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Inter-Linkages in Financing Sustainable Development



Inter-Linkages

Synergies and Coordination among Multilateral Environmental Agreements

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Abbreviations / Acronyms

ADB	Asian Development Bank
AUSAID	Australian Government Overseas Aid Program
BCSD	Business Council for Sustainable Development
CBD	Convention on Biological Diversity
CCD	Convention to Combat Desertification
CDM	Clean Development Mechanism
CDVC	Community Development Venture Capital funds
CFCs	Chlorofluorocarbons
CITES	Convention on International Trade of Endangered Species of Wild Flora and Fauna
COP	Conference of the Parties
DANCED	Danish Cooperation for Environment and Development
Earth Summit	UN Conference on Environment and Development
EBRD	European Bank for Reconstruction and Development
EF	Environmental Funds
FCCC	Framework Convention on Climate Change
FDI	Foreign Direct Investment
GDP	Gross Domestic Product
GNP	Gross National Product
GEF	Global Environment Facility
GIF	Green Investment Fund
GTZ	German Technical Cooperation
HCFCs	Hydrochlorofluorocarbons
HFCs	Hydrofluorocarbons
HIPC	Highly Indebted and Poor Country international debt relief initiative
ISD	Initiatives for Sustainable Development
IUCN	World Conservation Union
JI	Joint Implementation
JICA	Japan International Co-operation Agency
MBI	Market Based Instruments
MEA	Multilateral Environmental Agreement
MFI	Microfinance Institutions
NGO	Non-governmental Organization
ODA	Official Development Assistance
OECD	Organization for Economic Cooperation and Development
PFCs	Perfluorocarbons
SEAF	Small Enterprise Assistance Funds
SPREP	South Pacific Regional Environment Programme
UNCED	UN Conference on Environment and Development
UNEP	United Nations Environment Programme
UNGASS	Overall Review and Appraisal of the Implementation of Agenda 21
UNU	United Nations University

Executive Summary

This policy brief examines how the *inter-linkages approach* to sustainable development governance can be used to help make sustainable development financing more effective and efficient.

Inter-linkages is a strategic approach to managing sustainable development that seeks to promote greater connectivity between ecosystems and societal actions. On a practical level, this involves a greater level of cohesiveness among institutional, environmental issue-based, and development-focused responses to the challenges of sustainable development, and among the range of international, regional, and national mechanisms that share this challenge.

The key to developing a strong integrated approach to sustainable development is the identification of the inherent synergies that exist between different aspects of the environment and an exploration of the potential for more effective coordination between sustainable development issues and our responses to them. In our global effort to establish and maintain sustainable development there is perhaps no more immediate and urgent challenge than that which relates to the question of financing.

This brief provides an outline of the key processes and trends that serve to shape the current financing environment. These include the continuing decrease in official development assistance (ODA) levels and the steady increase of private financial and capital flows into the developing world. Also highlighted, is the urgent need to clearly define and delineate an appropriate role for ODA within the broader sustainable development challenge.

Another key factor shaping the challenge to provide adequate financing for sustainable development is simply the increasing complexity and urgency of the task at hand. There are, for example, an increasing number of private and public actors and stakeholders who are required to play a useful role in governance at all levels of governance, international, regional, national, and local. And while the natural environment is beginning to show even greater signs of stress at all four levels, the gap between the richest and poorest peoples of the world continues to widen.

This policy brief provides concrete, practical, examples of how the inter-linkages approach can, or has been, applied to the issue of financing in order to use the above trends to the advantage of sustainable development goals. There are several aspects to this task. First, is to identify new and innovative, public and private, sources of financing at the international, regional, and national levels. Second, is to identify, at the project level, ways in which limited funds can be used to the best advantage. Third, is to examine ways in which the mechanisms that finance sustainable development can be made to be more efficient and effective. Within this brief, each of these aspects is explored in detail and discussed within the specific context provided by selected case studies.

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Introduction: Inter-linkages and MEA Financing

The global environment consists of many complex interlinked ecosystems. Protecting and preserving this complex environment requires a holistic approach that integrates the responses to environmental problems at the local, national, and global level and also between different policy approaches and environmental institutions.

Unfortunately, global environmental policy-making is often segregated and compartmentalized on the basis of topic, sector, or territory. The objectives of many international environmental agreements sometimes may overlap and conflict, while the implementation of one treaty may undermine the very principle upon which another is based. The growing disarray of environmental agreements, policy directives, and guidelines has become dangerously complicated and threatens to overwhelm the administrative and institutional capacity of many countries and international organizations (Paris, 1999).

The problem of institution disarray and overlap is, to a large extent, a manifestation of the complexity that characterizes the environment. It is also a consequence of our piecemeal problem-solving-based response to this complexity. From the seeming disarray, however, it is still possible to see how a better fit can be achieved between the environment, and environment related institutions. Just as the environment and environmental changes are interlinked, our environmental institutions and responses should also be interlinked. It is this goal that serves as one of the core guiding principles underpinning the *Inter-linkages* approach to sustainable development governance.

Recognizing the need for greater coordination and synergy between environmental institutions and agreements, the United Nations University aims to increase knowledge and understanding of the Inter-linkages principles and how they can be usefully implemented at the levels of policy and management.

Inter-linkages and Multilateral Environmental Agreements (MEAs)

Multilateral environmental agreements often overlap as a result of the bio-geo-physical dynamics of the earth's ecosystems. This overlap creates significant potential to establish useful institutional linkages within clusters of issue-specific environmental agreements. Useful linkages may also be established across MEA issue areas and scales, linking, for example, systemic problems

BOX 1

International Conference on Synergies and Coordination between MEAs

The United Nations University and its partners convened the International Conference on Synergies and Coordination between Multilateral Environmental Agreements (MEAs) on 14-16 July 1999 to discuss and promote the development of a synergistic and coordinated approach to environmental policy making that takes into account existing inter-linkages between global environmental issues.

An important outcome of the conference was a series of recommendations on the promotion of inter-linkages between MEAs in the areas of harmonization of information systems and exchanges; finance; issue management, scientific mechanisms, and synergies for sustainable development. The summary report of the conference and relevant background information can be found on the website: <http://www.unu.edu/inter-linkages/>.

At this international UNU conference, the finance working group chaired by Remy Paris, Administrator of the Development and Cooperation Directorate of the Organization for Economic Cooperation and Development (OECD), addressed four critical issues:

- The general context for identifying and supporting synergies to implement MEA provisions;
- Opportunities and needs to develop synergies at the national level;
- The role of external actors, such as multilateral and bilateral financing bodies, in promoting inter-linkages;
- Synergies through resource mobilization;
- Innovative financing methods.

such as climate change and other atmospheric phenomena, to the regional and local problems of land degradation, desertification, and biodiversity loss.

Another source of MEA overlap is the agreements themselves and the fact that they are negotiated in separate institutional forums and, in some cases, stretch across a wide spectrum of policy domains. Environmental agreements can, for example, have implications for the work programs of a number of different inter-governmental organizations or other legal regimes such as international trade and investment, food and agriculture, or customs control.

Overlap also exists at the functional or operational levels of agreements through the need for, and use of, similar tools and approaches for reporting and communications, capacity building and awareness raising, technology transfer, and financing mechanisms.

The phenomenon of MEA overlap can be both positive and negative. Overlaps can provide opportunities for coordination, or they can be the source of conflict. One positive example is the potential that exists for coordination among agreements across different geographic scales. The scope of some regional agreements may, for example, be usefully extended to the global level. Alternatively, some global agreements could be more effectively defined within a regional context. From a negative perspective, institutional overlap can lead to the duplication of existing policy measures within each MEA's efforts to achieve its own objectives. In even worse cases, overlap can lead to the creation of inconsistent policy measures that actually serve to defeat the objectives of other MEAs or legal regimes.

Inter-linkages and Financing MEAs

Within the issue area of financing, one oft-cited example of negative overlap between MEAs is the conflict that exists between the policies and measures associated with the Montreal and Kyoto Protocols. In this instance, two MEA funding mechanisms are at risk of working in direct opposition to each other.

The Montreal Protocol aims to reduce and phase-out the production and consumption of ozone depleting substances, such as, Chlorofluorocarbons (CFCs), through the use of alternative substances, such as; Hydrofluorocarbons (HFCs), Hydrochlorofluorocarbons (HCFCs), and Perfluorocarbons (PFCs).

The Multilateral Fund was established to serve as a financial mechanism for the Montreal Protocol. It seeks to provide financial and technical assistance to developing countries with the aim of eliminating their industrial use of ozone depleting substances. Elimination efforts in countries with economies in transition are funded through the Global Environment Facility (GEF). Between US\$ 250 million and US\$ 300 million (25 percent to 30 percent of total funding for the Multilateral Fund) has already been spent promoting HFCs and HCFCs as substitutes for the ozone depleting CFCs.

The Kyoto Protocol, meanwhile, aims to reduce the emission of six greenhouse gases, among them: carbon dioxide (CO₂), nitrous oxide (N₂O), methane (CH₄), and also the HFCs and PFCs. This means that while the Montreal Protocol promotes HFCs and PFCs as substitutes for the ozone depleting CFCs, the Kyoto Protocol lists these same two substances in the basket of greenhouse gases that are targeted for reduction.

Although current HFC emissions are small compared to other greenhouse gases, they are projected to be of concern in the future. For example, HFC emissions in Germany grew ten-fold from 1990-1995, while they increased by 72 percent in the Netherlands, 86 percent in the UK, and 74 percent in the U.S. over the same period. The Multilateral Fund for the Montreal Protocol has already spent millions of dollars in promoting the use of HFCs, especially in developing countries. And yet it may not be long before the GEF, which also serves as the funding mechanism for the Kyoto Protocol, is forced to fund efforts to reduce HFC emissions in accordance with the Protocol.

Any solution that is devised to resolve this conflict should take into account the need for coordination between the two protocol financing mechanisms in order to mitigate mutually negating spending. The GEF and Multilateral Fund could, for example, coordinate their efforts in order to finance the shift toward substitutes that are both non-ozone depleting and non-climate changing.

Financing Sustainability: Issues and Problems

There is growing recognition of the importance of mobilizing adequate financial resources to achieve the ambitious poverty reduction goals of the UN Millennium Declaration and to invest in the sustainable development of the developing world. Globally, there is also greater concern over the increasing polarization between the rich and poor of the world. This is coupled with an increasing awareness that the situation will only continue to worsen unless

there is a more concerted effort to identify and develop resource mobilization strategies for the developing world.

In this regard, an inter-linked approach represents the most effective and efficient strategy for development programs and projects. The idea of sustainability is foundational to any development effort, and sustainability is dependent on a well-understood (and managed) environment. The environment is not only a component of sustainable development it is a foundation for it, and part of the background to it. A sufficient understanding of the environment necessitates the recognition of its continuity. There are no boundaries to the environment, and in this sense the 'global' serves as the background even for specific development projects. There is, therefore, always some way that MEA objectives can be integrated in sustainable development projects.

To understand the important relationship between financing and international environmental institutions, it is necessary to understand the history behind the notion of creating a global framework to finance sustainable development activities. International deliberation on the issue of financial assistance to developing countries for global environmental protection can be traced back at least to the 1972 UN Conference on the Human Environment. Yet, it was not until the 1987 release of the World Commission on Environment and Development report (Brundtland report) that the issue of financing for sustainable development gained global policy prominence (Sjoberg, 1994).

While the Brundtland report is most often remembered for its focus on framing sustainable development as "environmental protection geared towards the sustainability of development goals," the report also emphasized the need for a "significant increase in financial support from international sources." The Brundtland report initiated serious discussions about how funds might best be generated and channeled.

At the 1992 UN Conference on Environment and Development (UNCED, or Rio Earth Summit) in Rio de Janeiro, one of the most contentious deliberations focused on finance. One particular aspect of this debate centered on whether industrialized countries should pay some of the costs of sustainable development, and MEA implementation, in developing countries. The rationale behind the affirmative side of this debate is that the incorporation of environmental concerns into development efforts increases the costs of development in a way that developed nations did not experience. Also, developed countries continue to put more pressure on the global environment through their more extensive production and consumption. The higher level of resources in developed countries in the form of wealth, knowledge, and technology also puts them in a better position to finance sustainable development and MEA implementation. This view is encapsulated in Principle 7 of the Rio Declaration on Environment and Development, which stressed differentiated responsibilities among nations in pursuing sustainable development.

During UNCED negotiations, developing countries demanded that any funding for sustainable development projects be in addition to, or on top of, existing official development assistance (ODA). This demand was raised by developing countries prior to UNCED, and has been raised many times since (Jordan, 1994). Developed countries balked at this demand, however, and overall ODA

has decreased since 1992, despite commitments at UNCED to achieve the previously targeted 0.7 percent of developed country GDP.

Even as the UNCED process was still underway, difficulties were anticipated in regard to the raising of funds for sustainable development implementation. As a result, Chapter 33 of Agenda 21 (the text negotiated) suggests that UNCED should “identify ways and means of providing new and additional financial resources, particularly to developing countries, for environmentally sound development programmes and projects...”

The euphoria generated during the UNCED negotiations dissipated soon after the Summit ended and as decision makers tried to come to terms with the difficulties of resolving the \$300 billion price tag that had been put on the implementation of Agenda 21. Since that time, the challenge of financing sustainable development on the global level has only worsened. The policy context within which this challenge is being met has also become much more complicated since the Rio Earth Summit.

The institutional context of global environmental financing dramatically transformed in the 1990s. Total foreign aid from industrialized countries to the developing world increased steadily in the 1970s and 1980s, reaching a peak of US\$ 69 billion in 1991. Total aid flow has declined by 33 percent, however, in real (inflation adjusted) terms between 1991 and 1998. Development also decreased in absolute terms. ODA flow to developing countries amounted to US\$ 53.7 billion in 2000 and US\$ 51.4 billion in 2001. (2001 Development Assistance Committee Report, OECD)

A different trend can be observed in relation to private investment. Prior to 1990, private investment made up only about half of the total financial flows to the developing world. By 1998, in a complete reversal from the long-standing trend of the previous decades, private capital flows exceeded US\$ 220 billion and constituted almost 90 percent of the total capital entering the developing world (French, 2000).

By the end of the 1990s, overall private capital flows have effectively replaced ODA as the primary source of external financing in many natural resource abundant and ecologically vulnerable countries in the developing world (Della Senta and Park, 1999).

Financing MEAs: Resources and Mechanisms

This policy brief addresses two inter-related questions that are crucial to the goal of financing sustainability: (1) What financing resources are currently available, or potentially securable, to fund MEA implementation at the global, regional, and local levels? And, (2) Are there currently any financing mechanisms models available to implement projects in support of MEAs that take into consideration the problems and opportunities highlighted by the concept of Inter-linkages?

Section Two of the brief deals with financing resources, that is, money or fund sources. This section discusses several sources including ODA, international private or commercial money flows, possible domestic revenues and freed-up sources, and other innovative sources. Section Three deals with Financing

mechanisms, which are, the means or procedures in dispersing or utilizing funds. This section discusses the GEF, environmental funds, community development venture capitals, and microfinancing.

Section Four of the brief examines a number of cases of environmental project financing and implementation. The aim is to identify concepts, issues, and practices and to draw out lessons that can guide both future sourcing and spending. A guiding principle, within the discussion of the case studies, is the need for coordination, flexibility, and adaptability that are principles of Inter-linkages. Three case studies are profiled. They all illustrate a critical theme that has not yet played an important role in global environmental governance, that is, the development of an integrative policy approach that builds on improved coordination between public and private sector mechanisms.

The first case study explores the challenges of green financing initiatives in China, which has some of the most polluted urban areas and degraded ecosystems in the world. This case study also examines the potential for public-private financing in environmental and conservation financing in China and the experience of the Chinese Research Center of Ecology and Environmental Economics in launching a green investment fund (GIF).

The second case study explores the implications of a new vision for sustainable biodiversity management - whose goals are connected with the objectives of economic development and social justice - that was launched with the Convention on Biological Diversity at the 1992 Rio Summit. Whereas the focus of natural resources management before the Rio Summit had been on protection, this case study examines how a new emphasis on sustainable development has ushered in a new vision of conservation management with greater synergy and inter-linkages between business, finance, and biodiversity.

The final case study analyzes the potential of, and obstacles to, financing sustainable energy development. Although energy financing schemes that work well in industrialized countries (e.g. performance contracting for energy-efficiency improvements) do not function as well in the developing world, this case study suggests that the commercial market for solar, wind, and other clean energy technologies may ironically be more viable in the emerging economies than in the industrialized countries.

The final section of the brief serves as its conclusion and summarizes the lessons and recommendations contained in the preceding section

2

Financing Resources

During the UNCED negotiations, it was expected that bilateral and multilateral aid would finance sustainable development projects undertaken in pursuit of Agenda 21. These are the same sources upon which MEA mechanisms such as the Global Environment Facility (GEF) and the Multilateral Fund also depend for their capital infusion. While ODA flows decreased in the period immediately following the 1992 Earth Summit, private and commercial financial flows have increased, notwithstanding the Asian financial crisis in 1997-98. There is no data to demonstrate how much of this commercial financial flow is actually spent on sustainable development, but the available data does suggest that it could represent the way forward in locating supplementary financing for the environment. Substantial potential also exists in domestic sources of revenue (e.g. green taxes, charging fees or reducing subsidies for economic activities that cause ecological damage, etc.) and freed-up capital in the event of debt relief.

The promise offered by private and domestic financing should not overshadow the financing responsibilities of developed countries as recognized by UNCED. This is especially the case with regard to global public goods that are often protected through MEAs. The pressure applied to the global environment by the economies of advanced countries, should not draw funds away from efforts to make development sustainable in developing countries.

Official Development Assistance (ODA)

Of the various financial resources available for financing sustainable development and MEA implementation, many still view ODA to be the most crucial. Despite its importance, the specific role of ODA is yet to be clarified. Also, aside from the increased ODA rates of a few countries, ODA flows have in general fallen and remain far short of the commitments made at Rio in 1992. This is so much so the case, that even a substantial increase in ODA flows now, is likely to be rapidly outpaced by increased need.

There is still a clear need for increased ODA flows into developing countries. Throughout the last three decades, the target ODA rate of 0.7 percent of developed country GDP has remained elusive. Despite their reaffirmations at the 1992 Rio Summit, and again at the 2001 Millennium Conference, developed countries have continually failed to achieve the 0.7 percent ODA rate. Only five countries currently meet the target rate of development assistance: Denmark, Norway, the Netherlands, Luxembourg, and Sweden. The U.S. only gives 0.11 percent of its gross national income to development assistance; Japan, 0.23 percent; Germany, 0.27 percent; France, 0.34 percent. (2001 OECD Data, available from their website)

There is growing concern that the effects of decreasing ODA flows will be aggravated by ambiguities with regard to its role. Should the cost of development administration, education costs for students from developing countries, emergency and disaster aid, and debt cancellation be classified as development assistance? Does ODA worsen the debt crisis, especially among highly indebted countries in Africa, because of its loan content? Should it finance the provision and protection of global public goods? This last question is especially important for MEAs as ozone layer protection and greenhouse gas reduction are considered as global public goods. It would be questionable for a highly indebted and poverty stricken country to incur the further cost of greenhouse gas reduction, for example, and have to channel its much needed

BOX 2

Japan's Environmental Cooperation

The ODA Charter formally adopted by the Cabinet in June 1992 includes environmental conservation as a basic philosophy underlying Japanese aid; its principles mandate that aid be implemented in a manner that addresses both environmental and developmental concerns. The Medium-term Policy on ODA published in August 1999 also lists environmental conservation as a priority task.

Japan began to bolster its environmental cooperation in the early nineties. Environmental cooperation today follows the Initiatives for Sustainable Development toward the 21st Century (ISD) announced in June 1997 at the Special Session of the United Nations General Assembly for the Overall Review and Appraisal of the Implementation of Agenda 21 (UNGASS).

During the Third Conference of the Parties to the United Nations Framework Convention on Climate Change (COP3) held in Kyoto in December 1997, the Kyoto Initiative on aid for global-warming programs in developing countries was announced by Japan. This initiative aims at assisting developing countries in taking steps during the development process to deal with the global warming issue, which threatens sustainable development on a worldwide scale. Under the Initiative, Japan provides active support for global warming programs in addition to traditional environmental programs.

ODA inflow towards such cost. One of the assumptions underpinning the concept of Inter-linkages, however, is that development will be vulnerable as long as the global environment remains threatened. This reality highlights the urgent need for greater responsibility among developed countries in the provision and protection of global public goods. In this regard, there have been suggestions for a separate funding or new budget item ODA (G) for global

public goods that come directly from the concerned agencies of developed countries. (Martens 2001)

Opportunities also exist for the establishment of single development projects that pursue several sustainable development goals, such as, poverty-reduction and global public good protection at the same time. When limited financing becomes an issue, however, project focus should not be sacrificed. This brings us back again to the need to increase ODA flow. Developed countries must realize that increased ODA is not only a responsibility but also an urgent necessity.

Bilateral Aid

Bilateral donor institutions have been key sources of funding for projects linked to the implementation of various global MEAs. In the Asia Pacific region, several agencies are particularly active, including the Australian Overseas Aid Programme (AUSAID), the Danish Cooperation for Environment and Development (DANCED), German Technical Cooperation (GTZ), and the Japan International Co-operation Agency (JICA). AUSAID and DANCED are highly involved in building capacity in a number of areas, including strengthening focal points and supporting collaboration among developing countries to coordinate responses to global warming. In cooperation with SPREP, AUSAID has an extensive public awareness programme targeted for numerous Pacific island countries. Through a range of country projects, GTZ is providing support to implement the conventions on biological diversity and climate change in various developing countries in Asia, Africa and Latin America.

There is growing pressure within the donor community to adopt synergy and coordination in project design. While the experience of the DANCED Southeast Asian development Assistance Programme is not unique, it is a particularly noteworthy case to highlight.

Multilateral Donor Institutions

Multilateral donor institutions are in the best position to assist developing countries to meet their obligations under MEAs. This includes providing both technical equipment for enhanced monitoring, and data collection as well as strengthening the capacity of government officials at the national and sub-national levels.

As controllers of financial resources, regional development banks are in a prime position to assist in capacity building. Development banks are by their nature information collectors, and with the support of the country in question, can also be information providers and capacity builders. For instance, countries have cited a lack of local institutions to perform independent verification of greenhouse gas reductions achieved by AIJ/JI/CDM projects. The European Bank for Reconstruction and Development (EBRD), with its close relations to industry in countries with economies in transition, can play a significant role in monitoring and supporting the reporting requirements of countries under MEAs. Regional development banks can also work with countries to synthesize data and reporting, and train in basic data collection and collation, as is being done by the Asian Development Bank (ADB).

The ADB, for example, has been actively engaged in providing environmental assistance to its developing member countries. In 2000, the Bank increased its support for environmental activities to 23 percent of the total approved loans, up from the 13 percent average over the past five years (ADB 2001). Over the course of the year, the Bank approved three technical assistance grants to strengthen the capacity in environmental management of national and provincial government officials from India, the Kyrgyz Republic and Thailand. In cooperation with a host of other organizations, the ADB conducted 11 workshops for over 500 participants from 14 Asian countries on environmental, economic and legal issues related to the Kyoto Protocol, including the Clean Development Mechanism, Joint Implementation, and the Buenos Aires Plan of Action. The Bank also approved a grant to strengthen national capacity in the Philippines to implement the CBD. In the Central Asian Republics, the ADB is supporting a mechanism for regional environmental action, planning and implementation (ADB 2001).

The GEF, meanwhile, through its various grant programs and project types, provides funding for activities related to biodiversity, climate change, international waters and ozone. Projects on land degradation are also eligible for funding provided that they address links to one or several of the four focal areas.

Projects financed through multilateral development channels are, for the most part, specific to a single agreement. Although the GEF accepts and even encourages multi-focal projects, the gross allocation for pilot phase and restructured GEF projects amounted to less than US\$ 200 million.

It is important to underscore that while MEA-related projects have been generally conceived and implemented with a specific agreement in mind, many development and environmental projects end up meeting, at least partially, the objectives of various arrangements, given the natural geo-bio-physical linkages in ecosystems. In fact, a single targeted action can bring about multiple benefits. Nevertheless, there is growing pressure within the donor community to strive for more synergy and coordination in project design.

Increasingly, however, development assistance projects are internally driven, based more on the needs of recipient countries, and identified in consultation with multi-stakeholder groups, government agencies and multilateral donor agencies. This in itself is an example of partnership that can be used to identify possible linkages among MEAs.

Private and Commercial Sources

Private and commercial sources have great potential for financing sustainable development and MEA implementation. In fact, MEAs, such as the Montreal and Kyoto Protocols, are dependent on nation states primarily for regulating environmentally destructive private and commercial investments. A direct relation with private and commercial interests brings MEAs closer to resolving global environmental problems such as ozone layer depletion, global warming and biodiversity loss and achieving environmental protection targets. MEA targets integrated in private and commercial plans of investments (company plans, private foundation objectives) in principle and practice goes a long way in achieving MEA goals.

Foreign direct investments, self-regulated according to MEA principles and objectives, become, effectively, environmental projects that can be more potent than government initiated ones. The regulation of foreign direct investment (FDI) by developing and developed countries towards MEA goals would greatly help as well, especially with regard to intractable FDI flows. Ensuring environmentally responsible FDI, whether through self-regulation or government regulation, stops environmental degradation at the source and appoints a traditional cause of environmental pressure into a complicit advocate and mover of environmental protection.

Private Foundations, meanwhile, supplement much needed development assistance to developing countries. They can also be effective channels of ODA, especially to environmental project implementers at the levels of local governments and non-governmental organizations

Foreign Direct Investments

Net financial flows from private and commercial sources increased to US\$ 227 billion in 1998 from US\$ 44 billion in the first year of the last decade. "This includes direct corporate investment from OECD countries, which grew from US\$ 24.5 billion in 1990 to US\$ 155 billion in 1998; commercial bank lending, which rose from US\$ 16.3 billion in 1992 to US\$ 60.1 billion in 1997...and bond lending, which rose from US\$ 11.1 billion in 1992 to US\$ 53.5 billion in 1996..." (Bramble, 2000)

According to the 2000 World Investment Report, FDI to developing countries rose in 1999 to US\$ 208 billion from US\$ 179 billion in 1998, while FDI flows into developed countries climbed to US\$ 636 billion from US\$ 481 billion in 1998. More significantly, FDI outflows from developing countries last year almost doubled, to US\$ 66 billion.

However, FDI flows favor developed countries more than developing countries. Also, the flow of private sector resources to developing countries has been very uneven and, notably in the case of portfolio investments, highly volatile. The cases of the Asian financial crisis and the current crisis in Latin America attest to this. It has been observed that the vast majority of FDI, around 75 percent, has gone to just ten middle-income countries. Moreover, FDI is observed to be heavily concentrated in a limited number of sectors: automotive, chemicals, electronics, energy, petroleum and petrochemicals and pharmaceuticals. Developing countries in most need lose out heavily. In 1998, the 48 least developed countries attracted less than US\$ 3 billion and African countries together received only about one percent of global flows.

However, there is a way to maximize FDI inflows and promote its increase for host countries. The 2001 World Investment Report *Promoting Linkages* argues that "a key factor determining the benefits host countries can derive from FDI are the linkages that foreign affiliates strike with domestically owned firms... whatever the current level of backward linkages, linkages can be increased or deepened further, with a view towards strengthening the capabilities and competitiveness of domestic firms." The report has proposed a series of strategies to enable FDI to promote linkages and gives many examples of how this has been successfully achieved. Also, private foreign investors should be required to measure the local economic impacts they have on a community; not only in terms of direct employment provision, but how they engage with local suppliers and generate a 'multiplier effect' in the community.

Despite these problems, for sustainable development and MEA financing purposes, such comparably large financial flows represent untapped financing resource. At present, there is no way to determine whether any amount of such financial flows support environmental concerns. However, institutional devices can be formulated to tap into this flow. Private-public partnerships in enterprises that support MEAs or Agenda 21 can be sought and promoted. A Tobin tax, imposed to reduce instability of currency values and slow down huge daily capital flows, can be directed to the benefit of MEA or Agenda 21 projects. Self-regulation and governmental regulation according to MEA targets should ensure FDI environmental responsibility in host countries.

The case study of public-private partnership in the area of biodiversity recounted in this paper demonstrates the potential of private and commercial flows in financing MEA and sustainable development initiatives.

Private Foundations

Private foundations are important sources of financing for environmental projects, especially those undertaken at local or grassroots levels.

A good example is the Ford Foundation, which sees itself as “a resource for innovative people and institutions worldwide.” (Ford Foundation website, www.fordfound.org) Founded in 1936, the Foundation operated as a local philanthropy and then expanded to become a national and international foundation. Since its inception, it maintained itself as an independent, nonprofit, and nongovernmental organization that has provided slightly more than US\$ 10 billion in grants and loans. The Foundation’s goals are to:

- Strengthen democratic values,
- Reduce poverty and injustice,
- Promote international cooperation and
- Advance human achievement.

Among its programs, the most relevant to environmental financing is the Asset Building and Community Development program, which helps strengthen and increase the effectiveness of people and organizations working to find solutions to problems of poverty and injustice.

The foundation supports people who leverage human, social, financial and environmental assets to promote social change. Grants support vibrant and robust social movements, institutions and partnerships that analyze contemporary social and economic needs and devise responses to them.

Within the Asset Building and Community Development program is the sub-program on Community & Resources Development, which focuses on Environment and Development and Community Development. In Environment and Development, Ford Foundation helps people and groups acquire, protect and improve land, water, forests, wildlife and other natural assets in ways that help reduce poverty and injustice.

BOX 4

The People and the Rainforest

In the State of Acre in Western Brazil, the deep and productive bond between residents and the Amazon rainforest is being restored. In January 1999 the citizens of Acre voted into power "The Government of the Forest." For the first time government is acting as a benevolent steward of the rainforest and its communities, where more than 40 indigenous groups make their home among the state's 600,000 residents, and where thousands of acres of forest land nurture the earth's environment. "The Government of the Forest," which emerged as a result of a powerful social justice movement, nurtures the region's resources as valuable assets to be tended for common benefit.

Already, the achievements have been remarkable. The region's first Ecological- Economic Zoning Plan was developed to manage and market natural resource products under local control. A group of 375 small farmers formed an agricultural cooperative to diversify crop production and improve market access. The Federal University of Acre's 100-hectare Zoo botanic Park now serves as a "living laboratory" for researchers and students in natural resource management and sustainable development. A worker-owned rubber processing plant has increased production by 500 percent and earned certification for producing the best quality natural rubber in the country, a success that has led to a contract with Pirelli Tire Company and the development of a facility to produce 200 million condoms. In addition, a Brazil nut processing plant and a new furniture-making joint venture among the local government, certified wood producers, and an Italian design company is providing jobs and income.

Since 1988 the Ford Foundation's grant-making in Acre has helped to build the region's research, technical assistance, training, marketing, and publications capacities in agroforestry, farming systems, and sustainable development, as well as contributed to key advances in policy research and advocacy on sustainable land use, resource rights, and democratic governance.

Source: Ford Foundation

Domestic Financing Resources

As stressed above, the responsibility of developed countries in financing sustainable development and MEA implementation cannot be overemphasized. However, there are domestic financing possibilities for these two goals. Two local fund raising options will be briefly mentioned below based on two potential sources of financing: new revenue from Market Based Instruments and Debt-for-Sustainable Development Swaps. The emphasis on the environmental responsibilities of developed countries highlights the importance of the second option as debt relief or debt swap requires their agreement and participation. Debt relief is also a form of indirectly funding environmental projects and initiatives by developing countries that promotes a sense of developing country ownership of environmental efforts as the funds are seen to be domestically sourced.

Domestic Market Based Instruments

Market based instruments (MBI) are a relatively new generation of environmental management instruments. Initially, they generated concerns and much controversy. Traditional environmentalists were concerned that the

economic arena was invading the environmental field. Traditional economists were concerned about the idea of valuing common goods like air, water and even immaterial goods like landscape.

However, the number of applications for MBI has increased with the type of instruments devised. The first one to appear was the simple user charges on water and subsidies. Today, there is a full range of instruments well-conceived and adapted to modern circumstances and needs. Funds raised by MBI can be used to subsidize good environmental initiatives and Environmental Trust Funds. But they should not be seen as mere fundraising instruments. An additional value of MBIs is that they have the potential to induce behavioral changes and motivate industrialists to go further than legal minimum environmental anti-pollution requirements.

These economic instruments also have a role to play in promoting sustainable development and, therefore, the objectives of many Multilateral Environment Agreements (UNEP, 1997). They help internalize environmental costs and promote a full-cost pricing policy, which is the starting point of any sustainable development. Another role is using the money raised to invest in socio-economic projects, recuperation of depleted areas, training, and reforestation of watersheds, soil conservation, or to capitalize environmental funds.

The OECD lists the types and definition of most common Market Based Instruments: *Emission charges* are direct payment based on the measurement of estimation of the quality and quantity of a pollutant. *User charges* are payment for the cost of collective services. For example, charges for the collection and treatment of solid waste, charges on sewage water, charges on hazardous waste, charges on aircraft noise, charges on air pollution, etc. When they are used for natural resources management, they are usually called *user fees*. Examples are fees for access to national parks and to hunting or fishing facilities. Product charges are applied to products that create pollution either through their manufacture, consumption or disposal (e.g. fertilizers, batteries, pesticides). The aim of this charge is to put a real price on the product to include its collection, disposal and treatment. Marketable (tradable, transferable) permits, rights, quotas, which are also called *emission trading*. Are based on the principle that any increase in emission or in the use of natural resources must be offset by a decrease of an equivalent, or sometimes greater, quantity. *Deposit-refund system* is payment made when purchasing a product. The payment is fully or partially reimbursed when the product is returned to the dealer or a specialized treatment facility. *Non-compliance fee* is imposed under civil law for polluters who do not comply with environmental or natural resources management requirements and regulations. They can be proportional to selected variables such as damage caused by non-compliance, profits linked to reduced non-compliance cost, etc. *Performance bonds* are used to guarantee compliance with environmental or natural resources requirements; polluters or users may be required to pay a deposit in the form of a bond. The bond is refunded when the compliance is achieved. *Liability payments* are payment made under civil law to compensate for the damage caused by a polluting activity. Such payments can be made to victims or to the government. They can operate in the context of specific liability rules and compensation schemes, or compensation funds financed by contributions from potential polluters (e.g. Funds for oil spills, Funds for chemical pollution).

This list is of course not exhaustive. Specific instruments that respond to the very diverse needs of local realities (deforestation, fires, over-fishing, and hunting) could be created.

Debt-for-Sustainable Development Swaps

The outstanding unpayable debts of the poorest countries still stand at around US\$ 300 billion and continue to drain their resources even after several years of the international debt relief initiative, the HIPC initiative (for highly indebted and poor countries). The position of the indebted poor countries has worsened. One assessment by Jubilee Plus made in July 2001 predicted that all 23 countries qualifying for the HIPC initiative are in danger of their debts becoming 'unsustainable' even after relief. Calculating how much debt relief debtor countries have received is not an exact science. There are various ways of determining the amount a country owes: the value of the debts when they were first taken out, or their value in debt markets, or their value at current prices when interest has been added. On the last measure, it has been observed that writing off the debts of the 24 countries that have gone through the HIPC process will cost creditors about US\$ 36 billion. This sounds impressive. But from the point of view of debtor countries, it seems far less generous. Because most debtor governments did not, and could not, keep up their repayments, most of the \$36 billion consists of interest and principal they had not been repaying and were never going to repay. On average, the initiative will cut the HIPCs' expenditure on debt servicing by one third.

Although there are such efforts made by some developed countries to alleviate the burden of developing countries' indebtedness, the debt remains a very high impediment to any kind of development (sustainable or otherwise) in many of them. The question is not whether developing countries debt should be "forgiven." The only interesting question is whether the indebtedness has an impact on poverty and on environmental degradation. The answer to both questions is obviously yes.

Taking into account that both the borrowers and the lender often share the responsibility, and that unfortunately, the effects of the past mistakes are paid today by the poor who very often did not even benefit from these loans, urgent and constructive solutions must be found to solve this unacceptable situation sustainably.

Debt-for-Sustainable Development Swaps will never be the single definitive solution to the problem but it is much more extensive use could certainly be part of a more global solution.

For example, a series of funds has been initially capitalised with the proceeds of debt swaps. The Bolivian National Environment Fund (FONAMA) was partially capitalised in 1993 with the proceeds of debt swaps with Canada, Mexico, Germany and the Netherlands. The "Fondo de las Americas", the national environment fund of Chile was initially capitalised in 1994 through two debt swaps with the U.S. Government which amounted to about US\$ 18 million over a period of 8 years. The Colombian ECOFONDO was also capitalised in 1992 with the proceeds of a debt swap with the government of Canada (US\$ 12 million) and from the government of the United States under the Enterprise for the Americas initiative (US\$ 41 million). Several other funds, mostly in Latin America, were capitalised with the proceeds of debt swaps: The

“Fondo Integrado Pro Naturaleza (PRONATURA) of the Dominican Republic; the Environment Fund of El Salvador (FONAES); the Guatemalan Trust Fund for Environmental Conservation; the Environment Foundation of Jamaica; The Jamaica National Park Trust Fund; Peru’s Protected Area Fund PROFONANPE; The Foundation for the Philippine Environment (FPE); the ECOFUND Foundation of Poland; among others. These funds can go a long way in financing sustainable development and MEA implementation.

3

Financing Mechanisms

It is recognized that what little environmental financing is available must be effectively managed if it is to make any difference in global environmental goals as well as in local environmental protection efforts. Efficient financial mechanisms, thus, are of crucial importance. Financing mechanisms are means or procedures in dispersing or utilizing funds. This section on Financing Mechanisms discusses the GEF, environmental funds, community development venture capitals, and microfinancing.

The Global Environment Facility

Since its inception as a pilot program in the World Bank in 1991, the Global Environment Facility (GEF) has proven to be an innovative and adaptable agent for developing and testing solutions to global environmental problems. From the very beginning, it has been expected that the GEF would be a facilitator and catalyst for financing global environmental solutions.

With the rise in private finance over the same period, the challenge has somewhat evolved. Resources for investment in developing countries are increasingly available, but they are not always injected into activities consistent with environmental goals. With this consideration, the GEF is seeking to meet the challenge of generating economic benefits alongside global environmental goals.

Creating a New Institution for Financing Sustainable Development

The period immediately following the 1987 Report of the World Commission on Environment and Development was marked by intense political debate on the scope, magnitude, and institutional approach to dedicated international environmental funding. One of the most important questions was where such a fund might be placed. The World Bank was one logical candidate based on its

lead role in lending for development and having itself created a central Environment Department for the first time in 1987.

Deliberating on the scope and purposes of an environmental fund proved to be very contentious. Some thought the resources should be linked with regular development work, while others wanted a focus on trans-boundary issues. This issue was influenced by parallel negotiations within the Montreal Protocol on new sources of funding to compensate developing countries for the added costs of substitutes for ozone depleting chemicals. The creation of a new fund was one way to assure developing countries that funds were “new and additional” and also responded to the growing public awareness of international environmental concerns.

The basic elements of an agreement were thus in place for a three-year pilot program to test the concept of a targeted global environmental assistance. The Global Environment Facility (GEF) was soon established and became the financial mechanism for the Conventions on Biodiversity and Climate Change and as well as for programs addressing land degradation, ozone depletion, and persistent organic pollutants. From 1991 to June 1999, the GEF committed US\$ 2.5 billion in grants to more than 100 countries.

GEF and Development Financing in the 21st Century

The most useful future role for organizations like the GEF may be to build the capacity for the more effective use of development finance and to demonstrate models for financing sustainable development, particularly in the developing world. In this view, the central challenge of GEF in the 21st century is not the attitude of investors or the existence of stiff competition from conventional investments. Rather, the need is to create an ecologically sustainable development strategy that takes into account existing inter-linkages between global environmental issues and explores more effective coordination of the respective policy remedies. Furthermore, this strategy has to be implemented with the following three key goals in mind: engagement with the private sector, improving the social and environmental outcome, and identifying new financial resources

In terms of engaging the private sector, a group like the Business Council for Sustainable Development (BCSD) is perhaps most likely to be responsive to the issue of specialized environmental financing. From the standpoint of many individual companies, the scale of GEF financing may be too modest and its role within the climate convention and national development strategies too complicated to justify high-level interest.

On the other hand, more can be done to support the private sector within developing countries, from which there may be an untapped source of project ideas. Locally based firms in the developing world are often a major target group for GEF projects since the necessary leadership for sustaining and replicating these projects has to come from within recipient countries.

In terms of specific projects funded, another approach currently under consideration is to utilize a more programmatic method; that is, provide larger support on more flexible terms over a longer time period in return for the recipient country becoming more of a partner in defining the terms of the performance indicators for the projects. For example, the project might entail

financial support over a decade, with the recipient government promising to make essential policy reforms during some initial period after the first round of funding.

Subsequent funding could be approved without going back to the Council, assuming the country fulfills its promises. The programmatic approach is consistent with research by the World Bank and others that a favorable policy environment is essential for effective use of foreign aid.

While the GEF has been able to do a great deal for only about US\$ 500 million per year, much greater resources may be necessary as the extent of the problems become more apparent and new issues such as the accumulation of persistent organic pollutants continue to be identified. Despite the continued decline in foreign aid, there are several promising ideas for greatly increasing environment-related investment in developing countries.

The most likely to come to fruition may be the Clean Development Mechanism (CDM) under the auspices of the Kyoto Protocol. The CDM offers the possibility of a form of international emission trading in which industrialized countries could achieve at least some of their target emission reductions by investing in less expensive projects in developing countries. However, the implementation of the Kyoto Protocol is still far from certain and the role of the CDM is even more uncertain.

Environmental Funds

The idea for Environmental Funds (EF) is not new and dates back to the early 1990s. As such there is already a wealth of lessons that can be drawn from the experiences of managing them. Their importance and number have been on the increase but there is still some reluctance on the part of bilateral donor agencies to support the capitalization of EFs. Today, there are about forty-six operating Funds, mostly in Latin America (IUCN, The Nature Conservancy, WWF, 1994). There are a few EFs in Africa, Asia and the Commonwealth of Independent States, but the numbers in these regions are also increasing. Globally, about fifty-six new Funds are either being created or under negotiation.

Since their inception, EFs have attracted considerable expectations and interest from environmentalists (Bayon et al., 1999). They are seen and often used as much more than mere financial mechanisms. On the financial side, they are promoted as long-term sources of finance for conservation and sustainable development tools. One of the main arguments used is that they are very good instruments to finance the recurrent costs of protected areas. At the same time, they are often used to strengthen environmental organizations and promote a participatory approach to environmental management. Another argument put forward is that they are perfect tools to balance the often very limited financial absorption capacity of many developing countries.

Funds for EFs come from various sources but the most important ones are the GEF, bilateral donor organizations through debt counterpart funds, and development cooperation funds. Once they are operational, many Funds manage to raise additional funds from various sources or gain additional capital from good portfolio management. Environmental Funds should not rely solely

on ODA but also, and maybe increasingly, on local funding sources like environmental fees, royalties, and fines, and on any other so-called Market Based Instruments (MBI). For example, a newly created Fund in Ecuador, with the support of the U.S. NGO the Nature Conservancy, will be capitalized by fees charged for the use of water in the city of Quito. The Fund, in turn, will provide money needed to protect the forests in the city's watershed.

There is no rigid definition for Environmental Funds. Their structure, scope of activities and procedures vary according to the purpose for which they were created. But one has to recognize that the majority of the existing Funds are directed at protecting the environment and promoting sustainable development. They are generally of three types: (1) National Environment Funds (NEFs), which are often very big and serve a full range of activities. Some of them became real institutions. The Bolivian CONAMA is one of them. The Bhutan Trust Fund for Environmental Conservation is another. (2) Some are theme or site specific Funds and aim at protecting a specific animal species or a specific ecosystem. (3) Many of them are Funds that make grants to others. The Brazilian Biodiversity Fund (FUNBIO) is one of these, as is the Foundation for the Philippine Environment. These Funds often have a strong civil society institutional strengthening component.

Several examples of successfully managed Funds will illustrate how EFs work at the practical level.

The ***Bhutan Trust Fund for Environmental Conservation*** is the first such Fund established in 1992 as a follow-up to the Rio Conference. It is exemplary in that it is a collaborative venture between the Royal Government of Bhutan, the United Nations Development Program (UNDP), the World Wildlife Fund (WWF), the GEF and the cooperation agencies of Denmark, Finland, The Netherlands, Norway and Switzerland.

After a few years of careful financial management, the capital of the Fund rose from an initial US\$ 10 million to approximately US\$ 28 million today. Administrative costs are approximately ten percent of investment revenues. Investment of assets has been contracted out to an overseas private investment manager and net income is more than eight percent annually. The success of the Fund capitalization is due to the strong government commitment to protect Bhutan's forests and biodiversity.

Grant funding in early years was severely limited by the lack of local capacity in project preparation and implementation. After a few years of concentration on capacity building activities, the Fund has developed grant-making guidelines and procedures and is now supporting a series of projects annually.

The Fund has become a fully independent grant-making organization financing projects which (1) support conservation initiatives in the entire green sector, including sustainable utilization of genetic and species resources; (2) strengthen integrated conservation and development planning through applied conservation research and monitoring of biodiversity change; (3) promote education and awareness of conservation policies and issues.

The ***Mgahinga and Bwindi Impenetrable Forest Conservation Trust*** is another very good example of the usefulness of this kind of mechanism, both in terms of participatory and community management of natural resources and of

the creative and very positive role the “donor community” can play in fostering this approach.

The objective of the Fund is to protect prime mountain gorilla habitats by funding park protection, research and community conservation activities in a priority conservation area. The estimated capital needs for an endowment were US\$ 10 million. An initial GEF-funded endowment of US\$ 4.3 million in 1994 was granted as the basis of the Trust endowment but, because they were skeptical or for reasons of legal restrictions, no donors actually added funds to this endowment.

A USAID US\$ 0.9 million grant in 1994 and a further DGIS US\$ 2.7 million in 1997, given on a sinking fund basis, covered all administrative and project costs for a period of seven years, allowing the Trust to reinvest 100 percent of its interest income into the initial endowment. It is estimated that by the end of 2002, the Trust will have amassed an endowment of about US\$ 8 million, close to its original target of US\$ 10 million.

With these long-term secured resources, the Bwindi Trust Fund created a grant program with the long-term aim of protecting two national parks: the Bwindi and the Mgahinga.

Not only did the Trust Deed allocate the majority of funds for community development activities, but it also strongly involved the community in its management by establishing community representation within both the governance structure and the organization’s program management regime. Three of the nine members of the Board of Directors are community members from the area of operation of the Trust, elected by their peers. They participate in all governance issues related to the management of the Trust.

To further develop the participatory and democratic management of the Fund, a Local Community Steering Committee (LCSC) was established. It comprises villagers, NGO representatives and community conservation officers. Members serve for a two years term. The responsibility of the LCSC is to review and approve all community projects, subject to final technical review and Board approval for projects above US\$ 1000, but more rigorous technical review is required for construction infrastructure projects.

The ***Mexican Nature Conservation Fund*** (MNCF) is yet another good example. It was created in 1996 and initially capitalized on an endowment basis with a USAID grant of US\$ 30 million another US \$10 million from the Government of Mexico and US \$16.5 million from the GEF earmarked for use in ten strategic natural protected areas.

The MNCF main goals are to help conserve ecosystems in biodiversity hotspots; reverse environmental degradation by promoting sustainable productive processes in collaboration with local communities and prepare society in general to protect biodiversity.

In Suriname, meanwhile, 1.6 million hectares of the Central Suriname Nature Reserve is being well managed through an initial endowment of US\$ 1 million raised through private funds by Conservation International. This adds to the US\$ 15 million of the local ***Suriname Conservation Trust*** capitalized through a GEF US\$ 9.54 million grant and another US\$ 5 million from the UNDP and

the United Nations Foundation (UNF). The Fund allows the Foundation to manage protected areas equaling 163.000 square kilometers.

The GEF conducted a review of Environmental Funds in 1998 (GEF, 1999a). The GEF found that: (1) New national parks have been created or existing protected areas expanded or upgraded as a result of EF support. (2) EFs have generated substantial financial resources that would not otherwise have been available for nature conservation. (3) Environmental Funds have helped devolve responsibility and decision-making about environmental priorities and programs to the local level. (4) A broad array of stakeholders has often been involved in the creation of Environmental Funds. This has increased participation of civil society in environmental issues. (5) Important scientific work has been carried out through EFs, including inventories, zoning and mapping, that will help measure changes in biodiversity. (6) Some Funds are having an upstream impact on broader environmental policies.

Environmental Funds have proved to be much more than mere financial mechanisms. They are ever more becoming environmental management institutions, some times complex institutions. According to the GEF report (GEF, 1999a), the Funds that have done best are those that have done much more than just financial management but also played a role in building institutional capacity and private-public partnership, developing flexible and non-bureaucratic management approaches, nurturing community groups becoming involved in environmental management, and contributing to the articulation of environmental priorities and strategies. This is exactly what Multilateral Environment Agreements should promote.

Community Development Venture Capital Funds (CDVC)

Community development venture capital funds provide a model of managing environmental financing resources at the local level.

In the U.S., there are currently more than fifty providers of CDVC, with a total capitalization of approximately US\$ 300 million. Nineteen of these funds primarily make equity and near-equity investments. They have a total capitalization of US\$ 190 million and account for the overwhelming majority of the CDVC investments made to date.

There are also approximately twenty funds that are raising capital with the intention of making such investments, but have not yet begun investing. The remaining sources of community development venture capital make occasional equity investments, but focus most of their activities on providing other types of community development financial services and technical assistance.

The average CDVC fund is capitalized at about US\$ 10 million. Newer CDVC funds have tended to be larger, however, with a broader geographic focus and the ability to invest more capital per company. Banks and other financial institutions are the largest sources of capital for CDVC providers, accounting for thirty-one percent of the industry's domestic capitalization, and an even higher percent for newer CDVC funds. Other major sources of capital for CDVC providers have included private foundations, and state and federal governments.

Investment Strategy of Community Development Venture Capital Funds

Through the end of 2000, CDVC funds have invested US\$ 129 million of equity and near-equity in their portfolio companies, with the nineteen equity-focused funds accounting for eighty-six percent of this amount. CDVC funds invested in businesses at all stages and in many different industry sectors. Most CDVC providers do focus on companies in the manufacturing sector, however, since manufacturing jobs generally offer good wages and benefits, are accessible to low-skill workers, and offer a path for advancement. Unlike traditional venture capital funds, which made ninety-one percent of their investments in technology-related businesses in 1999, CDVC funds made only thirty percent of their 1999 investments in technology-related firms. In general, businesses in this sector do not provide appropriate entry-level jobs and are usually not located in the economically distressed regions in which most CDVC providers invest.

CDVC funds also tend to co-invest with other equity and debt providers whenever possible. This adds to the amount of capital and expertise available to the companies, and provides more sources of capital for any follow-on investments. By investing equity in companies, CDVC funds also make these companies more credit-worthy, enabling them to obtain debt from banks that would not otherwise be available to them.

Fund Structures

CDVC funds use various combinations of nonprofit and for-profit structures. Of the 19 equity-focused funds, seven invest through a nonprofit structure, nine through a for-profit structure and one through a quasi-public structure. Another two make investments through both nonprofit and for-profit structures. This differs from traditional venture capital funds, which are generally structured as for-profit limited liability companies or limited partnerships.

CDVC funds offer more technical assistance to portfolio companies than traditional venture capital funds. This is because CDVC funds target manufacturing businesses that are typically less sophisticated and have fewer resources than the high-tech businesses funded by traditional venture capital funds. In addition, CDVC funds are interested not only in the financial health of portfolio companies, but also in human resources issues that affect the quality of employment at these firms.

Therefore, technical assistance may include, among other things, management assistance, business planning and strategy, and human resource assistance. CDVC funds usually rely on their own staff to supply this type of assistance, which increases their internal operating costs. One way to help meet these costs is to have an affiliated nonprofit that raises grant funds for this purpose, while another popular approach is to work with outside consulting firms.

Expanding the CDVC Concept on the Global Level

Since the community development venture capital industry is young, its long-term financial and social impact on the global level is still largely unknown. A broad-based recognition of the need for equity capital for small business growth as well as the large potential of the community development venture

capital industry to create a positive long-term impact on low- and moderate-income communities are driving the expansion as well as the creation of new programs.

Data about the international CDVC industry consists primarily of the funds that belong to the Community Development Venture Capital Alliance, the trade association of community development venture capital providers. At present, CDVCA's international membership consists of the ten members of the Small Enterprise Assistance Funds (SEAF) that are located in Eastern Europe, the Baltic States and Latin America, and the Crocus Investment Fund of Winnipeg, Canada.

At the end of 1999, these international CDVCA members had a total capitalization of US\$ 226 million, comprised of US\$ 81 million in the ten SEAF funds and US\$ 145 million in Crocus. The ten SEAF funds were capitalized by international development organizations, along with local government and non-profit sources.

Through the end of 1999, SEAF funds had invested more than US\$ 36 million in 124 companies, and Crocus had invested more than US\$ 76 million in forty-eight companies. Both portfolios included companies from a variety of sectors. The Crocus fund was capitalized via a sale of shares to the Canadian public, with the resulting mutual fund traded on the Canadian stock exchange. The fund also receives support from institutional investors and the federal and provincial Canadian governments.

Microfinance

Much of the current interest in microfinance stems from the 1997 Microcredit Summit and the activities that went into organizing the event. Microfinance was defined at the summit as programs that extend small loans to very poor people for self-employment projects that generate income, allowing them to care for themselves and their families.

Microfinance is the extension of small loans to entrepreneurs too poor to qualify for traditional bank loans. It has proven an effective and popular measure in poverty alleviation programmes, enabling those without access to formal lending institutions to borrow at competitive rates, and start small business.

The key implication of microfinance is in its name itself: 'micro'. A number of issues come to mind when 'micro' is considered: The small size of the loans made, small size of *savings* made, the smaller frequency of loans, shorter repayment periods and amounts, the micro/local level of activities, and the community-based immediacy of microfinance. Hence microfinance is not the solution, but is a menu of options and enablements that has to be put together based on local conditions and needs.

Microfinance Viability

Understanding the viability of microfinance requires a comprehensive analysis from the right perspective. The aspect of microfinance that has contributed to its success is its 'credit-plus' approach - where the focus has not only been on providing adequate and timely credit to low income groups, but to integrate it

with other developmental activities such as community organizing and development, leadership training, skills and entrepreneurship management, financial management etc. The success and sustainability of microfinance programs has in fact depended upon, and has fostered, these aspects.

In the absence of commercial bank loans, access to microfinance affords low-income groups to receive loans for their economic activity. Programs and organizations that provide credit to low-income groups make a clear match between the quality and quantity of credit, and the capacity of the poor to utilize that credit - at the same time being organizationally sustainable. Unlike government credit programs and formal bank credit that emphasize large loans for long repayment periods at very low interest rates, microfinance loans are for short periods that are repaid quickly, and made available at interest rates that keep the program sustainable and viable.

The integration of microfinance into the larger macro finance systems in developing countries has not been smooth and many barriers have existed. This is where second-tier institutions such as multilateral institutions, donor agencies, universities and research institutions, international NGOs etc have played a critical role in mainstreaming microfinance programs and institutions. They have played both financial and non-financial roles, in terms of supporting microfinance initiatives financially, and in instituting capacity building and good governance practices in microfinance programs.

There is a clear need, first of all, in establishing the viability and importance of microfinance as a poverty alleviation approach for low-income groups. It also helps in mainstreaming the concept of microfinance within the larger development economics thought. This is important to create a level playing field for microfinance, and its acceptance by macro players such as bankers and other financial institutions. Emphasis also needs to be placed on second tier organizations in order to support and promote microfinance initiatives.

Thus microfinance institutions and the governmental and non-governmental entities that support it have to face two key challenges if microfinance is to become a viable tool for poverty alleviation and development:

Firstly, there is a need for repackaging microfinance, focusing on capacity building of MFIs. Microfinance needs to 'graduate' from its dependence on grants and its charity orientation, to one of self-sufficiency and financial sustainability. Technical advisory, management tools, appropriate and timely information are some important inputs.

Secondly, there is a need for mainstreaming microfinance, focusing on governance of MFIs. This calls for a facilitative and supportive legislative environment to be put in place by national and local government agencies and financial institutions - essentially as a complement to the growing trend of self-governance by MFIs.

4

Case Studies

The three case studies that follow illustrate a critical theme that, until recently, has not been widely manifested in global environmental governance: developing an integrative policy approach that builds on improved coordination between public and private sector mechanisms.

The first case study explores the challenges of green financing initiatives in China. This case study also examines the potential for public-private financing in environmental and conservation financing in China and the experience of the Chinese Research Center of Ecology and Environmental Economics in launching a green investment fund (GIF). The second case study explores the implications of a new vision for sustainable biodiversity management that was launched with the Convention on Biological Diversity at the 1992 Rio Summit. Whereas the focus of natural resources management before the Rio Summit had been on protection, this case study examines how a new emphasis on sustainable development has ushered in a new vision of conservation management with greater synergy and inter-linkages between business, finance, and biodiversity. The last case study analyzes the potential of and obstacles to financing sustainable energy development. Although energy financing schemes that work well in industrialized countries (e.g. performance contracting for energy-efficiency improvements) do not function as well in the developing world, this case study suggest that the commercial market for solar, wind, and other clean energy technologies may ironically be more viable in the emerging economies than in the industrialized countries.

Green Investment Fund in China

With more than 1.3 billion people and a rapidly growing economy, China faces some of the world's most daunting environmental problems. According to World Health Organization studies nine of the world's ten most polluted cities are in

China, and pollution causes an estimated 178,000 people in major Chinese cities to suffer premature deaths each year (World Bank, 1997).

China also confronts serious water shortages and water pollution: approximately two-thirds of its major rivers are polluted. Moreover, natural resource degradation, acid rain, desertification, soil erosion, or a combination of these problems detrimentally impacts approximately one-third of the country's land. Due to reliance on coal for energy, China is already the second largest emitter of greenhouse gases in the world. (World Bank, 1997) The total costs of environmental pollution and degradation in China are estimated to run as high as 6.75 percent of annual GNP (Xia, 1998).

The investment capital needed for environmental pollution control and ecosystem restoration in China is enormous. Government investment in these sectors, however, has been too low. For example, environmental investment as a percentage of GDP in the seventh, eighth, and ninth Five Year Plans (FYP) was only 0.72, 0.8, and 0.85 percent respectively.

Today, Chinese policymakers acknowledge the necessity to increase such investments and devote at least one percent of the country's GDP towards conservation and pollution control efforts. In addition to increased investment, Chinese government leaders have also begun to realize in recent years that old command and control methods will not succeed in stemming the growing environmental problems. A succinct discussion of how the role of the Chinese government to manage and finance environmental protection activities has changed over the past several decades is described below.

Emerging Markets and Products for Environmental Financing in China

Although the Chinese government makes over seventy percent of the total environmental investment, the growing demand for environmental investments is gradually creating commercial investment opportunities for the private sector in both the pollution control and conservation sectors in China.

There has been in recent years a large growth in the market opportunities for China's pollution control technology and service industries. In 1997, nearly 10,000 pollution control enterprises operate in China and employ 1.88 million people. However, in absolute terms, China's pollution control industry is still underdeveloped - equivalent to only 1.6 percent of the U.S. environmental industry.

The energy sector, particularly renewable energy, also has the potential to develop a more open market to encourage domestic and international private sector investments. In the field of wind power generation, China has an installed capacity of 286 megawatts (MW) with a total potential to reach 250,000 MW. China has been particularly successful in mini-hydropower development and small-scale solar heating. From 1990 to 1998, solar water heaters have increased tenfold from 1.5 to 15 million square meters, which has eliminated four million tons of CO₂ emissions each year. Solar water heating facilities in China are anticipated to increase by fifteen percent over the next few years.

Conservation Strategies

Privatization or the granting of clear and guaranteed user rights of natural resources is an increasingly common strategy to promote better conservation in China. For example, in the spring of 2001, the first water-use rights deal in China was completed in Zhejiang Province. The city of Yiwu bought the permanent use rights of roughly 50 million cubic meters (1.77 billion cubic feet) of water from the neighboring city of Dongyang for a lump sum of 200 million Renminbi (\$24.15 million), plus a small fee per ton.

Another potential field for conservation financing in China is the tourism industry. A case in point: in recent years, tourism has grown so much in the city of Lijiang in Yunnan Province that it is more profitable for landowners to keep the forests intact instead of logging them. Moreover, the county government earns considerably more in admission fees to the Yulongxueshan scenic area than they have budgeted for area's maintenance.

Another successful example of conservation financing at the household level is the Caohai microfinancing model. The Caohai Nature Reserve, located in the mountainous Guizhou Province, was set up by the local government to protect an upland wetland ecosystem that harbors valuable wildlife including the black-necked crane. Village development funds (VDFs) to manage the reserve were co-financed by the International Crane Foundation, the Trickle Up Program, and the local environmental protection bureau.

The stock market is also beginning to play a role in fulfilling China's environmental financing needs for both state and private sector companies. Public companies in the environmental protection sector have listed themselves in the Chinese stock markets and have to date performed well. While somewhat controversial, four companies that manage national scenic parks and forest parks have also been listed in the stock exchanges between 1996 and 1999.

The growing diversity of environmental financing mechanisms and public-private partnerships in China is increasing although these efforts still face numerous obstacles.

Major Obstacles to Market-based Environmental Financing in China

Despite the plethora of experimentation with market-based environmental financing, a number of challenges in both the public and private sectors are limiting the expansion of environmental financing mechanisms. Such obstacles include an underdeveloped market, slow enterprise growth, inadequate financial products, intergovernmental conflicts, and incomplete financial institutions.

The underdeveloped markets of environmental services represent the single most significant obstacle to expanding environmental protection services. Such underdevelopment lowers the demand for environmental services and raises transaction costs, which means environmental investments are not commercially viable (Zhao, 2000). The creation of markets for environmental services and industries requires the government set up and enforce environmental regulations.

The second barrier to the development of market-based environmental financing concerns the underdevelopment of private environmental enterprises. Traditionally, state enterprises have monopolized major environmental sectors such as the power sector, the utilities sector, and the solid waste treatment sector. In spite of the rapid growth of private business in the Chinese economy in recent years, the environmental industry sector is still comprised mainly of small and medium-scale business enterprises.

Most of the enterprises are township and village enterprises or small private firms with low levels of technology and work quality. Due to deteriorating business conditions, as much as fifty percent of these businesses are likely go bankrupt over the next couple of years.

The third set of obstacles involves the inadequacy of financial services in China. The existing financial system in China has largely failed to tap into the needs of environmental products and services. Most of the financial institutions in China are state owned and centrally controlled. Furthermore, the products and services currently offered by the state financial sector strongly favor conventional businesses that can generate competitive rates of return.

Lack of expertise including professional fund managers also constrains the development of environmental financial service provision and necessary intermediary organizations. Many environmental enterprises possess a limited ability to develop quality business plans and to prepare investment portfolios.

Finally, the underdeveloped markets for environmental goods and services have hindered innovations in financing arrangements. For instance, the lack of appropriate transfer arrangements has prevented increased tourism tax revenue from being invested back into the area where it was collected. This means that important work in resource management and eco-tourism is neglected.

Intergovernmental Conflicts and Incomplete Financial Institutions

Since its formation in 1949, the People's Republic of China has vacillated between rather drastic centralizing and decentralizing governance strategies. Beginning in the early 1980s, the Chinese government began to undertake a broad reform devolving considerable administrative and financial authority to the provincial and sub-provincial governments.

This extensive devolution of authority has significantly altered intergovernmental relations in China. While the goal of this restructuring was to help the country make a transition to a more efficient division of authority and promote the creation of a more free market economy, the decrease in central subsidies has limited central government power over local governments. In regards to environmental management, the central government's inability to enforce environmental laws and regulations has acted as a strong disincentive for private investment in environmental protection industries.

The loss of central subsidies also has created a strong incentive for local governments to prioritize economic growth—often over environmental protection imperatives. At the local level, one remnant of the old centralized power structure is the continued lack of horizontal cooperation among local government bureaus, which not only vie for limited local budgets, but also often

compete to manage and exploit natural resources. In 1994, the Chinese government adopted a comprehensive fiscal reform package with the aim of preventing the continued decline in central government revenues. (Wong, 1997).

These fiscal reforms still have not been completely implemented. The incomplete fiscal reforms, local government protection of industries, and patronage in administration environmental project bidding are major factors that have discouraged the growth in private investment in conservation and pollution control enterprises in China.

BOX 7

Green Investment Fund in China

In the spring of 2000, the Chinese Research Center of Ecological and Environmental Economics in Beijing began working on a green investment fund (GIF) initiative to promote conservation financing in China. The GIF is designed to be an investment vehicle targeting environment-friendly businesses in selected sectors and regions of China.

The key objectives of GIF are to support green businesses and to cultivate markets for green products and services. In addition to bringing capital to these enterprises, GIF would invest in activities that help such businesses meet their needs for growth and expansion. Establishing the GIF is also likely to help the market development of environmental goods and services, facilitate the growth of private environmental enterprises, and complement public investments in conservation. GIF will be structured to provide two types of financing:

- *Grants* would be used for non-profit activities such as market creation—particularly the establishment of regulatory frameworks, the identification of projects/enterprises, and the development of business advisory boards and fund management. The capital for the grants would originate primarily from private foundations, international aid agencies, or corporate donations.

- *Commercial finance* is the second type of financing source of the GIF. Commercial finance will require market rates of return but specifically targets environmental and conservation related businesses. The capital needed would mainly come from private equity investors and development aid organizations that are interested in investing in China's conservation and environmental industries.

Public-Private Partnership In Biodiversity

Before the 1992 Rio Summit, the primary focus of biodiversity management was on strict conservation or protection. Existing global agreements, such as the World Heritage Convention and the Ramsar Convention on Wetlands, identified natural sites or international, which required protection. Other agreements, such as the Convention on Trade in Endangered Species, focused on limiting or banning economic activities, which threatened the conservation status of wild species.

After Rio it was no longer possible to say that biodiversity was the sole responsibility of biologists and protected area managers. Biodiversity management – as an integrated concept of conservation, sustainable use and

benefit sharing – is now the responsibility of a multitude of experts and institutions, including economists and private sector actors.

This case study explores the fundamental linkages between biodiversity, business and finance in the context of the Rio vision. Its underlying thesis is that sustainable development requires that we more thoroughly integrate biodiversity into business and business into biodiversity, i.e. that biodiversity management becomes a part of business decision-making and that business tools become a part of biodiversity management.

Getting biodiversity into business

In order to capture the values of integrating biodiversity into their strategies and operations, business must address at least three key factors. These are (1) biodiversity indicators, (2) biodiversity business tools, and (3) biodiversity partners.

Regarding *biodiversity indicators*, every business faces a different set of biodiversity issues and hence require a different set of biodiversity indicators. The global conventions and the work programs taking place under them, however, provide guidance on establishing a set of core indicators. At the ecosystem level, a core indicator would be internationally recognized, critical ecosystems. Listed protected areas under the World Heritage Convention and the Ramsar Convention on Wetlands identify specific geographic areas of conservation importance, which may relate to specific business plans or operations. Whether and to what extent a business activity enhances or threatens the conservation status of these recognized protected areas and critical ecosystems is an indicator of its impact on biodiversity. At the species level, endangered species are one important indicator. The Convention on International Trade in Endangered Species provides a list of species in trade, which are under threat. Businesses operating in the habitats of endangered species could assess the impact of their activities on the conservation status of these species.

In addition to politically recognized critical ecosystems and endangered species, business can also identify resources that are economically valuable to them and to their stakeholders. They can then develop indicators to monitor the sustainability of their uses of these valuable biological resources. In this case, various certification schemes may be useful.

Such indicators need to be integrated into a set of *biodiversity business tools* which business themselves, investors, customers and other stakeholders can use to improve the effectiveness of a business's biodiversity management. Such tools could include corporate biodiversity strategies and action plans, biodiversity management systems, conservation and sustainability certification schemes, biodiversity impact assessment, biodiversity due diligence, and biodiversity monitoring and evaluation.

Many such tools are currently under development within the context of the Convention on Biological Diversity and related agreements. Hence business need not develop biodiversity tools on their own, which leads to the third key factor – *biodiversity partners*. There is now an exciting array of evolving biodiversity and business partnerships. In the 1990s, Fauna & Flora International built a path-breaking partnership with BP on biodiversity

management. Conservation International is taking this further bringing together a number of conservation organizations including IUCN and a number of oil companies including BP and Shell. Conservation International has also recently launched a new centre for environmental leadership in partnership with the Ford Motor Company. The International Institute for Environment and Development is working with the World Business Council for Sustainable Development, Rio Tinto, Anglo American and others on a mining and sustainable development dialogue. The Nature Conservancy has a conservation beef initiative. WWF Switzerland has recently become certified under ISO14001, which is the private sector standard for environmental management systems.

Getting business into biodiversity

Traditionally, conservationists are very concerned about the serious negative impacts that business activities have on biodiversity. Hence, many conservation organizations are now publicly challenging business or engaging them constructively in improve their biodiversity management systems. There is, however, another critical dimension of the relationship between business and biodiversity – economic sustainability.

Article 10 of the Convention on Biological Diversity calls for cooperation with the “private sector in developing methods for sustainable uses of biological resources.” These methods include not only integrating biodiversity considerations into business, but also integrating business tools into biodiversity management. Environmental sustainability cannot be divorced from economic sustainability; hence conservationists need to look more seriously at adopting business tools.

Developing financial strategies for a protected area system based on a customer focus is a practical way to integrate business tools and business acumen into protected area management. We can think of protected areas as having customers at several levels, local, national and international, and for various types of goods – public goods and private goods. An analysis of the various markets for protected areas products, the customers and the goods they demand as well as the competitors and the goods they are offering, will lead to a core set of strategic areas for enhancing opportunities for sustainable finance.

Developing a biodiversity business sector

In the context of the Convention on Biological Diversity, efforts to integrate biodiversity into business and to integrate business into biodiversity are critical for biodiversity management and sustainable economic development. A decade on, the conservation community has now awoken to this new reality. But in doing so, it is also beginning to see a new opportunity for fully integrating biodiversity and business in the development of a unique *biodiversity business sector* financed by innovative combinations of public and private funds.

A pioneer initiative launched in the late 1990s is the Terra Capital Fund. Four organizations – A2R Fundos Ambientais, Sustainable Development Inc., the Environmental Enterprises Assistance Fund, and the International Finance Corporation (IFC) – established an investment partnership to identify and invest in biodiversity businesses in Latin America.

Since the launching of Terra Capital, several related investment structures have emerged and are currently at various stages of development or implementation. These include The Nature Conservancy's EcoEnterprises Fund, Conservation International's Conservation Enterprise Fund, the Avalon Foundation's European Conservation Farming Initiative and IUCN's Kijani Initiative. Like Terra Capital, most of these are directly or indirectly linked with the IFC's biodiversity investment program and are supported by the Global Environment Facility (GEF).

The Kijani Initiative provides a good example of this new approach to creating a biodiversity business sector. Kijani aims to conserve African biodiversity through catalyzing a biodiversity business sector. Kijani supports businesses in Africa that generate sustainable financial returns and conserve the integrity and diversity of nature. In so doing, Kijani encourages the sustainable and equitable use of natural resources, strengthens rural economies, opens up local and foreign markets, creates new job opportunities, and alleviates poverty.

The core feature of Kijani is a private capital fund, which provides long-term equity and debt finance to African biodiversity entrepreneurs. Kijani also provides pre-investment technical assistance to develop robust biodiversity business plans. Additionally, Kijani participates in promoting the sustainability of the businesses during the life of its investment.

To carry out these functions, Kijani requires a unique combination of public finance to cover the costs of guiding businesses to generate the public benefits of biodiversity conservation and private finance to invest in profit-seeking, sustainable and equitable ventures. In short, Terra Capital, Kijani and related initiatives are putting sustainable finance and business tools at the core of new efforts to conserve biodiversity and sustainably use biological resources.

The bottom line

The bottom line for both biodiversity and business is sustainability: (1) Sustainable businesses will be the ones who are serious about biodiversity; (2) To secure sustainable financing, protected areas must be run like businesses, and (3) Public and private investments in developing a biodiversity business sector are crucial for achieving global sustainability.

Market-Based Development Approach in Energy

Financing clean energy projects can be as easy as taking out a bank loan or as complex and creative as finding ways to mitigate project and currency risk in a developing country. The type of financial instruments selected depends on market conditions and on who is seeking to do the financing: an energy user wishing to purchase clean energy measures/equipment, a project sponsor/developer, a clean energy equipment supplier wishing to raise working capital, or a government agency seeking to stimulate clean energy market development

Regardless of the approach, a given project must be commercially viable, or at least nearly so, in order to attract private investment. This is not difficult for many energy-efficiency measures, which face other financing hurdles. But it is

often a problem for grid-connected renewable energy projects, which are often more expensive per installed kilowatt than conventional energy projects (assuming health and environmental costs are not internalized). Commercial viability thus depends in large part on the degree of commitment by governments in the form of either incentives or regulatory requirements. Examples of government incentives include Brazil allowing small hydroelectric projects (those under thirty megawatts in capacity) to enjoy expedited environmental reviews and preferential wheeling rates. In India, a combination of investment tax credits and accelerated depreciation allowances set the stage for a surge of private wind power investment in the 1990s. Examples of supportive regulatory requirements include the surcharges imposed on conventional energy sales to capitalize clean energy funds in the U.K., Thailand, and 14 states in the United States. These funds can then be used to mitigate investment risks, thereby making the clean energy investments commercially viable.

In many cases, wind power, solar power, and other clean energy technologies are more commercially viable in emerging market countries than in industrialized countries. The World Bank and other development institutions, which are able to provide debt at below-commercial rates, have been increasing their financial support for clean energy over the last five to seven years. The World Bank Group, Asian Development Bank (ADB), and Inter-American Development Bank (IDB), have units dedicated to supporting renewable energy and energy efficiency, while the European Bank for Reconstruction and Development (EBRD) has a dedicated energy-efficiency unit. Both the EBRD and the International Finance Corporation, the World Bank's private sector arm, have helped establish and capitalize clean energy investment funds.

But despite the increases, renewable energy represents a small percentage of worldwide electricity generation. And there are still major strides to be made in improving the efficiency of energy use. One of the problems for both renewable energy and energy efficiency has been lack of affordable debt and equity capital. They are increasingly available for wind power development in industrialized countries, as well as for solar electric equipment manufacturing and large hydroelectric and geothermal power station development. But attracting investment capital to clean energy projects in developing countries remains a problem, less so for wind power, but particularly so for solar photovoltaics and energy-efficiency.

Retail Finance

A problem for broader implementation of solar home systems and energy-efficient products such as motors and lighting systems is that energy consumers, not power producers, must finance them. That is, while power producers can attract equity investors and long-term debt, the individual household or business on a cash basis or with bank loans or leases must finance solar home systems and energy-efficient equipment. There is some potential to lower costs through buying clubs, and some governments and utilities provide concessional loan terms or even partial rebates, but the financing burden still falls on the energy users.

In industrialized countries, consumer credit is readily available if a consumer has good credit and is willing to pay the monthly payments or leases. Electric

utilities often help finance energy-efficient equipment such as air-conditioners and furnaces either because the utility is required to do so by government regulation or because the utility want to attract customers in a deregulated competitive environment.

In developing countries, credit is not so forthcoming. Even if consumers can qualify for loans, the maturity and interest rates are often prohibitive. For example, photovoltaic solar home systems, which have applicability in rural off-grid areas, cannot typically take advantage of the financing offered by rural agricultural development banks. Such banks usually provide small loans for six months to a year. But solar home systems can run US\$ 500 or more for a 50-watt system that powers two to three lights, a radio, and a black and white TV. To penetrate a large portion of rural populations, the loan terms need to be three to five years. As a result, most solar home systems are sold on a cash basis to relatively affluent households. Without affordable term lending, some photovoltaic companies have established their own credit schemes along the same lines that car companies provide financing for buyers. And some communities, usually working with non-governmental organizations, have established their own financing systems.

Leasing is another consumer financing vehicle, though it is not widely applied to clean energy equipment such as energy-efficient equipment or home solar systems. It is attractive to energy users because, unlike a loan, it does not require a down payment. Also, the risk of the energy equipment being defective is borne by the lessor since the lessor owns the equipment during the lease period. The potential is great for leasing. It is probably more useful for solar systems because it is used for discrete pieces of equipment, while energy efficiency investments typically involve whole systems of audit-recommended equipment: lights, sensors, insulation, etc; and lessors do not lease out equipment below a certain value. Thus, leasing is applicable for energy-efficient heat pumps, boilers and perhaps motors, but not for packages of improvements.

Energy performance contracting is an alternative popular technique for financing energy-efficiency improvements. It began in the United States in the 1970s, and spread to Canada and other industrialized countries. It is beginning to make inroads in emerging markets, particularly in Central and Eastern Europe, and to a lesser degree in India, China, Brazil, and Thailand. Performance contracting involves an energy service company (ESCO) arranging and installing energy efficiency measures in an energy user's facility and receiving payment only if the energy savings forecasted by the ESCO materialize. There are many ways to structure a performance contract but in general it has the same attraction for clients as leasing does - no down payment. And unlike leasing, it can cover the total cost of all efficiency measures, not just expensive individual pieces of equipment.

Performance contracting has mainly focused on the commercial and industrial sectors. It has largely, though not entirely, bypassed households because of the high transaction costs and low level of energy savings per household. It has grown in North America and Europe because it offers customers a hassle-free approach to reducing energy costs and to finance them off balance sheet. But it did not develop without strong government support. Government policies promoted the ESCO concept and sought financial institution participation.

In emerging markets, some multilateral development banks, particularly the European Bank for Reconstruction and Development (EBRD), which operates in Central and Eastern Europe, have been actively promoting ESCOs. The EBRD provides multi-project facilities (MPFs) to transnational corporations, which establish ESCO subsidiaries or joint ventures in Central and Eastern European countries, and then use the MPFs as lines of credit to finance ESCO operations in several countries.

Project Finance

Project finance or non-recourse financing is an increasingly popular method for financing conventional power projects, particularly in international markets. It is on the increase for renewable energy as well, particularly for wind power, small hydroelectric power, and geothermal power projects, in other words, for projects with potentially high returns and a near-term exit for investors. In particular, wind and small hydro projects are being structured on a project finance basis.

The increasing use of project finance for non-utility power generation that uses either conventional or renewable fuels is due in part to the increasing demand for power projects at the same time that governments, which traditionally play a financing role in developing country power projects, are facing increasing financial constraints. In addition, a private utility or other development firm that might finance a power project using traditional corporate finance may face restrictions on issuing new debt beyond certain limits. Also, commercial banks are not a natural source of financing for these projects due to the relatively long term of the loans required. Finally, project finance is flexible and can be applied to a variety of project structures, including BOOT (build-own-operate-transfer), BLT (build-lease-transfer), and BOO (build-own-operate).

In recent years, multilateral institutions that recognize the size issue and thus target their financing on smaller projects have established some equity funds. These funds, specializing in whole or in part on new and alternative energy technologies, include the Dexia-Fondulec Fund, established by the European Bank for Reconstruction and Development to invest in energy-efficiency and cogeneration projects in Central and Eastern Europe; the Renewable Energy and Energy Efficiency Fund (REEF), established by the International Finance Corporation to invest in clean energy projects in emerging markets generally; and the fund established by the Inter-American Development Bank to invest in new energy technologies in Latin America.

The REEF is unique among the funds in that it can provide both equity and debt. The debt component was initially considered an essential feature of the fund because the sponsors expected many projects from countries with tight capital markets which could provide little or no debt on reasonable terms. But combining both instruments in the same fund presents difficulties for the fund managers and applicants because each instrument has its own requirements and due diligence process, thereby adding procedural delay to the investment process.

Corporate Finance

Businesses manufacturing, assembling, or distributing clean energy products or building renewable energy generation finance their growth and operations

through a combination of debt and equity. The debt can be obtained through capital markets in the form of bonds or through private placements in the form of bank loans. Lenders look to the borrower's overall corporate balance sheet for repayment, not just to the cash flow from the clean energy project being financed. Corporate or "balance-sheet" financing is typical in the electric utility industry, and could be increasingly used for independent power generation if the generators cannot obtain long-term electricity sales contracts from distribution utilities due to power sector restructuring-induced competition.

Some larger corporations are able to develop renewable energy projects on a corporate finance basis, but most renewable energy developers are small and do not have the resources to finance projects on their balance sheets. On the other hand, virtually all-industrial energy-efficiency projects are financed on balance sheet. In many cases, debt for energy-efficiency is provided on a concessional basis through utilities, government agencies, or quasi-government non-profit corporations. The concessions, in the form of interest or principle subsidies, or the coverage of certain transaction costs such as energy audit costs, are intended to serve as incentives for firms to borrow the funds and make the energy-efficiency improvements.

In the renewable energy field, a limited amount of debt is available from institutional investors who accept somewhat lower returns or greater risks on socially- or environmentally-beneficial investments. These investors, such as Triodos Bank in the Netherlands, Gaia Capital in Germany, or Calvert Social Investment Fund in the U.S., have depositors willing to accept the lower returns and/or take greater risks. These institutions are useful in helping open up markets seen as too risky or insufficiently profitable for most mainstream investors. But such institutions are small and represent a small fraction of the investment community. Thus, while performing a useful function for a limited number of borrowers, they cannot be relied upon to support clean energy development on a large scale.

5

Looking Forward

This policy brief has highlighted a number of key issues and challenges that help to shape the challenge of financing sustainable development. Some of the most important points that have been identified as having a potentially significant role in financing sustainable development in the future include:

- Rapid changes have occurred in the global financial marketplace and as a result it is not possible to view sustainable development financing as an exclusively inter-governmental or public sector prerogative. Clearly, the burden of financing pro-poor sustainable development goals has to be shared across sectors and cannot be considered in isolation from other policy concerns.
- The available data shows that private capital flows have replaced ODA as the primary source of external financing in many natural resource abundant and ecologically vulnerable countries in the developing world. The challenge for national governments, and governance institutions at all levels in fact, is to provide the incentives necessary to ensure that these new funds are drawn into the pursuit of sustainable development.
- To sustain an effective long-term development financing strategy, new measures will have to be adopted to influence the flow of private investments to a wider range of countries in a more environmentally beneficial direction. Ensuring environmentally responsible foreign direct investment contributes to stopping environmental degradation at its source and turns a traditional cause of degradation into part of the cure. Both developed and developing countries have a responsibility to ensure that foreign direct investment is regulated in a manner that supports MEA goals.
- Another way to maximize the benefits that host countries can derive from foreign direct investment is to promote strong linkages between foreign affiliates and domestically owned firms. These types of linkages often serve to strengthen capacity within domestic firms and improve competitiveness.
- As official development assistance levels continue to decline, it becomes even more important to clarify the purpose and uses of these funds. It is

important, for example, to find an equitable way to distinguish between funding that supports the protection of global public goods and funding that is used to address the immediate poverty alleviation concerns of the least developed and most heavily indebted countries. In this regard, there continues to be a need to establish a greater level of harmony between the goals and priorities of funders and the needs and priorities of recipients.

- Because of the loan content of ODA, there is an urgent need to clarify the relationship between this form of assistance and high debt levels in the poorest countries.
- Much potential exists in terms of the location and generation of new funding sources at the domestic level through such avenues as market based instruments and debt-for-sustainable-development-swaps. Market based instruments represent a useful way to internalize environmental costs and modify behavioral patterns. Debt-for-sustainable-development-swaps, while not the definitive solution, can also play a particularly constructive role in the sustainable development process. These and other sources of domestic funding need to be explored in much more detail.
- Regional development banks, such as the European Bank for Reconstruction and Development and the Asian Development Bank, are by their nature information collectors. These banks could work with countries to synthesise data and reporting and to provide capacity building in basic data collection and collation. The Asian Development Bank is already moving into this role to a certain extent.
- Environmental funds, such as the GEF, have proved to be much more than mere financial mechanisms. They are becoming, sometimes quite complex, environmental management institutions. According to GEF, the environmental funds that have tended to do the best are the ones that have gone beyond their financial management role and become involved in building institutional capacity and private-public partnerships, developing flexible and non-bureaucratic management approaches, nurturing community groups involved in environmental management, and contributing to the articulation of environmental priorities and strategies.
- A particularly useful future role for organizations like the Global Environment Facility may be the demonstration of effective sustainable development financing models, particularly in the developing world. GEF could usefully strengthen its leadership role in the promotion of locally initiated financing strategies and the replication of successful strategies.
- Perhaps the most significant challenge for GEF in the 21st century is the need to create an ecologically sustainable development strategy that takes into account existing inter-linkages between environmental issues, and which explores more effective ways to coordinate policy responses. The three key goals that should shape this challenge are: engagement with the private sector, improvement in both social and environmental outcomes, and the identification of new and innovative financial resources.
- There are two key challenges to the effective use of microfinance as a poverty alleviation and development tool. First, microfinance needs to move

beyond its dependence on grants and its charity orientation and become self-sufficient and financially stable. A greater focus is also needed on the capacity side of assistance, that is, the provision of technical advice, management tools, and appropriate and timely information. Second, microfinance must be mainstreamed. This requires a more facilitative and supportive legislative environment to be put in place by national and local government agencies.

- While most MEA related projects have generally been conceived and implemented with a specific agreement in mind, many development and environmental projects end up meeting, at least partially, the objectives of various arrangements because of the natural linkages within various ecosystems. There is increasing awareness in the donor community that a single, well-targeted, action can bring about multiple benefits. This factor, coupled with the trend toward internally driven projects, could pave the way toward the more effective use of inter-linkages. Projects that are based on the needs of recipient countries as identified in consultation with multistakeholder groups, government agencies, and multilateral donor agencies, can represent an effective partnership in the identification of useful inter-linkages among MEAs.
- All financing mechanisms must be made more aware of the potential benefits to be gained from greater coordination based on the inter-linkages principles. This is not to suggest that these mechanisms be forced to centralize. Coordination is only beneficial when it is driven by need. Finance mechanisms should be made aware, however, of the synergies that exist among the environmental challenges that they are being asked to address. They should also be made more aware of the potentially negative outcomes of not taking these linkages into account at the institutional level.
- Finally, at the core of the inter-linkages approach is the recognition that no effort at increasing coordination should hinder the capacity of financing mechanisms to remain flexible, adaptable, and able to respond to new scientific discoveries and changing global priorities.

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