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Edited by Gregory K. Ingram and Yu-Hung Hong

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The Environment and Global Governance: Can the Global Community Rise to the Challenge?

Uma Lele, Aaron Zazueta, and Benjamin Singer

This chapter addresses the nature and magnitude of the global environmental challenge and the response of the international organizations to that challenge. It assesses the strengths and weaknesses of the current global environmental policy and aid architecture by drawing on evidence from independent evaluations of international organizations concerned with environmental issues. It reviews the extent to which the individual and collective responses of these organizations have been adequate to meet the challenge, what has worked and what has not, and lessons and implications for the future. In short, this chapter attempts a meta-evaluation of the available evaluative evidence on international organizations concerned with the global environment.

This is no small task. Defining global environmental policy and the corresponding aid architecture is a challenge because the balance of power among nations is changing and environmental programs have been evolving rapidly, with a proliferation of partnerships and numerous recent climate and carbon initiatives. Moreover, experienced analysts are asking donors to think twice before establishing new earmarked funds and to use existing institutions whenever possible to align these funds with the assistance strategies of each country (Isenman and Shakow 2010; Isenman, Wathne, and Baudienville 2010; World Bank 2008a).

Using information from the rearview mirror to navigate the crowded road ahead requires examination of the legacy costs of the past architecture and what this means for the future. Independent evaluations vary greatly in scope, coverage, quality, and evidence base, and their assessments of specific organizations,

sectors, and programs frequently offer a limited view. However, by taking account of the changing external situation and aid architecture, the sum total of these evaluations becomes clear.

Overview

The substantive focus of this chapter is on climate change and natural resource management in developing countries, that is, forestry/biodiversity, agriculture, and energy (including renewable energy). These areas were selected as a focus for four reasons:

1. One-third of the global greenhouse gas (GHG) emissions come from forests and agriculture, and almost all forest carbon emissions come from developing countries.
2. There has been a strong focus on reducing emissions in developing countries (Stern 2006; World Bank 2010b). It reflects the argument often made that mitigation of climate change is less costly in developing countries than in developed countries. Therefore, it is in the interest of the global community to focus on reducing emissions (a) where they are growing rapidly; and (b) where abatement costs are lowest. Hence, developed countries, as beneficiaries, should provide financing for reducing emissions in developing countries.
3. Among the various mitigation efforts, REDD+ (reducing emissions from deforestation and forest degradation, forest conservation, the sustainable management of forests, and the enhancement of forest carbon stocks) has gained substantial momentum. REDD+ stems from RED (reducing emissions from deforestation), a concept introduced by Costa Rica and Papua New Guinea at the United Nations Framework Convention on Climate Change's (UNFCCC) Conference of Parties in Montreal in 2005, and the later concept of REDD (reduced emissions from deforestation and forest degradation). The "+" denotes that developing countries need to be paid for maintaining standing forests and for preserving other forest functions (biodiversity, watershed protection, etc.), economic value (timber and nontimber forest products alike), and social objectives (livelihoods and cultural values). It indicates a shift from a narrow focus on carbon stocks to a broader scope encompassing all the issues covered by the debate concerning forests and development assistance (e.g., community forestry, joint forest management, and programs on payments for environmental services). Reducing deforestation is perhaps the most complex of all the global public goods (GPGs) to deliver and document, and REDD+ poses even greater challenges than RED. Both RED and REDD+ deal with issues of property rights, community participation, and benefit sharing—all aspects that are difficult to measure—as well as carbon sequestration, which is measurable in principle, though difficult to assess in practice.

4. Recent evidence suggests that rates of deforestation have slowed in Latin America (most notably in Brazil), sub-Saharan Africa (e.g., in Cameroon), and Indonesia, the regions that have had the highest rates of deforestation (FAO 2010). Progress has taken place despite the absence of programs to independently verify and certify emissions reductions. Some analysts have noted that related carbon sequestration has cost as little as $2.50 per ton, compared to $18 per ton in the European Union carbon-trading scheme (Lawson and MacFaul 2010). Success is attributed to factors such as better law enforcement against illegal logging in Brazil, independent external verification in Cameroon, greater vigilance by civil society organizations in Indonesia, and a greater desire on the part of developing countries to be environmentally responsive. But some analysts have questioned the extent of reductions in forest loss and/or the factors explaining it (Karsenty 2008; Karsenty et al. 2008). Evaluations can shed some light on this debate.

This chapter offers support for three key propositions. First, despite the shift from RED to REDD to REDD+, the focus of REDD+ remains largely on forest carbon storage as a mitigation strategy and does not address other forest values, such as biodiversity, watershed protection, forest production, income generation, and social and cultural values. This limited focus will be neither sufficient nor sustainable without a land use, land use change, and forestry (LULUCF) approach, which the Intergovernmental Panel on Climate Change (IPCC) has envisioned. Attention needs to be paid to land conversion to agriculture and other uses, as well as to the many underlying issues related to REDD+ (e.g., international trade in commodities and private capital flows, technology transfers, and adaptation to climate change) involving diverse forest and agricultural lands and a large number of people dependent on natural resources. Although only 70 million forest-dependent people live in the remote areas of closed tropical forests, as many as 735 million live around forests in degraded or marginally forested areas and are involved in 50 percent of legal and illegal logging (Saunders and Nussbaum 2008). Households in these areas face multiple insecurities, including loss of biodiversity, fuel wood, water, and other resources on which they have traditionally depended. Severe climate change is impacting these areas. Investments in agricultural research and development and adaptation, including in agroforestry and community forestry, are needed to help those people secure livelihoods until growth in the rest of the economy can absorb them. While deforestation on public lands continues, recent evidence suggests that tree cover on community forest lands and agricultural lands is increasing (FAO 2010).

Second, even with efforts on all these fronts, attention to mitigation in brown sectors (e.g., housing, transport, and energy) must be an important complement to REDD+. There is huge potential for private-sector investment and financing of mitigation in other sectors, although the financial returns on these investments are still unclear and financial markets for such investments are in the early stages of development.

Third, stressing mitigation in developing countries alone may provide a disincentive for mitigation in developed countries. Private investors in the United States have argued that until carbon prices reach $40 a ton, there is little incentive for the private sector to invest in technologies that would cut emissions drastically.[1] Cleaner electricity and transportation can address 75 percent of carbon emissions (Khosla 2010). Global subsidies to fossil fuel industries amount to $150 billion annually, whereas research and development on those types of issues amounts to only $10 billion (World Bank 2010b). Resources for research related to agricultural and natural resource management affecting poor people are similarly woefully low and are mostly concentrated in developed and a few emerging developing economies (Lele et al. 2010). The gaps between private and public, and between local and global, costs and benefits are obvious. Different visions have different implications for the roles of the public and private sectors and for the structuring of incentives. Identifying where the true comparative advantage lies among international and national actors in addressing a sustainable and inclusive global growth agenda is critical to the effectiveness of any future international environmental architecture. Without a broader agenda beyond REDD+, and without a broader set of actors beyond the international organizations currently responsible for environmental rule setting and financing, the global environmental architecture will not be attuned to the current reality and will do little for the environment or for those whom REDD+ is meant to help directly and indirectly.

The Changing Global Context

While climate change is clearly the greatest threat facing planet Earth, other interrelated environmental issues include the loss of biodiversity, marine resources, and the water crisis. With the rapid population and economic growth of developing countries, their shares of global environmental pressures have been growing rapidly and will continue to increase under a "business as usual" scenario (Lele et al. 2010; World Bank 2010b). The global environmental architecture will need to be far more inclusive of actors who are currently not sufficiently mobilized (including developing countries, the private sector, and civil society) in order to address climate change and these other issues.

First, the environmental changes have only recently begun to be viewed, analyzed, and understood in the context of ecosystem changes and interacting pressures. The current architecture reflects the incremental approach of the global

1. With the U.S. legislation on energy (pending at the time of publication of this chapter) unlikely to support such prices, they argue, uncertainty is better than low prices that tend to be a disincentive to the development of technologies that produce radically less carbon. Therefore, cap and trade or carbon-pricing, with likely compromises in the course of the drafting of the bill, would be worse than no regulation (Khosla 2010).

community to specific perceived "environmental problem areas" of a GPG nature (e.g., ozone depletion, forest or biodiversity loss, and issues concerning international waters), each leading to targeted responses, such as the Global Environmental Facility (GEF), the largest fund for the environment and implementation of international conventions,[2] the Montreal Protocol,[3] and the recent carbon and climate funds discussed later. There are also major gaps, including the lack of mechanisms to address issues such as the BP oil spill in the Gulf of Mexico in the spring of 2010. Although international organizations address specific aspects of the environment, climate change is a relatively new topic. Currently available evaluations pertain largely to past project or subsectoral activities. For these evaluations to provide important insights for the future, care must be taken to put them in the broader context of sectoral, country, and global initiatives.

Second, the prospects for a globally binding, overarching climate change accord seem dim, with vast differences in public opinion among countries not just about climate change, but also about the role of government, the private sector, and collective citizen action. At the same time, bilateral deals between individual industrial and developing countries on climate issues are growing rapidly. Not all such deals are as transparent as the activities of multilateral organizations. Many are linked to other business investments (e.g., in mining). The collective role of these deals and their implications for the way the current aid architecture works are unclear, and their role in the evolution of a future global environmental architecture is even less clear.

Third, overall private capital flows to developing countries now dwarf official development finance, even taking into account reported annual pledges of $10 billion for climate-related initiatives by 2012. Yet the role of private capital in future financing of the carbon market, as well as in the growing carbon funds that are part of official development finance, also remains unclear. The absence of clear global rules and the current low carbon prices compound the challenge. Most important, the investment needs for environmental mitigation and adaptation are much greater than the public funds currently available.

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2. GEF finances implementation of Convention on Biological Diversity (CBD), United Nations Framework Convention on Climate Change (UNFCCC), Stockholm Convention on Persistent Organic Pollutants (POPs), and UN Convention to Combat Desertification (UNCCD). The GEF, although not linked formally to the Montreal Protocol on Substances That Deplete the Ozone Layer (MP), supports implementation of the Protocol in countries with economies in transition.

3. The Montreal Protocol on Substances That Deplete the Ozone Layer is an international treaty designed to protect the ozone layer by phasing out the production of numerous substances believed to be responsible for ozone depletion. The treaty, which came into force in 1989, has been signed by 192 countries and is hailed as the single most successful international agreement to date. It is making rapid progress toward its goal and is expected to fully recover the ozone layer by 2050.

Fourth, international organizations themselves are changing, including the United Nations. The World Bank, the largest multilateral actor in financing development aid, is now involved in the provision of GPGs as a complement to its traditional country assistance role. It has initiated carbon and climate funds (12 carbon and two climate).[4] It has received financial pledges and initiatives in support of mitigation and adaptation that by 2010 were expected to involve $30 billion and to be channeled through the World Bank and managed by a variety of international financial institutions. These initiatives are occurring over and above the growth of other bilateral trust funds managed by multilateral institutions, a trend under way since the mid-1990s (Isenman and Shakow 2010; Kharas 2008; Lele 2009; Lele, Sadik, and Simmons 2005; World Bank 2008a). Reflecting these changes, the governance of the International Monetary Fund (IMF) and the World Bank is under review, with slightly larger votes in the governance of these organizations for emerging countries of the Group of Twenty (G-20) likely.

Fifth, reflecting the speed of globalization (in volumes of trade, international capital flows, labor migration, remittances, and information and technology), the growth rate of economic activity in emerging countries is higher than in most developed countries (Agarwal and Lele, forthcoming). China's tree-planting program in support of environmental services is now the largest in the world. The Brazilian Development Bank disbursed 137 billion reals ($80 billion) in 2009, while the World Bank's gross disbursements for the developing world as a whole, excluding repayment of loans by developing countries, were as follows: $8.9 billion in 2006, $19.6 billion in 2007 and 2008, $27.8 billion in 2009, and $40.3 billion in 2010. The rapid rise is attributable to the use of fast-disbursing development policy loans and emergency food and financial assistance in response to food, fuel, and financial crises (World Bank 2010a). GEF commitments in 2009, in support of all conventions that it is responsible for financing, were $985 million. Commitments were expected to be $818 million for 2010. Donor nations fund the GEF and every four years commit money through a process called the "GEF Replenishment." At the November 2008 meeting, the Council requested

4. These include the Bio Carbon Fund, Carbon Fund for Europe, Community Development Carbon Fund, Danish Carbon Fund, Italian Carbon Fund, Netherlands Clean Development Mechanism (CDM) Facility, Netherlands European Carbon Facility, Prototype Carbon Fund, Spanish Carbon Fund, Umbrella Carbon Facility, Forest Carbon Partnership Facility, and Carbon Partnership Facility. The two climate funds, the Clean Technology Fund (CTF) and Strategic Climate Fund (SCF), are intended to help developing countries pilot low-emissions and climate-resilient development. With the Climate Investment Funds (CIF) support, 45 developing countries are piloting transformations in clean technology, sustainable management of forests, increased energy access through renewable energy, and climate-resilient development. The CIFs are channeled through the African Development Bank, Asian Development Bank, European Bank for Reconstruction and Development, Inter-American Development Bank, and World Bank Group. The CTF includes the CTF Country and Regional Investment Plan, and the SCF includes the Pilot Program for Climate Resilience (PPCR), the Forest Investment Program (FIP), and Scaling Up Renewable Energy in Low Income Countries (SREP).

the Trustee of the Global Environment Facility, namely the World Bank, in cooperation with the CEO and Chairperson of the Facility, to initiate discussions on the fifth replenishment of resources of the GEF Trust Fund ("GEF-5").

China and Brazil are important international traders of agricultural commodities and timber, contributing to land use changes of global proportions. Some have argued that Japan and China, both major timber importers, must also follow in the footsteps of the United States and the European Union in prohibiting the importation and sale of illegally sourced wood (Lawson and MacFaul 2010). The trade in illegally sourced wood raises the issue of the extent to which actions by individual countries (e.g., import bans and certification) are likely to reduce illegal logging without global agreements on the sustainable management of tropical forests, certification standards, and World Trade Organization (WTO) rules related to forest products (Robalino and Herrera 2009).

Sixth, in the age of the Internet, YouTube, and Facebook, civil society and the private sector play a far greater role than ever before in global rule making. This role extends to influencing the actions of their governments and often to participating directly in international meetings and contributing to setting formal and informal standards, as well as to the governance of climate and carbon funds.

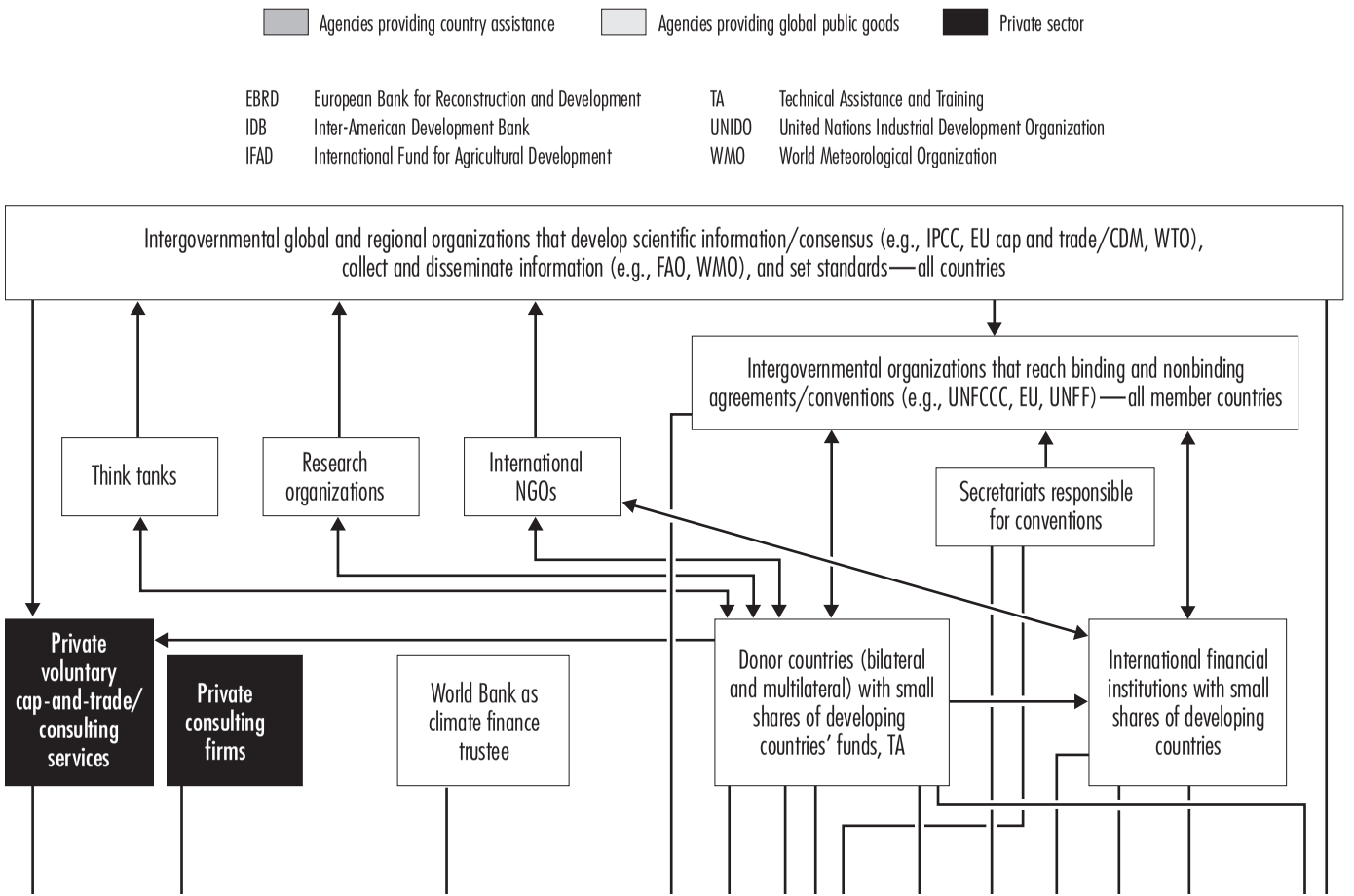
Finally, risk and uncertainty in the food, energy, and financial markets have grown considerably through factors that link commodity, energy, and financial markets across sectors and also as a result of climate change, and the concomitant greater occurrence of extreme events and greater variability of temperatures and precipitation (World Bank 2010a). Domestic food prices have remained sticky at new, higher levels in many developing countries. Evaluation findings can help us learn from the recent performance of international organizations, but this experience offers few lessons for the treatment of climatic risks and ecosystem impacts.

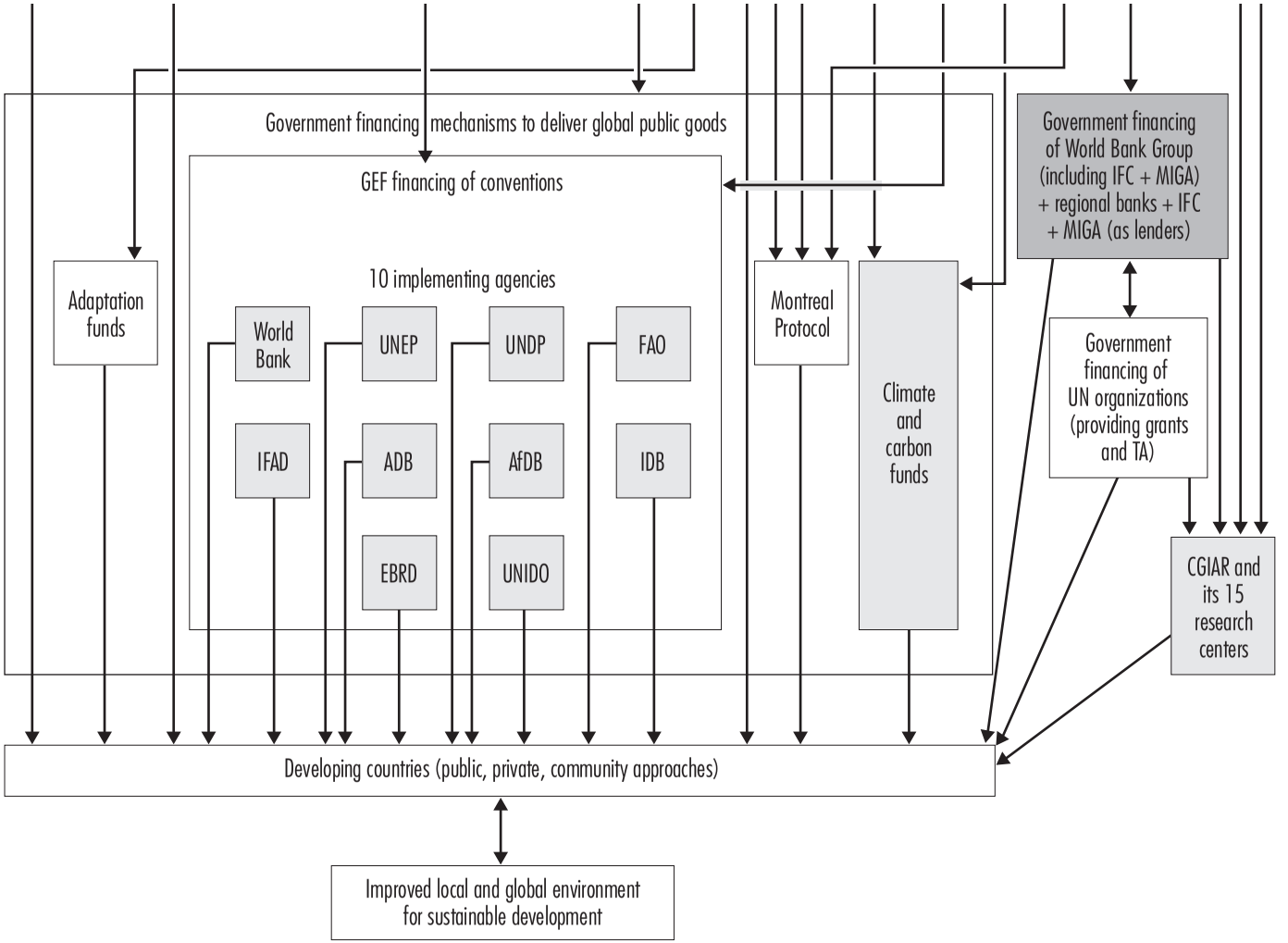
The Global Environmental Architecture

A snapshot of the current complex global environmental architecture is presented schematically in figure 14.1. The figure distinguishes between the processes establishing scientific and political consensus through private and public entities and the processes that develop and implement rules through international financing mechanisms and organizations. Whereas past development assistance addressed issues of market failures and also reflected charitable and commercial considerations, increasingly assistance is based on demonstrated and measurable performance, such as school attendance, immunization, policy reforms, and payment for environmental services. In the case of climate and carbon finance, payments are meant to be provided for verifiable and certified emissions reductions—fundamentally changing the nature of the assistance business.

Environmentally oriented development agencies have proliferated. There are now 45 UN organizations that are responsible for some aspect of the environment. Bilateral activities have been growing substantially in recent years, and

Figure 14.1
Global Environmental Architecture: Global Agreements, Rule Setting, and Financial Flows to Developing Countries




Government financing mechanisms to deliver global public goods
GEF financing of conventions
10 implementing agencies
Adaptation funds
World Bank
UNEP
UNDP
FAO
IFAD
ADB
AfDB
IDB
EBRD
UNIDO
Montreal Protocol
Climate and carbon funds
Government financing of World Bank Group (including IFC + MIGA) + regional banks + IFC + MIGA (as lenders)
Government financing of UN organizations (providing grants and TA)
CGIAR and its 15 research centers
Developing countries (public, private, community approaches)
Improved local and global environment for sustainable development

29 bilateral agencies are now involved in the provision of climate and forest carbon funds, either through the financing mechanisms established by international agencies such as the World Bank or through bilateral assistance or other financing mechanisms. At a meeting of the Rights and Resources Initiative (RRI) in Washington, DC, in June 2010, a nongovernmental organization (NGO) representative from Cameroon described the current situation as an inverse pyramid (RRI 2010b). On top are numerous bilateral and multilateral agencies and international NGOs. At the bottom is a weak government ministry of environment with a handful of local NGOs that are able to engage effectively in the increasingly complex methodologies of delivering REDD+ outcomes and payments. In contrast, China's minimal reliance on external aid and its huge analytical capacity on forest tenure and reform issues, as well as its ability to network internationally, were evident at another RRI meeting in Beijing in September 2010 (RRI 2010a).

THE EVALUATIVE EVIDENCE

The evidence cited in this chapter comes from more than 55 evaluation reports, comprising comprehensive "agency or fund" evaluations and evaluations of specific environmental organizations that constitute important pieces of the architectural puzzle shown in figure 14.1.

Due to the evaluation mandates of the individual organizations, even forward-looking evaluations of specific sectors do not always explore the broad and rapidly changing context of the sectors in which these organizations conduct their activities. For example, the bank's evaluation of safeguards[5] is noteworthy for its sensitivity to the changing context, its comparative analysis across the World Bank Group (which includes IBRD, IDA, IFC, and MIGA), and to client perceptions, but has no treatment of other UN organizations, UNDP and UNEP, providing support to the environment (IEG 2010d). Occasionally, evaluations explore the interactions among the various organizations within a given sector—for example, the critical importance of the GEF's grant financing for the International Finance Corporation's (IFC) success in energy efficiency financing in China, or the importance of the GEF's financing for the World Bank's protected areas activities—but such exploration is by no means automatic or systematic. Moreover, because the evaluation mandates of the organizations focus only on the activities of their own organizations, evaluations often do not look at the activities of other, relatively more "distant" organizations (e.g., the United Nations Development Programme [UNDP] or the Asian Development Bank [ADB]) in, say, the energy sector of the same country or the role of the private sector in

5. The Bank's safeguards include Environmental Assessment (EA), Natural Habitats, Pest Management, Physical Cultural Resources, Involuntary Resettlement, Indigenous Peoples, Forests, Safety of Dams, Projects on International Waterway, Projects in Disputed Areas, and Public Disclosure.

energy finance, in order to assess the comparative advantage of, complementarity of, or competition with their own organization's programs.

The focus on portfolio analysis—that is, the projects funded by one organization—is largely prompted by donor demands.[6] Although this focus has a lot of strengths, it also has weaknesses in terms of lacking a country context or a "client" perspective. Evaluations do not sufficiently explore why projects perform better in some countries than in others, or why advice imparted (e.g., on the reduction of subsidies and the provision of safety nets) is implemented in some countries but adopted only partially or not at all by others. Developing countries would be in a better position to assess the comparative advantages of different organizations if evaluations were conducted from a demand rather than a supply perspective. Evaluations carried out from clients' perspectives would contribute to more relevant knowledge, help them approach specific donors based on the known comparative advantage of donors, and increase country ownership. Whereas almost all evaluations are commissioned by funders, some are conducted entirely by external evaluators and others by the organizations' own evaluation staffs. Some evaluators have had little operational experience, and others have limited familiarity with evaluation methods. Knowledge bases, as well as independence, vary across evaluations.

An additional imbalance is the lack of evaluations of environmental NGOs and think tanks, even though some receive considerable outside resources, including in some cases from international organizations.[7] That few truly independent evaluations of these organizations exist stands in sharp relief to the scrutiny the NGOs tend to demand of international organizations, particularly the multilateral financial institutions. Bilateral organizations, which are funded by taxpayer money, also tend to get less systematic scrutiny than the multilateral organizations.

Unfortunately, a consistent evaluation finding is the weak monitoring and evaluation of aid-funded projects and programs. Inputs and outputs are more often known than outcomes and impacts. In the case of some bilateral donors, even the amounts of project resources committed and disbursed are not known, so that evaluations can say little about the actual impact of financing.[8] Additional challenges regarding the environment result from the invisibility of some benefits

6. Isenman and Shakow (2010), Picciotto (2009), Serageldin (2009), and World Bank (2008a) bemoan the lack of serious assessment of donor weaknesses in relation to donor demands of performance by developing countries.

7. In 2000 the GEF, together with the World Bank, helped Conservation International (CI) set up the Critical Ecosystem Partnership Fund, contributing $75 million to the CEPF. As of 2007, CI, the MacArthur Foundation, and the Japanese government had contributed $25 million each to the fund (IEG 2007).

8. It is well documented, for example, that a considerable share of bilateral assistance goes to donor institutions. The World Bank routinely estimates the share of International Development Association (IDA) funds going to U.S. contracts to maintain the support of the U.S. Congress for U.S. replenishments of IDA funds.

(e.g., carbon emissions reductions or soil fertility or biodiversity loss, except in the case of charismatic species) and the long lags in realizing benefits (Todd and van den Berg, forthcoming). Despite these weaknesses, the evaluative evidence is one of the best sources of information and data on the success of projects dealing with global environmental issues.

DEFORESTATION AND ECONOMIC TRANSFORMATION IN A GLOBALIZED WORLD

Historically, deforestation has resulted from land conversion for agricultural development, industrialization, and urbanization as part of overall economic growth. Land has reverted to forest after the completion of the economic transformation—that is, after agricultural productivity growth has led to reduced inputs of land and labor to produce the same or more output. The idea in REDD+ is to reverse, or at least to arrest the rate of, deforestation. At the same time, however, population growth and a deceleration in the rate of agricultural productivity growth in developing countries, combined with declining investments in agriculture and an accelerated pace of global market integration, are changing the historical pattern of agricultural growth. Legal and illegal, formal and informal trade in forest and agricultural products has been growing as an integral part of globalization. Consequently, agriculture's role through land use and land use changes in the global environment has become complex. Whereas the green revolution saved an estimated 150 million acres of land from being deforested, it is now creating environmental challenges of its own, mostly of a local, regional, and national nature (e.g., soil degradation, water shortages, and pollution due to the use of chemical fertilizers and pesticides).

The changing lifestyles associated with economic growth are changing consumption patterns and increasing demand for more resource-intensive foods (rice, wheat, fruit, vegetables, and livestock). Investment in bioenergy also has increased. Future agricultural growth on current land under cultivation will depend on productivity growth. Whether this will reduce deforestation will depend on relative returns to land use (World Bank 2008b). Agricultural research is needed to achieve sustainable development, but it has been badly neglected over the past two decades. Moreover, the focus of climate change has been narrowly on deforestation, rather than on its agricultural links, and largely on mitigation and thus on forest carbon. But evidence has been mounting that the poorest populations are the hardest hit by climate change. This calls for greater attention to agricultural development, to the agriculture-forestry interface, and to adaptation, particularly in rain-fed areas with considerable population pressures.

Despite Group of Eight (G-8) promises in 2008 to increase aid for agriculture to $20 billion, funds have not been forthcoming to the extent promised. The multidonor Global Agriculture and Food Security Program established in the World Bank is undersubscribed, while demand from developing countries has increased. World Bank lending commitments to agriculture went up sharply in

2009, from $1.3 billion in 2008 to $3.4 billion, but they fell to $2.62 billion in 2010. A recent evaluation recommends rebuilding internal World Bank capacity to resume lending (IEG 2010c).

REDD+ is a move in the right direction, as the "+" is intended to address issues beyond forests of high carbon value, but it is not sufficient (Chandani and Siegele 2010; Ciplet et al. 2010; Grieg-Gran 2010). Why has REDD+ acquired momentum while the rest of the climate negotiations have stalled? The answer lies in the political economy of the international forest dialogue, which has been under way for well over a quarter of a century and involves a diverse and growing number of stakeholders, each typically championing one (or a small subset) of forests' multiple functions.

Over the past three decades, the focus of stakeholders in the international community has shifted from social and production forestry in the 1980s, to the protection of primary tropical moist forests for the sake of biodiversity conservation in the 1990s, to a more balanced approach in pursuit of equity, environmental sustainability, and growth since 2000 and then to carbon. The World Bank's forest policy has followed these changing emphases. For example, the so-called logging ban in the bank's 1991 forest strategy, introduced as a result of pressure from environmentalists, had a chilling effect on the bank's activities in highly forested countries (Lele et al. 2000). The bank's 2002 forest strategy reflected the more balanced approach, but it did not elicit much client demand for lending until the Forest Carbon Partnership Facility (FCPF) and the Forest Investment Fund offered grants for REDD Readiness in 2009. The low demand was due in part to the controversial history of the bank's involvement in forestry.

The World Bank (together with GEF support) remains the single largest donor in support of forestry. But relative to the size of the bank's overall lending, forest sector operations have been small and particularly prone to complaints about safeguard violations. The forest sector, often described by country managers and client countries as "2 percent of the lending and 98 percent of the headache," is viewed by World Bank and developing country managers as having high reputational risks and high transaction costs in the face of competing demand for resources from other sectors. The role of the bank's safeguards in REDD+ remains unclear, but it may entail similar complications.

A recent review of the bank's safeguards and sustainability policies concludes that although safeguards have avoided large-scale social and environmental risks over the decade since they were instituted, their implementation has required compliance with mandatory policies and procedures that lack strong client ownership. In addition, the quality of supervision has been deficient, with growing separation between the work on safeguards and the work on environmental and social sustainability (IEG 2010d). With the growth of forest sector lending, development policy lending, and Sector Wide Approach Programs (SWAPs), the review also recommends consistency in coverage of social and environmental safeguards across types of lending instruments and across the World Bank, IFC,

and Multilateral Investment Guarantee Agency (MIGA). In addition, it calls for better coordination and supervision, greater responsiveness to clients, and greater disclosure of monitoring findings, accompanied by third-party verification for accountability. Although the evaluation presents some sectoral data on complaints and inspection panel involvement, it does not compare the relative costs of doing business with the bank across sectors or assess the bank's sectoral comparative advantage, particularly the implications for REDD+. For example, although mining operations receive more complaints than forestry, they also entail larger and faster-disbursing projects.

Standards for accountability and transparency demanded by vocal stakeholders vary across organizations. The UNDP and United Nations Environment Programme (UNEP), which also implement GEF financing, follow their own less strict and more consultative policies; bilateral donors pursue their own procedures unless the World Bank acts as trustee of their funds. The evaluation recommends greater harmonization of safeguards across the World Bank Group, but standards for safeguards remain highly varied across international and bilateral donor organizations. Moreover, without greater capacity building in developing countries to increase both transparency and accountability to their own domestic constituencies, it is unclear how these countries will improve accountability regarding REDD+ without safeguards, as practiced, creating roadblocks for its implementation.

The World Bank's shift to forest carbon for climate mitigation on a pilot basis has begun to contribute to knowledge transfers to developing countries and to the UNFCCC for designing and implementing carbon instruments. But it still lacks a holistic view of the challenges of the varying forest types and functions in different locales, as well as of the need for an appropriate level and form of support for REDD+ on a country-by-country basis. While giving high marks to the bank's Forest Carbon Unit for its demonstration role, the IEG's evaluation of low-carbon development notes the difficulty forest carbon projects face in delivering expected amounts of certified emissions reductions. There are several reasons for this: the amount of land eligible for the Clean Development Mechanism (CDM)[9] was overestimated; carbon payments are noncompetitive compared to other land uses; inadequate up-front financing poses problems; implementation capacity to carry out projects is low; and unanticipated poor weather impeded execution. Increased supervision is needed, but supervision costs often exceed budgeted costs, due to the small size of the projects (IEG 2010a). Current low

9. The Clean Development Mechanism (CDM) is meant to stimulate sustainable development and emission reductions, while giving industrialized countries flexibility in how they meet their emission reduction limitation targets. The CDM allows emission-reduction projects in developing countries to earn certified emission reduction (CER) credits, each equivalent to one tonne of CO_2. These CERs can be traded and sold, and used by industrialized countries to meet a part of their emission reduction targets under the Kyoto Protocol.

forest carbon prices and market uncertainty pose challenges for the long-term viability of REDD+ if the program remains focused on carbon alone.

Despite these and other concerns, a range of forest stakeholders have come on board and attracted attention to forest sector issues generally. The global debate has moved on to address the costs, benefits, size, conditions, and modalities of the needed resource transfers to developing countries in relation to their shared responsibility for reducing deforestation and degradation. Options currently on the table range from a legally binding cap-and-trade regime and a voluntary carbon market to an international development fund. Questions remain as to whether to pay nations, states, or provinces within them, or individual agencies, or enterprises, or some combination of the above; whether the payments for REDD+ actions should be ex ante or ex post; whether REDD+ can be fungible with emissions reductions/avoidance in other sectors; and the extent to which allocation of REDD+ payments should be contingent on the delivery of co-benefits. Several financing instruments are currently being piloted to achieve emission reductions (McAlpine, Griffiths, and Maginnis 2009). Other challenges include whether and how indigenous people's traditional rights should be respected, since they are often not incorporated in formal land laws; whether payments are fair; and what procedures and methodological approaches should be used for establishing REDD+ baselines, defining national baselines, implementing credible and verifiable monitoring systems, establishing payment mechanisms, and determining the capacity needs for meeting REDD+ requirements. Rules for making funding conditional on measurable performance have been developed under the CDM and by the various carbon funds, and the idea has been gaining ground. However, there is considerable concern that the CDM rules are overly complex, rigid, and difficult to implement, even for countries with substantial capacity and expertise, such as China.

It is also increasingly clear that the up-front investments needed for REDD Readiness will be greater than originally provided through programs such as the FCPF. This has led to the establishment of the Forest Investment Fund and other instruments listed in figure 14.1. After considerable initial criticism of its carbon-centric approach and lack of expertise in forest management, the FCPF has changed course and is working in partnership with the United Nations Collaborative Programme on Reducing Emissions from Deforestation and Forest Degradation in Developing Countries (UN-REDD+ Programme); the Program on Forests (PROFOR); and the Collaborative Partnership on Forests (CPF), chaired by the Food and Agriculture Organization (FAO) and including other stakeholders in developed and developing countries.

There are ongoing challenges in defining and demonstrating clear, certifiable outcomes. The IEG's evaluation of low-carbon development notes that the protected areas approach has worked in remote areas with sparse populations (using incidence of forest fires as a proxy for forest exploitation) and that the inclusion of indigenous people is consistent with forest protection (IEG 2009b,

2010a). In contrast, the GEF's evaluation of the biodiversity program, which encompasses 40 percent of GEF commitments and virtually all World Bank support for protected areas, notes that the lack of evidence about this program prevented drawing firm conclusions about the extent to which multiuse protected areas either reduce deforestation or protect biodiversity; how they balance the livelihood needs of forest-dependent people in high-population pressure areas; which of the many forest values beyond carbon should be rewarded; and how these values will be measured (GEF 2004). A case study of GEF-funded protected areas in Kenya confirmed this finding (Todd and van den Berg, forthcoming).

Although 40 percent of GEF resources go to biodiversity conservation, no comprehensive independent evaluation of the GEF forest portfolio has been done since 1999 (Campbell and Martin 2000). Similarly, while areas under community forestry and agroforestry, often outside public forest lands, have been expanding (FAO 2010; Garrity et al. 2010; Sunderlin et al. 2005; Sunderlin, Hatcher, and Liddle 2008), there is little systematic evidence from evaluations of donor-funded programs concerning how such programs could be used to improve forest cover or the sustainable use of forests by forest dwellers. Mexico's community forestry–based program is considered highly successful, but no systematic independent evaluation of this program seems to exist.

China's recent tenure reform effort—arguably the largest in the world, involving more than 247 million acres and providing part of the livelihoods of 400 million people—recognizes the land rights of indigenous people and other forest-dependent people and communities. Evidence emerging from China suggests that improved forest cover and better incomes are associated with farmers having land certificates of use rights (Xu 2010). Chinese policy makers argue that giving tenure rights to forest-dependent people reduces income and asset inequality and creates employment opportunities in rural areas by enabling these people to use land as collateral. There is currently much debate in China about giving tenure rights to communities as opposed to individuals and about how tenure will evolve over time as forest land markets develop (Xu, White, and Lele 2010). China's tenure reforms are engendering widespread interest among policy makers as far away as Brazil, Indonesia, and central Africa. Brazil has recognized indigenous people's rights to more than 247 million acres and has granted property rights to millions of households in the Amazon. It is now actively promoting community forest management. There is also some evidence of success with community-based agroforestry and tree planting on farms in several countries (Bernstein, Clapp, and Hoffmann 2009; Chhatre and Agarwal 2008, 2009; Coleman 2009; Dewees 1989, 1995; Dewees et al. 2010; Lele 2010; PROFOR 2010a, 2010b).

How these rights will evolve over time and across regions and with what outcomes is a matter of much debate and little conclusive evidence. The IEG's review illustrates just how location specific and time sensitive forest cover outcomes can be (IEG 2010a). It notes that tenure security is likely to increase rather than reduce the risk of land conversion to agriculture. Regarding Costa Rica's success in

protected areas, it notes that the evidence does not indicate whether this success was due to less-than-competitive international agricultural prices or to payments for protection. It also notes that targeting environmental programs to achieve social objectives has generally been a challenge.

Developing countries vary greatly in their political will to grant land rights on forestland (whether to communities or individuals) and in their capacity to provide the necessary services. India has legally acknowledged the rights of forest dwellers, but implementation of laws guaranteeing these rights has been slow (Sarin 2010). Nepal is reported to be on the verge of reversing the rights it gave to forest communities (Paudel 2010; Raj 2010; Sapkota 2010). Elite capture is a threat because of poor governance (IEG 2010c; Mansuri and Rao 2004). Large-scale acquisitions of farmland in Africa, Latin America, central Asia, and Southeast Asia by international investors have made headlines because of concerns about the extent to which the principles of free, prior, and informed consent are being followed (Cotula et al. 2009; Hatcher 2010; Sunderlin, Hatcher, and Liddle 2008).

Accordingly, questions of whether land rights are improving and where and how they will ensure socially equitable, environmentally sustainable, and economically efficient outcomes have not yet received attention in monitoring and evaluation. Tenure rights must be supported by land legislation, law enforcement, and regular monitoring. The long-term remedy is to build legal systems and civil societies in developing countries that will ensure greater adherence to laws, transparency, accountability, and fairness. After nearly 60 years of providing development assistance, the international development community has only recently begun to take on this complex governance agenda and to build capacity to evaluate its performance in this area. The World Bank's agricultural evaluation notes that governments found its analytical and advisory studies on agricultural land tenure to be useful (IEG 2010c). Overall, however, such analytical work has diminished, and there has been no evaluation of the bank's work on forest tenure rights where property rights are often highly contested. The frequent use of international NGOs as external verifiers of REDD+ programs can be a short-term solution unless it builds local institutions.

Through policy and guidance documents, the GEF has promised to take a more holistic view of forests by supporting programs that address objectives in more than one of its areas of focus (biodiversity, climate change, and land degradation) (GEF 2010a). The GEF is aiming for a greater impact on sustainable forest management (SFM) by allocating additional resources as incentives on top of the countries' basic allocations. The REDD+ and LULUCF line of financing is a clear commitment to go beyond conservation in the high-forest and high-biodiversity areas (e.g., the Amazon basin, the Congo basin, Papua New Guinea, and Indonesia) that were previously given priority (GEF 2010b).

There is also abundant evidence that the rapid expansion of investment in physical infrastructure (particularly roads and dams) plays a role in deforestation, as do mining operations, weak governance, poorly defined and contested land

rights, corruption, and poverty. Solutions to most of these problems lie outside the forest sector. Reducing illegal logging beyond reductions that have recently occurred will require a comprehensive overhaul of government policy and regulation in forested countries. All of the following requisites remain weak in most highly forested countries: high-level policy, legislative framework, checks and balances, tenure and user rights, timber tracking, transparency, resource allocation, law enforcement, and financial management (Lawson and MacFaul 2010). In that vein, we conducted a regression analysis using government effectiveness and other indicators as determinants of forest program outcomes in 37 countries that have applied to the FCPF (including Brazil, China, and India). We found that government effectiveness was strongly associated with regulatory quality and rule of law. Yet many highly forested countries, including those that have applied to the FCPF, have poor governance. Whether development, beyond pilot projects, can be achieved through FCPF interventions such as REDD+ remains to be seen. Australia, a developed country, is a case in point. For the past 20 years, Australia has had the highest rate of deforestation in the developed world—914,000 acres annually between 1990 and 2007, resulting in the emission of ~80 $MtCO_2$-e/yr. Using Australia's experience in reducing deforestation rates under Kyoto rules, Macintosh provides valuable insights into the many difficulties a REDD+ scheme might encounter in the future, including possible loopholes, lack of transparency, the controversial nature of the factors explaining changes in deforestation, and the contentious nature of the impacts of reforms (Macintosh 2010).

THE ENERGY SECTOR

Energy shortages are pervasive in developing countries, and the critical needs of the sector are financing and efficient and equitable supply, generating, and distribution channels. Improving the climate friendliness of energy expansion is critical, because if present policies continue, energy-related carbon dioxide (CO_2) emissions in non–Organisation for Economic Co-operation and Development (non-OECD) countries—currently on par with OECD emissions—will be twice those in OECD countries by 2030. Even if all emissions from developed countries were to cease, a change in the emissions trajectory of the developing world would still be needed to stabilize global GHG concentrations at the levels considered manageable by the IPCC. The International Energy Agency (IEA) estimates that the incremental cost of mitigating GHG emissions from energy use in non-OECD countries needed to limit long-term CO_2 concentrations would range from $85–230 billion a year during 2010–2030, depending on the level of emissions (IEA 2008). Equity considerations call for significant finance and technology transfers to developing countries in the international effort to curb GHG emissions. Although sustainable energy requires concerted efforts over the long term by a wide range of actors in industry, finance, government, and international organizations, it is still being addressed with short-term financing and policy frameworks that are not in line with the scale of the challenge (World Bank 2009). The

Bali Action Plan under COP 13 for the enhanced implementation of the Convention called for new technology, financing, and capacity building.[10]

The GEF Overall Performance Study (OPS 4), required for its fifth replenishments, reports that its financing has enabled countries to develop national environmental plans in specific areas such as energy (GEF Evaluation Office 2010). However, several evaluation reports of the implementing agencies (e.g., the World Bank, UNDP, and ADB) suggest slow progress by national governments and by the implementing agencies themselves in mainstreaming climate and environmental concerns in policy advice and lending (UNDP 2008; World Bank 2009).

The World Bank is committed to increasing financing for renewable energy and energy efficiency by 30 percent a year and to increasing the share of low-carbon projects by 50 percent by fiscal year 2011. It has already expanded its commitments dramatically from $1.8 billion in 2007 to nearly $10 billion in 2010.

The IEG's evaluation of energy projects notes that World Bank support of these projects increased from $200 million in 2003 to $2 billion in 2008 and contributed to reduced fuel expenditure and improved air quality (IEG 2009a). Yet "few projects tackled regulatory issues related to end-user efficiency, though the Bank has invested in some technical assistance and analytical work." While this lack of emphasis reflects the complexity of pursuing end-user efficiency, "biases that favor electricity supply over efficiency, inadequate investments in learning, and inattention to energy systems in the wake of power sector reform" were part of the problem (IEG 2009a, v). Market failures and lack of financial, as opposed to economic, return on improved energy efficiency inhibits private financing for it, making grant funds essential—as noted by the IFC's efficiency improvement assessment in China (IEG 2010b, 3).

A primary reason countries offer to postpone policy reform and increased tariffs is their adverse impact on particular groups, even when reforms are beneficial to the country as a whole. The IEG's evaluation included these recommendations:

1. Make promotion of energy efficiency a priority, using investments and policies to adjust to higher prices and constructing more resilient economies.
2. Assist countries in removing subsidies by helping to design and finance programs that protect the poor and help others adjust to higher prices.
3. Promote a systems approach to energy.
4. Motivate and inform these actions, internally and externally, by supporting better measurement of energy use, expenditures, and impacts (IEG 2009a).

10. After the 2007 United Nations Climate Change Conference in Bali, Indonesia, in December 2007, the participating nations adopted the Bali Road Map as a two-year process to finalizing a binding agreement in 2009 in Copenhagen. The binding agreement did not materialize.

The IEG's Phase 2 report on low-carbon development focuses on the development, transfer, and demonstration of technical and financial innovations, finance, and implementation issues (IEG 2010a). It reports that the World Bank's investments in renewable energy (mostly hydropower projects) have had mixed results. Returns for wind power were less attractive than for hydropower, due to higher costs and capacity utilization issues. Other technologies were even less competitive. Solar home system components in 34 countries that used GEF-funded subsidies were more successful than IFC projects, but only in niche markets where microfinance was available. The World Bank has increased its focus on policy reforms needed to achieve energy efficiency, and its largest programs financing energy efficiency were in China and eastern Europe. Elsewhere, and with GEF help, the bank and the IFC have used loan guarantees in support of financial intermediaries to promote energy efficiency projects. Issues regarding targeting, creditworthiness, and performance contracts related to financial intermediation led to a conclusion that loan guarantees may be required over a longer period. The Phase 2 report on low-carbon development contains a number of specific recommendations, including the need for the World Bank, given its small financing role in the energy sector, to act as a venture capitalist focusing on high-impact activities with potential for scaling up and to promote resource mobilization, incentives, and capacity building, with a strong focus on learning and impacts.

For these changes to occur, environmental concerns need to be mainstreamed first and foremost in country policies and in the bank's routine work. Major challenges include inadequate treatment of alternative sources of energy, measuring the costs and benefits of energy efficiency investments, and institutional and financial barriers to scaling up. Having several agencies tackle these challenges together would be more desirable than employing a fragmented organization-by-organization approach. It remains to be seen how the numerous new carbon and climate funds will be integrated into the work of country assistance, a challenge that most global funds have faced (Isenman and Shakow 2010; World Bank 2008a). The external advisory panel of the GEF OPS 4 recommends evaluations of organizations working in a single sector across the board to promote such integration (GEF Evaluation Office 2010).

CHANGES IN THE ENVIRONMENTAL ARCHITECTURE: PROLIFERATION, FRAGMENTATION, VERTICALIZATION, AND BILATERALIZATION OF MULTILATERAL AID

Recent evaluations of sector and policy lending and grant making have not sufficiently addressed the architectural issues that constrain countries' mainstreaming of environmental concerns, although recent IEG reports do stress the need for greater coherence at the operational level within the World Bank Group (IEG 2010a, 2010c, 2010d). Ironically, evidence suggests that the very success of environmental advocates in getting the environment on the global agenda helps explain the failure of the modest reform efforts to come to grips with the magnitude of the challenge.

In contrast to the former centralized, top-down era, debates about climate and forestry today occur in the more decentralized, democratic setting of the Internet. A growing number of actors influence agendas, governance arrangements, growth of organizations, and new partnerships—making global governance a thriving, though chaotic, scene (Ballesteros 2010; Isenman and Shakow 2010; Mainhardt-Gibbs 2009; World Bank 2008a). Different versions of the REDD+ concept exist today, and it is unclear how the current REDD+ structure will ultimately be articulated either organizationally or in terms of its financing. Multiplicities of intergovernmental and bilateral actors are competing for leadership, influence, and funds in the forest sector, while developing countries themselves are playing a bigger role in the process.

Following the 1992 United Nations Conference on Environment and Development (UNCED) in Rio, the UN placed forest-related debates with the Intergovernmental Panel on Forests (IPF), set up in 1995. As the debates progressed, the IPF turned into the Intergovernmental Forum on Forests (IFF) in 1997 and then the United Nations Forum on Forests (UNFF) in 2000, with universal state membership. For the next five years, the UNFF architecture was bolstered by the creation of the Collaborative Partnership on Forests (CPF), which brought together 14 international organizations to support the UNFF in its mandate. With the emergence of REDD+, however, the UN set up a separate structure called the UN-REDD+ Programme.

In 2007 the World Bank established the FCPF, which championed RED and REDD. Part of the World Bank also champions REDD+ and has spearheaded the debate on it. The bank's carbon initiatives work closely with the UNFCCC and UN-REDD+ through various UN agencies. This association has been important in enhancing the credibility of the World Bank's efforts on behalf of REDD+ with NGOs and developing countries. Since 2009 UN-REDD+ and the World Bank have sought greater harmonization in anticipation of a global agreement on REDD+, but whether the bank's binary approach will, or can, be anchored in the existing global environmental architectures as the approach stood at the time of writing of this chapter—one for carbon (REDD) and one reflecting broader development challenges (REDD+)—and also grafted onto country assistance strategies remains to be seen. From an institutional perspective, the overlapping REDD and REDD+ architectures remain separate and without clear leadership, but in financial terms the World Bank is emerging as the organizational leader on both REDD and REDD+. However, with the rise of bilateral donors such as Norway (in Brazil and Guyana) and Australia (in Indonesia and Papua New Guinea), and with the growing demand of developing countries to be in the driver's seat, as manifested in debates in the governing bodies of carbon funds as in GEF, the overall leadership in the environmental architecture as a whole seems even less clear. Large countries such as Brazil will likely remain in charge of their own country strategies. Whether small countries with less capacity and large countries with less effective governance will be able to discern the quality of advice from myriad uncoordinated external initiatives is less clear, particularly when large

financial resources are tied to that advice. The lack of clarity about lead roles between convention secretariats, the GEF secretariat, and developing countries in accessing and applying GEF resources is noted in the GEF's OPS 4 report (GEF Evaluation Office 2010).

The governance of the new climate funds is generally organized in a more democratic fashion, with equal representation of developing and developed countries, than is the governance of the World Bank and the IMF. Civil society organizations and the private sector often participate as observers, following the GEF model of governance.[11] In this context, the similarities and differences between the health and environmental sectors are noteworthy. In both cases, there has been a proliferation of international initiatives, and civil society has played a key role in shaping the global agendas. In the health sector, civil society has helped to substantially increase financing for the benefit of the poor (e.g., Bono's campaign to allocate more funding for the treatment of HIV/AIDS). In contrast, in the environmental sector, international NGOs, particularly in the developed world, have contributed little to international fundraising for the benefit of the poor, while constraining the use of environmental funds, with the exception of those used exclusively in support of conservation. This situation may be changing significantly under REDD+, as the range of stakeholders championing different forest functions may be coming together. The World Bank Group and the donor community as a whole may improve their collective approach to safeguards, so that it focuses more on harmonization, problem solving, and greater ownership of forest initiatives in developing countries.

THE GLOBAL ENVIRONMENTAL ARCHITECTURE AND THE GREAT GOVERNANCE DEFICIT

Global Governance The four dimensions of international governance typically assessed in evaluations are voice, accountability, effectiveness, and efficiency. The nearly 50 organizations and their partnerships considered in this chapter testify to the proliferation of actors in this area and the dynamics among them that have shaped the content, speed, and processes of international negotiations and outcomes both overall and within the forest and energy sectors. Certainly, the voices of bilateral donors (through the growth of trust funds) and of

11. The IMF's and World Bank's governing bodies have smaller representation of developing countries than the GEF's. The 32 GEF constituencies include 14 developed, 16 developing, and 2 representatives from eastern European countries. Groups of countries elect a representative country in the GEF Council. The GEF's governance provides for a double-majority voting system—a majority of participants and a majority of contributors. This arrangement is a compromise between the UN (one vote for each country) and the IMF and World Bank (where shares of contributions to the subscribed capital determine share of voting rights). The GEF's double-majority approval process is more democratic than the World Bank's. The GEF was one of the first trust funds to permit NGOs to observe council meetings. Unlike in other funds, NGOs have a voice but no vote.

civil society have increased since the mid-1990s. Accountability is, however, not equally sought from all actors. Whereas independent evaluations are routinely expected and issued by some organizations (most notably, the World Bank, GEF, and Consultative Group on International Agricultural Research [CGIAR]), this is not the case for UN agencies. They typically provide the platforms for international agreements; assemble and disseminate global data and information collected from member countries; establish standards; and provide policy and technical advice and assistance to developing countries. Despite their strong legitimacy and their substantial technical expertise on complex global issues, the importance of the critical functions of UN agencies has been grossly underrated both by donor countries, which foot most of the bills, and by developing countries, which see a small stake in these organizations. Most UN agencies remain underfunded and understaffed.

There has been no systematic attempt at reviewing the impact of evaluations of organizations on improving individual organizations, but a literature on UN reforms suggests a mixed record. Reforms in international cooperation on the environment have been attempted since the 1970s, with visions ranging from small, incremental changes to large, radical ones (Rouassant and Maurer 2007), but with few real achievements (Biermann, Davies, and van der Grijp 2009). Growth in the number of organizations has resulted in intense competition for limited resources and rivalry in environmental leadership—for example, between the UNDP and UNEP (UNDP 2008; UNEP 2009). Although reform of individual organizations has been challenging, reform of the UN system as a whole has been even more challenging (Shaw 2010). Concurrently, increased bilateralization of multilateral aid through the growth of bilateral trust funds has increased the voice of bilateral donors in international financial institutions, but it has also made the role of the World Bank (ranked high by donors for its fiduciary and other standards) in financing of GPGs relative to the UN organizations controversial among developing countries.

Together, International Development Association (IDA) and International Bank for Reconstruction and Development (IBRD) loans, trust funds, and IFC and MIGA financing or guarantees—while minuscule in relation to both the needs and the demands—are the single largest source of funding for environmental operations, even without taking into account the GEF funding (of which the World Bank is trustee and one of its implementers). The World Bank's various climate and carbon funds are meant to strengthen the catalytic role of the UNFCCC regime in encouraging multilateral bodies to support mitigation and adaptation. Despite the many contributions of some of these funds to knowledge about climate change and tools for financing carbon sequestration, their proliferation has undoubtedly increased transaction costs and confusion in developing countries and within the World Bank itself, while reducing the effectiveness and efficiency of the system. OPS 4 highlights the issues of growing, overlapping, and fragmented mandates; unclear and confused guidance from various conventions; scarce resources; high pent-up demand from developing countries; and increased

competition from the World Bank, regional banks, and bilateral donors for programs related to climate change (GEF Evaluation Office 2010).

The Finance Deficit In 2002, at the International Conference on Financing for Development in Monterrey, Mexico, high-income and developing countries reached a consensus on mutual responsibilities for achieving the Millennium Development Goals. These goals called for developing countries to improve governance and policies aimed at increasing economic growth and reducing poverty, and for high-income countries to provide more and better aid and greater access to their markets. From 2000 to 2006, developing countries as a group (including sub-Saharan Africa) increased their economic growth and, for the first time, were growing faster than industrial countries. Policy reforms and market and trade liberalization were followed by booming demand and investments from China and other developing countries (Agarwal, forthcoming). But since Monterrey, the average aid effort by the 22 member countries of the Development Assistance Committee (DAC) of the OECD was just 0.45 percent of national income. When weighted by the size of their economies, total net aid flows from the DAC members represented only 0.28 percent of their combined national income (UN 2008). Financial assistance to least developed countries (LDCs) also fell short of the commitments made.

The 2005 Paris Declaration on Aid Effectiveness represents the most comprehensive effort to date to improve aid coordination and alignment with national priorities. Yet progress also has been slow in meeting the Paris targets for 2010. Despite acknowledging the central importance of country ownership, donor countries have been similarly slow in meeting the targets they set for themselves in 2005. The growing importance of vertical, sectoral global programs has exacerbated the lack of coherence, leading the drafters of the Paris Declaration to appeal to the donors to think twice before starting new funds and to build on the Paris Accra Principles, including retrofitting new funds with those principles[12] (Isenman and Shakow 2010; World Bank 2008a). Non-DAC countries' total official development assistance (ODA) increased (in constant prices) from $1.5 billion in 2000 to $5.1 billion in 2006. Clearly, additional donor effort is needed

12. The Paris Declaration, endorsed on March 2, 2005, is an international agreement to which more than one hundred ministers, heads of agencies, and other senior officials adhered and committed their countries and organizations to continue to increase efforts in harmonization, alignment, and managing aid for results with a set of monitorable actions and indicators. It calls for ownership of strategies by developing countries, alignment of donor countries behind these objectives and the use of local systems, and harmonization of donor priorities practices and procedures, to avoid duplication and results focus. The Accra Agenda for Action (AAA), drawn up in 2008, builds on the commitments agreed on in the Paris Declaration and calls for predictability, use of country systems, a shift from conditionality to countries' own policies, and untying of aid and mutual accountability.

to improve the dialogue and coordination with developing countries and new carbon and other funds so as to avoid further aid fragmentation, lack of transparency, and increasing transaction costs among recipient countries (UN 2008).

Against this overall backdrop, the World Bank estimates the annual incremental cost of climate mitigation at $139–175 billion and of adaptation to climate change at $28–100 billion. Base costs for climate mitigation are much higher, ranging between $265 billion and $565 billion annually by 2030, compared to mitigation finance of a mere $9 billion forthcoming during 2008–2012 (World Bank 2010b). Investments needed to secure other environmental services provided by terrestrial and marine ecosystems are vastly larger.

Although environmental assistance increased in the period 1994–1997, following the UNCED in 1992 and the establishment of the UNEP and GEF, it leveled off between 1998 and 2007, with some evidence of a decline beginning in 2003. In 2008, however, when climate-related and trust fund–based partnerships burst on the scene, climate change funding took off. Aid for renewable energy rose from 3.4 percent of sector-allocable ODA in 1998 to 13.6 percent in 2007 (Markie 2009). With the first significant increase in IDA replenishments, the World Bank pledges a substantial increase in environmental aid, including aid for renewable energy. However, the issue of its alignment internally within the World Bank Group and externally with UN agencies and the GEF remains unaddressed.

One-third of environmental assistance is multilateral, similar to the average for all sectors. The biggest challenge for donors, beyond alignment, will be to substantially increase disbursements of funds for environmental programs if the new climate-friendly policies shift in favor of protected areas, REDD Readiness, renewable energy, and adaptation programs for the poor. These are all slow-disbursing investments compared to the traditional capital-intensive fossil fuel projects in the energy sector that have come under heavy criticism from international NGOs (Mainhardt-Gibbs 2009). In contrast, bilateral donors such as Norway and Australia are committing large sums in support of climate-friendly policies under conditions that are seemingly less stringent than those of the World Bank.

Important new sources of funding for the environment take the form of 18 different multidonor climate trust fund partnerships, a number of which are in the World Bank. In September 2008, the World Bank's climate funds received pledges of $6.14 billion for projects to be implemented through the World Bank and the regional development banks. This compares with pledges of new funds to the GEF-5 of $3.54 billion in current dollars, compared to $2.30 billion in the GEF-4 replenishment, a significant increase of 54 percent. Donors have expressed a concern that the GEF, an agency created to provide finance for the environment, may be sidelined (Markie 2009). This remains to be seen, in view of the decisions made by the GEF Council in its meeting during the summer of 2010. The council proposed a broadly defined approach that could be applied equally to protected

forests, production forests, and degraded forests in need of restoration. Under the GEF's new System for Transparent Allocation of Resources (STAR), all countries would qualify for assistance (GEF 2010b).

Conclusions, Lessons, and Implications Going Forward

DONORS IN THE DRIVER'S SEAT

Although the challenges are global, the agendas of international organizations are more donor driven along traditional developed country–developing country lines than ever before. Instead of the country strategies and priorities of developing countries being the drivers of donor country assistance strategies, priorities, and resource allocation, aid flows are opportunistically determined by donor constituencies willing to support vertical programs. Raising money vertically to spend horizontally has its own risks, as World Bank (2008a) and Isenman and Shakow (2010) rightly note. Notwithstanding the stated emphasis on country ownership and country priorities, there are fewer attempts to help countries identify the needs of their populations (not always the same as country demands) and to respond to them. UNDP evaluations stress that international organizations need to routinely encourage countries to establish their national development priorities and indicate how they will be addressed (UNDP 2008).

DEFICIENCIES IN STRATEGIC RELEVANCE IN RELATION TO GROUND REALITIES

Reviews of both the activities of international environmental agencies and the independent evaluations of global environmental programs and organizations reveal the rapidly evolving external context in which international organizations and their environmental programs and funds operate, as well as the proliferation of financing mechanisms regarding climate change. The reviews shed light on the deficiencies in the architecture itself and in the overarching strategies relative to the environmental realities on the ground. Intense competition among actors (for both current influence and future positioning) in the context of the limited resources for climate programs and uncertain prospects for an overarching binding global climate agreement drive the agendas. The dual-focused reviews also raise questions about the relevance, efficacy, efficiency, and effectiveness of the current global environmental architecture and the often piecemeal nature of evaluations. Reviewing the organizations and their evaluations provides a limited context for the rapidly changing operational environment.

The dramatic changes in the overall aid architecture since the early 1990s are particularly noticeable since 2008, reflecting anticipation of a climate accord. Bilateral funding and influence in multilateral institutions have become worrisome, and the creation of many separate programs outside the main business lines of these organizations has created challenges for mainstreaming environment in country assistance strategies, while also reconciling the diverse objectives and strategies of donors and recipients. The World Bank is now the largest

mobilizer of environmentally related trust funds in support of climate initiatives. This situation raises multiple issues for developing countries relating to voice, costs, resources, and control. Even though the new funds have equal representation of developed and developing countries in governance, much as the GEF does, the issues of *effective* voice, costs of accessing resources relative to the amount of resources, and control over the substance of strategy are issues not sufficiently addressed in governance of individual organizations. The currently stalled UNFCCC accord has made its long-term future uncertain. Funding for climate initiatives stands in stark contrast to funding for the health sector, where new funds have been channeled through new organizations rather than through new programs within existing organizations. The relative merit of these alternative models of financing, as well as that of the GEF, should be systematically explored.

The GEF's so-called enabling activities provide support for the development by countries of their own national plans and strategies for environmental management. Yet its evaluations offer limited insights into its role in establishing country strategies or policies, in linking to other sectors, and in addressing harmonization among organizations. Cross-sectoral learning is also limited. For example, the challenging issues in the health sector—such as the need to balance health system capacity development with investments focused on the eradication of specific diseases—are similar to those in forestry and climate change. But as the earlier discussion of REDD+ indicates, approaches to forest protection, conservation, production, and income-earning opportunities tend to be handled on a piecemeal basis by each constituency and donor.

WEAK MONITORING AND EVALUATION AND LIMITED CONTRIBUTIONS OF EVALUATIONS TO KNOWLEDGE GENERATION

Virtually every evaluation report stresses the importance of better monitoring and evaluation and the need for a shift from an approval-oriented to an outcome-oriented culture. Donors are demanding more impact analysis. Moreover, challenges remain in the evaluation of the efficiency, equity, and environmental sustainability of outcomes. For example, protected areas may be strong on environmental outcomes and efficiency, but weak on livelihood benefits and sustainability; community forestry may be strong on equity and demanding of institutions, but unknown in terms of efficiency and environmental outcomes. Much recent evidence suggests an urgent need for independent evaluations of country policies to learn cross-country lessons about land use management.

Many of the current methods of evaluation are not suitable for environmental projects. Experimental design focuses on impacts of project interventions, but many of the impacts in protected areas are long-term and contingent on factors outside the protected areas, such as population pressure, urbanization, pollution, illegal trade, and corruption. In the evaluation of adaptation projects, even the definition of objectives poses problems. It is a travesty to push for results orientation and payment for delivery of services when so much emphasis is placed on the

performance of developing countries and so little on monitoring the behavior of donors, outcomes, and capacity building.

Standards for accountability and transparency are unequal across agencies. The World Bank, GEF, and CGIAR conduct periodic independent evaluations, but others (e.g., UN agencies, civil society, think tanks, and bilateral donors) are not as consistent. There are few independent evaluations of the work of international NGOs as well. When systematic evaluations are done, they show that the costs of designing and supervising forest (including carbon reduction) projects are high, disbursements tend to be slow, and the measurable benefits (particularly those that can be purchased and certified, such as emissions reductions) tend to be uncertain, due to a combination of policy, institutional, legal, methodological, and measurement issues. Developing countries' own experiments, however, show remarkable promise and should be assessed to better understand their performance.

There are major overlaps and gaps even as the numbers of international agreements and their government signatories have grown. Overlapping mandates of conventions and complex resource allocation mechanisms have caused more confusion than clarity. The new STAR mechanism promises improvements (GEF 2010b), yet confusion and disagreement remain among convention participants (and between donor and recipient countries) on how to apply convention guidance on several key principles of the GEF, such as the concepts of instrumentality, full cost recovery, and cofinancing.

Conventions lack clear priorities. Since 1994 the GEF Council received 317 requests to clarify priorities or procedures, more than half of which were from the Climate Change Convention. The GEF has taken steps to engage convention secretariats in GEF Council meetings and to improve communications with conventions. As the primary implementer of all major conventions, the GEF has considerable experience and may well have a comparative advantage in taking on climate change, as it promises to break down the silos of conventions related to climate, biodiversity, and desertification. A joint evaluation of the comparative advantages of the GEF vis-à-vis other similar organizations will help improve the matrix management of conventions and organizations.

A HUGE FUNDING GAP

The resources available to address environmental and related developmental issues are extremely small in relation to the amounts the World Bank estimates will be needed for mitigation of climate change alone ($139–175 billion annually), even taking into account the recent increase in commitments of up to $10 billion annually by 2012 (World Bank 2010b). If other environmental concerns are added, such as the degradation of soil, water, and marine resources, this estimate must be multiplied many times over. New donor funding of the GEF-5, at $3.54 billion in current dollars, is 54 percent more than funding for the GEF-4, at $2.30 billion in current dollars, but only marginally more in constant dollars. Given the GEF's large and growing mandate, this increase is minuscule.

The modest resources reflect the general ethos of development assistance: a decline in real resource transfers to all regions and significant positive flows of net disbursements (after paying for debt obligations), mostly to sub-Saharan Africa. However, the GEF's long lags in processing projects to meet its own requirements and those of its implementing agencies may also play a role. Resources are quite limited just at a time when development assistance is experiencing a major paradigm shift from poverty reduction and growth to the delivery of environmental services by aid recipients, where donor payments are contingent on the delivery of the services being independently verified and certified. But many developing countries lack the political will, the quality of governance, the institutional and financial capacity, and the technology to deliver such services. Furthermore, it is unclear whether this paradigm shift embodies any real additional resources or merely involves reorganizing financing of existing aid.

MISSION CREEP

The extreme shortage of resources in the face of an expanding agenda has resulted in mission creep among existing intergovernmental organizations and the growth of new initiatives. Both strategies are seen as ways to increase competitiveness in a resource-scarce world. This has led to a huge increase in transaction costs for developing countries. In the case of small and low-income countries (i.e., the majority of aid recipients), these costs have become onerous. Without fewer new initiatives, an effort toward the consolidation of existing initiatives, and far greater financial resources to implement ongoing initiatives on a consistent, predictable, and long-term basis, it is unlikely that environmental issues will be addressed in any serious way.

INCOHERENCE: THE CASE OF SAFEGUARDS

Apart from the sheer number of factors influencing the agenda, incoherence in the policies and procedures of international organizations compound the problem for developing countries. Across organizations, there are critical inconsistencies in the treatment of safeguards; indigenous people; forest certification, forest management, and procurement of equipment or technical assistance; and disbursement procedures, the latter in the financing and implementation of projects. Without the standard or systematic treatment of safeguards across implementing organizations, safeguards will likely remain a major stumbling block in the implementation of REDD+.

GOVERNANCE

Governance of the climate initiatives is more democratic—that is, more like the GEF than the World Bank or IMF—with equal representation of developing countries. Civil society and the private sector participate as observers. In international financial institutions, however, the bilateralization of multilateral aid with the huge growth of trust funds, each with different rules and expectations, has compounded problems of governance and management. Paradoxically, donors

have established trust funds with the World Bank because the bank manages funds with high standards for fiduciary oversight, safeguards, accountability, and transparency. But donors do not always apply those same standards to their own bilateral financing of operations in developing countries. As a result, developing countries' costs of doing business with the World Bank are often greater than their costs of doing business with donors. The World Bank may become the largest manager of trust funds without implementing much development financing, with the latter being carried out by other implementing agencies. To avoid this risk, the bank has increasingly moved to other financing instruments, including development policy loans, sector loans, and Sector Wide Approach Programs (SWAPs), which use ex ante environmental and social assessments (safeguards apply to investment lending). It is hard to assess the knowledge creation or transfer associated with those instruments.

CAPACITY BUILDING

The Bali Road Map emphasized the importance of training and capacity building to enable developing countries to effectively tackle their own climate change challenges. The newly emerging climate change literature and the reporting of international organizations suggest that many more resources go to the international consulting industry (dominated largely by developed countries) than to capacity building in developing countries. Similarly, many more resources go to NGOs in developed countries than to those in developing countries. Third-party monitoring by international NGOs, rather than by strengthened domestic constituencies, is one of many examples. Building the capacity of national organizations to conduct third-party monitoring should become mandatory in donor programs.[13]

Engagement with the private sector needs to increase. The IFC has been creative in the way it is adjusting to the external environment. Its financing role is increasing. The GEF is engaging in some private sector partnerships in phasing out ozone-depleting substances in transitional economies in eastern Europe and in the control and management of ships' ballast water and sediments (GEF Evaluation Office 2009). Overall, however, multilateral activity with the private sector has been limited and nonstrategic, leading OPS 4 to note the need for greater and more effective engagement with the business sector (GEF Evaluation Office 2010).

WILL THE GLOBAL COMMUNITY RISE TO THE CHALLENGE?

The current global environmental architecture is clearly inadequate to meet today's challenges. A low-carbon strategy for developing countries is necessary, but not sufficient to achieve global environmental objectives. As part of this strategy,

13. With the introduction of the new Resource Allocation Framework during GEF-4 (2007–2011), the role of NGOs from developing countries in GEF operations has diminished. OPS 4 notes that GEF partnerships with local actors (e.g., civil society) are similarly weak. Yet the GEF has been an active supporter of international NGOs.

large-scale set-asides of publicly owned forest land may be necessary, but outside remote areas, the set-asides are unlikely to be attained without simultaneous and substantial investment in food, livelihoods, and agricultural research and development in developing countries. This will mean integrating agricultural development with forest protection for sustainable development. Large-scale investment in access to energy is critical to increase employment, income, and quality of life in vast rural areas. Yet hydropower, solar, and wind energy have all posed complex challenges of technology, distribution grids, market failure, and management. Devising effective solutions calls for greater innovation, deeper and more realistic analysis in developing countries, and institutional responses at the global level that are less fragmented, more coherent, more accountable for results, and less driven by resource capture. Under "business as usual" scenarios, significant portions of the investments needed in developing countries will have to come from growth in their own economies rather than from resource transfers from developed countries. Reining in climate change will remain a pipe dream, while small-scale activities will no doubt continue, and households that are not responsible for climate change will bear the brunt of increased risks and uncertainty.

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