds of the Global Environment Facility to learn more about climate change, biodiversity, stratospheric ozone depletion, and international waters. GEF funding has enabled the use of new technologies in many regions, such as solar water heating in Tunisia. It also supports capacity building for scientists and technical experts and a limited number of targeted research projects.
- *Policy reform.* The Bank has supported policy reform relating to the use of biotechnology, including biosafety regulations, which cover experimentation, testing, and release of modified organisms, and intellectual property rights.
- *Germplasm conservation.* Through the CGIAR, the Bank has also been instrumental in supporting the collection and preservation of agricultural accessions (germplasm), which are the foundation of biotechnology projects in agriculture. Similarly, the Bank is beginning to support germplasm conservation with funding from the GEF.

Lessons Learned

The field of biotechnology is relatively new, but several important lessons have emerged concerning biotechnology.

- Most biotechnology research is focused on what industrialized countries perceive as needs and opportunities. Very little attention is paid to developing countries. Because private companies are the major investors in biotechnology research, developing countries must find ways to attract and engage private enterprise in research activities relevant to their national needs.
- Intellectual property rights have a big impact on high technology activities by private enterprise. Very little high technology work occurs in countries with weak patent laws, where companies are willing to transfer "old technologies" only. Developing countries need to strengthen their intellectual property laws.
- Biotechnology requires substantial investments in basic research, an extensive knowledge base and sophisticated human capacity, and is a long-term endeavor. Partnerships between the industrialized countries and developing countries are essential for the initial phase of biotechnology development in developing countries.

Challenges Ahead

Major challenges lie ahead:

- Knowledge management is only starting to make its way through governments and donor agencies. There is an urgent need to enhance knowledge access, creation, dissemination, and use so that national policymakers can base their decisions on accurate data. The initial steps will re-

quire performing knowledge assessments in most countries to assess their strengths and weaknesses and will almost certainly require a significant strengthening of the scientific and technical infrastructure in most developing countries. One particular challenge will be to create incentives to stem the brain-drain whereby many developing countries are losing some of their best and brightest to the industrialized world.

- In biotechnology, the enormous gap between industrialized nations and the developing world is growing wider every day. The developing nations realize this and are very interested in working with the Bank and other donors on capacity building, government policy, and private sector involvement in biotechnology. Clearly, if the promise of biotechnology is to benefit the developing world, intervention by the international community is necessary, including partnerships with the major research laboratories. The Bank has begun to support such efforts and is poised to do more. The promises of biotechnology are great, but the path to products which will be used by the Bank's clients will prove challenging. Issues which must be addressed before the benefits are realized include:
 - a. Building human and institutional capacity to effectively engage the developing world in biotechnology. Initially, gaining access to biotechnology products from the industrialized world will be important. Finding innovative ways to involve the private sector in technology development relevant to the developing world (such as Costa Rica and Merck) will be very important.
 - b. Enacting national policies to address biosafety and intellectual property rights issues.
 - c. Addressing the crucial ethical and moral issues involved in biotechnology. On the human health side, there are issues relating to the extent to which intervention should be allowed (for example, genetic manipulation to correct/improve humans, diagnosis). Biotechnologists have the ability to go way beyond "nature" and utilize genetic material from both kingdoms, plant, and animal!
 - d. Enhancing public awareness and understanding of how the application of biotechnology can play a vital role in improving the quality of life for people all over the world.
 - e. Ensuring that scientists have access to information on new technologies and techniques. Access to journals, web-sites, and other modern telecommunications is essential.

Protecting Oceans, Seas, and Coastal Areas

The world's oceans and seas are linked to many bodies of fresh water through coastal areas, and the two form an interdependent ecosystem that spawns much of the world's marine life. Chapter 17 of *Agenda 21* sets forth a series of program areas aimed at protecting the marine environment, promoting sustainable use of marine living resources, and strengthening international cooperation.

Progress since Rio

In the past, Bank activities related to marine and coastal management focused on discrete areas, such as fisheries and aquaculture; water supply, sewerage, and waste disposal; ports development; and coastal erosion protection. Since the Rio Earth Summit, however, the Bank and other development practitioners are emphasizing an Integrated Coastal Zone Management (ICZM) approach. Invoked in a number of international conventions, most recently the 1995 Jakarta Mandate under the Convention on Biological Diversity, ICZM provides a unifying framework for protecting and managing the world's oceans and coastal areas consistent with environmentally sustainable development. Since 1993, the Bank has promoted the establishment of integrated coastal zone planning and management in client countries through (a) awareness creation and capacity building, (b) investment, and (c) partnerships. These efforts have paralleled support for marine environmental protection, including pollution control and conservation of marine biodiversity.

Awareness Creation and Capacity Building

Strategic and analytical work by the Bank has included the regional strategy, *Africa: A Framework for Integrated Coastal Zone Management* (ENVLW/AFTES 1994, 1996); best practice in the form of recently published *Guidelines for Integrated Coastal Zone Management* (1996); and periodic technical updates to the *Environmental Assessment Sourcebook* (World Bank 1991) dealing with the coastal zone. This work has promoted a greater appreciation—both within the Bank and among borrower nations—of the complex issues confronting development planners in coastal areas. Since 1994, the Bank has also helped train over 300 professionals inside and outside the Bank in ICZM principles and implementation. Much of this training has focused on Africa in an effort to strengthen capacity in a region where ICZM was virtually unknown as an environmental management tool prior to the Rio Conference.

Investment Portfolio

This combination of awareness creation and capacity building has led to growing investment by client countries in coastal and marine resources management programs, with support from the Bank and GEF. Although the number of dedicated projects that the Bank is financing is still small, the current portfolio includes some \$320 million for projects and activities that directly contribute to the establishment of ICZM. These projects include strengthening institutions and developing technical skills; establishing environmental systems to identify problems and target interventions; reforming marine policy and improving

regulatory frameworks; and introducing innovative, sustainable production technologies. In addition, strategies are being explored for sustainable mariculture, ecotourism, marine bioprospecting, and microenterprise. The Indonesia Coral Reef Rehabilitation and Management Project and the Madagascar Second Environment Programme Support Project are pilot efforts also receiving support.

Through capital investments in water supply and sanitation, improved port reception facilities for ship-based waste and marine pollution abatement, and cleaner production technologies for coastal industries, the Bank is also contributing to improving the quality of waters in the coastal zone and protecting international waters farther out. Such investments include the Wider Caribbean Initiative for Ship-Generated Waste, the Seychelles Biodiversity Conservation and Marine Pollution Abatement Project, and the Lebanon Solid Waste and Environmental Management Project. Other projects include the Wider Caribbean Initiative, Preparation for Adaptation to Climate Change, and a series of ecorestoration and biodiversity conservation projects in the island states of the Western Indian Ocean.

Partnerships

The Bank has forged partnerships with a number of bilateral, nongovernmental, and private organizations, particularly in the areas of marine environmental protection and strengthening cooperation. The Bank and the Swedish International Development Authority (SIDA), in particular, have worked closely to strengthen regional capacity and cooperation in managing coastal and marine resources of the Western Indian Ocean. Joint efforts have facilitated the adoption of the Arusha Resolution, a regional resolution on coastal zone management adopted in 1993 by the nations of Eastern Africa and the Island States.

The Bank has been a partner in the International Coral Reef Initiative since its inception in 1995. It is also involved in a partnership with the Great Barrier Reef Marine Park Authority and the IUCN to establish and improve the management of marine protected areas in priority high biodiversity and ecology sites. The results of this priority-setting exercise were published by the Bank in a four-volume report, *A Global Representative System of Marine Protected Areas* (ENVLW 1995).

Recommendations of the study are being implemented with GEF assistance and the collaboration of UNDP and UNEP.

Lessons Learned

Bank experience from investment activities is still limited, but experience elsewhere suggests that many ICZM initiatives have stalled at the planning stage. To be sustainable, initiatives in coastal and marine resources management require a supporting context with a number of essential components. They are:

- Integration in broader development planning—at either the national or regional level
- Institutional, legal, and financial support of government
- Local financing schemes for cost recovery, which may include the introduction of user fees, public/private investment, income-generating enterprises, or trust funds
- Support of local communities
- Clear public understanding of the benefits of collective action as well as the costs of inaction
- Partnerships with other institutions.

Challenges Ahead

- A key challenge for the future will be to meaningfully integrate ICZM in broader development planning in nations with significant coastal and marine resources, rapidly expanding urban populations, or coastal industry and maritime interests. In client countries, greater emphasis needs to be placed on establishing the regulatory and institutional framework required to mainstream coastal and marine resources management in national development plans, public sector budgets, and enforcement operations. The IDA-related challenge is for integrated river basin planning to be tied to downstream coastal planning in countries which contribute significant pollution to transnational drainage basins.
- There is also a clear need for robust indicators to accurately assess the progress of ICZM and other programs. The first systematic evaluation of ICZM experience in the Mediterranean is being completed with the support and supervision of the Bank. The results should guide the next round of investments and contribute to a standard evaluation methodology.

Protecting the Quality and Supply of Freshwater Resources

Good quality freshwater is essential for life. Yet, in many regions, this resource is becoming more and more scarce, and in many cases, its quality has deteriorated. To stave off worsening freshwater shortages and pollution, chapter 18 of *Agenda 21* proposes a number of program areas aimed at preserving drinking water, protecting aquatic ecosystems, ensuring that water is available for agricultural purposes, and increasing understanding of the effect of climate change on water resources.

Progress since Rio

The Bank is working to protect the quality and supply of freshwater in a number of ways. To establish an international consensus, the Bank was instrumental in developing agreement on principles for sound water resources management at the 1992 Dublin International Conference and the 1992 Earth Summit. These principles have been articulated in the Bank's *Water Resources Management Policy Paper* (1993), and the *Guide to the Formulation of Water Resources Strategies* (1994).

The Bank has also worked on promoting strategic partnerships. For example, it was a key player in conceptualizing, developing, and launching the Global Water Partnership (GWP) in August 1995. The GWP will assist countries and regions to address water needs holistically and to improve the effectiveness of assistance available from the international community. The Bank also assisted in launching the World Water Council, which will complement the GWP's activities.

The Bank has also sought to change the way that it approaches water projects. Its operations are focusing on the cross-sectoral management of water resources, such that competing economic interests are better accounted for in water use decisions. The Bank has also sought to promote the translation of internationally endorsed management principles into practice. In these activities, four complementary shifts in aquatic resource management activities at the basin, national, and regional levels are being pursued.

Moving from a Segmented to a Comprehensive Framework

An integrated framework is replacing use-based management of water resources. Within the Bank, regional water resources management strategies have been completed for Sub-Saharan Africa, Asia, and Middle East and North Africa (MENA). In Sub-Saharan Africa, for example, the Bank is engaged in major subregional initiatives, including the Southern Africa, Nile Basin, and Volta Basin Water Resources Management Initiatives. In cooperation with the GEF, European Union, and other partners, the Bank has given priority to developing and implementing regional- and basin-level programs that promote integrated strategies for water management. The Bank continues to participate in Environment Programs for the Aral, Baltic and Black Seas, Danube River Basin, Mediterranean Sea, and Red Sea and Gulf of Aden; and in cooperation with UNEP and UNDP, to work on Lake Victoria and the Caspian Sea. The Bank's freshwater work includes integrated

river basin and lake management such as the Asia Water Initiative and activities in eastern, southern and western Africa and the Caribbean.

Moving from an Incremental to a Strategic Approach

The Bank's regional environmental programs and regional and national water resources strategies for river basins and lakes all contribute to a shift from a piecemeal to a strategic investment approach. All identify a diversity of complementary actions—policy, regulatory, management, investment and institutional—which permit environmentally sound management of available resources. In 1996 the Bank's Middle East and North Africa Region conducted regional and national evaluations of water resources management to identify priorities for policy changes, institutional strengthening, and investments. These investments have been complemented in many cases by measures supported by the Mediterranean Environment Technical Assistance Program (METAP) and GEF activities in the Black, Mediterranean, and Red Seas.

Promoting Private Sector Participation in Water Supply

The Bank has been actively involved in promoting private sector involvement in water and sewerage

in its client countries (see box 14.1). For example, in Argentina, the Bank was involved in the preparation and implementation of the Buenos Aires water and sewerage concession which laid the groundwork for privatization. IFC subsequently invested in Aguas Argentinas S.A., the largest water concession in the world and the first major concession in the developing world. Similarly, in Guinea, the Bank was instrumental in the development and implementation of a lease arrangement for water supply in the capital, Conakry, and other major cities. Under a lease, a private sector company is responsible for operations and maintenance, while the government retains responsibility for investments. Bank involvement in transitional economies, including Albania, Bulgaria, Hungary, and Poland, has been primarily on utility reform.

In addition, the Bank is pursuing the use of guarantees to promote private sector involvement in water and sanitation. Examples include Argentina, where the Bank is looking to develop a guarantee framework to support the privatization of water supply at the provincial level, and Chile, where a Bank guarantee is being developed to back a wastewater Build-Operate and Transfer project.

Box 14.1 Brazil and water strategy

The Government of Brazil (GOB) and the Bank are working together on a strategy to address the scarcity, cyclical unreliability, and poor quality of water supplies used for human consumption, irrigation of food crops, and industrial production. Over the last four years, the foundation of the joint strategy has been to formulate market-based, rational, legal, and institutional frameworks for the sustainable management of water resources at both the federal and state levels. Targeted regions include the drought-stricken Northeast (at the basin level) and both the South and Northwest (at the microbasin level). Progress is evident in the adoption of sound water laws by the federal government and by the States of São Paulo, Ceara, Bahia, and Rio Grande do Norte. Other key indicators of progress include (1) recognition that the use of water has an economic value, (2) identification of environmental requirements for sustainable riparian ecology, paramount for use of the resource, (3) realization that the costs of providing water must be recovered in a sustainable manner, and (4) planning for water development on a watershed basis with active participation of the users and the public.

As a follow up, the GOB and the Bank are implementing the next step in the strategy to maximize the

provision of potable, reliable, and healthy water supplies to the rural population; to increase the supply of quality water to the urban poor; and to provide collection and treatment of sanitary wastes in metropolitan areas. Specific efforts involve (1) the development of integrated watershed management planning for the basin of the Rio São Francisco, (2) resolution of quality management problems of the Paraíba do Sul River, (3) development of a program for private/public cooperation in irrigation to enhance job opportunities for the rural poor, and (4) an effort to eliminate the susceptibility of the poor to annual and cyclical drought and the impact of water-borne disease vectors.

In 1996, IFC invested in the first privatization of wastewater and sewer services in Brazil. Aguas de Limeira (AdL), a 50-50 consortium between a major Brazilian construction company, CBPO, and Lyonnaise des Eaux of France. AdL will provide approximately \$124 million of new investment during the 25-year concession. AdL's investment will reduce the waste load into the region's principal urban stream by more than 90 percent over the next five years. It will also increase access to safe drinking water and will link more homes to the municipal sewer system.

Increasing Beneficiary Participation in Irrigation

In irrigation the Bank has progressively applied the 1993 Water Resource Policy, including development of a comprehensive analytical framework for management, economic incentives for improved efficiency, decentralization of service provision, increased user participation, and adoption of new irrigation technologies for water conservation. Creating water users' associations and turning over management of irrigation systems to them, as in India, Mexico, and Turkey, has become increasingly common.

Lessons Learned

The Bank's pursuit of newer approaches to water management has generated a number of lessons.

- A major difficulty has been coordinating the cross-sectoral inputs both within and outside the Bank, in part because of traditional sectoral boundaries. Within the Bank, a thematic team on water is helping break down sectoral barriers. At national levels, Inter-Ministerial Steering Committees (IMSC) help coordinate water resources management efforts.
- Water resources agencies are ill equipped to manage water resources comprehensively. However, regional and national water resources management strategy development has provided

opportunities to integrate local staff in the strategy preparation process and build local capacity.

Challenges Ahead

Current trends show that several regions, most notably the Middle East and North Africa, and an increasingly large number of countries in all parts of the world are approaching a "water crisis." Already, an estimated 1 billion people have no access to safe drinking water and 1.7 billion are without access to adequate sanitation. In the future, availability of water rather than land will be the main constraint to agricultural production in many areas. In many countries, water problems stem not from a shortage of water per se, but from the inefficient use of water (often exacerbated by subsidies), degradation of available water from pollution, degradation of watersheds from poor land use, and unsustainable use of groundwater resources. In the face of these challenges, skilled water management will be crucial to the overall effort to achieve sustainable development.

The Bank and other organizations have supported pilot activities to demonstrate and test innovative solutions to freshwater, coastal, and marine resources management. The challenge for the future will be to move from piloting to applying these approaches more broadly.

Managing Toxic Chemicals and Hazardous Wastes

Although use of chemicals and the production of potentially dangerous waste products are an inherent part of modern industry, with proper management and control they need not pose a threat to humankind and the environment. Nonetheless, the failure to exercise proper care is common worldwide, and the need for improved regimes in management of both toxic chemicals and hazardous waste is evident. Chapters 19 and 20 of *Agenda 21* establish a number of program areas aimed at improving toxic and hazardous waste disposal and preventing their illegal transport, particularly, although not exclusively, from industrialized to developing countries.

Progress since Rio

A major impact of the new thinking associated with sustainable development has been a shift toward reducing, substituting, or eliminating the use of toxic chemicals in manufacturing, thus removing them totally from the environment. In this vein, the Bank is supporting Cleaner Production and similar approaches. The goal is to reduce the volumes of hazardous wastes generated from industrial and other activities and to try to ensure that acceptable management and disposal options are put in place for those wastes that are generated. Working with UNEP and UNIDO, the Bank has supported this process by including cleaner production activities in more projects and by promoting environmental management systems such as ISO14000 and Pollution Release and Transfer Registers (PRTRs), which focus on the wastage and release of toxins. At the same time,

the Bank is strengthening the capabilities of regulatory authorities in many countries to control the improper handling or transfer of such substances.

The single largest contribution by the Bank to toxic chemicals reduction has been its efforts to remove lead from gasoline, which studies have shown to be a highly effective way to avoid a serious public health problem, especially for children. The Bank has called for the global phaseout of lead from gasoline and is working with governments, industries, NGOs, and other organizations to raise awareness, build political commitment and consensus, design appropriate policies, and facilitate the implementation of lead phase-out programs.

Regional programs to phase out lead from gasoline have been supported by Bank technical assistance and policy advice in Asia, Central and Eastern Europe, and Latin America and the Caribbean. As a result, several countries have phased out lead recently, and others have made firm political commitments to do so by designing national phase-out plans. In Thailand, a successful effort to end the use of lead in gasoline was helped by a Bank lending program to support refinery upgrades (see box 15.1).

The Bank has also been supporting projects to address broad issues of hazardous waste in Algeria, Egypt, India, Mexico, Russia, and other countries. Project components typically include compiling basic information on location and type of hazardous wastes, strengthening regulatory and enforcement capacity, educating industry and the public on the problems and how to address them, and helping provide treatment and

Box 15.1 Supporting the implementation of lead phase-out: the example of Thailand

In response to evidence showing the serious health impacts of lead and other vehicular emissions in the late 1980s, the Government of Thailand became strongly committed to address the problem.

The Bank provided support to improve air quality as part of its lending for the road sector (*Third and Fourth Highway Projects* in 1990 and 1992, respectively) by assisting the Government of Thailand to strengthen regulatory institutions; build up ambient air monitoring network; set ambient standards, vehicle emission and fuel standards; and introduce vehicle emission testing. The Bank was involved in an extensive dialogue with the Thai Government about formulating and implementing cost-effective policies for air quality improvement, and providing analytical support and financing for the government's Action Plan to reduce air pollution. In addition, the Bank worked closely with the key agencies involved in developing the government's clean fuel standards.

The Thai Government adopted a rapid phase-out strategy: in 1990, the maximum lead content in gasoline was set at 0.4 grams per liter; in May 1991, unleaded gasoline was introduced; in September 1992, the maximum lead content in all gasoline was lowered to 0.15

grams per liter; and by the end of 1995, the use of lead in gasoline was banned altogether.

Government regulations to eliminate lead and to reduce the aromatic and benzene content and vapor pressure of gasoline were part of a comprehensive program that required changes in the three refineries of the country. After a successful restructuring of the Bangchak Petroleum Refinery (*Bangchak Oil Refinery Restructuring Project*, World Bank, 1985) that enhanced production efficiency and facilitated the partial privatization of the refinery, the Bank has provided financing for the *Clean Fuels and Environmental Improvement Project* (World Bank, 1995) to meet the government's fuel quality requirements. The deregulation of oil prices and removal of restrictions for private sector investments in the refinery sector in 1992 facilitated the rapid adjustment of refineries to changing conditions.

The fuel reformulation program of the Thai Government has been very effective and resulted in significant reductions in lead emissions. About a year after its introduction, unleaded gasoline increased its market share to about 18 percent, and within four years, vehicular lead emissions were eliminated.

disposal facilities. The Bank Group, especially the International Finance Corporation, has been working to involve the private sector in hazardous waste management, a natural extension of private sector involvement in solid waste management.

Lessons Learned

Solutions to serious environmental problems can, in some cases, be relatively inexpensive in comparison with the large economic and social benefits of such measures. For the industries immediately affected, however, the financial costs can sometimes be quite significant. Given the different incentives involved, several conditions are necessary to mobilize action for change: strong political commitment, support of regulations and policies, consensus of affected stakeholders, and support of consumers and the public.

Promoting good behavior in toxic and hazardous waste management is only one aspect of a broader set of Bank efforts to improve productivity, safeguard workers, and protect the environment. However, apart from the IFC's direct involvement with enterprises in its portfolio, the Bank's power in this area is limited. Efforts are being made to strengthen partnerships with more environmentally conscious private sector firms to leverage their influence over their partners and suppliers.

Challenges Ahead

Educating the public about the dangers of toxic substances and hazardous wastes is essential for changing consumption patterns. Industries can contribute by developing and promoting alternatives which avoid the use of toxic substances. However, government policies have to provide the basic incentive framework in which industries are motivated to produce and consumers are encouraged to buy environmentally friendly products. In case of unleaded gasoline, for example, refineries should be able to recover the costs of their investments, and consumers should be able to buy unleaded gasoline more cheaply than the more damaging leaded fuel. Designing such policy frameworks is one of the most challenging tasks for the Bank and its clients.

There is clear potential for closer partnerships with the private sector to address control of toxins and hazardous wastes. These partnerships must be widened to include local government, workers, and the concerned public. Steps are being made in this direction through innovative pilot projects, especially in Latin America, which can lead to a better understanding of processes to produce practical results on the ground.

Promoting Environmentally Sound Management of Solid Wastes and Sewage

Solid wastes and sewage represent major pollution problems in both the industrialized and developing worlds. Both forms of pollution seriously threaten water supplies, endangering human health and in many cases destroying aquatic life. Even when not life-threatening, these forms of pollution seriously diminish the quality of life. Because waste production and sewage are concentrated in urban areas, controlling and managing their impact on the environment will pose one of the major challenges for the twenty-first century as cities grow and expand. Chapter 21 of *Agenda 21* calls for waste minimization, increased reuse and recycling, and environmentally sound waste disposal and treatment.

Progress since Rio

As of July 1996, the World Bank's lending for active pollution management projects stood at \$6.9 billion, constituting approximately 60 percent of the Bank's total lending for "environmental projects." Since Rio, the Bank has redirected its efforts at combating waste management problems, shifting away from projects dealing with end-of-the-pipe technological fixes toward front-end, more comprehensive, and integrated efforts at pollution management.

Preparing and implementing the new generation of Bank projects are based on the following principles:

- Adopting a strategic, integrated planning approach for waste management services combin-

ing spatial, technical, institutional, and financial perspectives.

- Promoting a policy and regulatory framework for economically sound waste reduction, recovery, recycling and reuse, and environmentally sound waste disposal.
- Mobilizing public and private resources for service delivery seeking greater efficiency and cost effectiveness.

Examples of the application of the above principles and priorities in Bank-supported projects include the watershed protection plan for São Paulo in Brazil (see box 16.1), urban environment management plans in Colombia, a national municipal waste management strategy in Turkey, jointly supported by METAP and the GEF, and metropolitan solid waste management projects in Madras, India and Colombo, Sri Lanka. The Bank has entered into a collaborative effort with the Swiss Development Cooperation (SDC) to distill the lessons learned from these and other urban solid waste projects and to prepare, field test, and disseminate a guide for strategic solid waste management for large cities.

The Bank has also financed a number of projects in Africa, Asia, and Latin America designed to provide basic services for the poor, such as the Strategic Sanitation Plan in Ghana, which covers five major cities. This UNDP/World Bank Water and Sanitation project aims at improvements in drainage, sanitation, and waste management. The upgrading components will benefit some 600,000 lower-income people. The project

Box 16.1 Catchment protection in the São Paulo Metropolitan Region

The formulation of a watershed protection plan for the São Paulo Metropolitan Area (SPMA) in Brazil is a good example of an issue-specific urban environmental management strategy. It started with a rapid assessment to gauge explicit needs and inventory problems. Consensus among the stakeholders was achieved through consultations, culminating in an issue-specific strategy. The plan set the stage for coordinated short- and medium-term sectoral action plans and investments. Once priorities were set and consensus was achieved, a series of sectoral action plans and investments were designed to form an integrated program.

One of the main medium-term institutional reforms will be the creation of a water basin management agency. The action plan calls for studies and organizing the public and governmental consultation processes needed to develop and establish the basin agency. An indirect benefit of the project will be to develop a modern scheme of river basin management, which, in the medium term, would be expanded on a larger scale to the other major basins in the region that serve the SPMA.

The program will directly benefit over 500,000 urban dwellers in the watershed, 48 percent of whom are poor, as well as protect the water supply of 3 million domestic consumers in São Paulo City itself.

also aims to establish better institutional and financial mechanisms and more effective policy frameworks so that improvements are sustained over time.

As part of its commitment to waste management and disposal programs, the Bank has emphasized partnerships with both donor and recipient organizations. The long-standing collaborative UNDP/World Bank Water and Sanitation Program is a testament to the commitment between donor agencies to tackle the growing waste management problem. Other partnerships with UNCHS, UNDP, EIB, GEF, Commission of the European Communities, and various governmental and nongovernmental agencies have been established.

Lessons Learned

By far, the most important lesson learned since Rio is the need for strategic and integrated approaches to waste management. In addition, concurrent with the massive investments in physical infrastructure that these projects require, there must be investments in “softer” forms of assistance, such as, effective training programs. Finally, to implement a strategic and integrated approach to waste management, donor institutions must emphasize the importance of establishing priorities and ensuring commitment from all stakeholders.

Challenges Ahead

Four main challenges to managing wastes effectively lie ahead:

- *Ensuring that projects can be replicated and are sustainable.* To meet the challenges posed by increasing urbanization in the developing world, the Bank must be vigilant in evaluating best practices to ensure that projects can be replicated. It must also support continued monitoring of projects past completion to ensure that they are sustainable.
- *Building alliances through stakeholder consultation, participation, and transparency.* The Bank needs to be proactive in soliciting active participation from stakeholders and ensuring that projects are designed and implemented transparently.
- *Differentiating solutions based on demand and affordability.* Waste management systems are far too often built and operated without factoring affordability and demand criteria into their design. Project evaluation must avoid these potential problems to ensure sustainability.
- *Creating the capacity to handle devolved responsibilities.* As decisionmaking devolves to more localized levels, it is important to ensure the existence of adequate management and implementation capacity. This desirable trend emphasizes the need for the Bank to focus more on “softer” modes of assistance to train and prepare decisionmakers to handle new responsibilities.

Taking Global Action for Women to Attain Sustainable and Equitable Development

Gender relations and issues affecting women such as education, access to health care, and attitudes toward self-determination have significant consequences for sustainable development. Women play a crucial role in determining overall levels of wealth in both industrialized and developing countries. In many countries, women work as farmers and thus are critical in the effort to increase agricultural productivity and reduce environmental damage. Furthermore, family planning issues, which have primary importance to women, ultimately determine population dynamics, and these are key forces affecting sustainable development. Chapter 24 of *Agenda 21* calls for fuller participation by women at all levels of society and in all forms of decisionmaking, particularly in areas affecting environment and development.

Progress since Rio

In the years since Rio, the Bank has attached increasing importance to women and gender issues in achieving sustainable development. Progress has been made in the following areas:

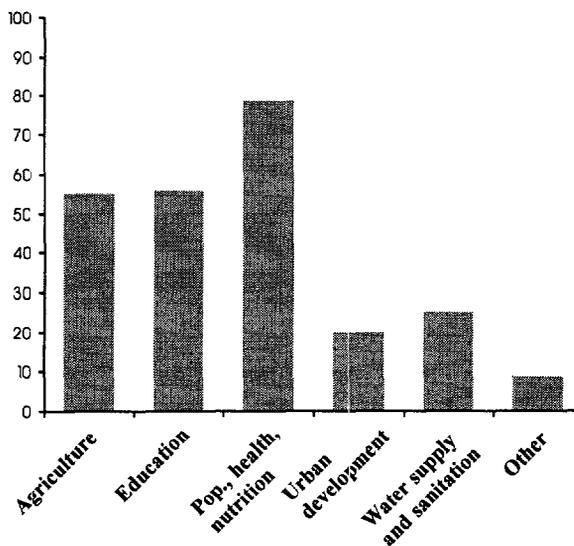
Bank Lending

Increasingly, the Bank has integrated gender concerns in its lending portfolio. From fiscal 1992 to fiscal 1996, 30 percent of Bank-assisted projects had specific gender-related actions (see figure 17.1). In some projects, women have been brought in through consultative and participatory measures. In others, women were specifically required

to be represented. Many of the gender-related activities respond to specific challenges in each sector. Milestones include:

- Bank-supported projects are providing credit to women in their own names, granting small loans (microcredit) without collateral, and offering assistance on technology and marketing.
- Women's access to agricultural services is being improved by setting up group rather than individual contacts between farmers and extension agents.
- To reduce the barriers to girls' education, Bank-assisted projects decrease the direct

Figure 17.1 Percentage of Bank projects with gender-related actions, fiscal 1992-96



costs to parents through special incentives such as fee waivers, scholarships, and free textbooks. Bank-assisted projects also support infrastructure needs that increase girls' attendance (such as latrines and water points).

- d. Community-based health services are cost-effective in improving women's health.
- e. Women are being trained in nontraditional occupations to improve their employability.
- f. Employment and training programs are making better information available to women about job markets.

Research and Analysis

The Bank's research and analytical work has significantly advanced understanding about the forces at work in the persistent inequality between women and men. Furthermore, evidence of the gains from investing in women has grown considerably. Education increases women's options in the labor market and boosts their earnings. Education is also associated with lower birth rates, which reduce the risks of maternal and child mortality. Moreover, lower birth rates appear to confer benefits on those children who are born, passing down better health and education to future generations. Providing women with access to financial services leads to greater savings mobilization, and increasing the income they control results in improved child health. Violence against women creates significant physical and mental health damage and reduces their contributions. Discrimination against women in property rights hinders their economic activities. In contrast, women's access to land is associated with higher agricultural productivity and, in some cases, with greater investments by women in land conservation.

Partnership Initiatives

The Bank has entered into numerous partnership initiatives. The Consultative Group on International Agricultural Research (CGIAR) began a gender program in 1991. In 1993 the Bank co-sponsored the Consultation on Promoting Women in Ecosystem Management. After the 1995 United Nations Fourth World Conference on Women in Beijing, it created an External Gender Consultative Group (EGCG) to assist in the formulation and implementation of its gender policies. The Bank's Economic Development Institute works

with developing country partners to implement training programs to help low-income women. The West Africa Social and Gender Analysis training program (SAGA) provides training for agricultural extension workers to improve outreach to women and other marginalized groups to agricultural extension services. Most of the Bank's resident missions are staffed with one or more gender specialists.

Lessons learned

Over the past five years, important gender-related lessons have emerged:

- *An enabling framework is fundamental.* To effectively address gender inequalities, it is necessary to go beyond the project level and examine systemic causes of gender differentials. Modifying national legal and regulatory frameworks is essential, because they form the functional framework of the economy and civil society. Four bodies of law are particularly important: land and property rights, employment, family, and financial.
- *Gender issues are interconnected and cross-sectoral.* To achieve specific gains in one sector may require action in another. For example, improving rural households' access to water supply may be key to increasing girls' enrollment in school. Improving infrastructure such as roads may also be important. Women in Morocco identified the inaccessibility of schools as one reason their daughters were not attending.
- *Data are important.* The Bank's analytical work on gender and education and health has provided the substantive basis which made possible major changes in sectoral lending trends. Work on property rights and the labor market has provided evidence of the need for changes in legal and regulatory frameworks and has indicated ways these changes can be made.

Challenges Ahead

Efforts to increase women's participation in social and economic decisionmaking raise complex issues. And, as the evidence indicates, these efforts take time. Many challenges lie ahead:

- Stronger government commitment is needed and must be reflected in policymaking and budget expenditures.

- Gender-related actions need to be cost effective. There may be times when general policy interventions are not enough, and programs that specifically target women may be required. As with all development programs, these targeting efforts should be cost effective, to make the most efficient use of scarce development resources.
- Significant gains have been made concerning gender issues in the health and education sectors. More needs to be learned about gender in sectors such as large-scale infrastructure and energy. More needs to be learned about how to mainstream gender issues beyond the project level. As a part of this process, the Bank has begun to focus on how to integrate gender analysis into the Country Assistance Strategy (CAS), which the Bank prepares with a client government to define its overall development goals and investment strategies.
- In all of these areas, the Bank will work closely with its country-level and international partners.

Investing in Children and Youth

Investing in the well-being and education of children and youth is central to efforts to achieve sustainable development. Countries that have failed to focus attention on educating all children have not prospered. In recognition of the pivotal importance of investing in young people, chapter 25 of *Agenda 21* calls for improved education and greater protection of children, especially girls.

Progress since Rio

Recognizing the importance of investing in individuals as distinct from nations in recent years, the Bank has sharply increased lending for education, health, nutrition, population, and other components of human development. This lending represents more than \$3.5 billion yearly, or 18 percent of total World Bank lending in fiscal 1996. Of this amount, approximately one-third has directly benefited children under 15 years.

In 1992, the Bank launched a Children's Initiative, a central focus of which has been Early Child Development (ECD). Based on a series of seminars with experts in ECD, the Bank produced *Early Child Development: Investing in the Future* (1996), which has served as a blueprint for Bank activities. Highlighting best practice, this publication is being used by the Bank to develop more effective ECD interventions in its projects. In collaboration with the Inter-American Development Bank, a web site is now available explaining (1) the theory and economics of ECD; (2) infor-

mation on all aspects of designing an ECD program, such as types of interventions, financing, and best practice examples; (3) the ECD cost-effectiveness assessment tool; and (4) a list of ECD consultants.

Many of the Bank's regional units are now addressing region-specific issues on children. In collaboration with other agencies such as the Aga Khan Foundation, the Bernard van Leer Foundation, and UNICEF, the Bank's Africa Region (AFR) supports an African-managed Regional Network for Early Childhood Development. The Asia Region has produced country profiles on children which include data on Bank lending, information about economic and social policies as they affect children, the status of children's health and education, and suggestions for future work.

The Latin American and Caribbean Region (LAC) has launched a series of studies and initiatives on children. Household surveys are being used to evaluate the status of poor children, and the region has also started work on street children and child violence. Two studies have been published: *A Participatory Study of Urban Poverty and Violence in Jamaica* (1996), and *Targeting At-Risk Youth: Rationales, Approaches to Services Delivery and Monitoring and Evaluation Issues*. A research proposal and several papers are under preparation to assess the issue of child labor.

The Europe and Central Asia (ECA) Region is also focused on children's issues. In collaboration with UNICEF, ECA developed the Social

Challenges of Transition (SCT) database, which includes indicators on the well-being of children by country. ECA also has undertaken a study on *Enterprise Divestiture of Kindergartens and Childcare Arrangements in Central Asia* and is studying nutritional status and household welfare among preschool children in Uzbekistan.

The Bank's research on children's issues is changing the nature of Bank-supported projects as well. In the past, World Bank project work on children was limited to primary and secondary education, nutrition, immunization, and maternal child health projects. Now, however, the Bank has begun to support a more holistic approach, and ECD projects such as those in Latin America and Africa are intervening earlier in a child's life. The Bank is working to monitor growth, improve nutrition, educate parents, and teach financial management skills to mothers. Projects in Guinea and the Dominican Republic promote school-based health care. Attention is also being given to specific youth problems such as violence, and pilot programs are underway in Colombia and Jamaica.

To improve AIDS/HIV prevention, ECD, and girls' education, the Bank is joining in partnerships with the international community including other UN agencies, the OECD, regional development banks, and four major international children's NGOs (Save the Children, World Vision, Christian Children's Fund, and Plan International). Through a special grant to the Consultative Group on Early Child Care and Development, the Bank is a member of a global ECD network consisting of NGOs, bilaterals, multilaterals, and academics. To expand its knowledge base on best practice and interventions for sustainable youth development, the Bank is also developing a partnership with the International Youth Foundation.

Another strong Bank focus is improving girls' education (see also section 17). Despite progress on many fronts in recent years, tens of millions of children are not provided with basic nutrition and education. In developing countries, more than 110 million 6 to 11 year-olds and 273 million 12 to 17 year-olds are not in school. The situation is even worse for girls and minority groups: 77 of the 110 million 6 to 11 year-olds and 148 of the 273 million 12 to 17 year-olds, out-of-school children are girls. The Bank is placing increased

attention on Country Assistance Strategies and on related country-level discussions on the status of girls' education. Profiles on countries likely to lag on gender parity have been prepared so that their progress can be carefully monitored. The Africa Region is developing a Strategy for the Development of Basic Education in African Countries with Very Low Primary School Enrollment. Project components are being designed to alleviate the barriers to girls' education, increase girls' attendance in primary and secondary school, and decrease their drop-out rates. Examples of such projects are Mali's Education Sector Investment Project (fiscal 1997) and Mozambique's Social Investment Program (fiscal 1999).

Lessons Learned

Emphasizing children and youth in the sustainable development process is a relatively new focus for the Bank. Therefore, lessons of experience to date are fairly preliminary.

- Monitoring and evaluation are crucial since many of the projects involving children are new. Systems need to be set up or improved to better monitor inputs, output, and outcomes. This needs to be done carefully, keeping in mind that most outcomes and impacts will not occur until after the project is finished. In this regard, Bank projects must include support for longitudinal analysis and studies of follow-up groups.
- The Bank is striving to help its client countries reach universal primary enrollment by 2010 and to ensure that those children who reach primary school have had the proper cognitive development, health care, and nutrition to perform at their best in primary school. The Children's Initiative has shown that focusing on primary and secondary education projects is not adequate. Intervention needs to start before primary school to enhance school readiness. Children whose earliest years are blighted by hunger or disease or whose minds are not stimulated by appropriate interaction with adults and their environment pay for these early deficits throughout their lives. Such children are far more likely to do poorly in school, drop out early, and be functionally illiterate.
- In promoting early childhood intervention in both health and education, partnerships are necessary. Governments must build partnerships with parents and communities, NGOs, the pri-

vate sector, religious ministries, the media, and professional organizations. International support is also necessary.

Challenges Ahead

Many challenges lie ahead as developing countries strive to reach a 100 percent primary completion rate and a 60 percent entry rate into secondary education by equal numbers of boys and girls by 2010.

- *Disseminating lessons.* Much is already known about improving the situation of children and youth, but there is a need to increase dissemination of this information so that the knowledge is incorporated into future projects and programs.
- *Reaching children in rural areas.* Work being done on education and technology should bring about innovative projects. Partnerships have proven to be a successful approach. Increasingly, the Bank will need to reach out to other international organizations, NGOs, bilaterals, multilaterals, and governments that are working on the same or similar issues to avoid repetition, combine resources, and share lessons.
- *Partnering for solutions.* Globally, children face increasingly complex problems. Together with its partners, the Bank needs to find solutions and address the often-interrelated issues of violence against and by children, street children, children in post-conflict situations, and child labor.

Recognizing and Strengthening the Role of Indigenous Peoples

A major outcome of the Rio Summit was a growing recognition of the important role which the world's 300 million indigenous or tribal people play in the stewardship and sustainable management of large sections of the earth. Although indigenous peoples comprise less than four percent of the world's population, they represent ninety-five percent of the world's cultural diversity and over fifty percent of the population living in areas of high biodiversity, such as tropical rainforests. Despite these realities, recognition of the significant role of indigenous peoples has been very limited. Only very belatedly has modern science recognized the ecological and cultural sophistication of these peoples and argued for the need to conserve their knowledge of natural habitats, fragile ecosystems, and medicinal plants. In recognition of their importance, chapter 26 of *Agenda 21* calls for a number of measures to empower indigenous people, while promoting effective resource management and sustainable development.

Progress since Rio

World Bank policy concerning indigenous peoples since Rio has continued to be guided by an operational directive issued in 1991 (OD 4.20). Under this policy, indigenous peoples are defined as groups who maintain social and cultural identities distinct from those of the national societies in which they live, have close attachments to their ancestral lands, and are susceptible to being disadvantaged in the development process. The policy focuses particular attention on the rights

of indigenous peoples, if they so choose, to participate in and benefit from development projects. The directive outlines specific procedures for incorporating the concerns of indigenous peoples into Bank-financed investment projects through the design of Indigenous Peoples Development Plans.

In crafting this policy, Bank legal and anthropological specialists consulted extensively with indigenous organizations and worked closely with other international agencies and development banks, such as the Asian and Inter-American Development Banks. Operational Directive 4.20 has also been used as the basis for recognizing the role of indigenous peoples in other Bank policies, such as those dealing with environmental assessments, forests, and natural habitats.

The greatest progress in implementing the Bank's policy on indigenous peoples has occurred in Latin America and the Caribbean, where there are over 40 million indigenous people, many of whom have rights recognized in national constitutions and special legislation. In other regions, progress has been more difficult due to differing regional and national contexts and complexities in identifying the groups covered. Among the projects in which indigenous peoples components have been included are:

- The Rondonia and Mato Grosso Natural Resource Management Projects in Brazil, the Paraguay Natural Resource Management Project, and the Colombia Natural Resource Management Project, which contain indigenous components in project design and implementation. As

part of the Pilot Program to Protect the Brazilian Rain Forest, the Bank is administering a \$20.8 million Indigenous Lands Project. Financing for the project comes from the Rain Forest Trust and the German bank, KfW. Several new natural resource management projects being prepared in Guatemala, Honduras, and Nicaragua are expected to have strong indigenous land titling and natural resource management components.

- In cooperation with the Hemispheric Indigenous Peoples Fund (*Fondo Indigena*) in La Paz, Bolivia, and the Swedish International Development Authority (SIDA), the Bank has been financing a very successful series of training workshops for Latin American indigenous organizations. The training program is supported by country-level grants from the Bank's Institutional Development Fund (IDF) and is meant to strengthen the capacity of indigenous organizations to design and manage their own development programs. To date, 19 training programs are planned, underway, or have been completed in 15 Latin American countries at a total grant allocation of over \$2.6 million.
- In India, several Bank-financed projects in the health, education, forestry, biodiversity conservation, and water resources sectors include specially designed action programs for scheduled tribes and castes. Similarly, in Indonesia, recent Bank-financed projects in road construction, forestry, and protected area management and rural health are being designed to take into account the needs of remote-dwelling, indigenous populations.
- The Matruh Natural Resource Management Project in Egypt, whose beneficiaries are recently settled Bedouin tribes, draws heavily upon the land-use knowledge of the Bedouin people (including women). It promises to provide important lessons for natural resource management and rural development planning in other arid regions of the Middle East and North Africa.
- In East Africa, GEF-financed biodiversity conservation projects in Kenya and Uganda contain special programs for remote pastoral and hunter-gatherer groups. In Southern Africa, the Bank has collaborated with the regional office of the International Union for the Conservation of Nature and Natural Resources (IUCN ROSA) in designing a set of NGO workshops on the role of indigenous knowledge systems and institutions in natural resource management.

- In the Russian Federation, a Petroleum Joint Venture Development Project under preparation contains an environmental assessment which takes into account the needs of indigenous and other local populations affected by new oil and natural gas developments in Western Siberia. Indigenous peoples' concerns have been included in a recent *Russian Forestry Policy Review* and in the preparation of the GEF-funded Russia Biodiversity Conservation Project.
- In 1993, to support the United Nations International Year of the World's Indigenous Peoples, the Bank sponsored a *Conference on Traditional Knowledge and Sustainable Development* (see proceedings of the same name (World Bank 1995)).

Lessons Learned

Five of the many lessons that have resulted from the Bank's experience in projects that affect indigenous peoples are particularly important:

- To identify indigenous peoples' issues early in project preparation, using systematic social and environmental assessment techniques.
- To base development projects among indigenous peoples on culturally appropriate consultation and participation. These techniques should take into account indigenous peoples' languages, traditional values, forms of social organization, decisionmaking styles, and religious and spiritual beliefs.
- To cooperate with and strengthen indigenous organizations, especially through training programs and other capacity strengthening exercises.
- To increase Bank staff and borrower country awareness of the special rights and needs of indigenous peoples, especially as reflected in recent international documents such as the International Labour Organisation (ILO) Convention 169, the draft UN Declaration on Indigenous Peoples, and the International Convention on Biological Diversity.
- The need to respect the preferences of indigenous peoples and communities, especially their wishes as expressed at numerous international conferences, to design, implement, and control their own development and environment programs.

The Bank is attempting to respond to these lessons learned by improving its staff and bor-

lower capacity to deal with indigenous peoples issues. In particular, the Bank is introducing new social assessment techniques for identifying indigenous peoples, eliciting their preferences in relation to service delivery (health, education) and other development interventions, and incorporating their knowledge in the environmental management process. It is also taking greater cognizance of legal issues involved in the protection of indigenous lands and resources, and preparing regionally based training courses to increase the awareness of its own staff and that of its counterpart borrower country agencies of indigenous peoples' needs, knowledge, and issues.

Challenges Ahead

The first challenge is to address the increasing interest of some borrower countries, especially in the Latin American and Caribbean region, in preparing development projects with the full participation and often in equal partnership with indigenous peoples and their organizations. Two projects of this type are under preparation or about to be negotiated—a stand-alone Indigenous Peoples Development Project in Ecuador and a Community Forestry Project in Mexico. These sorts of projects in which co-partnership arrangements need to be worked out among indigenous organizations, government agencies, and the Bank

demand enormous cross-cultural sensitivity and patience but promise to be of great importance in the Bank's future work.

The second challenge emerges from economic globalization and the opening of formerly closed economies to large-scale hydrocarbon and mining developments. These pose special challenges to the protection of the lands, natural resources, and cultures of indigenous peoples. Lessons learned about indigenous peoples' land claims negotiations, monetary compensation, labor relations, and environmental protection, and sacred sites in industrial countries such as Australia, Canada, New Zealand, Scandinavia, and the United States could help private corporations, multilateral finance institutions, and host country governments design socially and environmentally acceptable projects. Establishing an adequate and agreed policy framework for the private sector based on recognized international human rights standards and environmental principles will be fundamental to the effectiveness and success of such initiatives. The Bank intends to reach out to the private sector on these issues through greater collaboration on social and environmental matters among all members of the Bank Group, including the IFC and Multilateral Investment Guarantee Agency (MIGA).

Strengthening the Role of Nongovernmental Organizations

Nongovernmental organizations (NGOs) bring wide-ranging experience and valuable lessons to sustainable development efforts. In recognition of the importance of NGOs, chapter 27 of *Agenda 21* discusses way to establish partnerships and closer dialogue among NGOs, governments, and international agencies involved in development.

Progress since Rio

In the five years since Rio, important advances have been made in forging partnerships between the World Bank and nongovernmental organizations. These partnerships have broadened capabilities and vastly extended the reach and potential impact of both Bank- and GEF-financed projects. In addition, the partnerships have brought greater accountability to the Bank and increased the Bank's credibility among the many actors within civil society.

Since 1992, NGO participation in Bank- and GEF-financed activities has dramatically increased. By 1996, NGOs were involved in almost 50 percent of Bank projects. Local, as opposed to international, NGOs became more prominently involved. NGO participation ranges from providing project ideas to implementing specific project components to providing technical advice and assistance to being the primary interlocutor with local populations. In the Philippines Conservation of Priority Protected Areas Project, the Bank as GEF-implementing agency has entered into a formal agreement with NIPA, Inc., a legally

incorporated, nonprofit consortium of NGOs, as the principal implementing agency for the project. NIPA is receiving \$17 million of the total \$20 million grant to finance overall project coordination and supervision. This marks the first time in the Bank's history that funds have been given directly to an NGO for implementation.

As NGO relationships with the Bank have grown, additional staff have been appointed in Bank headquarters and NGO liaison officers have been appointed in most of the Bank's resident missions, vastly expanding the capacity to reach out to a network of local, national, and international organizations that are potential partners in project or policy work.

By building strategic partnerships with environmental NGOs, the Bank is better able to carry out its work program on the environment. The most prominent example of a strategic partnership is the Letter of Understanding the Bank has with the World Conservation Union (IUCN)—the largest confederation of conservation organizations in the world. The Bank is relying on IUCN for broader participation and state-of-the-art expertise in environmentally sustainable development. To that end, IUCN and the Bank have collaborated on an *Ecosystems and Natural Habitats Handbook*, which will synthesize on-the-ground experience through case studies, and a guide on the global system of marine protected areas, *A Global Representative System of Marine Protected Areas*. IUCN has also participated in developing a regional dialogue on a variety of en-

vironmental issues in Southern Africa and contributed advice and guidance on the development of a Critical Ecosystems Partnership Fund.

Recognizing that consultation with affected groups and NGOs is key to identifying environmental impacts and designing mitigation measures, the Bank's operational directive on environmental assessment (OD 4.01) requires that the borrower consult with affected groups and NGOs on at least two specific stages in the EA process. A recent evaluation illustrates a significant increase in NGO consultations. The operational policy on disclosure of documents (OP 17.50) increases transparency by ensuring that affected groups and NGOs have greater access to project information.

Through the Global Environment Facility, grant resources have been channeled through the Bank to help developing countries achieve global environmental objectives in biodiversity conservation, climate change mitigation, international waters protection, and ozone layer protection. The nature of GEF projects has required high-quality implementation partners, which in many cases have been NGOs. One-quarter of the stakeholders identified in the biodiversity project portfolio are NGOs. A new medium-sized projects window in the GEF will facilitate NGO access to GEF resources.

Lessons Learned

The dramatic increase in NGO involvement in Bank-financed activities over the last five years has provided the Bank with a far sounder base upon which to build a deeper and more effective collaboration. The NGO community, however, is growing in number and has diverse interests, the dynamics of which the Bank is learning. The Bank must be more discerning if it is to promote effec-

tive long-term partnerships for sustainable development. To this end, there is increasing emphasis on analyzing lessons learned and identifying good practices in promoting Bank-NGO partnerships.

Some countries have made exciting strides over the past five years in government-NGO partnerships, but many others have not progressed as much as had been hoped. There are two reasons for this which the Bank has begun to help to address: (1) The policy environment in some countries inhibits NGO development. In some cases, the Bank can help governments reform NGO laws and other policies which could pave the way for healthier government-NGO relations. (2) The Bank's new disclosure policy has given the public far greater access to information about the Bank's activities. This policy will help level the playing field for NGO participants who feel that in the past they have been deprived of information essential for their constructive contribution to policy dialogue or project development.

Challenges Ahead

The development of coherent regional strategies that take into account the principal lessons learned is a central challenge for the future. The Bank has moved from placating NGOs to engaging them and must develop the necessary management tools to do so cost effectively. Central to this exercise is the development of sustained links with NGOs in borrowing countries and with networks of NGOs. To this end, the Bank is investing in training programs, grants funding instruments, and other opportunities to help build the capacity of local NGOs.

Part of the challenge for the Bank lies in balancing the interests of borrowing governments and local NGO communities. The Bank can foster dialogue between governments and NGOs. In each country, political realities will dictate practice.

Emphasizing Local Authority Initiatives

Globally, emphasis is increasing on devolving service delivery to the local level to improve efficiency and respond more quickly to local demand. For sustainable development, proper integration of local authority in decisionmaking and service delivery is particularly important to build consensus and strengthen the knowledge base on how to promote well-being without exhausting crucial resources. However, this trend towards devolution appears to be proceeding in a fashion that is dictated more by political expediency and less by rational analysis of local needs and strengths. Chapter 28 of *Agenda 21* lays down the principles governing the role in which local authorities should be participating to achieve sustainable development.

Progress since Rio

To promote decentralization in developing countries, the World Bank has been making more loans that are reaching projects sponsored by local authorities, as these authorities seek to cope with new service delivery mandates. In addition, as the need for strategic investment planning grows, the Bank has stepped up efforts to work with countries to implement decentralization.

The Bank's assistance in advancing decentralization and strengthening local capabilities emphasizes the following elements:

- Improving the ability of subnational entities to collect revenues and effectively use the revenues to manage and maintain quality of service delivery
 - Building responsive, professional financial intermediaries which focus on providing long-term financing for investments by local authorities
 - Monitoring the success of project outcomes through financial control
 - Reforming intergovernmental fiscal relationships to remove distorting incentives and inefficiencies. Developing more effective instruments to facilitate fiscal transfers.
- The Bank often uses tools such as policy workshops in which government officials and leaders explore issues and experiences with counterparts from other countries and international experts. These workshops elicit participation and dialogue among relevant stakeholders in the process. In turn, it is hoped, greater consensus on reform measures can be reached, while these reforms are better tailored to local conditions.
- To build local government capacity, the Bank has worked collaboratively with partner donor agencies including USAID and UNDP. The Bank also extends assistance dedicated to building institutional effectiveness in local governments and governmental institutions in Sub-Saharan Africa through its Municipal Development Programme (MDP). Through national and regional workshops, the MDP provides a forum for governmental and nongovernmental agencies to analyze,
- Building and bolstering the financial and institutional capacities of subnational entities to assimilate and undertake the massive investments now under their purview

Box 21.1 Decentralization reforms in Uganda

In 1992, after a detailed three-year study, the Government of Uganda instituted a sweeping decentralization program. Implementation of the decentralization program, which will occur in phases, is expected to last six years. These specific reallocations of roles and responsibilities between the central and local governments were formalized by the national government and have been inscribed in Uganda's Constitution.

The Bank is supporting the Ugandan process with a capacity building program aimed at strengthening

local and central governmental institutions and their policies as well as improving intergovernmental financing arrangements. In addition, the Bank is assisting local governments in preparing specific investment projects to be implemented under the new regime. The investment program is expected to fortify the decentralization process by clarifying and appropriately refining the division of obligations and powers between the central and local governments.

debate, and promote policy development for effective, responsive, and democratic local governance.

Lessons Learned

Because decentralization is a recent phenomenon in many client countries, it is difficult to ascertain its full consequences over time. Nonetheless, the Bank's initial experience in providing assistance to local authorities gives preliminary assessments that may provide perspective:

- On its own, decentralization of political powers is not adequate to improve public sector performance. To improve service delivery, decentralization should be accompanied by fundamental reforms in the administrative, sectoral, legal, and regulatory arenas.
- Local service delivery problems are not simply the result of a poor tax system, substandard accounting standards, or inadequate capital budgeting. Rather, the real problems usually reflect a lack of proper design and disregard of equity issues. Therefore, the traditional, narrow focus on municipal development related solely to taxation, internal administration, and related concerns in many cases has not yielded significant benefits. A comprehensive, integrated approach to service delivery at the appropriate spatial and political level is necessary for decentralized governance to attain its objective, which is improved service delivery to constituents.
- To improve service delivery, early involvement with clients and relevant stakeholders and the identification of responsibilities are key (box 21.1). With decentralization still in its infancy and with the need for many other reforms, the effort to address the needs of local authorities must move

forward in a methodical and clearly established process.

Challenges Ahead

The Bank faces multiple challenges as it seeks to assist local authorities in developing the capacity to meet the new obligations that decentralization has conferred on them. Among these are the following:

- Improving efficient organization through clear demarcation of central and local obligations and powers. For long-term sustainability, before obligations are allocated between local and central authorities, the political relationship between the center and the local agencies needs clear and rational definition. The Bank's efforts also need to focus more closely on synchronizing the reform process to ensure that local authorities are as responsive to their constituencies in practice as they are supposed to be in theory.
- Encouraging financial innovation by helping create conditions for the development of municipal credit markets. Ever-increasing financial pressures to sustain effective local service delivery require additional resources beyond intergovernmental fiscal transfers. Besides helping streamline and improve the collection of local government revenues, the Bank should concentrate more on creating an environment that is conducive to extrabudgetary resource mobilization, such as the ability to access credit markets.
- Improving the regulatory and legal environment. Local and central political accountability is commonly derived through enactment of laws and regulations. The Bank should focus on how best to design legal and regulatory regimes to improve political and civil service accountability within the context of decentralized governance.

Strengthening the Roles of Workers and Their Trade Unions

Sustainable development is not possible without a productive labor force that is free to bargain for safe working conditions, fair wages, and benefits. Moreover, smoothly functioning labor markets which balance flexibility with protection from external shocks and downturns are necessary as nations adjust to constantly changing levels of development and new technology. Recognizing the role that labor has played in addressing change and protecting workers, chapter 29 of *Agenda 21* calls for the active participation of labor, supported by increased training and capacity building, in promoting sustainable development.

Progress since Rio

The Bank attaches considerable importance to improvements in labor market performance and, since 1992, has expanded its role in supporting workers and trade unions. *World Development Report (WDR) 1995: Workers in an Integrating World* provides the analytical underpinning of the Bank's labor force strategy, which the Bank has sought to implement through its lending activities, economic and sectoral work, and research, and through strengthening its partnerships with major trade unions and related organizations.

To promote labor mobility, employment, and worker welfare, the Bank lends for a wide set of labor activities including labor code revision, employment creation in public works schemes, and retraining unemployed or potentially redundant workers. Other labor lending promotes labor market information and monitoring,

microenterprise development, employment services, improved conditions for female workers, and compensation for workers laid off in adjustment programs.

Lending for these relatively new activities increased considerably in the last four years. In fiscal 1996, 73 new projects were approved with one or more labor components, compared with 15 in 1992. By mid-1996, 229 ongoing projects included labor components, of which 28 projects were exclusively concerned with labor markets. In total, in the 1990s, the Bank committed about \$2.4 billion in lending for labor market activities.

The Bank further supports its clients through research and analysis of labor market policy. The work can be country specific (such as trade unions in Jamaica, minimum wages in Mexico, employment security regulation in India), in which case it is invariably undertaken jointly with government or forms part of a broader research program (such as the linkage between labor market institutions and economic performance, the relation between training and productivity, and assessments of labor market discrimination).

The Bank has increased its efforts to improve partnerships with other organizations that share its concerns with labor issues. Such partnerships bring clear benefits through sharing of knowledge and experience. The 1995 *WDR*, for example, was prepared in close consultation with the International Labour Organisation (ILO) and international trade union confederations such as the International Confederation of Free Trade Unions (ICFTU) and the World Confederation of Labor (WCL).

Bank partnerships with trade unions are now clearly established. With ICFTU and other international organizations, the Bank sponsored three conferences since Rio with union officials from Europe, West Africa and Southern Africa, the last of which was held in Harare in 1996. The aim of these meetings was to inform unions about work on labor and development issues, and seek their feedback. The Bank also assisted the WCL with a recent conference in Budapest. External training is another area that has recently started to involve trade unions. In 1996, union leaders from five countries participated in an EDI course on labor and development with employers and government officials.

The Bank enjoys close cooperation with the ILO in which both institutions benefit. In addition to regular informal discussions among officials, the two institutions are close to completing a joint study on obstacles to reform of vocational education and training systems. A study on the labor market impact of export-processing zones is also in progress. In addition, the two institutions recently held a joint workshop on labor code reform in West Africa.

Lessons Learned

The Bank's lending experience and analytical work on labor markets are summarized in the 1995 *WDR*, which stresses the potential benefits to workers of greater international integration through freer trade and greater international capital mobility. Such benefits may accrue through employment and real wage gains but are more likely to be realized if workers and other economic agents are responsive to the changes imposed by globalization. The *WDR* recognizes that improved labor standards may be desirable in poor countries and strongly opposes child labor and unequal treatment of minorities and disadvantaged groups. It notes, however, that most of the labor force of developing countries lies outside the formal sector so often does not benefit from labor regulations, while excessive standards, if enforced, may raise labor costs and reduce employment. Therefore, the *WDR* stresses the need to help workers outside the formal sector through job creation schemes and other mechanisms. In transition economies, it notes the wrenching changes faced by many workers and recommends action in three areas: enhancing mobility, reduc-

ing income insecurity, and equipping workers for change. The 1995 *WDR* also argues that trade unions and collective bargaining may create net benefits through higher productivity and lower costs, although it favors decentralized over centralized bargaining systems.

Challenges Ahead

The past century has been marked by widening international inequality between workers. The past fifteen to twenty years have seen a rapid advancement for large numbers of Asian workers but stagnation or decline for many in Sub-Saharan Africa, Latin America, and the Middle East, and, most recently, the former centrally planned economies of Central Asia and Europe.

- The primary challenge is, and will continue to be, a reversal of that long-run widening inequality. The Bank will continue to assist governments in creating the right environment, in which workers will be able to make the job choices, negotiate the conditions of work, and make the schooling decisions for their children that will improve the welfare of all groups of workers. The aims are robust job creation, rising productivity, and improvements in job quality.
- International assistance will also remain vital in supporting the inclusion of all groups of workers in the global economy. The Bank will therefore continue its support to governments in their efforts to establish frameworks for labor policy that complement informal and rural labor markets, support an effective system of industrial relations in the formal sector, provide safeguards for the vulnerable, and avoid biases that favor relatively well-off insiders. Union officials are likely to participate increasingly in the Bank's training and dissemination activities.
- Finally, the role of key labor standards is likely to become more important internationally. As part of this process, the Bank plans to take a more proactive role in the fight against intolerable forms of child labor. While details remain to be worked out, it is likely that the Bank will lend directly to reduce harmful child labor incidence with the advice and assistance of other key institutions and support these loans with analytical work. With regard to labor standards in general, Bank procurement practices are under review to ensure that its lending meets such standards.

Strengthening the Roles of Business and Industry

The private sector is a major driving force behind economic growth and poverty alleviation in much of the developing world. Moreover, there is strong reason to believe that private companies, if given the proper incentives, will be friendlier to the environment than state-owned monopolies, which they often replace. To enhance the role of the private sector in sustainable development, chapter 30 of *Agenda 21* supports initiatives to promote cleaner production, more efficient resource use, waste minimization, and a healthier environment. It also encourages a more dynamic private sector, emphasizing entrepreneurship and small and medium-sized firms. Finally, it encourages the creation of venture capital funds for sustainable development projects and increased training in the environmental aspects of enterprise management.

Progress since Rio

Since Rio, the World Bank Group has continued to strengthen links with the business community and with NGOs to support the expanding role of the private sector in sustainable development. The International Finance Corporation, the Bank Group's primary nexus for private sector development and investment, has increasingly worked to integrate environmental issues with business development. All projects in which IFC invests must meet the World Bank Group's high environmental standards and all local requirements. To further increase its ability to invest in environmentally sustainable development, IFC recently cre-

ated an Environmental Projects Unit in its Technical and Environment Department to develop and structure environmental projects. Despite its rapid growth in recent years, however, in terms of overall private investment, IFC is still small. Its chief contribution and impact lie in acting as a catalyst to develop and implement a variety of new financing mechanisms and to promote environmentally sustainable projects that other investors can replicate.

The Bank is also examining ways to bring public and private sector stakeholders and local communities together to tackle specific environmental problems. To this end, the institution has been working closely with the World Business Council for Sustainable Development (WBCSD). It also works with other industry groups committed to the environment, both on an international basis such as the Prince of Wales Business Leaders Forum (PWBLF), or in a specific industrial sector, such as the International Council for Mining and the Environment (ICME). At the same time, the Bank is raising the level of dialogue with individual multinational companies to understand their attitudes and approaches and to explore areas of possible cooperation, such as training in environmental management. Aided by information sharing from the Bank and UNDP, the PWBLF is bringing together examples of corporate good practice in environmental and social aspects of development, which will provide a basis for informed discussion on how to implement sustainable development concepts. In ad-

dition, as part of an independent assessment of its environmental procedures, IFC is reviewing the development aspects of its operations. These results will also contribute to this discussion.

To foster capacity for proactive environmental activity in small and medium-sized enterprises, a seminar on Ecoefficiency in the Textile Sector was developed and pilot-tested by IFC, with support from the IFC/European Commission Asia Trust Fund. There are plans to expand this training program to several countries and industry sectors through a joint effort with the Bank. IFC has also developed an innovative workshop on Environmental Risk Management for Financial Institutions. Over 265 financial institutions have participated since 1993. A new week-long, intensive course emphasizing the practical aspects of integrating environmental management into a financial institution's operations has been successfully developed, also supported by the IFC/EC Asia Trust Fund, and will soon be expanded.

The Bank is playing a growing role in supporting agencies such as the Industry and Environment Office of UNEP, a major proponent of cleaner production, in promoting the implementation of cleaner production methods. The best example to date is in China, where a Bank technical assistance project has supported UNEP in helping environmental authorities set up a national cleaner production system. The Bank is documenting and promoting cleaner production and ecoefficiency through its new *Pollution Prevention and Abatement Handbook* (forthcoming 1997), which will require analysis of such opportunities for Bank industrial projects and has already attracted considerable interest from the private sector, particularly in the area of thermal power.

The extension of the cleaner production approaches is the promotion of environmental management systems, such as International Standardization Organization's ISO14000, as a mechanism to institutionalize good operational practices. In addition to supporting governments' strengthening the institutional infrastructure for such systems, the Bank Group has been exploring ways to use commercial relationships between large and small companies to introduce good practices and environmental management systems. A pilot project has begun in Mexico to involve small local companies in developing sim-

plified environmental management systems patterned after the systems of "mentor" companies that have agreed to work with their suppliers.

Another area of Bank activity in improving the performance of industry is the involvement of environmental specialists in the process of privatization of large and inefficient state-owned enterprises (SOEs). Badly run SOEs are often major polluters. The introduction of new incentives and new management provides an opportunity to reduce waste, improve productivity, and revitalize pollution control systems. Even without specific attention to the environment, improvements have been demonstrated to follow privatization. However, the inclusion of environmental concerns can both reduce investors' concerns about subsequent environmental liability, as with Bank involvement in the mining sector in Bolivia, and identify rapid and cost-effective improvements that can be made, such as examples in heavy industry in Central Europe.

Another measure designed to improve private sector environmental performance concerns the Bank's work with national pollution control agencies to issue public ratings of companies according to how well they protect the environment (see box 23.1). The ratings are designed to reward good performance and call public attention to polluters who are not in compliance. Armed with this information, local communities can negotiate better arrangements with companies, firms with good performance can advertise their status and earn market rewards, investors can better assess potential liability costs, and regulators can better focus limited resources.

Environmental and developmental concerns provide win-win business opportunities. The Bank Group has proactively sought opportunities to invest and mobilize capital for environmental infrastructure projects, such as water supply, wastewater management, solid and hazardous waste management, and ecotourism. Capital has been mobilized for major privatizations and new treatment projects in Argentina, Brazil, and Mexico. IFC and the Bank are also providing advisory services in Argentina, Brazil, Gabon, and the Philippines on privatization of water services (see chapter 14 on Freshwater).

Awareness is growing that global environmental problems such as climate change and biodi-

Box 23.1 The PROPER method of pollution control

A new approach to regulation in Indonesia and the Philippines is showing that local communities and market forces can be powerful allies in the struggle against excessive industrial pollution. The two programs, called PROPER in Indonesia and EcoWatch in the Philippines, have involved collaboration between national pollution control agencies and World Bank staff to rate and publicly disclose factories' environmental performance. The ratings are designed to reward good performance and call public attention to polluters who are not in compliance with regulations. Armed with this information, local communities can negotiate better environmental arrangements with neighboring factories, firms with good performance

can advertise their status and earn market rewards, investors can more accurately assess environmental liabilities, and regulators can focus their limited enforcement resources on the worst performers.

During its first two years of operation, PROPER has proven quite effective in moving poor performers toward compliance and motivating some firms to pursue excellent ratings. The first EcoWatch disclosure will occur in Spring 1997, after a year of careful planning and consultation with NGOs, community leaders, and industry associations. Inspired by these and other examples of public information in action, the Governments of Colombia and Mexico are now moving rapidly toward their own public disclosure programs

versity loss will not be solved unless the private sector adds its vast technical, managerial, and financial resources to the effort. For this purpose, IFC has developed a portfolio of environmental investments that employ grant funds from the Global Environment Facility, the Montreal Protocol, and other donors to leverage much larger amounts of private sector investment. GEF provides grants, loans, and guarantees aimed at global environmental issues, such as reduction of greenhouse gases and biodiversity conservation. The Montreal Protocol provides grants to assist country-specific projects to phase out use of ozone-depleting substances.

Specific projects and investment funds managed by IFC include:

- *The Poland Efficient Lighting Program.* Funded by \$5 million from GEF, six local manufacturers participated in this program designed to stimulate the Polish market for compact fluorescent lamps and luminaires through manufacturers' rebate and consumer education. After six months of operation, nearly 350,000 compact fluorescent lamps had been sold nationwide; the three-year goal is 1,000,000.
- *Montreal Protocol projects.* IFC approved Montreal Protocol grants totaling over \$4.8 million to assist private sector firms in complying with requirements for phasing out CFC use. Specifically, leading Turkish manufacturers of materials for the cold storage industry and Slovakian refrigerator and freezer manufacturers will eliminate CFC use. Together, these programs will eliminate over 600 tons of CFC use per year.
- *Small and Medium-Scale Enterprise (SME) Program.* This program funds GEF-eligible projects by

SMEs to leverage larger flows of private finance. The projects are conducted primarily through financial intermediaries, such as venture capital funds or NGOs, which identify and appraise eligible subprojects.

- *Biodiversity Enterprise Fund for Latin America* (proposed). IFC and private investors would bring together investment management expertise, sector know-how, and capital to make these resources available to medium-sized enterprises in sustainable forestry, ecotourism, and agriculture in South America.
- *Global Renewable Energy and Energy Efficiency Fund* (proposed). This fund would provide and equity finance from private sector investors, IFC, and GEF to medium-sized and small projects.

Lessons Learned

Progress in environmental sector investments has been slower than anticipated for a number of reasons. Primary is the difficulty in integrating private sector approaches with public sector goals. Often, government policies must change before the private sector will step in. Since 1996, therefore, IFC and the Bank have emphasized public-private partnerships to design investment projects and market transformation initiatives, as well as the use of cofunding through GEF and Montreal Protocol projects. From these collaborations, the Bank Group has developed two approaches to overcome market barriers:

- Where necessary, to "buy down" the costs and risks associated with sustainable business ventures with various measures, including conces-

sional loans, credit guarantees, equity investments, or grants for technical assistance

- To use market transformation initiatives to stimulate or “jump-start” market demand through rebates and consumer education programs, challenge grants, loans, and loan guarantees, as with the *Poland Efficient Lighting Project*. GEF funds were also recently approved for a Photovoltaic (PV) Market Transformation Initiative developed by the Bank and IFC to accelerate the introduction of PV technologies in India, Kenya, and Morocco.

Challenges Ahead

The Bank Group is committed to encouraging the private sector to invest in environmentally sound enterprises.

- Key future challenges are to continue to demonstrate the financial viability of such investments, demonstrate innovative financing approaches, build capacity in financial institutions to undertake environmental risk management, promote

“ecoefficient” project designs, and support legislative and policy frameworks that erode market barriers to sustainable development.

- The IFC strategy in this sector will be to maximize leverage of concessional funding from sources such as GEF and the Montreal Protocol with private investment capital and IFC’s own resources. This strategy increases the likelihood that projects can be replicated without further concessional support. In this effort, IFC is evaluating various nongrant financing methods to determine which instruments are most effective in catalyzing private capital flows.
- Another future challenge is to encourage a consultative process with key stakeholders, including government, industry, NGOs, and other interested parties, to develop voluntary environmental and social guidelines for private sector investment. Such consultation could contribute to a more stable and predictable investment climate in developing countries and would complement government efforts. The Bank Group could act as a catalyst and a mediator in this process.

Implementing Financial Resources and Mechanisms

The effort to promote sustainable development, most importantly in developing countries but in industrialized ones as well, cannot move forward without adequate resources. Investments in research, technology, infrastructure and social services are all necessary to change how people pursue economic well-being in environmentally sustainable ways. At the same time, issues such as the vast inequality between the wealthiest countries and the poorest, as well as the transboundary nature of threats to the environment, require effective international mechanisms to mediate among countries. In recognition of these factors, chapter 33 of *Agenda 21* calls for the multinational agencies, including the World Bank (IBRD), the International Development Association (IDA), and the Global Environment Facility, to provide adequate resources to help realize the goals articulated in the rest of the document. Chapter 33 also calls for all partners in the development process to pursue financing alternatives, such as debt swaps and tradable permits.

Progress since Rio

The years since Rio have been by far the most active period for Bank lending, concessional finance through IDA, and implementation of the GEF and Montreal Protocol. A simple—and rough—environmental accounting of the Bank's total lending since Rio is presented in table 24.1. Four types of projects are identified. First are those specifically targeted towards improving the environment (discussed below). Second are those that inarguably

Table 24.1 World Bank lending since Rio: a simple accounting of World Bank commitments, fiscal 1993–97

<i>Type of lending</i>	<i>Billions</i>	
	<i>of dollars</i>	<i>Percent</i>
Total lending	108.4	100
Environment projects	8.4	8
Win-win projects	26.0	24
Category A projects	18.0	16
All other lending	56.0	52

Source: Environment Department, World Bank.

are benign to the environment while promoting economic development. These win-win projects include population, education, health, and targeted poverty reduction projects. Third are the so-called EA category A projects such as road or energy projects in which real tradeoffs may exist between protecting the environment and promoting economic development. Finally are all other programs—in agriculture, urban development, economic adjustment, and the like, which contribute positively to sustainable development if correctly designed, but without proper care can damage long-term sustainability.

Table 24.2 provides a summary of both direct lending and grant commitments, as well as the amount of cofinance (from domestic governments and the private sector, other multilateral institutions and bilateral aid agencies) making up the Bank's environment portfolio.

Since Rio, combined lending, concessional finance, and grants through the World Bank have totaled over \$10 billion. This funding has leveraged another \$15 billion in cofinancing for a broad

Table 24.2 World Bank/GEF/MP environmental loans and grants, fiscal 1992–97
(millions of dollars)

<i>World Bank</i>	<i>Concessional (IDA)</i>	<i>Lending</i>	<i>Cofinance</i>	<i>Total</i>
Energy	0.0	329.0	74.9	403.9
Env. management	801.0	1,174.3	2,227.4	4,202.7
Institution building	225.6	535.3	591.1	1,351.98
Nat resource mgmt.	540.2	303.0	449.3	1,292.5
Pollution abatement	280.7	2,660.4	5,225.0	8,166.1
Renewable energy	115.0	80.9	262.1	458.0
Urban environment	233.0	1,718.0	2,893.3	4,844.3
Subtotal	2,195.5	6,800.9	11,723.1	20,719.5
<i>GEF</i>	<i>Grant</i>		<i>Cofinance</i>	<i>Total</i>
Biodiversity	314.0		404.1	718.1
Climate change	355.5		2,793.9	3,149.4
International waters	104.0		127.1	231.1
Multiple focal areas	19.8		51.2	71.0
Ozone depletion	109.3		99.5	208.8
Subtotal	902.5		3,475.8	4,378.3
<i>Montreal Protocol</i>	<i>Grant</i>		<i>Cofinance</i>	<i>Total</i>
Ozone depletion	226.8		(n.a.)	226.8
Total	3,324.9	6,800.9	15,198.9	25,324.6

Source: Kirk Hamilton, Environment Department, World Bank.

range of projects to support environmentally sustainable development. In addition, in 1996 the World Bank and the IMF agreed upon a debt relief initiative for highly indebted poor countries (HIPC). In coordination with actions by all creditors, an HIPC trust fund administered by IDA will provide debt relief to eligible countries on debt owed to participating multilateral institutions. Eligibility will be based upon commitments to sustained improvements in economic management, as well as structural and social policy reform on the part of recipient countries.

Another important area in which progress has been made since Rio and in which the Bank has played a pivotal role is the effort to reduce fossil fuel subsidies. Overall levels of fossil fuel subsidies in developing countries, Eastern Europe, and Russia have declined from \$115 billion in 1990/91 to \$58 billion in 1995/96, with substantial (but difficult to measure) declines also likely in the other countries of the Former Soviet Union (see *Expanding the Measure of Wealth*, World Bank 1997). This progress on subsidy reform has made an additional \$57 billion available for develop-

ment, while reducing the damaging environmental effects of excessive energy use.

Private sector participation (PSP) in water, sewage, and electric generation has also been growing since Rio. While PSP is not a panacea, it does provide access to new technologies, better management, and the implementation of a charging schema that permits increased access, improved maintenance of plant, and new investment for expansion. The key to success lies in balancing the risks between public and private sectors and in enforcing environmental performance standards.

Lessons Learned

The financing provided by the World Bank through its own lending and the grant programs it administers is just a portion of the total development assistance aimed at achieving sustainable development. The harsh fact is that overall levels of ODA as a share of GNP have been falling in the developed world since Rio. The first lesson to be learned in the years since Rio is that much of the finance for achieving the goals of *Agenda 21* will have to be found from local sources.

Other lessons include the critical importance of engaging the public in environmental projects and policies. In environmental projects, as in most others, public participation and support are important determinants of success. New experience also shows that informing the public about environmental conditions and attendant dangers can be a powerful impetus for polluters to change their ways, stimulating private finance for sustainable development.

Challenges Ahead

- *Partnerships.* The simple act of making money available for new development projects will never be enough to bring about sustainable development. The quality of investment matters at least as much as the quantity. So while the World Bank will continue to expand its environmental portfolio, there will also be a growing emphasis on ensuring successful outcomes. The level of cofinancing for environmental projects seen in table 2 speaks to the importance of partnerships in the sustainable development business.
 - *Reduced subsidies.* The scope for reforming subsidies that drain governments' treasuries and are harmful to the environment is considerable. Recent estimates place the level of subsidies to fossil fuels, electricity, road transport, water, and agricultural inputs at over \$200 billion per year in developing countries. Even reducing these subsidies by half would release considerable financial resources for sustainable development,
- while increasing overall economic efficiency and reducing impacts on the environment. Continued progress must be made in this area.
- *Environmental taxation.* An important part of the agenda for reform is to move beyond reducing subsidies to taxing harmful products. While environmental taxes are generally most effective when applied directly to emissions, in many cases this is not practical (for transport emissions, for example), so taxing the input is second best. Expanding the scope of environmental taxes, including taxes on pollution emissions, provides not only cost-effective pollution reductions but also a source of finance.
 - *International greenhouse offsets.* Expanded use of international offsets will play a growing role in dealing with greenhouse warming. In this regard, the Costa Rican program of Certifiable Transferable Greenhouse Gas Emissions Offsets, implemented through afforestation of degraded agricultural lands, is an important innovation that significantly reduces transaction costs. Offsets will provide the necessary finance for afforestation while giving emitting countries an affordable way to reduce net emissions.
- For basic macroeconomic reasons, governments everywhere are being forced to constrain expenditure. In these times of fiscal restraint the issue of finance may be one of the most important motivations for embracing environmental taxes and other innovative, market-friendly approaches to protecting and enhancing the environment.

Promoting Public Awareness, Education, and Capacity Building

To focus sufficient public attention on sustainable development, broad-based efforts to educate and inform people are needed in both developing and industrialized countries. Chapter 36 of *Agenda 21* emphasizes the importance of these efforts for those involved in development.

Effective development requires strong capacity on the part of beneficiary countries to manage new projects and integrate them in their economies. This is especially true for sustainable development, where a failure to maintain and upgrade technology or a breakdown in the incentive system necessary to capture externalities can have dire consequences. Chapter 37 of *Agenda 21* emphasizes the need to build domestic capacity from the national to the municipal level and in tandem with nongovernment sectors.

Progress since Rio

To promote awareness of sustainable development issues, in Fall 1993, the Bank convened its first annual conference to address issues related to advancing environmentally sustainable development (ESD). The first conference, "Valuing the Environment," was followed in 1994, 1995, and 1996 respectively by conferences on "The Human Face of the Urban Environment," "Effective Financing of ESD," and "Rural Well-Being: From Vision to Action." In 1997, the Fifth Annual World Bank Conference on Environmentally and Socially Sustainable Development will address the national imperatives of global overlays, that is, global

ecosystem management, with a focus on the roles of science, economics, and law.

These annual ESD (now ESSD) conferences have been complemented by concurrent associated events and other conferences, many cosponsored with external partners. Over twenty such events have been held since Rio. Because of the high level of expertise participating from outside and inside the Bank, many of these events have led to published proceedings and papers that have advanced of shared literacy on various aspects of ESD. These publications have been widely distributed outside the Bank to United Nations agencies, national commissions on sustainable development, NGOs, academia, the private sector, and the civil society. They are also used by Bank staff, particularly the Economic Development Institute (EDI) and in the Learning and Leadership Center (LLC), as reference materials for training and education.

Capacity building is one of the main objectives of many Bank lending operations, including all Bank-financed environmental projects. It is a central focus of lending designed primarily to strengthen environmental institutions. Since mid-1992, such Bank-assisted projects have been undertaken in countries as diverse as Benin, Chile, China, Colombia, The Gambia, Ghana, Honduras, India, Indonesia, Korea, Morocco, Russia, and Trinidad and Tobago, together with previously approved operations in Brazil, Indonesia, Madagascar, Mauritius, Mexico, Nigeria, Pakistan, and Poland. In addition, as part of or following on regional, national, or subnational strategic planning for the environment, the Bank, often in

partnership with other donors, has supported strengthening environmental management capacity at the regional, provincial, and municipal/urban levels in many client countries. Examples include the *Pilot Program for Conservation of the Brazilian Rainforest*, which the Bank administers on behalf of the G-7 countries; the *Metropolitan Environmental Improvement Program* (MEIP) for Asia; and a new initiative known as MELISSA, or *Managing the Environment Locally in Sub-Saharan Africa*.

The Bank's policy requiring environmental assessment (EA) for Bank-financed projects with potential adverse environmental impacts has spurred domestic capacity building for EA in its client countries. In countries in which EA capacity is weak, the Bank has helped to build capacity at both the national and sectoral levels and in both the public and private sectors.

Capacity building is also the principal purpose of the Economic Development Institute. EDI assists the Bank and its borrowers to achieve the goals of poverty reduction and equitable, sustainable development by helping them to design and implement better policies and programs. EDI has organized national and regional seminars and workshops on many relevant areas for senior policymakers and development practitioners in Bank member countries over the past five years. These areas include water policy reform, agriculture and forestry, urban and industrial management, social issues (for example, resettlement and rehabilitation and social investment funds), and mainstreaming the environment.

As another part of the Bank's commitment to environmental awareness building, EDI recently launched the World Links for Development ("the WorLD") program to create on-line educational communities for secondary school students and teachers around the world. Students in developing countries will be linked by the Internet and the World Wide Web with their peers in industrialized countries for collaborative distance learning.

WorLD is working closely with GLOBE, a distance environmental education program founded under the leadership of U.S. Vice President Al Gore and funded through the U.S. National Oceanic and Atmospheric Administration (NOAA), National Aeronautics and Space Administration (NASA), and the National Science Foundation (NSF). In each country in which the WorLD program connects schools, WorLD will provide train-

ing and in some cases equipment to schools to participate in GLOBE. These schools will then become part of GLOBE's international network of more than 2,000 schools in over forty countries.

Lessons Learned

- There is a continuing need to enhance quality and effectiveness of sustainable development initiatives building on the emerging lessons. There is also the need for flexibility. Careful evaluating and disseminating of what works and what does not in projects under implementation and systematically feeding this information back into the design of new operations are important elements in this process. Particular attention needs to be given to efforts to build institutional capacity for improved environmental management and sustainable development more generally.
- Since 1992, approximately 100 countries have completed environmental strategies or action plans, in many cases with Bank assistance. In many ways, the process of these exercises has been more important than the product. Through a participatory process, these planning exercises have raised public awareness and have helped to develop domestic capacity to identify and assess environmental problems and define priority actions.
- The Bank's ESD conferences have convincingly demonstrated the need to convene processes which link experts so that lessons learned and knowledge can be shared, not only among the participants but also with others through specific dissemination strategies. Such events affect policy, inform a broader public to create a shared literacy, and help enable the Bank, in partnership with others, to respond to *Agenda 21*.

Challenges Ahead

Principal future challenges in the context of Bank lending operations include using EA more effectively as a strategic planning tool at the policy, sectoral, and regional levels; improving the environmental and social assessment of investment alternatives; strengthening public involvement in the EA process; and ensuring adequate implementation and supervision of project-specific environmental management plans. Even more important, however, is the need to continue to build and consolidate EA capacity within the Bank's client countries.

Implementing International Legal Instruments and Mechanisms

By their nature, environmental problems often cross rational borders. Effective solutions thus require an international response. In recognition of this, chapter 39 of *Agenda 21* calls for increasing technical assistance to developing countries in the field of environmental law as well as negotiating new instruments and mechanisms based on “both universal principles and the particular and differentiated needs and concerns of all countries.”

Progress since Rio

Since 1992, greater seriousness has been attached to environmental issues and sustainable development. The Rio conference prompted the negotiation and adoption of a large number of new global and regional environmental conventions. It also placed at the forefront of the international environmental agenda the need to ensure the effectiveness of the wide range of international instruments already in place.

In its role, the Bank focuses on identifying and addressing difficulties that prevent states, developing countries in particular, from participating in or properly implementing international instruments. This task is accomplished in partnership with other universal and regional international organizations such as Food and Agriculture Organization of the United Nations, United Nations Development Programme, United Nations Environment Programme, and United Nations Institute for Training and Research (UNITAR) as well with the private sector, foundations, NGOs, and other communities.

Strengthening Legal and Institutional National Capacities

Legal capacity is a key component in ensuring sound and sustainable development. The Bank's project design and technical assistance activities address this concern by seeking to enhance the scope, content, and capacity of existing national frameworks. The Bank also helps strengthen the institutional capabilities of borrowing countries through free-standing environmental projects and/or as components of other loan and credit projects. In this context, the Legal Department has helped a large number of countries produce framework and sectoral legislation to support natural resources base and pollution control.

The Bank also assists in reviewing the involvement of countries in international environmental agreements to help reinforce their capacity to implement the agreements. For example, the Bank assisted in a comprehensive review by the Russian Federation and other states of the Former Soviet Union (FSU) of their participation in international environmental agreements.

The development of a legal and institutional framework for the involvement of local communities in environmental management and the financing of microenvironmental projects are additional examples of Bank activities aimed at strengthening the ability of stakeholders to implement environmental agreements.

Implementing International Conventions

As an implementing agency for the GEF and Ozone Trust Fund projects, the Bank contributes to the implementation of some of the most im-

portant Multilateral Environmental Agreements (MEA), such as the Montreal Protocol and the Framework Convention on Climate Change. In this context, the Bank has assisted a number of countries in phasing out ozone-depleting substances (ODS) and adopting new cost-effective, CFC-free technologies. To facilitate grant disbursements in this area, the Bank has established the Umbrella Agreement mechanism, which reduces the contractual arrangements for disbursing funds to the recipient countries.

The Bank is also an implementing agency for a GEF-financed project, the West Africa Pilot Community-based Natural Resources and Wildlife Management Project, which involves Burkina Faso and Côte d'Ivoire. The Bank has been helping these two countries develop bilateral cooperation to better address wildlife management along their shared border and prepare domestic legislation to improve national capacity to manage natural resources.

The Bank has also helped implement legal instruments to protect international waters. The GEF-financed and Bank-administered Ship-Generated Waste Management Project provides support for the ratification and effective implementation of the International Convention for the Prevention of Pollution from Ships (MARPOL 73/78) Convention, which regulates ship-generated waste. As a direct result of the project, each of the countries has adopted cost recovery legislation including a fee on cruise ship passengers. The GEF-financed and Bank-administered Wider Caribbean Initiative for Ship-Generated Waste has assisted countries in the development of model MARPOL legislation. A joint project among Algeria, Morocco, and Tunisia is another example of a GEF-financed and Bank-administered project requiring the development of legislation to implement MARPOL.

Building Expertise and Access to Information

Legal components in a number of Bank projects aim at capacity building initiatives to build expertise and increase access to information. The Regional Environmental Information Management Project (REIMP) in the Congo Basin is working to identify and compile existing data on

biological resources and to develop networks to exchange and use environmental information. The purpose is to support sustainable development and help the countries of the Congo Basin ecosystem implement the biodiversity convention. A memorandum of understanding will regulate cooperation among the six Congo Basin Rain Forest Countries (CBRFC) to implement the project.

Lessons Learned

To implement international legal instruments, there is a crucial need to strengthen domestic institutional and regulatory capacities. Building regional cooperation will also help to address transboundary environmental objectives.

International instruments have become more and more complex, with far-reaching objectives. They require that sophisticated innovative policies and mechanisms be put in place. The methods to be used (command and control/economic instruments) must reflect the local economic and social milieu within which they operate.

Public participation and dissemination of information are key components to ensure monitoring and compliance with legal instruments at the local, national, and international levels.

Challenges Ahead

Implementation of international instruments requires still more thought, and much remains to be achieved. There is still a quest for grassroots effectiveness and sustainable implementation of these instruments. Attention needs to be given to voluntary compliance through legislation and regulation as well as to building capacity to monitor and enforce legal instruments.

Bringing *Agenda 21* to the domestic level requires the "localization" of international obligations. Technical assistance should be many-fold (including investment projects, training, and education) to give treaties and conventions practical meaning in everyday life in borrowing countries.

Capacity building remains a challenge. Institutions and legislation are pillars to ensure sustainable development. They should reflect local conditions based on all stakeholders' participation.

APPENDIX

Acronyms and Abbreviations

ADB	Asian Development Bank
AdL	Aguas de Limeira
AFDB	African Development Bank
AFR	Africa Region
AFTES	Africa Technical Environmentally Sustainable Development Division
AIDS	acquired immune deficiency syndrome
AIJ	activities implemented jointly
CAS	Country Assistance Strategy
CBD	Convention on Biological Diversity
CBRFC	Congo Basin Rain Forest Countries
CDC	Centers for Disease Control
CESP	Country Environment Strategy Papers
CFCs	chlorofluorocarbons
CGAP	Consultative Group to Assist the Poorest
CGIAR	Consultative Group on International Agricultural Research
\$	current U.S. dollars
EA	Environmental Assessment
EBRD	European Bank for Reconstruction and Development
EC	European Commission
ECA	Europe and Central Asia Region
ECD	Early Child Development
EDI	Economic Development Institute
EGCG	External Gender Consultative Group
EIB	European Investment Bank
ENVLW	Land, Water, and Natural Habitats Division
ENVPE	Pollution and Environmental Economics Division
ESD	Environmentally Sustainable Development (in 1997 became Environmentally and Socially Sustainable Development (ESSD))
ESDAR	Agricultural Research and Extension Group
EU	European Union

FAO	Food and Agriculture Organization of the United Nations
FCCC	United Nations Framework Convention on Climate Change
FMTI	Forest Market Transformation Initiative
FSU	Former Soviet Union
GDP	gross domestic product
GEF	Global Environment Facility
GHG	greenhouse gas
GNP	gross national product
GOB	Government of Brazil
GWP	Global Water Partnership
ha	hectare
HIPC	Heavily Indebted Poor Countries Program
HIV	human immunodeficiency virus
IBRD	International Bank for Reconstruction and Development
ICFTU	International Confederation of Free Trade Unions
ICME	International Council for Mining and the Environment
ICZM	Integrated Coastal Zone Management
IDA	International Development Association
IDB	Inter-American Development Bank
IDF	Institutional Development Fund
IFAD	International Fund for Agricultural Development
IFC	International Finance Corporation
ILO	International Labour Organisation
IMF	International Monetary Fund
IMSC	Inter-Ministerial Steering Committees
ISO	International Standardization Organization
IUCN	World Conservation Union (formerly International Union for the Conservation of Nature and Natural Resources)
LLC	Learning and Leadership Center
MARPOL 73/78	International Convention for the Prevention of Pollution from Ships
MBI	market-based instrument
MDP	Municipal Development Programme
MEA	Multilateral Environmental Agreements
MEIP	Metropolitan Environmental Improvement Program
MELISSA	Managing the Environment Locally in Sub-Saharan Africa
MENA	Middle East and North Africa Region
METAP	Mediterranean Environment Technical Assistance Program
MFI	multilateral financial institution
MFMP	Multilateral Fund for the Montreal Protocol
MIGA	Multilateral Investment Guarantee Agency
MP	Montreal Protocol
MTI	Market Transformation Initiative
NASA	National Aeronautics and Space Administration
NEAP	National Environmental Assessment Plan
NGO	nongovernmental organization

NIPA, Inc.	Filipino NGO consortium
NOAA	National Oceanic and Atmospheric Administration
NSF	National Science Foundation
OD	Operational Directive
ODA	official development assistance
ODS	ozone-depleting substances
OECD	Organisation for Economic Co-operation and Development
OP	Operational Policy
PPA	participatory poverty assessment
PROPER	Program for Pollution Control, Evaluation, and Rating
PRTR	Pollution Release and Transfer Register
PSP	private sector participation
PV	photovoltaic
PWBLF	Prince of Wales Business Leaders Forum
REIMP	Regional Environmental Information Management Project
SAGA	West Africa Social and Gender Analysis training program
SCD	Swiss Development Cooperation
SCT	Social Challenges of Transition database
SIDA	Swedish International Development Authority
SME	Small and Medium-Scale Enterprise Program
SPMA	São Paulo Metropolitan Area
STD	sexually transmitted disease
UNCED	United Nations Conference on Environment and Development
UNCHS	United Nations Centre for Human Settlements (Habitat)
UNDP	United Nations Development Programme
UNEP	United Nations Environment Programme
UNESCO	United Nations Educational, Scientific, and Cultural Organisation
UNHCR	United Nations High Commissioner for Refugees
UNICEF	United Nations Children's Fund
UNIDO	United Nations Industrial Development Organisation
UNITAR	United Nations Institute for Training and Research
UNSTAT	United Nations Statistical Office
WBCSD	World Business Council for Sustainable Development
WCL	World Confederation of Labor
WDR	<i>World Development Report</i>
WHO	World Health Organization
WorLD	World Links for Development Program
WRI	World Resources Institute
WWC	World Water Council
WWF	World Wildlife Fund

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