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POLICY REFORM LESSONS LEARNED

TEN YEARS OF ENVIRONMENTALLY RELATED POLICY REFORM ACTIVITIES IN DEVELOPING COUNTRIES

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EPIQ II
Making Policies Work for People

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ACRONYMS AND ABBREVIATIONS

APCP	Agricultural Production and Credit Project
ANGAP	Malagasy NGO
ASDG-II	Agriculture Sector Development Grant-Phase II (ASDG-II).
C4EP	Central and Eastern Europe Environmental and Economic Policy
CBC	Community-based conservation
CBO	Community-based organization
CCAD	Central American Commission for Environment and Development (Comisión Centroamericana para el Ambiente y el Desarrollo)
CDIE	Center for Development Information and Evaluation
CEE	Central and Eastern Europe
CGIF	Consultative Group on Indonesia Forestry
DEMO	Development of Environmental Management Organizations
DFF	Donor Forum on Forestry
EAPS	Environmental Action Program Support
EEAA	Egyptian Environmental Affairs Agency
EEPP	Egyptian Environmental Policy Program
EMS	Environmental management system
ENRAP	Environmental and Natural Resources Accounting Project
EPB	Environmental Protection Bureau
EPF	Egyptian Environmental Protection Fund
EPIQ	Environmental Policy and Institutional Strengthening IQC
ESP	Environmental support plan
EU	European Union
FAO	Food and Agriculture Organization (UN)
G-7	Group of seven highly industrialized nations (Canada, France, Germany, Italy, Japan, United Kingdom, and United States)
G/ENV	Global Environment Bureau
GIS	Geographic Information system
GTZ	German Development Agency

ICAS	Interstate Committee on Saving the Aral Sea
IFI	International financial institution
IMAZON	Instituto do Homem e Meio Ambiente da Amazonia (Institute for Man and the Environment of the Amazon
IMF	International Monetary Fund
IPP	Independent power producer
ISO	International Organization for Standardization
JCDT	Jamaica Conservation Development Trust
KAP	Knowledge, attitudes, and practices
LEAP	Local environmental action plan
M&E	Monitoring and Evaluation
MBMPT	Montego Bay Marine Park Trust
MoE	Ministry of Environment
MPWWR	Egypt's Ministry of Public Works and Water Resources
NEAP	National Environmental Action Plans
NEPT	Negril Area Environmental Protection Trust
NEPRA	National Electric Power Regulatory Authority
NIS	Newly Independent States
NGO	Non-governmental organization
NRM	Natural resources management
NRM2	Natural Resources Management II
NRMP	Natural Resources Management Program
OECD	Organization for Economic Cooperation and Development
PFC	Power Finance Corporation
PBDAC	Principal Bank for Development and Agricultural Credit
PHARE	European Union's CEE assistance program
PROARCA	Projecto Ambiental Regional para Centroamérica (Central American Protected Areas Systems)

PROPER	Program for Pollution Control, Evaluation, and Rating
PVOs	Private and voluntary organizations
SEPA	China's State Environmental Protection Agency
UEAUES	Urban Environmental Quantitative Examination system
U.S.	United States
USEA	U.S. Energy Association
USAID	United States Agency for International Development
WAPDA	Water and Power Development Authority
WHO	World Health Organization
WPT	Wildlife Policy of Tanzania
WMA	Wildlife Management Area
WRI	World Resources Institute

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The original set of Lessons Learned was published in August 2002 under EPIQ I. One of the initial activities under EPIQ II was for the three prime contractors (Chemonics, IRG, PA Consulting) to revise Lessons Learned to make the document more user friendly.

This transition document was primarily developed by Glen Anderson, Avrom Bendavid-Val and Bill Meade. They took the lead in making necessary changes and were assisted in finalizing the report by Leticia Orti and Pamela Guandique.

This group acknowledges the excellent work done by the professionals who contributed to the earlier report under EPIQ I.

OVERVIEW

For many years, development assistance to foster more sustainable use and conservation of natural resources and improve environmental quality in developing nations focused on field projects, demonstrations, infrastructure investments, and capacity-building programs for involved stakeholder institutions and agencies. However, over the last decade, practitioners have developed a growing appreciation for environmentally related policy development and implementation, alone or in concert with traditional forms of environmentally related assistance to obtain far greater, and more enduring, results and benefits.

What's so special about environmentally related policy? Like other types of policies, environmental policies establish the rules that guide environmental decisions of firms and households. They employ a variety of socio-economic incentives and disincentives to encourage firms and households to make production and consumption decisions that promote environmental goals. If environmentally related policies are well designed, participatory processes establish local ownership, and institutional roles and responsibilities are consensual, they can be very cost-effective mechanisms for achieving environmental objectives. However, participatory policymaking does not obviate the need for institutional capacity and resources to monitor and enforce policy reforms.

For donors, environmentally related policy reform can both increase and sustain the benefits of the donor's assistance resources. For example, policies that are more able to ensure full-cost pricing of environmental services will increase the likelihood that investments in environmental infrastructure will be properly operated and maintained.

Environmentally related policy reform is not devoid of risks, obstacles, and challenges, and it often involves fundamental reconsideration of deep-seated cultural and institutional traditions. While the benefits of well-conceived environmentally related policy reforms are substantial and easily recognized, policy changes often require institutional reforms and affect vested, politically well-connected economic interests. As a consequence, donors and their partners require a good understanding of development diplomacy, the complications and difficulties of the policy reform process, and an appreciation for the local context for policy and institutional capabilities.

This report is intended to share lessons that have been learned in diagnosing, designing, implementing, and evaluating environmentally related policy reforms over a decade of field-based policy reform experiences. It is also designed to be a practical and pragmatic guide for those with operational responsibilities for environmentally related policy reform, including counterparts in government, local NGOs, and stakeholders, as well as donors and donor-funded policy advisors.

This document encompasses and updates the material of three predecessors: *Environmental Policy Dialogue: Lessons Learned* (February 1998) and *Environmental Policy Implementation: Lessons Learned II* (April 2001), and *Environmental Policy Lessons Learned* (August 2002). While it draws heavily on activities sponsored by the U.S. Agency for International Development (USAID),[1] it is designed with a wider audience of development practitioners in mind.

The report is presented in two sections—each presenting lessons learned and best practices. Section I focuses on managing the policy process, and has four key elements: **policy dialogue; participation, timing,** and **communication.** Section II focuses on the four stages of the **policy process: problem diagnosis, policy design, policy implementation,** and **evaluation.**

Each section is divided into four chapters featuring one or more lessons and supporting case studies. Altogether, the report includes 22 lessons learned and 66 case studies. Each lesson describes what has been learned, discusses key underlying issues, and presents programmatic implications. The key themes of the lessons are illustrated in case studies.

In addition, the report includes three annexes. Annex 1 lists all case studies, their authors, and, where applicable, other sources of information about the cases. Annex 2 provides additional information about each case study—location, sub-sector, and involved institutions. Annex 3 provides an overview of environmental and natural resource performance indicators developed and employed by USAID.

[1] This report draws mainly on activities financed under the Environmental and Natural Resources Policy and Training Project (EPAT) and the Environmental Policy and Institutional Strengthening Indefinite Quantity Contract (EPIQ).

FUNDAMENTALS

This report reviews the experience gained from creating and executing programs focused on designing, implementing, and assessing environmental and natural resource-related policy and strengthening the institutions engaged in policy work. Its purpose is to identify what works and what doesn't work within the relevant political, socioeconomic, and biophysical contexts, and what a program or project manager needs to know to create an effective environmentally related policy program.

Various public policies can contribute to environmental improvement—or deterioration—though this may not be their primary intent. The following types of policies typically have environmental ramifications:

- *Environmentally related policies*—Designed for the expressed purpose of making an impact on environmental quality or natural resource use, they may focus on reducing pollution discharged into the environment by setting (or changing) the "rules of the game" that guide the behavior of businesses and households related to pollution, waste, or natural resource use. If properly designed and implemented, environmental policies can act as powerful incentives for facilities and individuals to alter activities that generate pollution or use natural resources unsustainably.

- *Sector and macroeconomic policies*—Designed to meet economic development or stabilization objectives, these policies have environmental impacts as well. For example, well-designed policies to restructure the energy sector, improve efficiency, and reduce production costs also reduce fuel requirements and pollution levels. Product charges on fuel, packaging material, and other goods that create environmental problems if not disposed of properly (used tires, waste oil, batteries) not only generate revenue but also may reduce pollution or waste. Trade policies and agreements, as well as conditions placed on foreign direct investment, have raised environmental awareness beyond environmental ministries and provided inducements for better—or worse—corporate environmental performance. A good example is the growing trend toward timber and non-timber forest product certification based on environmental protection and social equity criteria. Since investment plays a pivotal role in achieving environmental improvements, macroeconomic policies designed to reduce inflation and promote efficient capital markets also may prove beneficial to the environment.

A COMMON DEVELOPMENT FRAMEWORK: THE POLICY PROCESS

The types of policies share a common developmental framework, here referred to as the environmentally related policy process. The process involves a sequence of actions undertaken for the purpose of determining the need for policy development or change, and then designing, promulgating and implementing policies. The process can be portrayed as a wheel (Figure 1). In this depiction, the hub of the wheel represents the management elements (key words used to denote elements; e.g., "players" for the management element "involve the players) that play an important role in moving the process from stage to stage, while the rim represents the four stages of the process—problem diagnosis, policy design, policy implementation, and policy evaluation. One set of arrows connects the four stages to show the typical progression of the policy process, while a second set represents the continuous interaction between management elements and the individual stages of the policy process.

Various public policies can contribute to environmental improvement—or deterioration—though this may not be their primary intent.

But the process does not always move in the indicated direction. Flaws in implementation may become apparent through monitoring and direct feedback from partners, leading to modification of policy implementation without additional diagnosis or changes in the policy itself.

WHAT WILL YOU FIND IN THIS DOCUMENT?

This report is divided into two sections: the "how" and the "what." The focus of Section I is the hub of the wheel, a set of elements referred to collectively as "Managing the Process." Lessons from these management elements focus on the roles of the participants in the policy process, the importance of policy dialogue as a mechanism for exchanging information and reaching agreement on what is wrong and how it can be fixed, the temporal dimensions of the process, and the role of communications. Section II is comprised of lessons and cases on the four specific and sequential stages of the policy process shown as the rim of the wheel. Most of these lessons and cases relate to a single stage of the process.

MANAGING THE POLICY PROCESS

Lessons learned and best practices in managing the policy process are grouped into four management elements (Table 1).

Involve the players. The first chapter includes lessons about the players who participate in the policy process—decision-makers, stakeholders, implementing agencies, and donors. The lessons illustrate why participation is important, and describe ways of involving the players and coordinating their interactions to increase the likelihood that successful reforms will be implemented.

Figure 1 Policy Wheel

Conduct open and flexible policy dialogue. The second chapter focuses on the importance of policy dialogue and the mechanisms by which players exchange ideas and information and reach agreement on what is wrong and how it can be fixed. Ideally, this dialogue takes place throughout each stage of the policy process, and helps decision-makers move from one stage to the next by supporting the development of a broad consensus about what is to be done.

In many countries, however, the environmentally related policy process does not involve free-flowing dialogue. The extent to which dialogue occurs depends in part on how much the political process embodies democratic principles, governmental provisions for accountability and transparent decision-making, and decentralization and sharing of responsibilities between central and local authorities. Many of the most important lessons learned in environmentally related policy focus on the benefits of policy dialogue in facilitating development and implementing effective policies.

Get the timing right. The third chapter examines temporal aspects of the policy process and how recognition of this dimension can allow participants to function more effectively and move the process forward. The lessons focus on the value of committing long term to the reform process and recognizing and capitalizing on opportunities to advance the reform agenda.

Communicate effectively. The fourth chapter presents lessons on the role of communication, with emphasis on the development and use of information in the policy process. Communication is an important factor in enhancing accountability and transparency and legitimizing the resulting process and policies.

STAGES OF THE POLICY PROCESS

Each stage of the policy process is comprised of several steps (Table 2).

Diagnose the problem. During problem diagnosis, activities are undertaken to identify environmental problems and their underlying causes, as well as limitations of existing policies and relevant constraints to addressing the problem. Where there is a policy in place designed to address the problem, diagnosis may be undertaken after policy evaluation is completed. In the absence of an existing policy, diagnosis may be initiated independently of an evaluation if there is a shared perception among policymakers and

stakeholders that the environment is being degraded and that government action is required.

Problem diagnosis consists of two related steps: identifying environmental issues and problems and assessing causal linkages and barriers to addressing problems—why they arose and why they are not being adequately addressed. This analysis should examine the structure of stakeholder incentives and disincentives, policy and institutional barriers, and other economic, social, Each stage of the policy process is comprised of several steps—cultural, or political factors that contribute to the problem and define the related issues. The lessons learned on problem diagnosis and cases that illustrate these lessons are presented in Chapter 5.

Design the policy. Policy design is the stage at which options for addressing a diagnosed problem are identified and analyzed, and the option to be implemented is selected. Design involves three steps. The first is to review and assess alternative intervention points, policy tools, and approaches. For example, if improper disposal of used batteries is causing water pollution, this analysis could consider intervention at the point of manufacture, sale, use, or disposal, and could consider such approaches as taxes, a system of deposits and refunds, or separation of batteries at landfills. The second and third steps involve the development of supporting information on the short list of interventions, tools, and approaches and the selection of the best policy. This would include an analysis of the advantages and disadvantages of each option for its effectiveness in addressing the problem, risks, uncertainty, resources and capacity required to implement the strategy, the magnitude and distribution of benefits and costs among various stakeholders, and cultural preferences. The lessons learned on policy design and cases that illustrate these lessons are presented in Chapter 6.

Implement the policy. Policy implementation is the stage where policy changes are formalized into laws, decrees, directives, or regulations and put into practice—usually, but not always, by government agencies nationally, regionally, or locally. It includes several pre-implementation activities to: clarify, legalize, and implement policy changes; formalize and assign institutional roles; strengthen staff capacity in implementing institutions; and mobilize financial resources. Once these activities are completed, implementation focuses on actually carrying out the policy and monitoring its effectiveness. The lessons learned on policy implementation and cases that illustrate these lessons are presented in Chapter 7.

Evaluate the policy. Evaluation involves the review and analysis of information on the performance and implementation of the policy. Although evaluation is often paired with monitoring (referred to as "M&E") the term "monitoring" is more appropriately used to describe the type of analysis carried out as a routine implementation activity.[2]

Many of the most important lessons learned in environmentally related policy focus on the benefits of policy dialogue facilitating development and implementing effective policies.

Illustrative example: To illustrate the entire policy process, looking at how the management of the policy process affects each stage of the process, the following case is provided. It draws from the experiences of USAID's Natural Resource Management Project in assisting the government of Indonesia in developing an effective management system for Bunaken Marine National Park.

2 Monitoring is the process of collecting information at specific time intervals. Although monitoring may involve some analysis, for example, when raw data is transformed into composite indicators, it is not a substitute for evaluation. Monitoring generates information that may be used for evaluation, but it is only one source of data for evaluation—albeit an important one.

Table 1 Management Elements and Associated Lessons Learned

MANAGEMENT ELEMENTS	LESSONS*	
INVOLVE THE PLAYERS	Lesson 1:	Find a policy champion
	Lesson 2:	Involve key stakeholders throughout the policy process
CONDUCT OPEN AND FLEXIBLE POLICY DIALOGUE	Lesson 3:	Coordinate with other donors
	Lesson 4:	Adapt policy dialogue to specific political, economic, and cultural contexts
	Lesson 5:	Promote a flexible approach to policy dialogue
GET THE TIMING RIGHT	Lesson 6:	Approach policy change as a continuing process
	Lesson 7:	Time policy: Work Strategically
COMMUNICATE EFFECTIVELY	Lesson 8:	Know the context in managing and communicating information
	Lesson 9:	Communication legitimizes the policy process and reinforces policy change

* Many lessons cut across and are designed to encompass the steps in each stage.

Table 2 Actions and Steps in the Policy Process

HOW DO YOU DO IT?	STEPS	LESSONS*	
DIAGNOSE	• **Identify Issues:** What are the problems to be addressed by new policies? • **Identify barriers to addressing them:** What are the constraints and other factors that might impede new policies?	Lesson 10:	Problem diagnosis depends on solid analytics and a credible analytical process
DESIGN	• **Identify policy options:** What are the appropriate intervention points, tools, and approaches? • **Assess policy choices:** Formulate pros and cons, analyze costs and benefits, and elaborate cultural preferences • **Select the best policy:** Establish the process, venues, and participants for the vetting of policy choices and selection of the policy	Lesson 11: Lesson 12: Lesson 13: Lesson 14:	Help donor partners to support policy efforts Account for a variety of factors when helping design policy Analyze the incentive structures of policy instruments Anticipate barriers to policy implementation
IMPLEMENT	• **Legalize the selected policy** (legislation, decrees, and regulations): What legislative decrees or regulations need to be enacted? • **Develop an implementation strategy:** Clarify, assign, and formalize institutional roles, responsibilities, and relationships • **Strengthen institutional capacity:** Identify and recruit staff, provide training and awareness/education to staff and stakeholders • **Mobilize resources for management:** What are the staff and resource costs; what are the financing sources? • **Implement policy and monitor for effectiveness:** Set benchmarks, establish indicators, and begin implementation	Lesson 15: Lesson 16: Lesson 17: Lesson 18: Lesson 19:	Be alert to policy implementation realities Develop an implementation strategy Identify financing sources for short- and long-term implementation Plan to help build the capacity of stakeholders Delegate implementation responsibility to local authorities
EVALUATE	• **Frame the Evaluation:** Establish performance criteria, select methods and data requirements, and determine when evaluations will be conducted • **Evaluate implementation performance and capacity:** Use selected evaluation methods to conduct evaluations • **Evaluate environmental impacts:** Determine the environmental benefits achieved by the policy	Lesson 20: Lesson 21: Lesson 22:	Evaluate policy performance Tell a story—Process and results Learn to track what is important

* Many lessons cut across and are designed to encompass the steps in each stage.

ILLUSTRATIVE EXAMPLE:
MANAGEMENT OF AN OPEN—ACCESS PROTECTED RESOURCE: THE CASE OF BUNAKEN MARINE NATIONAL PARK, NORTH SULAWESI, INDONESIA

Indonesia is the world's second most biologically diverse country, and its extensive coastal zone maintains the most biologically diverse marine environment. Marine environments are typically open-access resource systems, traditionally having little formal management. For this reason, any attempt to establish a marine environment as a protected area must recognize and involve all economic stakeholders in its management.

The Bunaken National Marine Park off the city of Manado in the province of North Sulawesi is Indonesia's first and finest marine park, a worldwide attraction for sport divers and valuable scientific resource. The evolution of the park's management from its gazettement in 1991 to the present is an interesting case study of the policy process in all of its stages.

Lying just offshore the city of Manado and designated to encompass approximately 91,000 hectares in area, the park is comprised of 5 islands and part of the coast of North Sulawesi. The islands support 21 communities and several thousand residents, mostly fishing and agricultural households. Before its designation as a national park, the area—then known as Bunaken Sea Gardens Nature Reserve—was under the control of local governmental authorities. Its designation as a national park resulted in a central government ban on local resort development and other commercial activities, including reef fisheries, without any compensation to local communities and government. Upon its designation as a national park, the central government imposed a standardized zonation and management plan, which was both overly complex and unenforceable. The central government agency in charge of national parks, the Directorate-General of Forest Protection and Nature Conservation (PHPA) in the Department of Forestry, was slow to form a national park service team, leaving the park to be managed informally, if at all, by dive operators and the local fisheries agency. During the mid-1990s, scuba diving tourism flourished. But the park's resources degraded steadily due to unmanaged and unregulated fishing, destructive fishing practices such as poisoning of the reef with cyanide to facilitate the collection of tropical fish for aquarium fish trade, and problems with recreational tourism.

These management problems ultimately can be traced to the unique legal setting established for the park: because it is a marine national park, central government jurisdiction formally exists only underwater; the park's boundary is the high tide line. Yet the principal users of the park's resources live above high tide and under the jurisdiction of local government. In addition, as noted, the national park and its management system were imposed upon the local jurisdictions. Hence, local and national stakeholders perceived themselves as having different and conflicting interests while lacking any policy or institutional mechanism for resolving issues and finding points of common interest, of which there were, in fact, several.

Hence the logical starting point in this case study is with policy design: Indonesia's terrestrial and marine park system was designed by the central government in Jakarta, with foreign technical collaboration, and imposed without any consultation or negotiation on the impact of Jakarta's "rules of the game" in specific locales, many of which had longstanding informal resource management regimes in place that were probably sustainable at low levels of exploitation. During the period 1966–1998, the so-called "New

Order" era pf President Suharto, the central government's PHPA often imposed standardized resource management policies and practices on protected areas, usually characterized by a no local use of biologically valuable resources (especially coral reef biota) backed by a policing approach (civil police and park guards) characterized by use of threat of arrest and punishment for violation of park rules. Where such plans were implemented at all, they were usually resented and undermined. This was the situation personnel engaged to implement the USAID-funded Natural Resource Management Program (NRMP) faced in 1993 when they were asked by the central government to develop a management plan for the new park.

The NRMP team assigned to assist the PHPA quickly recognized the local political problem it faced: In its problem diagnosis, the NRMP team, which included Indonesian and expatriate marine experts with experience in coastal community development, identified two main issues that the management plan needed to address: a) the legitimate subsistence and development needs of the communities in the park and b) a simple management system could rely on voluntary cooperation and conservation of the valuable resource base rather than an external policing approach.

At the start of this process, the NRMP team identified the relevant players, or stakeholders, as being more than just the national PHPA and the scientific community, but also and more importantly including the local fishing and agricultural communities, local and provincial governments with important economic and licensing stakes in the park, and dive operators and tourists.

The NRMP management plan developed with the team's support was accepted locally but rejected in Jakarta as inconsistent with existing departmental regulations and standards. In this case, the timing was not right because at the time (1993–1994) little political power had been devolved to the localities. Policy dialogue at the national level—where real decision-making still resided—was also constricted and fruitless even though it was successful at the local level.

Policy implementation was impeded, as noted above, right from the start because of the use of a central government, standardized management plan drawn up without any significant reference to—still less any direct contribution from—the stakeholders with the greatest influence on the viability of the park.

Given the steady deterioration in the park's biological "assets," in early 1998, the EPIQ team and PHPA began a park management policy evaluation, focusing on the problems of implementing imposed management regimes in Indonesia's national parks, especially the problem of local encroachment and degradation of the protected resource. This was a critical point that involved extensive policy dialogue because progress depended on input from both the national level (best practices and experiences of other countries) and from local stakeholders affected by the current management system. In part, because EPIQ's policy team functioned as a facilitator, mediator, and communicator, involving national and local players, a consensus to change the system slowly emerged.

In the dialogue, a common thread of local alienation from the process of planning and decision-making quickly emerged, along with a few examples where local participation leveraged the ability of park managers to manage the park successfully. In the case of Bunaken, the evaluation zeroed in on the zoning of the park for different uses and the need to involve communities in that process for both educational and plan "ownership" reasons. A park's zonation typically uses maps and physical landmarks to identify zones of more or less restrictions on use from most restricted to multipurpose. There are many types of zonation systems and the best ones provide a number of mechanisms for building in public contributions from various stakeholders.

At this point in history, Indonesia's growing political-economic crisis had left the Department of Forestry with little budget and no enforcement capability, and EPIQ was able to begin a dialogue with local government and communities with little central government resistance. During the "New Order," most sectoral program budgets, policies and rule-making (with correlative opportunities for abuse and corruption) were tightly controlled by national and local bureaucrats who had little to gain by

transparency and public accountability. As soon as these political and economic controls started to loosen with the Asian economic crisis, a burst of local demands for change emerged. The timing for a change in the Bunaken management system was now right.

In its parks evaluation exercise, EPIQ (as well as its predecessor under NRMP) had undertaken simple resource evaluations of the park's potential and actual revenue generation, comparing conserved and degraded scenarios. These helped to establish a clear economic rationale for all sides to finally agree to participate in a revised, public re-zoning. Using a variety of communication techniques designed to rally public awareness and involve the government, park service, urban and island communities, and private sector in dialogue, the message that conservation maintains the goose (the park) that lays the golden eggs (direct and indirect revenues) was conveyed and accepted, helping to re-establish a consensus around the need for long-term management of this resource. The role of communication in mobilizing an educated constituency as key players in support of a new, more enlightened, management system (which they would all be implementing) greatly facilitated the policymaking process.

NRM-EPIQ's evaluation had identified the original mistake of depriving the local economy of the income benefits of the park's resources in the name of conservation. Its novel alternative policy proposal, based on the notion that conservation depends on maintaining a sustainable income stream from the park, helped persuade national and local government that implementation of a new policy of decentralized, participatory park management depended heavily on the corollary of developing a reliable, locally managed financial support mechanism for the park and its communities. Such a system, by necessity, would require contributions from government, the community and the private sector, in short all the users and beneficiaries.

After nearly a year, the zonation process, supported but not dictated by NRM-EPIQ, resulted in an easily understandable, simple system, publicly approved by a citizens' referendum and ratified by a decree of the newly empowered provincial assembly. Under radical decentralization legislation passed in 1999, substantial legal and budgetary authorities now rested largely with district and provincial legislatures and local governments. NRM-EPIQ also helped persuade the diverse group of existing dive operators to form an association to fund conservation needs, local public awareness and education and voluntary patrols against illegal fishing since the park service had, by then, almost no operating budget: a casualty of Indonesia's long economic crisis. Though clearly this was a case of "necessity being the mother of invention," the involvement of all players—or stakeholders—in the policy process made this outcome more likely.

Using a newly formed discussion forum set up to discuss implementation of the new zonation system among the park service, dive operators, communities, NGOs, and local government, NRM-EPIQ fostered a local dialogue, and provided technical assistance and foreign case examples that led to the enactment of an innovative entrance fee/season pass system levied on tourists. The revenues of this fee were to be used primarily for maintenance and improvement of the marine park resource base and economic and social infrastructure development for Bunaken island communities, with the residual split between provincial and local government. And out of this dialogue came the Bunaken National Park Advisory Board, the country's first formal multi-stakeholder management body for a protected resource with authority to manage the fee system, develop and fund conservation and community development programs, and recommend changes in governance for the park.

Although park management issues continue to spark lively debates, the management system has attracted the interest of other newly empowered local governments and the establishment of at least one other entity akin to the Advisory Board.

SECTION I:
MANAGING THE POLICY PROCESS

Chapter 1: Involve the Players

Chapter 2: Conduct Open and Flexible Policy Dialogue

Chapter 3: Get the Timing Right

Chapter 4: Communicate Effectively

CHAPTER 1: INVOLVE THE PLAYERS

A decisive element throughout the four stages of the policy process is the involvement of the people and organizations affected by the policy, the reform, or the decisions made by participants at different stages of the process. Who these players are differs by specific situation, but the broader lesson remains: those who will have to diagnose, design, implement, monitor, evaluate, or significantly change their behavior or are financially personally affected because of a policy should be actively involved in the process, not passive recipients of policy after occasions for input and participation have passed. While the active participation of a broad spectrum of stakeholders may not be the usual practice in many countries, such involvement contributes to the legitimacy of policy and may engender higher acceptance among stakeholders even if implementing agencies lack the resources or authority to effectively monitor and enforce compliance.

LESSON 1: FIND A POLICY CHAMPION

WHAT HAS BEEN LEARNED

Effective policy leadership is needed at each stage of the policy process to initiate and legitimize policy reform. Typically, these policy champions are individuals representing national or local governmental agencies, NGOs, or stakeholder groups. Policy champions are often charismatic individuals who wield influence, enhance the credibility of the policy process and reforms, and have the ability to move policy from one stage to the next. Occasionally, the individual is not as important as the institution they represent. If environmental reforms are controversial and would result in significant economic tradeoffs or large groups of winners and losers, it may be necessary to involve the office of the president, governor, or prime minister to signal institutional commitment.

The approaches and tools for involving key people to champion a policy reform or the policy process itself must be tailored to the various settings in which policy reform takes place and must respond to constraints imposed by the country's policy process.

KEY UNDERLYING ISSUES

Leadership in the policy process. At every stage of the process, policy champions are needed who are familiar with the issues and solutions, have the personal and political skills to move the policy reform agenda, and command respect among government officials and stakeholders. During policy design and implementation, these champions typically will come from the official ranks of government; it is not unusual for stakeholders such as local non-governmental organizations (NGOs) to champion policy evaluation or problem diagnosis or engage parties in policy dialogue. Given the often lengthy duration of the process and the changing agenda from stage to stage, the leadership of the process may change. For example, the mayor of Quito, Ecuador, played a pivotal role in supporting the implementation of stricter environmental standards (Case 1.1). Faced with strikes and roadblocks by truck and bus drivers that, in the past, had resulted in government concessions, the mayor held firm and within hours the protests waned and the roadblocks were removed. In other cases, leaders may be effective at bringing various interest groups together for discussion of the problems, but less effective (or inappropriate) at later stages of the process. For example, leaders in commerce or trade may be more effective than the Ministry of Forestry in bringing industry groups to the table to discuss reforms in the forestry sector.

Identifying champions. The absence of policy champions—whether at the national or local levels—has hindered reform efforts in many countries. In some situations, champions promoted through development assistance by supporting environmental capacity-building efforts (which provide incipient champions with needed skills, knowledge, and technical support) and by promoting participatory decision-making processes—that is, by forming an effective political constituency to back the champion's efforts.

Placement of advisors in agencies to help build capacity and nurture leadership requires careful consideration of the relative standing, power, and influence of the agency in the context of national policymaking. When advisors are poorly placed, it may be difficult to press the policy reform agenda. This was the lesson learned in Pakistan in the early 1990s when USAID tried unsuccessfully to promote the introduction of private power because it was unable to place advisors in the Ministry of Petroleum and Natural Resources or the fledgling Pakistan Environmental Protection Agency (Case 1.2). In some cases, the analysis of policy reforms is well received but partners are not prepared to guide the reforms through the process. In Jordan, a USAID-funded team developed proposals for an integrated water policy program for the Ministry of Water and Irrigation (Case 1.3). However, no champion emerged to support the policy program in part because the various ministerial units perceived that the new program would divert resources to other purposes.

Assessing commitment. A first step in determining whether there will be adequate support for a particular stage of the policy process is to assess the government's motivation for leading or participating in the process and related discussions. A government may be participating because of political pressure, fulfillment of campaign promises or because an economic assistance package is contingent on the country adopting certain reform policies. The International

Monetary Fund's (IMF's) financial restructuring program in Indonesia for example was conditioned on that government committing to a slate of forest sector policy reforms. While some of the agreed-upon reforms were implemented, their limited success suggests there was not a strong commitment from the government to develop or implement effective policies (Case 11.3). In other instances, the policy process may involve representatives of government or stakeholder groups with a limited role in the policy design or implementation. For example, high-level summits or international conferences may not include the people who best understand the policy issues and the difficulties of reforming policies.

Elevating the process to include high-level policymakers. The stakeholders that may have been effective as champions at an early stage of the policy process may be unable to remove key obstacles from the path of policy reforms once the design or implementation stages are reached. This most commonly occurs when environmental and economic policies are in conflict or when significant budgetary resources must be available to support the new policies. For example, privatization agencies charged with selling state-owned enterprises may see environmental audit requirements and liability provisions as impediments to the major agency goals of removing these companies from the public budget and generating revenue from their sale. Another example is that removing lead from gasoline may be difficult for an environmental agency to champion without support of the petroleum industry or a sectoral ministry. In these cases, it may be necessary to involve decision-makers at a higher level of government—for example, in the cabinet rather than the environmental ministry—to ensure that a broader perspective of benefits and costs are considered in developing the policy. This was illustrated by the U.S.–Egyptian Partnership for Economic Growth and Development, a high-level engagement involving Egyptian President Mubarak and Vice President Gore that was successful in initiating a comprehensive policy program in Egypt featuring a plan to abate mobile and stationary sources of lead and address environmental concerns in the development of tourism (Case 1.4).

PROGRAMMATIC IMPLICATIONS

1. Conduct an analysis of commitment to a proposed policy or policy reform measure, including identifying problems contributing to a lack of commitment and options for increasing commitment.
2. Consider engaging policymakers at a higher level of government if, for some reason, the support of an implementing or enforcement agency is undependable.
3. Monitor progress of the policy process, including frequently assessing the effectiveness of champions and commitment and effectiveness of institutions.
4. Undertake the needed groundwork before embarking on a policy intervention effort if national and local policy change champions with the needed political stature cannot be found.
5. Help create a pool of potential leaders and policy champions by building the capacity of agency staff, policy analysts, and local academic or research institutions.
6. Engage key players—government officials, NGO leaders, private-sector representatives, or private citizens—at the level closest to where the changes will most be felt, and also at high decision-making levels, so as to bridge potentially conflicting interests early in the policy change process.

The absence of policy champions—whether at the national or local levels—has hindered reform efforts in many countries.

CASE 1.1 BEING PREPARED TO FACE DOWN THE OPPOSITION: AIR POLLUTION CONTROL IN QUITO, ECUADOR

In Quito, Ecuador, in 1996 the mayor's leadership and support helped environmental authorities overcome opposition from powerful special interests opposed to the implementation of new stricter air and water quality standards.

Air quality is poor in Quito, as in most large urban areas in the developing world. Quito has more than 600 factories and other stationary sources of pollution. In addition, air pollution from mobile sources has increased with the burgeoning fleet of cars, trucks, and buses. Atmospheric concentrations of suspended particles, lead, and other pollutants exceed international standards, in some cases by a wide margin. The municipal government, in pursuing several clean-air initiatives, is paying special attention to diesel-burning vehicles and industrial air emissions. Teams of policemen and technicians from Quito's environment department patrol major thoroughfares and detain buses and trucks that emit too much smoke. The owner of any vehicle found to be in violation must pay a fine equal to about $150 and must post a bond of three times the fine. The bond is returned after the vehicle is brought into compliance, generally with a proper tune-up. In early 1996 Quito's mayor announced plans to complement emission controls through the purchase and retirement of all buses and trucks that were more than twenty-five years old (for $2,700–$4,000 each).

Although well received by the general public, bus and truck owners have been sharply critical of these methods. In March 1996, they organized a strike and used their vehicles to block Quito's major intersections and all roads and highways leading into the city. In the past, actions of this sort paralyzed commerce and caused government leaders to accommodate strikers' demands. But this time, the mayor held firm. Within hours of being put in place, the blockades were removed and traffic quickly returned to normal.

The mayor's political fortunes benefited enormously from this incident; he ran for reelection largely on the basis of his environmental accomplishments and captured three-fifths of the vote. His victory shows a substantial electoral premium for those who deliver on promises to raise air and water quality—and who are willing to take on special interests in order to deliver on those promises.

OVERCOMING ORGANIZED OPPOSITION—*The Mayor of Quito, Ecuador, played a pivotal role in implementing new vehicle emissions requirements by holding firm in the face of strikes organized by truck and bus owners.*

CASE 1.2 PRIVATE SECTOR POWER DEVELOPMENT IN PAKISTAN PROVES DIFFICULT WITHOUT CHAMPIONS.

During the early 1990s, USAID was stymied in its effort to support the introduction of private power into Pakistan, in part because of difficulties it encountered in trying to place advisors in agencies that wielded the greatest influence in national policymaking.

The country's growing shortage of electric power, with attendant shortfalls in industrial and agricultural production and acute concern over the impact of rising oil import bills, demonstrated the need to develop indigenous energy resources and expand the power sector. To execute the project, USAID contracted with a private firm to place four long-term resident advisors in the country—a chief of party [an environmental advisor, a coal advisor, and an advisor to the Water and Power Development Authority (WAPDA), Pakistan's national utility. The project successfully attracted private power into the country and created institutions in the Ministry of Water and Power and WAPDA that were capable of evaluating complex independent power producer (IPP) projects. However, the goals for the coal sector were not met, environmental assessments were not well integrated into the approval process for IPP projects, and an effective regulatory regime was never developed.

CREATING OWNERSHIP FOR POLICY REFORM—*Despite technical assistance and creation of a new institution, the lack of a high-level, well-placed champion limited the effectiveness of the Pakistan power sector reform program.*

In the coal sector, serious design flaws dogged the project. Pakistan's constitution gives its provinces control of coal resources. When USAID proposed assigning a coal advisor to the Ministry of Petroleum and Natural Resources, the provinces saw it as an attempt by the federal government to assert control over provincial resources. The project design also paid little attention to the financial and technical capacity of the coal industry and to its antiquated labor practices. In short, policy dialogue was never successful Similarly, the project design called for an environmental advisor to help create institutional capacity in the government of Pakistan to assess the environmental impacts of all IPP projects. Although a fledgling environmental agency, the Pakistan Environmental Protection Agency, already existed, the environmental advisor was placed instead in the Private Power Cell of the Ministry of Water and Power even though no high-level support and no real environmental champion existed there. The government accepted this position only because the World Bank made it a precondition for funding IPP projects and USAID made the acceptance of World Bank environmental guidelines a condition for providing technical assistance.

Despite many obstacles, extensive policy dialogue with the requisite federal institutions and detailed meetings with provincial authorities made the creation of the National Electric Power Regulatory Authority (NEPRA) a great success. Nevertheless, following USAID's withdrawal from Pakistan in late 1994, NEPRA was bypassed by powerful ministries and never exercised the full authority with which an earlier consensus had been reached. Policy work is never finished and requires real champions and real benefits for all stakeholders.

CASE 1.3 REFORM OF WATER POLICIES IN JORDAN REQUIRES WILLING AND COMMITTED PARTNERS

This case illustrates the need for a policy champion and, where none emerges, the reluctance of some partners to accept policy assistance when donors offer it and to act on policy prescriptions that outsiders suggest.

Jordan is one of the most water-scarce countries in the world. Until recently it was able to meet demands for freshwater by developing renewable supplies and mining groundwater. However, as both demand and the cost of supply expansion increase, managing the imbalance between the two is becoming harder.

In this context, USAID commissioned a team to undertake diagnostic work to determine the nature of the problem and its underlying causes, to set the parameters for detailed design work needed to develop and implement effective policy and program responses, and to build on past USAID-sponsored capacity building programs to further strengthen in-country capability to design and implement such responses.

While the team's work was well received, the policy program it recommended was not implemented. The program proposed by the team was designed to build on years of USAID technical capacity building assistance in the water sector, especially in the areas of data gathering, information management, data analysis, and modeling. Organizational structures had been developed for these functions in the Ministry of Water and Irrigation, and each had dedicated constituencies. While the program the team designed was expected to use the expertise and combine the work of these and other public sector water institutions around an integrated program to manage and remediate a major, national environmental problem, no champion for such a program emerged. Rather, the various units within the ministry that had received USAID support seemed to feel that the program proposed by the team would divert resources to other purposes.

BUILDING POLITICAL WILL WITHIN IMPLEMENTING AGENCIES—*The Jordanian Ministry of Water and Irrigation was unwilling to adopt the programmatic changes necessary to address water scarcity and resource management issues.*

CASE 1.4 ENGAGING HIGH-LEVEL FORUMS TO CHAMPION POLICY CHANGE: THE U.S.–EGYPTIAN PARTNERSHIP FOR ECONOMIC GROWTH AND DEVELOPMENT

A high-level U.S.–Egyptian engagement provided the stimulus for environmentally related policy reforms that might otherwise have been difficult for the Egyptian Ministry of Environment to promote on its own. On September 6, 1994, Egyptian President Hosni Mubarak and U.S. Vice President Al Gore announced a new initiative to sharpen and intensify the U.S.-Egyptian relationship. This new partnership was to consolidate and build on past and present collaboration between the two nations, as well as propose a new paradigm for growth and development for the 21st century. The Gore-Mubarak subcommittee represented for USAID the highest possible level of engagement on environmentally related policy issues and was instrumental in developing and moving along a broad set of policy measures aimed at improving the management of Egypt's environment.

ACHIEVING HIGH-LEVEL SUPPORT FOR INTER-AGENCY POLICY PROGRAMS—*The Egyptian environmentally related policy Program achieved the highest level of support as part of the Vice President Gore–President Mubarak Initiative.*

One of four subcommittees, the Sub-Committee on Sustainable Development and Environment, was activated in early 1995 with the following objectives:

- Assist in the implementation of Egypt's Environmental Action Plan and the use of appropriate technologies and technical expertise to control pollution and protect environmental resources.
- Develop a shared understanding of the concept of sustainable development, develop specific objectives essential to sustainable development in Egypt, and identify constraints to achieving them.
- Promote improved practices to avoid environmental degradation and constraints on future development and assist in developing greater awareness of the impact of population growth on sustainable development.
- Foster policies that will create an enabling environment for sustainable, equitable economic growth.

The subcommittee was initially co-chaired by USAID Administrator Brian Atwood and Egyptian Minister of Environment Dr. Atef Ebeid. Meetings were held in Cairo and Washington beginning in June 1995 and continuing through 2000. These subcommittee meetings became a forum for serious and detailed discussions on major environmental issues in Egypt.

The subcommittee quickly developed into a high-level forum where support for policy measures was garnered. The "Gore-Mubarak Sub-Committee III" label became an important endorsement that was respected by both sides as implementation and action steps proceeded after agreements had been concluded.

At the first meetings, an agreement was reached to proceed with a comprehensive action and policy program in support of environmentally sustainable tourism on Egypt's Red Sea coast and a comprehensive program on lead abatement in the greater Cairo area. During 1995–97, the subcommittee focused on these two initiatives, resulting in (1) a policy to introduce lead-free gas for use in vehicles in Cairo and its environs and (2) a series of policy steps to improve the environmental conditions for coping with the explosive growth in tourism and hotel construction on the Red Sea coast. A major strategy for private-public cooperation on tourism development in this area was created. Because of the high-level endorsement that resulted from its association with the Gore-Mubarak Sub-Committee III, these concerns were easily transformed into a national strategy—at the behest of Egypt.

When discussions on the development of the USAID-funded Egyptian environmentally related policy Program were initiated in 1997 and 1998, the meetings of the Gore-Mubarak subcommittee provided formal and informal forums for discussions between the Government of Egypt and USAID. The subcommittee itself underscored the importance of initiating a comprehensive policy program that would build on the early work that had been supported by the subcommittee in lead abatement and tourism.

LESSON 2: INVOLVE KEY STAKEHOLDERS THROUGHOUT THE POLICY PROCESS

WHAT HAS BEEN LEARNED

The policy champion is only one of the important stakeholders. As many countries experience democratic consolidation, governments are learning to involve and consult all key stakeholders when formulating policy changes. Such a participatory process provides various forums and mechanisms for formulating and vetting ideas, identifying constraints, and reaching agreement on contentious elements. The policy emerging from this process may be perceived as more legitimate by stakeholders and smooth the way for successful implementation. The momentum for policy change emerging from one stage of the policy process may be difficult to sustain during the next stage. For example, no matter how thoroughly current policies have been analyzed during the stages of evaluation and problem diagnosis, the process of design brings into sharper focus the issues of who wins and who loses, resource commitments, and institutional and legal barriers. Consensus building at each stage may involve different groups of stakeholders and their goals and motivations may change over time. At the policy design stage, it can involve bringing policy issues to the attention of high-level officials (for example, to solve problems that cross political boundaries—so-called transboundary issues) or crafting a role for local decision-makers or stakeholders.

KEY UNDERLYING ISSUES

Consensus building in the policy process. Each stage of the policy process must include stakeholders and decision-makers in consensus-building exchange to review and endorse analyses of current policies and problems, determine achievable policy options, appropriate time frames, and implementation approaches. Effective policy formalizes a social and political consensus to systematically influence day-to-day choices of individuals, households, enterprises, or communities. This requires an understanding of incentives, constraints, and technical relationships and dependencies. In addition, effective policy depends on enforcement mechanisms—markets, regulatory systems, informal social enforcement, and judicial processes. When governments view policy as a simple legislative decree independent of a broader context, they often invite only a few players to participate. Such efforts typically fail to achieve the desired impact.

It is important to include all key stakeholders in the environmentally related policy process and to identify and nurture participants who can play a leadership or supporting role in advancing the policy process.

Participatory decision-making. The evolution of democratic governance is often a slow process characterized by uneven progress and regression. Even where reasonably free and open elections are held regularly, democratic consolidation is not advanced, and top-down decision-making by a small number of policymakers may continue. While a small policymaking body can produce direct and immediate impact on public policy, experience shows that these results are largely superficial. For example, many governments prefer to keep their constituents quiescent with low energy prices and subsidies for inefficient, polluting para-statal industries. Even if a regime puts good policies in place, key constituencies may not approve, resulting in policy reversals when the government changes. As participatory decision-making becomes ubiquitous, efforts to alter public policy have greater potential for success when key stakeholders are consulted. In the early 1990s, USAID's Natural Resources Management Program in Indonesia cultivated a small group of officials and NGOs concerned with management of forests, protected areas, and watershed, providing them with a vision of policy options that might be introduced in a more favorable political climate (Case 2.1). Later, with a change in regime, these stakeholders were well placed and informed to promote reforms.

Stakeholder identification and participation. The formulation of policy change improves when all key stakeholders are consulted. Policymakers receive inputs that enable them to anticipate and address potential impediments to policy implementation and to assess and balance the benefits and costs of policy reforms to various stakeholders. In some cases, implementation proceeds more smoothly if the local community participates more actively in the design of policies. One example of the pitfalls of a non-participatory approach to policymaking comes from Ecuador. Heeding the advice of international consultants and conscious of recent property law reform elsewhere in

Latin America, in 1994 the Ecuadorian government legislated major changes in communal property arrangements. However, indigenous leaders contended that they had been ignored and demonstrated their dissatisfaction by organizing a national strike. In response, the president withdrew the law pending review by a special commission that included the indigenous leaders. The commission engaged in the sort of dialogue that might have occurred in the first place, and all concerned came to accept marked changes in Ecuadorian property law that many of these participants had vociferously criticized just a few months earlier (Case 2.2).

The formulation of policy change improves when all key stakeholders are consulted.

Accounting for various stakeholder interests. Implementers and stakeholders will differ in their perspectives on the importance of changing policies. Typically, the policy process is more effective if participants represent a range of interests, including:

- **Government.** If local officials are required to play a pivotal role in implementing policies, their early involvement in the process can help to identify implementation options, constraints and resource needs. For international agreements, national policymakers need to be represented in discussions. In the Aral Sea region, efforts to develop effective transboundary policies on water quantity and quality were initially stymied by a failure to involve decision-makers from various countries. Case 2.3 describes efforts to address this shortcoming.

- **Private Sector.** In most countries, the private sector plays a vital role in informing and influencing policy dialogue, often through trade organizations. These private entities may be able to influence governments to adopt flexible and cost-saving environmental policies, rather than relying solely on command-and-control approaches. Also, under democratic governments, elected representatives often join with industries in their area to support sound policies that have economic and environmental benefits. Private sector groups should be encouraged to participate in the policy dialogue and, in some cases, may be candidates for co-sponsorship of policy analysis and action. These groups can be accessed in formal settings, such as trade conferences, and through informal channels such as newsletters, on their corporate web site, and small group meetings. Case 7.2 illustrates a successful collaboration between local environmental officials and industrial facilities in developing environmental management systems in the industrial city of 10th of Ramadan in Egypt. Officials gathered stakeholders to discuss environment problems and management goals options for providing incentives for business to implement and monitor measures.

- **NGOs.** These groups can play an important role as participants in the policy process, representing and protecting the interests of the public, serving a role in communicating new policies to their constituencies, and as watchdogs once policies are implemented. In Cambodia, the NGO, Global Witness was effective in monitoring logging practices of concessionaires and encouraging the government to suspend logging (Case 2.4). Local NGOs have also been an effective ally to the government management or enforcement agency when they praise their efforts and help to garner additional support and resources to enhance their work.

Matching stakeholders to the stage of the process. Each stage of the policy process differs in which policymakers or stakeholders are most likely to be effective in moving policy reform to the next stage. Thus, even if there is strong commitment from one group of stakeholders, they may be unable to steer the policy change. Consider, for example, the design stage of the policy process. For policies that require approval at the national level, the design process may be quite formal, requiring new policies to be developed and vetted according to established procedures. Key ministries that must endorse the new policies or stakeholder groups may be able to slow or even halt their development unless drafters address their concerns. This process of negotiation may dilute the effectiveness of the proposed policy as the drafters accommodate concerns from various ministries and stakeholders, or they may be able to derail the policymaking effort entirely. This means that there must be adequate

commitment among national agencies to maintain the intent, and sustain the momentum developed in the stages of evaluation or problem diagnosis. By the same token, when local stakeholders lead policy evaluation or problem diagnosis, they must be capable of getting the backing of national policymakers.

Special interests, consensus building, and coalitions. While meaningful consultation with all key stakeholders is integral to successful policy dialogue, unanimous support is not required for all reform and limited accommodations can be made for affected groups. As illustrated in the case of the mayor's support for environmental standards in Quito, Ecuador presented in Lesson 1 (Case 1.1), decision-makers must be prepared to override special interests opposed to a policy or bent on impeding or slowing its implementation even if it would yield sizable benefits for society at large.

PROGRAMMATIC IMPLICATIONS

1. Ensure that all key stakeholders take part in the policy process. This may require providing support to local stakeholder organizations with limited capacity.
2. Recognize the trade-off between the number of participants and prospects for reaching agreement on the most contentious elements of the policy reform while pursuing broad-based consensus-building.
3. Nurture a wide constituency within governments, NGOs, and institutions to ensure a broad exchange of ideas, especially where there are crosscutting issues and both positive and negative sectoral impacts to consider
4. Monitor the policy process to determine which key parties are not represented; this may also encourage decision-makers to open up the process, noting the value of ground-truthing policies and developing support among stakeholders before implementation.

Key ministries that must endorse the new policies or stakeholder groups may be able to slow or even halt their development unless drafters address their concerns.

5. Ensure that the interests of local beneficiary groups are reflected in policy formulation by engaging organizations such as NGOs and private voluntary organizations (PVOs) in the policy process.

CASE 2.1 INVOLVING KEY STAKEHOLDERS IN POLICY DIALOGUE: USAID'S NATURAL RESOURCES MANAGEMENT PROGRAM (NRMP) IN INDONESIA

Over the last decade, a key element of USAID's strategy to encourage the government of Indonesia to adopt forestry policy reforms has been to engage the government in policy dialogue and, when possible, to expand these discussions to include a diverse set of stakeholder interests. The proposed reforms would emphasize decentralized management, be tailored to local conditions and the institutional capabilities of both central and local government institutions, and consider the value of natural resources and maintenance of biological diversity. Although this strategy had limited success during the Suharto Era, USAID's NRMP was able to promote for more open discussions and consideration of policy reforms after 1997.

INVOLVING KEY STAKEHOLDERS IN POLICY DIALOGUE—*The NRMP program in Indonesia cultivated a core group of enlightened officials within the Forestry Department and others working on protected areas, watershed management, and social forestry and NGO activists that pursued policy change after the fall of the Suharto government.*

USAID/Indonesia's NRMP began in 1991 after years of Jakarta-designed large natural resource management projects (especially in watershed management and nature conservation) showed that Indonesia's great diversity required a bottom-up or decentralized approach and the flexibility to adapt national policies and regulations to local conditions and institutional capacities.

During the Suharto Era, no amount of forestry policy dialogue or field innovations could prevail because the production forestry industry enjoyed political protection that enabled it to pursue short-term profits and insulated it from long-term economic sustainability planning and consideration. Nevertheless, the U.S. through the NRMP, along with a few other donors, cultivated a core group of enlightened officials within the Forestry Department, and others working on protected areas, watershed management, and social forestry and NGO activists willing to work toward such reform. Mediated by NRMP professional staff, this local group used policy seminars and field pilot projects to develop and test models that might be more fully developed and disseminated in a more conducive political environment.

After Suharto's fall, NRMP (by then under USAID's EPIQ) was able to shift rapidly to working more at the local and regional levels implementing these new policy approaches and management models. Although the Forestry Department's small "reformist" group remained restricted in their ability to push for reform, they were able to provide official permission for the experiments to proceed and the positive results of these efforts helped them to exercise more influence in a new political order. Three important lessons have emerged from the way that NRMP involved various stakeholders in its long-running policy dialogues:

- To be effective in policy reform, a donor's implementing partners (in this case the NRMP) must remain free from line agency "capture," especially if the sponsoring agency is not wholly committed to reform. This gives the donor's agent the flexibility to build alliances to pursue sectoral reform from a variety of angles: working with NGOs, private sector, local government, and other national line agencies.
- If even a part of the government counterpart agency can be encouraged into forming a nucleus for change, this should be supported because it is often easier to achieve structural changes in an institution if the pressure for change comes from the inside, rather than the outside.
- Fundamental policy reform often cannot be achieved quickly. Donors must be willing to commit long term—though not necessarily—including large amounts of money to build the trust and understanding of like-minded individuals who will foment change.

CASE 2.2 THE IMPORTANCE OF BUILDING A CONSENSUS FOR POLICY CHANGE: ECUADOR'S AGRARIAN DEVELOPMENT LAW OF 1994

In Ecuador, agrarian reform that initially had been regarded as a radical policy change was accepted virtually without dissent once all affected parties were included in policy discussions. As has been the norm throughout Latin America, policymaking in Ecuador has not been characterized by extensive consultation with stakeholders. However, the acceptance and implementation of Ecuador's Agrarian Law of 1994 is an example of the shift in perception that can take place when stakeholders are active participants in dialogue and the design of a policy reform.

In the years leading up to 1994, the shortcomings of group tenure arrangements had come under increased scrutiny in Latin America. A bewildering array of laws and regulations prevented comunas and ejidos (community groups) from dividing assets among members and engaging in normal real estate transactions. Since communal land could not be bought or sold, and therefore could not be used as collateral for a loan, access to formal financial markets was precluded as well.

Following Mexico's lead and heeding the advice of international consultants, the Ecuadorian government made major changes in its communal property arrangements in 1994. Those changes were incorporated in the Ley de Desarrollo Agrario (Agrarian Development Law), which the national legislature adopted.

In this case, leaders of some well-organized indigenous groups argued that their voices had not been heard. They responded by organizing a national strike, which brought normal business to a standstill for several days.

Ecuador's head of state, Sixto Durán-Ballén, decided that the best course of action was to suspend the new law pending review by a special presidential commission. The commission, which included indigenous leaders, promptly engaged in the sort of discussion that should have preceded passage of the law. As a result, the new law, which allowed private parcels to be created out of communal holdings, remained largely intact.

BUILDING CONSENSUS FOR POLICY CHANGE—*Failure to build consensus among indigenous groups in Ecuador led Head of State Sixto Duran Ballen to suspend the new communal property law and form a special presidential commission to engage indigenous leaders.*

CASE 2.3 BUILDING CONSENSUS ON REGIONAL INITIATIVES TO IMPROVE WATER QUALITY IN CENTRAL ASIA

Facilitated discussions involving experts and policy counterparts provided an effective mechanism for advancing the development of an ambitious regional initiative—the Bukhara Action Plan. This plan would improve and protect severely degraded watersheds and restore water quality in the five new Central Asian Republics created after the fall of the Soviet Union—Kazakhstan, Kyrgyzstan, Tajikistan, Turkmenistan, and Uzbekistan. These five countries form the bulk of the water catchment area for the two rivers, the Syr Darya and Amu Darya, which flow to the Aral Sea.

OBTAINING NATIONAL SUPPORT FOR REGIONAL INITIATIVES—*In the Aral Sea, an Interstate Committee on Saving the Aral Sea Basin developed an action plan, the implementation of which has been limited by the refusal of national governments to introduce appropriate pricing schemes.*

A key element of the Bukhara Action Plan was the introduction of a narrow and regionally agreed-upon range of water quality indicators to reduce monitoring costs and improve efficiency. For each country national priorities were established that ranged from decreasing river salinization through improved management of agricultural drainage water to upgrading water treatment facilities in selected cities.

Working through a regional body established to deal with water management issues in the Aral Sea Basin (the Interstate Committee on Saving the Aral Sea, or ICAS), a group of water experts supported by the World Bank prepared a report in 1994 that documented a wide range of water quality problems in addition to those in the "ecological disaster zone" surrounding the Aral Sea. The study, however, established no basis for setting priorities and thus was unable to put forward a coherent action plan. The head of ICAS felt that consensus could be reached on concrete steps only if the team was to meet together with key national decision-makers in a facilitated setting.

To this end, USAID/Central Asian Republics—in cooperation with the World Bank and ICAS—sponsored a workshop in Bukhara, Uzbekistan, in April 1996. The workshop's stated purpose was to review the ICAS expert team's preliminary findings and bring together the key players needed to agree on priorities for both bilateral and regional action to mitigate water quality problems.

To date only limited progress has been made in implementing this action plan, although several transboundary problems have been addressed. In these cases—involving toxic river-borne pollutants moving from an upstream state to a downstream state—there was sufficient political will to act, due, in part, to increasing public awareness of the risks and to the potential international consequences of a failure to reduce these risks. But little has been done to implement either the national-level agendas or establish an integrated regional network for water quality monitoring and problem solving.

Because the analysis that led to the Bukhara Action Plan was by definition centered on the identification of a regional agenda, less progress has been made with national actions. The regional group lacked the authority to do more than suggest to national governments that the problems were of high priority and deserved their attention. Although there was an opportunity to obtain international financing for associated investments (through World Bank loans), this financial support was withheld due to the refusal of national governments to introduce appropriate service pricing schemes needed to assure adequate cost recovery. Each of the five Central Asian Republics were undergoing severe economic transition problems at the time of this effort, so the opportunity to finance even high-priority water quality improvements from national budgets was severely constrained.

CASE 2.4 MONITORING AND EVALUATION OF THE FOREST POLICY REFORM PROCESS: GLOBAL WITNESS AS A WATCHDOG IN CAMBODIA

In Cambodia, the NGO Global Witness has played an important role in monitoring and evaluating policy reforms in the forestry sector through its collaboration and discussions with international financial institutions and donors and its reporting on reform progress.

The multi- and bi-lateral donor community has been greatly involved in Cambodia's forestry sector since the country began in the early 1990s to participate more actively in the international community. Cambodia's government depends heavily on the donors—half its annual budget comes from foreign aid, "a proportion that should provide the aid community considerable leverage for policy reform" notes World Resources Institute (WRI).

The World Bank and IMF have strongly advocated forestry sector reform and forest policy in Cambodia, assisted by an unusual partner, Global Witness, a vocal environmental and human rights NGO that uses unorthodox but effective tactics to document abuses in the forestry sector. Beginning in the mid-1990s, multilateral donors and Global Witness have used each other's information and tools to pressure the Cambodian government to improve its forest policies and implementation of existing law.

In 1994, IMF initiated structural adjustment loans to Cambodia, conditioned at the Bank's recommendation on government establishment of a log export ban and a government committee to examine forestry reform. Global Witness published reports in 1995 and 1996 documenting flagrant violations of the export ban and the enormous volume of illegal logging activities occurring in that country, the latter report in preparation for a donor consultative group meeting on aid to Cambodia. Global Witness also provided support to the multilaterals' argument that the government was not capturing millions of dollars in rents and revenue from the forest sector—a violation of Cambodia's constitution. In late 1996, the IMF canceled the fourth tranche of its loan, forcing the government to put the forestry sector and policy reform on the national agenda.

A cessation of outside support followed Prime Minister Hun Sen's coup d'etat in July 1997; it was restarted in 1999, once the political situation stabilized and was again tied to government commitments to establish monitoring bodies and do away with short-sighted and environmentally damaging forest concession agreements. The government seemed to come around somewhat—in January, Hun Sen made a 17-point declaration to curb illegal logging, indicating a much stronger promise of change. The government also asked that Global Witness act as the independent monitor for the forestry sector, with the new Forest Crimes Monitoring Unit in the Ministry of Agriculture, Forests, and Fisheries and the Ministry of Environment as its governmental counterparts.

Global Witness, the multilateral donors, and WRI all note significant progress in Cambodia's forest sector reforms in recent years. However, Global Witness's May 2001 report, The Credibility Gap, notes that the government still lacks credibility in its commitment to reform and could use the report's recommended steps to indicate to donors its commitment to improvement. It remains to be seen whether the government will do so, yet it is a good sign that the watchdog and donors are speaking and listening to each other, and that the government seems to be noting their concerns.

SUPPORTING NGO WATCHDOG ORGANIZATIONS— ***Global Witness, a Cambodian NGO, reported illegal logging and violations to an export ban that resulted in pressure from the International Monetary Fund on the Government of Prime Minister Nun Sen to put forestry sector policy reform on the agenda.***

On December 21, 2001, a Global Witness press release reported that the Cambodian government was suspending all logging operations, which the organization applauded, noting that "all 17 concessionaires...should not be allowed to resume activities... [as they have] committed serious contractual breach, particularly with regard to illegal logging."

LESSON 3: COORDINATE WITH OTHER DONORS

WHAT HAS BEEN LEARNED

Donor-sponsored environmentally related policy interventions can result in parallel activities built on differing assumptions, goals, and approaches since projects are often developed through bilateral dialogue. Policy initiatives, by their very nature, must send consistent signals that systematically influence local decision-making and incentives. Multilateral policy dialogue requires greater donor coordination than do other types of assistance activities.

KEY UNDERLYING ISSUES

National strategies versus donor strategies. Since local leadership and champions are essential for successful policy work, donors must rally around a single national strategy, rather than having line ministries buy into isolated donor agendas. Yet the policy and organizational imperatives of donor agencies often make such an approach difficult.

First, a donor's willingness to fund policy change may be tied to the adoption of specific reforms, limiting openness and national leadership. Second, because each donor may have a different vision of appropriate policy direction, donors frequently exert competing pressures on host-country policymakers. In Nepal during the late 1980s, a European-funded forestry master plan initially promoted institutional strengthening of the inefficient timber and fuel-wood corporations, while USAID policy dialogue with the government of Nepal focused on abolishing both parastatals as part of a broader market deregulation. The in-country presence of highly motivated individuals representing the different donors facilitated communications and coordinated policy approaches. This caliber of donor representation is the exception, however, rather than the rule.

Cross-sector consistency. The need for donor coordination is further heightened by the importance of policy consistency across sectors. For reasons of efficiency and national priorities, donor agencies sometimes allocate priority sectors among themselves, with one taking the lead in health, another in the environment, and so on. However, policy measures across all sectors must be linked by the underlying principles on which the policies are based. For example, market-based approaches for private enterprise development are undercut if the government simultaneously resorts to price controls or rationing in the energy or water sectors.

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Effective coordination among donors is necessary to ensure that partners receive consistent signals and direction in a dialogue on policy reforms. Issues such as differences in donor objectives, conflicts between donor and partner goals and strategies, and inconsistencies across sectors may need to be discussed and resolved among donors to present a unified donor position.

Proactive donor coordination. Major policy change in any sector (including the environment) often coincides with broader policy and institutional changes across sectors and involving multiple donors. In such circumstances, donor coordination creates opportunities for more deep-seated and lasting policy reform. In the 1980s, representatives of the World Bank, France, and the United States worked together closely for three years to help the government of Mali develop major agricultural reforms, phasing out crop marketing boards, providing transitional commodity price supports, and taking steps to increase food security. Without proactive donor coordination, no single donor could have engaged the government in a dialogue about the full set of changes needed to make reform workable; moreover, the government of Mali would have been hard pressed to identify and analyze the linked reforms needed to make successful policy change.

Two cases demonstrate how donor coordination has advanced policy dialogue and achieved concrete and holistic results that would have been unobtainable through

individual donor efforts. In Indonesia, major donors participated in the Consultative Group on Indonesia Forestry and were successful in encouraging counterparts to consider reforms (Case 3.1). In the Central and Eastern European region, USAID and European donors collaborated on a number of fronts to promote effective environmental policies and strengthen environmental funds (Case 3.2).

Breaking bad habits. Donors and host governments have well-established habits that undercut coordination. Longstanding, project-driven donor habits of have seriously downplayed collaborative relationships with other donors, and governments sometimes prefer to deal with each donor separately. Nevertheless, important changes in the last five to ten years have increased the prospects for effective donor coordination as part of the policy dialogue process:

- The structural adjustment process—driven by fiscal and economic crisis in host countries—places a greater premium on program and project consistency.
- Tight donor budgets have forced many donors to tie program pieces to a coordinated whole funded by multiple organizations.
- The increasingly results-oriented donor programs—part of the reengineering process in USAID, but also present in nearly all other donor programs—force explicit consideration of who is doing what.
- The increasing emphasis on policy change—of getting the basics in order—has improved dialogue among donors and with host governments.

Nevertheless, important changes in the last five to ten years have increased the prospects for effective donor coordination as part of the policy dialogue process.

PROGRAMMATIC IMPLICATIONS

1. Employ informal or formal mechanisms that facilitate coordinating donor programs and exchanging information to ensure that assistance resources are used effectively and strategically with a minimal duplication of effort.

CASE 3.1 DONOR COORDINATION IN INDONESIA'S FORESTRY CRISIS

A unified and coordinated effort by donors successfully encouraged counterparts in Indonesia to participate in a focused dialogue to consider a slate of policy reforms in the forestry sector. This example of attempts at donor coordination in reform of the forestry sector in Indonesia describes the evolution and difficulties of coordinated efforts due to weak regulation, corruption and lack of accountability of the enormously powerful Indonesian forestry sector under the 30-year Suharto regime.

ORGANIZING A FORUM FOR DONOR COORDINATION—*From 1996–2000, donors organized the Consultative Group on Indonesia Forestry as a forum for policy dialogue and donor program coordination.*

Despite this troublesome legacy, a number of donors worked in the forestry sector for more than ten years to promote best practices and encourage policy reforms in sustainable forestry and protected area management. From 1996 to 2000, the larger group of donors to Indonesia, called the Consultative Group on Indonesia Forestry (CGIF), sponsored a forum for policy dialogue and donor program coordination and planning with the Department of Forestry. Though NGOs were excluded and the CGIF remained peripheral to the real decision-making processes on production forestry, it was nevertheless very important in structuring donor assistance to deal with the catastrophic El Niño forest fires in 1997–1998 and helping the department develop appropriate regulatory decrees to implement the forestry-related parts of the IMF economic reforms of early 1998.

Under the World Bank's sponsorship, the CGIF remained active in promoting policy reform but was continually frustrated by the Forestry Department's reluctance to reform. In early 2000, the CGIF mandated a "Special Session on Forestry" and developed an eight-point plan that amounted to a virtual ultimatum to enact serious forestry sector reform or face a withdrawal of assistance, including a structural adjustment loan.

Since that time, the Indonesian government has been in turmoil with rapid decentralization, frequent cabinet changes, and a steady deterioration in rule of law. This has frustrated donor efforts, now in the form of a smaller but more active Donor Forum on Forestry (DFF), to get the government to implement the eight-point plan. The history of the CGIF and the smaller but more active DFF underline the fact that demanding far-reaching political reforms, such as land tenure reform or dismantling the forestry industry over a short timeframe, is practically doomed to failure.

The Department of Forestry was weak and lacking in credibility with other departments, such as finance and trade and industry, resulting in a number of policy reforms never even being addressed. It also failed to package its support through smaller initiatives with various departments—as opposed to just the Forestry Department—to ensure that a number of small successes could build enough confidence and momentum to enable the successful tackling of larger, more political issues. And it failed to insist on the involvement of a broader group of stakeholders, notably private sector concessionaires, forest community representatives, and NGOs—though it is also true that central government also resisted this.

Finally and decisively, donors were not actually willing to reduce overall levels of financial assistance to Indonesia as they had warned. So, without a credible policy "stick," efforts at serious reform were much less likely to succeed.

The urgency of the forestry crisis in Indonesia led to the DFF strategy of coordinated dialogue. Although it has had only limited success to date, the strategy has clearly been much more politically visible and successful than the previous uncoordinated approach.

CASE 3.2 COORDINATION AND COOPERATION IMPROVE DONOR ASSISTANCE TO CENTRAL AND EASTERN EUROPE

Cooperation and coordination among USAID and other donors in Central and Eastern Europe (CEE) during the mid-1990s led to more effective use of donor resources, enhanced the quality of assistance , and ensured that local policymakers did not receive competing or contradictory advice. USAID's C4EP program in Poland provided several illustrations of effective cooperation and coordination.

Between 1993 and 1997, C4EP worked collaboratively with international donors providing assistance to Poland during its economic transition. C4EP advisors worked closely with the European Union's EU CEE assistance program (PHARE), complementing the EU legal advisor with environmental economics and policy advice to the Polish Ministry of Environmental Protection, Natural Resources and Forestry. In the Opole region, C4EP environmental economists helped design a PHARE tradable permits pilot project for air emissions and subsequently served on its steering committee. Their economics expertise and specialized knowledge of tradable permits aided project implementation and final review of analytical work.

C4EP staff, concerned about the lack of transparency and accountability in project cycle management procedures of most Polish environmental funds, participated actively in a committee organized by the Environmental Action Program Task Force Secretariat (EAPS, located in the Environment Directorate, Non-Members Country Branch of the OECD) to develop best-practice guidelines for CEE and NIS environmental funds and vet these guidelines at an international conference in St. Petersburg, Russia, in 1994. The endorsement of the resulting St. Petersburg Guidelines by donors and environmental officials in CEE and the NIS bolstered C4EP in its efforts to assist Polish regional environmental funds in designing operating procedures that incorporated cost-effectiveness principles, environmental priorities, and transparent project selection. Efforts were aimed at fostering the discipline and decision-making skills necessary for the emergence of private capital markets, while also financing interim environmental investments. Then, C4EP hosted an international conference on project cycle management, where procedures to guide appraisal, selection, and implementation of projects developed for the Krakow Regional Environmental Fund were presented as well as other models from the region. Follow-up efforts of the EAP Task Force and the Regional Environment Center resulted in the dissemination of information derived from experiences of the more developed CEE funds to the newer CEE and NIS funds. In many cases, these older CEE funds have directly assisted CEE and NIS funds, hosting study tours and providing advice on fund operations.

The dynamic benefit of coordination appears not only between USAID and other donors, but also among USAID program implementers. For example, in Poland, the USAID-funded C4EP and Environmental Action Program Support (EAPS) projects worked jointly on two aspects of environmental finance: policy development and project packaging. This collaboration's success was highlighted in a recent USAID review of the EAPS project. One outcome was the Environmental Financing Sourcebook that was prepared for Polish industry and municipalities seeking financing for environmental projects. The book provides detailed information on a variety of funding sources, including project selection criteria and funding levels. Praised as the first compendium of its kind, the publication has been widely distributed in Poland.

SUPPORTING OTHER DONOR ASSISTANCE—*The C4EP program cooperated with the EU PHARE program and the Environmental Action Program Task Force Secretariat to promote cost-effective environmental policies and best practices in environmental fund operations.*

CHAPTER 2: CONDUCT OPEN AND FLEXIBLE POLICY DIALOGUE

Policy dialogue is an important management tool that can be applied at all stages of the policy process. At each stage of the process, the dialogue's form and participants may vary. It may take place in a variety of forums, employing different means for facilitating the exchange of ideas, information, analytical results, and policy options, approaches, and tools. Dialogue also contributes to the transparency and effectiveness of decision-making in the environmentally related policy arena. In this chapter, the lessons learned on policy dialogue are presented, along with six illustrative case studies.

LESSON 4: ADAPT POLICY DIALOGUE TO SPECIFIC POLITICAL, ECONOMIC, AND CULTURAL CONTEXTS

The approaches and tools of policy dialogue must be tailored to the various settings in which policy dialogue takes place and must respond to constraints imposed by the country's policy process.

WHAT HAS BEEN LEARNED

Policy dialogue is a key mechanism for exchanging information at each stage of the policy process. To be effective, dialogue must take place in various settings with diverse parties participating. Policy dialogue in the form of meetings involving senior government policymakers may fail to reflect the range of perspectives that are critical to the success of policy reforms. Policymakers need to be encouraged to engage these other stakeholders in dialogue. For donors and their advisors to participate in and facilitate policy dialogue, they must be familiar with specific political, economic, and cultural contexts. Such knowledge may be gained by partnerships with local organizations and experts. By strengthening partners in the mechanics of dialogue and the analytical methods used to diagnose problems and evaluate policies, encouraging the involvement of partners, and relying on partners to articulate policy contexts, donors may have a more effective voice in dialogue.

KEY UNDERLYING ISSUES

Understanding local interests. Diverse factors—including government platforms, private-sector interests, specific political agendas, and grassroots concerns—drive the political process, particularly in many developing and transitional economies. It may be difficult for donors or other outsiders to understand how decisions are made and how they affect local stakeholders. To better understand the local contexts and participate more effectively in policy dialogue, donors can rely on local organizations and experts to provide background on local issues and anticipate changes. For example, in Asia the FAO invested in multi-stage dialogue with staffs of six Asian forestry projects to familiarize them with gender issues and analytical methods to foster a better understand the roles men and women play in natural resource use (Case 4.1).

Adapting dialogue to changes in context. Changes in the political, economic, or cultural context for policy reform can alter the policy dialogue. Dialogue needs to involve different players and requires revised analysis of policy options. Changes in economic factors such as market prices, new uses of natural resource products, or changes in inflation or exchange rates can alter the value of land and the natural resource base it supports. These factors combined to create opportunities to shift from subsistence to economically viable agricultural and forest operations in Niger (Case 4.2).

Cost effectiveness and minimal disruption of the development process, both critical to reconciling environmental concerns with economic objectives, require flexible instruments and compliance schedules, and adequate knowledge of environmental processes. Tools and instruments that have a successful track record in one place may require significant tailoring and adjustment in another legal and cultural environment. Participants in policy dialogue must understand how local conditions differ from those where the experience was gained, and they must be willing to adjust in midstream.

Informal information exchange. In addition to customary channels of accessing government officials, other avenues of policy dialogue have great impact. Round-table discussions that bring together officials from various government ministries can effectively build consensus on the elements of a legislative proposal before laws are drafted. This technique was effective for development of Romania's 1996 water law. The USAID C4EP project organized a series of roundtable debates to share views from the U.S., France, and the U.K on water management models with Romanian counterparts that helped policymakers frame the Water Law (Case 5.1). Exchange programs among countries have had great success in allowing policymakers to view a proposed policy in action. In recent years, several forestry exchange programs involving China, India, Kenya, and Nepal, among others, resulted in increased policy dialogue and publications that influenced policymakers in other countries as well.

Using local institutions. Cooperation with local universities and other policy institutions can benefit any policy advisory program. This interaction often takes place through informal brainstorming sessions: a classroom can become an informal forum for policy dialogue when a

training course involves various players in the policy process, providing a less intimidating and more open environment for the exchange of ideas. This is evidenced by a recently developed postgraduate course in environmental economics at Warsaw University that brings together professionals from national environmental funds and Poland's Ministry of Environmental Protection, Natural Resources, and Forestry, among others.

Innovation in community involvement. Local communities and NGOs can contribute greatly to policy dialogue, and the work it takes to design innovative ways of involving the public is well worth the effort. A variety of communications techniques can be used to overcome literacy barriers or bring together stakeholders whose interests are normally in conflict. In examples from Africa and Asia, forest policy reforms were advanced as central officials conducted meetings with local stakeholders who had never seen these officials in their villages (Case 4.3). To solicit comments from villages with low literacy rates, the Tanzanian government provided video cameras to villagers to record their views on forest problems and proposed policies.

Tools and instruments that have a successful track record in one place may require significant tailoring and adjustment in another legal and cultural environment.

Nurturing local expertise and institutions. Local institutions can play an important role in policy dialogue and exercise substantial policy influence. Where those institutions are weak, the task of strengthening them may fall to donor agencies. Typically, this requires several years of support consisting of training, technical assistance, and financing. Once established, local institutions are often highly effective agents of policy change. For example, national institutions with established credibility can carry out studies that bear on policy issues, and policymakers and key stakeholders will trust their findings. In Belém, Brazil, the Instituto do Homem e Meio Ambiente da Amazonia (Institute for Man and the Environment of the Amazon, or IMAZON), has carried out high-quality research for a number of years and provided technical assistance to the wood-products industry. The institute has acquired a solid local and national reputation, and the World Bank has found it advantageous to cooperate with IMAZON on policy initiatives of mutual interest (Case 4.4).

Web of relationships. Dialogue at each stage of the policy process usually takes place for a specific purpose in the context of a specific issue—water supply, garbage collection, environmental liabilities arising from privatization. However, the context of the policy dialogue is usually much broader, encompassing legal and institutional factors beyond the confines of the narrowly defined issue at hand. While shortcut solutions can help to avoid larger systemic problems affecting the current issue, policy change has its greatest potential for sustainable impacts when it systematically addresses the broader underlying causes of environmental problems. For example, environment-related financial liabilities in transitional economies such as Hungary, Poland, and Romania have been dealt with in the short term through indemnification of investors and enterprise discounts. However, the policy process and dialogue continued at a higher level to introduce liability legislation, environmental assessment requirements, escrow accounts, and even reform of privatization laws.

PROGRAMMATIC IMPLICATIONS

1. Consider employing participation panels, focus groups, and the like to capture the interests of a diverse set of players in the course of broad-based policy dialogue.

2. Forge partnerships with local universities and research organizations, NGOs, and local experts so that they can articulate the various local contexts and anticipate changes in those contexts; these partnerships may also help local organizations to build their capacity.

CASE 4.1 FAO'S EFFORTS TO INVOLVE AND BETTER ADDRESS CONCERNS OF ALL STAKEHOLDERS: GENDER AND THE POLICY PROCESS IN NATURAL RESOURCE MANAGEMENT IN ASIA

A series of policy dialogues conducted by FAO resulted in restructuring forestry projects to account for differences in gender, culture, and socioeconomic conditions.

In the early 1980s, assistance to developing countries focused attention and resources on considering the role of women in the use of forest resources—and showed that women acquire and utilize forest resources differently than men, even with complementary roles in families and communities. To account for these differences, FAO undertook a program in six Asian countries to promote dialogue and stimulate input from policymakers and training institutions.

FAO selected eight forestry projects from the six countries; all involved local participation components and cooperative project managers. Each study team included a member from a local social science group familiar with gender issues, a member from a training institution, and a technical advisor who held a high-ranking, policy-level post in the forestry sector. The following steps were taken in each country:

- Specialists in gender and training with representatives from FAO made a field visit to each project and established dialogue with project staff.
- Gender and training specialists from each country attended a workshop on writing participatory case studies, drafted an analysis framework, and designed project studies. The framework included questions in four areas: (1) The development context—what is getting better and what is getting worse? (2) Women's and men's activities and roles—who does what? (3) Women's and men's access to and control over resources—who has what and who needs what? and (4) Forestry actions needed—what should be done to close the gaps between what women and men need and what development delivers?
- Frequent meetings for each national team identified activities that failed because of lack of understanding of gender differences. For example, when a man discussed his community's tree needs with project staff, the staff produced a large number of seedlings. But the women-responsible for planting and watering seedlings-had not been notified in advance of the seedling delivery. They were unable to change their daily chores to accommodate the added work, so the seedlings died. The next attempt included both women and men in the discussion, and the new seedlings had a high survival rate.
- At a second workshop, gender and training specialists evaluated their research and developed a plan. The case studies differed greatly, showing that project effectiveness necessitated factoring in the sociopolitical environment. In Thailand, three different ethnic groups in one project area each had very different roles for men and women. In Bhutan, the issue was whether to keep the traditional gender equality in the face of projects that appeared to introduce inequality. The studies showed that misconceptions about gender roles could be disastrous to project outcomes.
- Further workshops established ways to incorporate gender information in future training, participating projects, and the ministries. Videos, case studies, training materials, and policy discussion papers were developed.

UNDERSTANDING THE ROLE OF GENDER IN RESOURCE MANAGEMENT—*A series of workshops organized by the Food and Agriculture Organization for six participating Asian countries helped demonstrate to local ministries, international agencies and NGOs the importance of understanding the different roles of men and women when designing forestry projects.*

FAO's substantial investment in this activity resulted in related institutions helping to train local ministries, international agencies, and NGOs and assisting with other projects. Forestry officials have been focal points for support of gender analysis.

CASE 4.2 OPPORTUNISTIC POLICY DIALOGUE: SHIFTING THE FOCUS TO CAPITALIZE ON CONTEXTUAL CHANGE AND STRUCTURAL TRANSFORMATION IN NIGER

In Niger, new opportunities for trade in forest products combined with the devaluation of local currency shifted the dialogue from sustaining subsistence production to promoting economically viable agricultural and forest operations, simultaneously involving different stakeholder groups in the process.

Since the 1980s USAID and the World Bank have engaged in a policy dialogue on sustainable natural resource management with the government of Niger. The initial dialogue stressed process reforms for open markets, removal of price controls, improved access to agricultural production inputs, community resource management rights, legislation (including resource tenure), and public and private rights and responsibilities. Specific issues have included the right to form local cooperatives to manage and market forest products, the establishment of secure resource tenure as an incentive to invest long-term and ensure sustainability, the institutionalization of progressive changes in the role of forestry agents to reinforce a shift from repression to extension, and changes in the forestry code that move away from pure state ownership (with enforcement by paramilitary armed forestry agents) toward defined community management rights over the terroir villageois (village commons). This policy dialogue focused largely on internal reforms, stressing the sustainability of subsistence production, and was geared more toward self-sufficiency than commercial production and exchange.

TAKING ADVANTAGE OF CONTEXTUAL CHANGE AND STRUCTURAL TRANSFORMATION—*In Niger, new opportunities for trade in forest products combined with the devaluation of local currency shifted the policy dialogue from sustaining subsistence production to promoting economically viable agricultural and forest operations.*

The evolving context for natural resource management in Niger has necessitated changes in the ongoing policy dialogue to capitalize on new opportunities. The necessary internal reforms were insufficient, and adjustments in the broader economic and demographic environment addressed new issues.

First, parallel programs supported by USAID and the World Bank (including the Forestry and Land Use Planning project at Guesselbodi and its subsequent extensions) showed new potential for trade in forest products (primarily firewood and fodder) to create financial incentives for sustainable forest management. Concurrently, NGOs such as the Sudan Interior Mission, CARE, and Africare were experimenting with agroforestry programs that yielded both forestry and agricultural benefits. Added to this mix was the long-term success of the USAID-supported Majjia Valley windbreak program, which showed slow but steady gains over 25 years with widespread and measurable impact. The sum of these demonstration activities provided new insight into what rural producers wanted and what policy initiatives were needed in Niger.

Second, core economic and governance equations changed. In March 1993, Niger ended 33 years of authoritarian and single-party rule with its first democratically elected government. In January 1994, the overvalued local currency, the CFA franc, (long cited as an insurmountable obstacle to economic development) was devalued by half. Also, the process to clarify and formalize resource tenure moved into full swing after 1991, changing the stakes for rural resource access and altering economic options for resource management. Under conditionality agreements with USAID and other donors, Niger committed itself to major structural reforms in agricultural marketing, natural resources, health delivery systems, enterprise development, and other areas.

While a coup d'état in January 1996 caused a setback in implementation of these measures, overall the trend remains positive and impressive, with strong evidence that some 400,000 rural producers have adopted improved natural resource management techniques over the last five years.

CASE 4.3 FOREST POLICY DIALOGUE IN A VARIETY OF FORMS AND SETTINGS IN AFRICA AND ASIA

Building mutual understanding of terms and concepts, strengthening communications, and basing options on adequate information are crucial to policy dialogue. A variety of creative examples appear in a number of countries at formal and informal levels.

In 1994, professional community forestry workers in East Africa, horrified by strong-arm tactics used to remove residents from recently expanded parks and reserves, designed an exchange. As part of the Forests, Trees, and People Programme (FTPP) network, and aware of people involved in Indian Joint Forest Management, the community forestry professionals used their budget and contacts to sponsor a "study tour"—taking policymakers from the region to India. Later, Kenyans also visited projects in Nepal. According to East African FTPP reports, this experience opened national and regional dialogues on the topic and stimulated local forest management efforts in Tanzania, Uganda, and Kenya.

In Nepal, a dialogue between community representatives and local foresters was also opened, and a government representative who served on a community forestry project evaluation team suggested that perhaps the most important activity had been community visits. Teams composed of local forestry officers and village leaders traveled together for several days studying activities in other villages. One village leader remarked that he had never seen the forester before and had been afraid to enter his office, but now he would know to whom to go for help in getting community forest land registered—and the foresters would now understand their problems better.

A similar event was organized in Mali where local communities reported feeling afraid of foresters and of being in the forests. The government of Mali organized a festival in the forest with food, games, and entertainment. After several of these events, villagers reported that they enjoyed getting to know the foresters, and forestry officers reported it had become much easier to learn about the local situation and collaborate with villagers.

Obtaining adequate understanding of local situations to initiate effective policy dialogue requires particular effort. In Laos, an FAO policy support team concerned over suggested policies on immediate settling of shifting cultivators, funded a rapid rural appraisal. Policymakers on the team went to the communities to see field realities firsthand before writing policy. In developing tools for studying gender issues in relation to forestry projects in Asia, high-level forestry officials were hired as technical advisors. The teams reported that having these officials involved in analyzing the information created positive support at the policy level for future gender-sensitive activities.

From Tanzania comes another example of supporting policymakers with relevant information on local situations and perceptions. Since the level of literacy in many of the Maasai communities is low due to their nomadic culture and practices, they needed a tool other than the written word to use to communicate with policymakers. A community forestry project taught the participants how to make and edit their own videos, and one Maasai community decided to record its resource management strategies. On the day scheduled to make the video, the community was confronted with a new document describing policy changes regarding land ownership. The Maasai, who neither understood the document nor felt it upheld their interests, expressed this to policymakers in the video. While misunderstandings existed on both sides, the video helped the Masaai present their perceptions to the government, resulting in a more open dialogue in which both perspectives were presented.

TAILORING COMMUNICATION TECHNIQUES TO ACHIEVE EFFECTIVE POLICY DIALOGUE—*Different cultural contexts necessitated specific techniques to engage local communities in Africa and Asia.*

CASE 4.4 THE IMPORTANCE OF LOCAL INSTITUTIONS: IMAZON IN BRAZIL

To participate effectively in policy dialogue, local institutions need access to policymakers and skills to communicate and advocate their position. The Brazilian-based organization IMAZON offers an excellent example of the contribution that local institutional development makes to environmentally related policy reform if it receives and capitalizes on capacity-building assistance from the donor community.

Over the years, IMAZON has received support from USAID and various other donor agencies and private foundations. The institute has acquired a solid reputation for research in a number of fields, including the rehabilitation and restoration of deforested lands and other disturbed environments and the microeconomics of forestry, ranching, and agricultural activities in the eastern Amazon. This success in large part reflects the efforts of Christopher Uhl, an ecology professor at Pennsylvania State University who worked at IMAZON for several years beginning in the late 1980s. He mentored more than a dozen young staff members, most of whom have completed postgraduate studies in the United States.

IMAZON does not confine itself to research. In addition to disseminating research results in scholarly journals, such findings form the basis for local technical assistance initiatives. For example, IMAZON personnel work with loggers to reduce the environmental impacts that can result from timber harvesting.

IMAZON has also begun to have an impact on policy formulation. Under a contract from the Pilot Project to Save the Brazilian Rainforest (administered by the World Bank and funded by the G-7 industrial nations to assess forestry activity in the Brazilian Amazon), the institute completed the first comprehensive review of the regional wood-product industry. IMAZON also has prepared a background document, in cooperation with the Ministry of the Environment, the national congress's environmental committee, and other agencies, in which anticipated courses of development in the Brazilian Amazon are plotted out for various policy scenarios, including the current policy vacuum.

STRENGTHENING LOCAL INSTITUTIONS TO EFFECTIVELY ENGAGE IN POLICY REFORM— ***Brazilian-based IMAZON, with the assistance of donor-supported institutional strengthening, has become a credible organization in advocating for policy reform in the eastern Amazon.***

LESSON 5: EMPLOY A FLEXIBLE APPROACH TO POLICY DIALOGUE

The policy dialogue is a useful management tool for overcoming obstacles in the policy process, particularly at the stage of design. Flexibility in dialogue—the way it is organized and implemented, selection of participants—will be needed to address the range of challenges faced by policymakers in advancing reforms.

WHAT HAS BEEN LEARNED

The policy process is often bogged down when policymakers and stake-holders are unable to reach agreement on specific issues. Most often this occurs at the design stage, but it may also occur at other stages throughout the policy process. For example, it may be difficult to initiate activities to design policies if there is not a shared view on the nature of problems. Policy dialogue can play an important facilitation role in advancing the policy reform process, provided that the types of venues and mechanisms it encompasses are flexible.

KEY UNDERLYING ISSUES

The nature of dialogue. Dialogue is a key management tool in the policy process, involving such activities as formal hearings, facilitated negotiations, informal meetings, workshops, and conferences, and more recently, the use of electronic forms of dialogue (list serves, web pages chat rooms, etc.). Dialogue may involve multiple, simultaneous activities. For example, while general issues might be vetted in large meetings with many interests represented, policymakers may need to resolve the most controversial issues in one-on-one meetings with a stakeholder group or another government agency.

Selecting the form of dialogue. A key challenge for policymakers is deciding what form of dialogue is best suited for discussions to overcome obstacles in the policy process. Issues to consider are the type of venue, who should organize the dialogue activity, whether there is a need for professional facilitation, and who should participate. To make these decisions, policymakers must first assess the obstacles to determine what the goals of the dialogue activities should be and what additional preparatory work might be needed to improve the likelihood that the dialogue will remove obstacles.

Involving neutral parties. In some cases, the success of policy dialogue depends on who organizes or facilitates the activities. A neutral party such as a university institute, an NGO, or even a donor may be better positioned to host meetings or workshops that bring together policymakers and stakeholders. If the goal of the dialogue is to reach agreement on specific provisions of policy reforms, it may be beneficial to involve an independent facilitator or arbiter to convene such activities.

Drawing on international experience. In many instances, proposed policy reforms involve approaches or instruments that have not been previously considered or adopted in the host country, but for which there is considerable international experience. Policy dialogue may provide an appropriate forum for sharing international experience with policymakers and stakeholders and overcoming resistance to new approaches, as shown by the development of a new water law in Romania. Through a long process of exchange and interaction by U.S., U.K., and French experts with Romanian decision-makers and stakeholders, new concepts and institutions—such as "beneficiary pays," full-cost pricing, and river basin commissions—were established in Romania to improve water management and increase cost recovery (Case 5.1).

Preparing for dialogue. Policy dialogue can be used to introduce or familiarize stakeholders and policymakers with new instruments or analytical and monitoring tools for evaluating policies and policy impacts. To improve the effectiveness of dialogue in such cases, preparatory activities may be necessary to adapt policy instruments to local conditions or provide an analytical framework that can be used to analyze proposed policies. Such preparatory work may be necessary to better focus discussions and anticipate

potentially controversial issues such as what the potential impacts, positive and negative, might be. For example, teams made up of Egyptians and Americans collaboratively designed and carried out research to ascertain cost-effective water conservation measures. Without a technical approach to on-farm water conservation, which combined U.S. experience with local knowledge of farm practices along the Nile, water savings would have been overestimated and would have misguided discussions of policy options (Case 5.2).

PROGRAMMATIC IMPLICATIONS

1. Maintain flexibility in the mode, pace, and level of dialogue so as to ensure that local circumstances and lessons learned are taken into account.
2. Clearly articulate the goals of policy dialogue and the specific problems or obstacles to be addressed and resolved.
3. Ensure relevance and effectiveness by remaining flexible in both process and in content of technical assistance programs.

CASE 5.1 SHARING INTERNATIONAL EXPERIENCE ENHANCES POLICY DIALOGUE TO IMPROVE WATER QUALITY IN ROMANIA

As Romania engaged in efforts to improve water management during its transition to a market economy in the 1990s, a series of policy roundtable discussions featuring international experience and expertise helped policymakers identify and reach consensus on appropriate models. This led to passage of the 1996 Water Law, based on the principle that the beneficiary pays and designed to move Romania to full-cost pricing of water services.

In the Communist era, piped water in Central and Eastern Europe was unpriced or underpriced, unmetered, and sometimes unavailable from suppliers who were not accountable and not responsive to household preferences or local conditions. With decreasing central budget allocations and inadequate revenue generation, suppliers had no funds to repair or expand water supply and distribution systems. Subsidized prices and unmetered systems also resulted in excessive water use and waste—and the overall deterioration of water service.

In Romania, the C4EP project organized policy dialogue events to examine options, develop the new water law, promote its passage, and support its implementation. To initiate the dialogue, a roundtable featured foreign experts who presented water management models from the United States, the United Kingdom, and France. The Romanians then considered which aspects of the various models would be most appropriate for their situation and used this information to draft the new legislation. The roundtable process also facilitated the development of a consensus among stakeholders and decision-makers.

The new law deals with finance, accountability, and decentralization. Accountability and decentralization will be enhanced by community river basin committees vested with the power to set priorities for and approve all water projects in their area. The basin committees include locally elected officials and water consumers and producers. Public participation is mandated and protected under the law, as is freedom of information. A series of public debates held around the country reviewed the draft charter for the river basin committees, and public comments were incorporated during a three-day internal roundtable to finalize the regulations.

SHARING INTERNATIONAL EXPERIENCE ENHANCES POLICY DIALOGUE—*A series of policy roundtable discussions in Romania led to the passage of the 1996 Water Law that introduced water pricing and expanded management responsibilities for river basin authorities.*

CASE 5.2 INTERACTIVE WATER POLICY DIALOGUE IN EGYPT

Appropriate and credible analysis combined with a strong effort to develop a broad-based consensus through policy dialogue led to acceptance of controversial findings within the irrigation and water policy community of Egypt.

BROAD-BASED POLICY DIALOGUE CAN LEAD TO ACCEPTANCE OF CONTROVERSIAL FINDINGS— ***The Egyptian Ministry of Public Works and Water Resources (now the Ministry of Irrigation and Water Resources) accepted the findings of a targeted applied research program because senior MPWWR officials and other government representatives participated in a series of workshops, seminars and briefings that built broad based consensus.***

Significant policy change often requires thinking about old problems in new ways, as experience in Egypt's Ministry of Public Works and Water Resources (MPWWR) shows. Until recently, the development strategy in Egypt focused on increasing the productivity of irrigated agriculture to close the food gap, "make the desert bloom" and provide employment for a rapidly growing population.

As Egypt approached full development of its share of Nile waters, meeting these objectives required a move away from extensive development of an increasingly scarce water resource to conservation and more efficient water use. Using a technical approach, the government sought to improve on-farm water efficiency and expand irrigated areas.

However, research and experience in the western United States had shown that improving the efficiency of on-farm water management might conserve water at the farm level without conserving any freshwater at the river basin level. If this happened, real water savings would be illusory.

This insight presented researchers and policy analysts in the ministry with two important issues to resolve: first, determining which improved on-farm water efficiency measures actually saved freshwater, and, second, making policy changes based on these findings. Unless both of these areas were successfully addressed, substantial financial resources might be wasted trying futilely to save water.

To address these issues, a substantial collaborative Egyptian-American research program on the Egyptian Nile designed and carried out a large number of studies to identify (1) the conservation potential, (2) areas and sectors where water could be saved, and (3) how water could be saved most effectively. Study results showed that potential savings were much smaller than previously estimated, though they identified which on-farm water efficiency improvements actually saved water and determined that the MPWWR's nascent program to reuse drainage waters was highly cost-effective.

Effective communication and acceptance of these findings within the irrigation and water policy community were achieved as a result of numerous workshops, seminars, and briefings to report on progress, findings, and policy implications of the highly targeted applied research program. In addition, policy proponents secured high-level support within the MPWWR for the research program and involved senior officials within the ministry and in the rest of the government in dialogue to build a broad-based consensus.

CHAPTER 3: GET THE TIMING RIGHT

It is an obvious point that timing—whether the "life-time" of a policy or the timing of actions and events throughout the environmentally related policy process—is a key element of this or any political process. The timing of participation of key players is particularly important to achieving successful policy formulation, enactment and reform. And, because time horizons vary, knowing when to press forward and when to relent, are complementary—not contradictory—qualities in achieving success. Both persistence and patience are required.

LESSON 6: APPROACH POLICY CHANGE AS A CONTINUING PROCESS

The policy process can take place in days, weeks, months, or years. The issue is that policymaking and policy reform often take time and require iterative efforts, shifting back and forth between stages. Rarely is the policy process linear and clear-cut. Often, what appear as intermediate setbacks can have unexpected benefits. Conversely, mid-course success does not necessarily lead to success of policy reform in the longer run.

WHAT HAS BEEN LEARNED

Policy reform is an evolving, multistage process that requires patience and perseverance. As soon as the most obvious obstacles to efficient resource use or better environmental management are removed, other constraints may appear. Quick results do not ensure sustainability. At the same time, the absence of policy change, despite sustained actions at a particular stage complemented by policy dialogue, does not necessarily equate to failure. The policy process is characterized by incremental changes, unanticipated delays, and sluggish implementation. To support such a process, the government and donors must make a long-term commitment to support and sustain policy and the institutions that implement policy. Working with the host-country government, donors must develop comprehensive and integrated programs employing a range of targeted delivery mechanisms to overcome policy barriers and strengthen institutions. Periodic assessment of progress is essential to target resources and make adjustments in the assistance program.

KEY UNDERLYING ISSUES

The pace of reform. In developed and developing countries alike, the process of introducing environmental regulations—beginning with the assessment of problems, through development of legislation, and then to implementation and monitoring —has sometimes taken years. Given the complexity and interdependency of biologic, geologic, and atmospheric systems, even more time is needed to achieve environmental objectives due to the lag-time of these systems. Legislation has often gone through more than one iteration in response to both our incomplete knowledge of our Earth systems, as well as unforeseen problems, or because of shifts in policy objectives or the types of policy instruments used to achieve environmental goals. Similarly, the development of implementing institutions takes time. In many countries, the initial response to environmental problems involves the establishment of environmental health and regulatory units in existing ministries, followed by the creation of environmental ministries or agencies and associated local and regional agencies to carry out monitoring, inspections, and enforcement. Chronic problems have plagued the process of building capacity in environmental institutions, including frequent restructuring of existing institutions with changes in government, budget shortfalls, staff turnover, and lack of resources for training and equipment and manpower to facilitate inspections and enforcement. As illustrated in Case 6.1, South Korea's efforts to develop environmental legislation and institutional capabilities spanned two decades. Much of this sluggish development could be attributed to inertia and to lobbying by business interests. Ultimately, this inertia was overcome as a result of two highly publicized environmental accidents which galvanized public support for improved environmental quality.

Long-term engagement. While some policy assistance may be effective even if provided for a limited time, national support of the environmental or natural resource sectors will require a long-term commitment, characterized by frequent assessment of the pace of reform and effectiveness of assistance efforts. Changes in delivery mechanisms may be needed, and flexibility on the part of the donor is required to respond to legitimate requests from partners. The need for sustained engagement is demonstrated by the case of garbage collection in Machala, Ecuador. The solution of the technical issues of garbage collection in crowded slums brought out more formidable legal and institutional impediments, and resulting reform in turn required more than one legislative act. Only through sustained policy dialogue with local

groups by USAID, the German development agency (GTZ), and other parties were a series of constraints—many of them unforeseen—removed and solid waste collection improved (Case 6.2)

One step at a time. In developing and transition economies, donors should carefully evaluate political and environmental conditions that will influence the receptivity of policy makers to radical policy reforms. Faced with dramatically different or locally inappropriate options, policymakers may dismiss their options and become disinterested in change. Longstanding political and cultural traditions naturally have an impact on government receptiveness to new policy proposals. Donors who have been active in providing analytical support to local decision-makers may well have a comparative advantage in the policy arena. Outside advisors, while prepared and well intended, cannot always assess all circumstances and can be more effective by teaming with qualified local professionals and consulting with local communities and official. Advisors will be more credible and demonstrate an understanding of local conditions and the policy process by proposing policy reform in "bite-sized" pieces. "Jumping right in" has a track record of failure, whereas a step-by-step approach is often greeted with greater receptiveness, as exhibited by the C4EP project in the Czech Republic (Case 6.3). To promote the reduction of sulfur dioxide emissions using a system of tradable permits, C4EP staff started small with a pilot to demonstrate substantial potential cost savings of emissions trading, even with a limited number of participants and co-sponsored a Czech study group to visit the U.S to observe the functioning of U.S. pollution permit trading programs.

Working simultaneously at different stages of the process. Policy analysis and dialogue must be sustained throughout the process. Issues often emerge at one stage that were not foreseen at the previous stage and most commonly occur between design and implementation. In some cases, problems that arise can be dealt with at the current stage of the process while in other cases it may be necessary to return to a previous stage. USAID long-term resident policy advisors in Eastern Europe and the former Soviet Union engaged in policy dialogues with local counterparts that extended from issue identification through legislation drafting and instrument design to implementation where sustained engagement addressed practical difficulties found in forest auctions in Romania and emission trading in Almaty, Kazakhstan. This led to critical adjustments that increased the effectiveness of the policy changes and established credibility that helped garner legal support for engagement in larger issues.

PROGRAMMATIC IMPLICATIONS

1. Allow enough time for key constituencies to become involved, evaluate options, and become participants who are fully engaged and invested in the dialogue.

2. Recognize that the policy process involves a mix of linear steps (as depicted in the policy wheel) for which a step-by-step approach to policy reform is well suited, but also is a dynamic and iterative process involving continuous assessment, adjustment of policies, and refinement of implementation approaches without necessarily following the stages of the process: a process based on education, analysis, discussion, and involvement should be designed at the outset.

3. Build the capacity for sustained policy change into technical assistance programs to increase their effectiveness, ensure their sustainability, and elevate the policy analysis and dialogue through increased credibility.

4. Look for opportunities to reach consensus fairly quickly on some policy reforms, because small victories can provide the foundation for building consensus on more controversial reforms later.

Longstanding political and cultural traditions naturally have an impact on government receptiveness to new policy proposals.

CASE 6.1 SOUTH KOREA'S ENVIRONMENTAL MANAGEMENT CAPABILITIES IMPROVE TWO DECADES AFTER LEGISLATION

IMPLEMENTATION OF ENVIRONMENTAL LEGISLATION TAKES LONGER THAN ENACTMENT—*Several highly publicized pollution incidents over two decades in South Korea increased public awareness of environmental quality and the demand for government to prioritize industrial environmental management programs.*

Spurred by two highly publicized environmental accidents, South Korea was able to fulfill the mandate for environmental management but not until nearly two decades after the passage of its first environmental law, the Environmental Preservation Act, in 1977.

The Environmental Preservation Act established a broad regulatory framework for setting standards and protecting the environment. Initially, an environmental management bureau was created in the Ministry of Public Health, but it was subsequently upgraded to a sub-cabinet environmental agency in 1980. Six regional environmental offices were established in 1987, but neither local authorities nor regional offices engaged in adequate inspection or enforcement activity.

With democratization and increasing public concern over the quality of the environment, a Ministry of Environment (MoE) was installed in the cabinet in 1990, followed shortly by landmark environmental legislation endorsing the "polluter pays" principle and establishing joint liability for pollution damage. Following a serious pollution incident in the Nakdong River in 1991, additional legislation was enacted to provide for criminal sanctions for some environmentally harmful actions and to require environmental assessments.

Despite the creation of an excellent set of laws and expanded institutional capacity, implementation continued to lag behind legislative intent in the early 1990s. A second pollution incident in the Nakdong River in 1994 resulted in a strong public outcry and the resignation of the minister and a vice minister in MoE and the resignation of the chairman of the corporation responsible for the spill. Public pressure and expanded regulatory capacity (a fourfold increase in staff and more than doubling of the budget between 1980 and 1994) appear to have resulted in improved industrial environmental performance and improved ambient air quality for several criteria air pollutants.

CASE 6.2 REFORMING INSTITUTIONS OFTEN TAKES LONGER THAN FINDING TECHNICAL SOLUTIONS: SOLID WASTE COLLECTION IN MACHALA, ECUADOR

Institutional reform is often a long-term process that requires more perseverance and patience than finding the technical solution to an environmental problem. Deficient solid waste services, a major concern throughout the developing world, are often provided by municipal agencies that do not collect, transport, or bury garbage efficiently. Urban slums are often the sites where uncollected trash left to accumulate—in streets and vacant lots—and the poor that live in these areas often shoulder the burden and health risks associated with this situation.

Along with the German development agency (GTZ), USAID has supported the improvement of solid waste services in Machala, Ecuador, a port city with a population of 200,000. Technically, initiating reliable garbage collection in slum neighborhoods, where half the municipal population resides, was simple. Working with local people, GTZ and USAID advisors quickly determined that large tricycles equipped with a 1 cubic meter box could circulate easily in areas that are impassable for motorized vehicles.

In contrast, it has taken much more effort to overcome the legal and institutional impediments to improved trash collection. In 1993, the Machala city council founded an autonomous municipal solid waste enterprise that, many hoped, could contract immediately with private service providers. However, more than a year passed before it became clear that the best way to proceed was to establish a community-based micro-enterprise holding a single-service contract. Not until 1996 was the micro-enterprise fully operational, with approvals from several governmental agencies and a bank loan to finance equipment purchases.

Better environmental services—garbage collection in this case—almost always demand more than a technical solution. Institutional reform, which is generally essential for lasting environmental improvement, involves much more than a single legislative act. Had USAID, GTZ, and other interested parties failed to work with local counterparts to resolve all impediments to reform as they arose (many of them unexpectedly), garbage would still be piling up in Machala's neighborhoods.

INSTITUTIONAL REFORM TAKES LONGER THAN FINDING TECHNICAL SOLUTIONS— ***Technical solutions to solid waste management in Machala, Ecuador, were unsuccessful until the right institutional arrangement—a community based micro-enterprise with a single-service contract—became operational.***

CASE 6.3 START SMALL FOR EARLY SUCCESSES: A BITE-SIZED APPROACH TO TRADABLE PERMITS IN THE CZECH REPUBLIC

Legal and institutional reforms take time and often involve controversial measures that require long-term support. This case from the Czech Republic shows how an incremental approach built momentum for more extensive reforms with a set of initial improvements, allowing reformers to gain support and understanding of more controversial measures over time.

PILOT PROGRAMS DEMONSTRATE EFFECTIVENESS OF POLICY INSTRUMENTS — ***C4EP was able to convince the Czech Ministry of Environment to consider pollution trading through a step-by-step approach featuring the simulation of a small-scale market for production trading and a study tour to observe U.S. trading programs.***

During 1994–1997, C4EP worked with the Czech Ministry of Environment on policy development for air pollution control. Initially, C4EP evaluated various policy options for air pollution control, based on interviews with policymakers and an analysis of available air emissions data. A report was prepared outlining the pros and cons of various options, including revisions to the charge system, pollution permit trading and full-cost pricing of energy and energy inputs. While reaction to the report by policy makers was positive, some hesitated to adopt the recommendations despite the projected economic benefits.

This hesitancy reflected, at least in part, the degree to which some of the proposals represented radically different policy approaches for the Czech Republic. Full-cost pricing of energy and energy inputs, though efficient from an economic standpoint, was a radical, and hence controversial, departure from historically subsidized energy prices. A program of tradable air pollution emissions permits relied on the creation of a well-functioning market for the buying and selling of permits, similar to the nascent Prague stock exchange, the success of which was still being evaluated. Other potential programs required legislative changes.

Seeing some of these roadblocks, C4EP adopted a step-by-step policy advisory approach. For the option of tradable emissions permits, C4EP and the Ministry of Environment established a pilot project that simulated trading in a particular area of the Czech Republic. Through computer modeling of trades using actual cost data from thirty facilities, the project demonstrated two key points: first, that a small-scale market for trading could be established by natural supply and demand among the facilities; and, second, that cost savings of at least 15 percent could be realized through trading as an alternative to all facilities meeting a specific emissions standard.

In addition to the pilot project, C4EP cooperated with the U.S. Energy Association (USEA) in sponsoring a study group from the Czech Republic to observe U.S. pollution permit trading programs. Czech experts also attended USAID regional conferences on tradable permits sponsored by C4EP and USEA, all of which helped to contribute to an understanding of these programs.

More recently, the Czech Ministry of Environment has expressed a willingness to consider intra-firm trading, an initial step toward possible permit trading on a larger scale in the future. The inclusion of language allowing for tradable permits was considered in air legislation being prepared for 1998.

LESSON 7: TIME POLICY: WORK STRATEGICALLY

The policy process proceeds one step at a time, cannot be short-circuited or rushed, and involves continued consensus building through dialogue and communications. In the course of the policy process, political changes or other events may create opportunities to initiate policy reforms or resuscitate a stalled policy change. Stakeholders and donors should be prepared to move quickly to take advantage of opportunities that may arise in response to either unforeseeable events (such as a natural or manmade disaster) or foreseeable events (such as a change in the government resulting from an election).

WHAT HAS BEEN LEARNED

Effective policy assistance is demand-driven, and often is a response to local interests, needs and timing. Natural or human-caused events can create an almost instant demand—targets of opportunity—for policy analysis and dialogue. It is not unusual that attempts to engage policymakers and stakeholders that express serious interest in policy change, on policy issues rarely result in success, absent of such stimulus. On the other hand, if donors or their assistance partners anticipate the types of constraints or resistance to reforms that may come to the forefront later in the policy process, they may be able to overcome these hurdles by involving implementers and key stakeholders early in the process.

Early involvement of implementers and key stakeholders can be valuable in identifying and addressing impediments and developing a policy that will work; the resulting policy is more likely to receive the commitment needed at the later stage of implementation.

KEY UNDERLYING ISSUES

Unforeseen events. In many countries, the development of environmental management capabilities was triggered by highly publicized oil spills or chemical disasters such as those seen in India or Japan. These events raise public awareness and expose weaknesses in government programs. As noted in Case 6.1, two significant environmental spills had a catalytic effect in increasing the public's demand for more effective environmental management and providing legislators and officials that supported improved environmental quality to press for environmental reforms and greater staff budgets. Targets of opportunity dramatically increase the interest of policymakers and stakeholders in policy change and can enhance substantially the opportunities of donors and their policy advisors and partners to support and even accelerate consideration of reforms.

Government changes. Changes of government or senior personnel changes within a government—local, regional, or national—frequently provide new, and sometimes foreseeable, opportunities for policy dialogue. These changes often correlate with a shift in relationships among stakeholders that can remove previous constraints to policy changes. Newly elected governments can demonstrate urgency for swift action and quick successes, as was seen in Sri Lanka (Case 7.1). Following elections in 1997, the new government moved decisively to reorganize management responsibilities for environmental and natural resources. However, where the new officials perceive the foreign advisors to have been "too close" to the previous government, such changes can have the reverse effect.

Early involvement in the process. In many cases, the need to develop a consensus position on policy reform can be anticipated early in the process. For example, industrial facilities were invited to participate in the first discussions convened by officials of Ramadan City in Egypt to develop a municipal environmental management system. Later in the process, agreement was reached on public-private funding of an environmental fund designed to finance some of the investments recommended as part of the municipal plan (Case 7.2). Donors and their advisors can best take advantage of such targets of opportunity when they have already established relationships of trust with their counterparts even if significant, observable results in policy development and reform have not yet emerged. Advisors

who appear to be "at the right place at the right time" often will have been in the region for some time, building relationships that bear fruit most visibly at times of crisis or change.

Establishing a track record. Providing useful advice through policy assistance at crucial times can also create opportunities for future policy analysis, facilitation, and dialogue. Advisors who support the policy process during stressful and challenging times are more likely to be called upon again on matters both routine and extraordinary.

Natural or human-caused events can create an almost instant demand—targets of opportunity—for policy analysis and dialogue.

Linking environmental and market reforms. A confluence of circumstances may create opportunities for fruitful dialogue and needed change. For example, market reforms in Almaty, Kazakhstan, and the efforts of this city's municipal administration to control industrial pollution, in combination with the Soviet-era legacy of a pollution-permitting system, created the opportunity to introduce a pilot emissions trading program (Case 7.3).

Challenges of maintaining flexibility. Workloads and resource needs can increase dramatically when targets of opportunity lie outside the parameters of an existing work plan or challenge previously planned activities. This can make rapid redeployment and reallocation of resources necessary, placing a premium on swift and flexible administrative actions that facilitate effective response. The challenge of obtaining agreement from counterparts to disengage from activities that suddenly have a lower priority must also be met.

PROGRAMMATIC IMPLICATIONS

1. Track events in the political, socioeconomic, and environmental arenas so as to be able to respond quickly to targets of opportunity to move policy reform forward.

2. Plan to take advantage of certain foreseeable events, such as elections or cyclical events (such as droughts and floods associated with El Niño events) that constitute targets of opportunity for promoting change.

3. Make long-term commitments to assist and strengthen the technical and institutional skills of local partners, establish good working relationships, and develop a track record of responsive support to be in the best position to take advantage of targets of opportunity (but note that taking advantage of these opportunities might mean deviating from accepted work plans and reallocating resources—sometimes on short notice).

Providing useful advice through policy assistance at crucial times can also create opportunities for future policy analysis, facilitation, and dialogue.

4. Allow sufficient time in policy assistance efforts for key constituencies to become involved, to evaluate options, and to become participants who feel they have been brought into the dialogue and that their concerns are being considered.

CASE 7.1 POLITICAL CHANGE PROVIDES STIMULUS FOR ENVIRONMENTALLY RELATED POLICY AND INSTITUTIONAL REFORM IN SRI LANKA

A series of changes in the government of Sri Lanka in the 1990s provided the opportunity to implement policy reforms and strengthen environmental management capabilities.

Sri Lanka's organizational structures for environmental protection and natural resources management had long frustrated those working in these fields. When an Environment Ministry was created in 1990, it was placed under the cabinet minister for Environment and Parliamentary Affairs. Although a Central Environmental Authority responsible for pollution control and environmental impact assessment was placed under its oversight, it formed no clear links with broader natural resource agencies such as the Department of Forestry, the Department of Wildlife Conservation, or the Coast Conservation Department.

The election of a new government in 1994 offered an opportunity to rearrange environmental protection and natural resource management responsibilities so that similar functions could be clustered. Institutional analyses conducted by USAID-supported policy advisors before the announcement of the new cabinet-level ministries proposed either that key natural resource agencies be grouped (the "green" portfolio) or that the pollution control and urban development authorities be linked (the "brown" portfolio).

However, despite considerable lobbying by those within the government and their consultants, and NGOs, the functional agencies actually became further disassociated. A Ministry of Transport, Housing, Environment, and Women's Affairs was created, and the Departments of Wildlife Conservation and Forestry were placed in other ministries. The party forming the new government had come to power after a 17-year hiatus, and political considerations in the grouping of functions far outweighed organizational arguments.

When Sri Lanka's cabinet was reshuffled again in June 1997, the same organizational arguments and background studies were reconsidered. No longer burdened by disparate political interests, the government significantly improved the way environmental protection and natural resource management is handled. While the Department of Wildlife Conservation remains in the Ministry of Plantations, cut off from other environmental agencies, the new Ministry of Forestry and Environment—which also governs the Central Environmental Authority covering pollution control—considerably elevates the profile of environmental concerns in the country. For the first time in the country's history, guardianship of a major portion of the nation's protected lands combines broader policy and program responsibilities for managing the environment.

POLITICAL CHANGE PROVIDES STIMULUS FOR ENVIRONMENTALLY RELATED POLICY AND INSTITUTIONAL REFORM—*A government change in Sri Lanka resulted in the need to revisit prior organizational arguments and policy studies before the new government created the Ministry of Forestry and Environment and significantly improved environmental protection and natural resource management programs.*

CASE 7.2 OFFICIALS IN 10TH OF RAMADAN CITY, EGYPT, INVOLVE STAKEHOLDERS AT EARLY STAGE TO DEVELOP A MUNICIPAL ENVIRONMENTAL MANAGEMENT SYSTEM

One of the keys to the successful adoption of the environmental management system (EMS) of Ramadan City, Egypt, was the early involvement of stakeholders in dialogue focused on characterizing the city's environmental problems, possible solutions, and sharing of responsibility for implementing and financing improvements.

EARLY ENGAGEMENT OF STAKEHOLDERS RESULTS IN GREATER ACCEPTANCE—*In the 10th of Ramadan City in Egypt, early gathering of stakeholders including private industry, city officials, and national environmental agency representatives helped define roles and responsibilities, created an incentive system for improving environmental management and built support for a monitoring system for continuous improvement.*

Thirty-eight industries in one of Egypt's industrial cities, 10th of Ramadan, in 2001 began implementing an EMS based on the international voluntary environmental management standard, ISO 14001. The resulting ISO 14001 Preparatory Program is based on existing command and control regulations, combined with voluntary market-based incentives.

An EMS is a concept originally developed by the private sector in organizations such as the International Standards Organization for the management of wastes produced in industries. Because EMS provides a framework for defining the roles and responsibilities of stakeholders and mechanisms for monitoring, evaluation, and continual improvement, it offers a comprehensive methodology for improving urban environmental management as well. The Egyptian Environmental Affairs Agency (EEAA) and the 10th of Ramadan Board of Trustees, together with the USAID-funded Program Support Unit (PSU), are working on developing an integrated environmental management structure in the 10th of Ramadan City. One aspect of this work is establishing procedures for an environmental fund for the city, which will be used to help finance local environmental improvements, with financing provided by the private sector and leveraged by a matching contribution from the Egyptian Environmental Protection Fund. EEAA anticipates that the city's fund would serve as a model that could be replicated in other new communities faced with similar environmental and financial challenges.

The 10th of Ramadan has gathered stakeholders including private industry, city officials, and national-level environmental officials to define roles and responsibilities, create an incentive system for improving environmental management, and build a monitoring system for continued environmental improvement. These systems are all based on existing command and control regulations, combined with market-based incentives for improved environmental management. The EMS approach to urban environmental management, in this case, has allowed local action to define and assure its integration to larger regional and national policy. The EMS strengthens environmentally related policy implementation by providing a demonstration vehicle for other local governments and by integrating national policy into local initiatives. Overall, such an approach could improve urban environmental management by integrating both "bottom-up" and "top down" approaches, thereby creating a win-win situation for all stakeholders.

CASE 7.3 WINDOW OF OPPORTUNITY OPENS TO TEST MARKET-BASED AIR POLLUTION POLICIES IN ALMATY, KAZAKHSTAN

The Soviet-era environmental regulatory system, with its emphasis on performance standards, provided an opportunity to test market-based instruments, such as pollution charges and tradable permits, in addressing air pollution problems in Almaty, Kazakhstan.

In 1994, USAID-funded environmentally related policy advisors began a dialogue with counterparts in Kazakhstan about ways to reduce air pollution without unduly burdening the country's struggling industrial sector.

Air pollution is particularly acute during the winter months in Almaty, the country's former capital and largest urban and industrial center, when the Tien Shan mountains trap emissions from industrial facilities and inefficient coal-fired heating plants. Solving this problem requires substantial investment in both improved processing technologies and pollution control equipment, with costs and emissions impacts varying greatly across different investment options. Kazakhstan's economic difficulties require cost-effective pollution regulations that create incentives for investment funds to flow to the options that achieve air pollution reductions at the least cost.

The cost-effectiveness of environmental regulations depends greatly on flexibility, with command-and-control regulations usually less so than market-based approaches, such as pollution charges and tradable pollution permits. One irony of the centrally planned Soviet Union was that its environmental regulatory system, though deficient in respects such as enforcement, was less command-and-control-oriented than that of the United States. The system relied less on technology standards, which dictate the pollution technologies that industrial facilities must use, and more on performance standards, which specify target levels of pollution control but how to obtain them. It granted polluting facilities permits giving them the right to discharge pollution up to a specified maximum load. The permit system was coupled with a pollution charge system: the right to pollute was not granted free of charge, even for pollution loads within the permitted amount.

Parties on both sides of the policy dialogue in Kazakhstan recognized that the existing environmental regulatory system provided a promising opportunity to strengthen the role of market forces in achieving cost-effective reductions in air pollution. Thus, dialogue centered on ways to enhance the system's market-related features. Principal recommendations included raising pollution charges to levels that more closely approximated the environmental damage costs of pollution and introducing tradability into the permitting system so that entities facing high-cost of abatement can in effect pay those with low-costs to meet their commitment without forcing them to bear the higher cost of abatement. Although the recommendation to raise pollution charges has not yet been fully adopted, a pilot emissions trading program was established in 1996. This program was the first functioning stationary-source air emissions trading program outside the OECD countries.

Introducing market principles would have been more difficult had Kazakhstan's environmental regulations been more command-and-control. Because existing regulations could accommodate testing market-based instruments, dialogue occurred primarily at the local level. Government counterparts involved in the dialogue about the emissions trading program were primarily from the Almaty municipal administration. Indeed, municipal policymakers, not their central government counterparts, provided the main impetus for the program. Counterparts from the central government did participate in the dialogue, however, since the central government had to authorize the program.

TAKING ADVANTAGE OF TRANSITION FROM CENTRALLY PLANNED TO MARKET ECONOMIES—*Stakeholders in the policy dialogue in Kazakhstan recognized that the existing environmental regulatory system provided a promising opportunity to strengthen the role of market forces in achieving cost-effective reductions in air pollution.*

CHAPTER 4: COMMUNICATE EFFECTIVELY

Communication is the final management element in the policy process. It is closely linked to the other elements: players involved in the policy process communicate and interact with other participants in an attempt to reach consensus, share information, and inform and educate the public; policy dialogue is an important mechanism for communicating information; getting the timing right implies an awareness of the pace and steps involved in the policy process—gleaned through communication. The two lessons in this chapter focus on the development and communication of information and elaborate the importance of communication in making the policy process more effective.

LESSON 8: KNOW THE CONTEXT IN MANAGING AND COMMUNICATING INFORMATION

8

Donors and their partners need a broader perspective to consider economic, social, political, and cultural factors in managing and communicating information. In designing information systems, questions need to be asked about the types of information, how information is collected, analyzed and disseminated, and what it costs. Criteria should be applied to ensure the information collection and analysis effort meets the goals elaborated by the donor and assistance partners.

WHAT HAS BEEN LEARNED

Donors and their partners need to understand the policy and institutional context in managing and communicating information in the policy process. A broader perspective to consider economic, social, political, and cultural factors can further enhance the effectiveness of the policy and may help to overcome obstacles and delays. The identification and selection of the types of information to be collected, processed, and communicated should be assessed not only for its contribution to the policy process, but also to reflect the needs articulated by the various stakeholders. In designing information systems, particular attention should be given to asking the right questions about the scope of information gathering efforts, methods for collecting and disseminating information, and resource and time requirements. Also, criteria should be applied to ensure the information collection and analysis effort meets the goals elaborated by the designers and implementing entities.

KEY UNDERLYING ISSUES

Information needs in the policy process. Information is communicated in both formal and informal ways. In many countries, environmental agencies are legally mandated to provide certain types of non-proprietary information to the public and respond to requests for information. However, there is also a considerable amount of information that is collected, processed, and communicated informally, particularly within implementing agencies. One type of information—indicators—has played an important role in the policy process, enabling donors and counterparts to monitor implementation of assistance programs, and donors and their partners to track the country's progress in developing and implementing policy reforms. Lesson 22 focuses on the role of indicators in evaluation.

Dimensions of context. The context for managing information involves a range of interrelated factors. Foremost among these factors are the specific elements of the policy process and details of their development: what does the policy call for in terms of changes in the behavior of industry, groups, and individuals; who are the winners and losers; how did the policy come into existence—did it result from government-initiated analyses or were changes tied to pressures from international finance institutions and donors. While the policy process provides the primary context for the collection of information, information systems must also respond to a variety of interrelated non-environmental factors such as economic and financial conditions, the political situation, and the social and cultural settings. Case 8.1 illustrates how the Tanzanian government approached the collection of information to ensure that the various stakeholder interests and social and economic contexts were fully analyzed in developing a complex wildlife policy. No matter how well a policy is designed or institutions prepared for implementation, the context can be expected to change in response to change in societal needs and priorities, and evolve as a result of policy reforms in other sectors and exogenous factors that affect the country as a whole but are unrelated to the policy reform of interest. Exogenous factors such as world prices and supply disruptions for energy and other traded commodities, drought and natural disasters, and civil war and other types of political conflict can alter the context surrounding the policy reform process—but they may be difficult to anticipate.

The value of information. Compared to other investments that donors make in supporting policy reforms, information collection and analysis is often under-funded and under-appreciated. In part, this result stems from the difficulty in

valuing information for its benefits to the environment, or even in determining how its availability influences the pace and outcome of the policy process. Donors' needs for information will often relate to accountability; they must demonstrate what was accomplished as a result of their assistance programs, and information in the form of performance indicators will often be required. While information collection activities will primarily be justified in terms of their direct value to the donor, these efforts may yield benefits beyond their intended purpose. The process of information gathering, to the extent that it involves donors' partners, may provide an opportunity to build local capacity that can be sustained after the assistance effort ends. Also, information and associated instrumentation may be used for other purposes. For example, expenditures on advanced information systems in Madagascar to track results of assistance programs simultaneously provided the government with powerful tools for assessing proposed mineral investment projects (Case 8.2). Similarly, the system of national economic accounts adjusted for the cost of environmental and resource degradation provides the Philippines government with an analytical framework and database that has been valuable in guiding environmental and sector policy discussions (Case 8.3).

Designing information systems. Many of the potential uses of information must be anticipated or planned in advance. Planning involves addressing a series of questions on the information:

- What types of information are needed?
- How will the information be used in the policy process?
- Who needs the information and how will it be transferred to users?
- What are the constraints on funding, staffing and access to data to undertake information collection and analysis?
- How will the information be collected?
- Where and how often will it be collected?
- How will its quality be controlled and assured?
- How will it be archived?

PROGRAMMATIC IMPLICATIONS

1. Invest appropriate resources in designing information systems to understand and analyze the context and establish baselines for the policy and the expectations of the users of the results.

2. Include in policy design mechanisms to regularly review and evaluate the need for changes in information collection and gathering activities in response to changes in environmental, social, economic or political contexts within the country, policy or institutional shifts, or implementation failures. Begin with a clear statement of goals and objectives; identification, analysis, and selection of indicators; and preparation of a detailed plan for collecting, evaluating, and disseminating information (USAID's Center for Development Information and Evaluation (CDIE) series, Performance Monitoring and Evaluation Tips, contains a wealth of useful information for developing M&E: www.dec.org/usaid_eval/).

3. Pay attention to the cost of collecting, conducting quality control and assurance on, analyzing, and disseminating information; and discuss with partners responsibilities for administering the information system.early in the process.

CASE 8.1 SUCCESSFUL POLICY REFORM REQUIRES UNDERSTANDING COMPLEX MULTIDISCIPLINARY CONTEXTS: WILDLIFE POLICY IN TANZANIA

In this example, a multidisciplinary approach was key in helping analyze the new policy and, particularly, in communicating the different aspects of the new policy's complex new changes. Tanzania's wildlife moves freely within and outside of protected areas. However, outside of the protected areas development and sustainable management of wildlife is constrained by loss of habitat to human settlement, domestic livestock grazing, mining, unsustainable exploitation of wildlife, and especially expansion of agricultural lands (both for large commercial and smaller, subsistence farming. Without secure tenure over land and user rights to wildlife and other incentives for protecting and using wildlife sustainably, lands critical to wildlife are being converted to incompatible uses. The Tanzanian government responded by promulgating the Wildlife Policy of Tanzania (WPT) in 1998, which proposed to address the problem mainly by "devolving management responsibility of the areas outside unsettled protected areas to rural people and the private sector." The implied hypothesis underlying the WPT is that by establishing a supportive environment for establishment of wildlife management areas (WMAs) and community-based conservation (CBC) within protected areas, and by conferring secure user rights to wildlife resources to communities that form WMAs, the government can allow rural communities and other stakeholders to benefit from non-consumptive or sustainable consumptive uses of wildlife resources, and thereby compete with alternative land uses that are not compatible with wildlife.

Implementation of the WPT requires a thorough reorientation of legislation, regulations, guidelines, and public sector management perspectives, all of which were developed and honed over time in support of a more directive, top-down approach to managing wildlife. Given that the WPT represents a fundamental policy reorientation, it is not surprising that a proper assessment of opportunities and constraints requires consideration of the issues from a variety of perspectives. For instance, to determine whether promising new economic opportunities were both remunerative and sustainable it was necessary to examine such opportunities from an economic and wildlife management perspective. To this end, multidisciplinary teams consisting of expatriate and Tanzanian economists, finance specialists, lawyers, wildlife management specialists, and experts in taxation, venture finance, and game ranching and farming, among others, were engaged to determine: Whether there were institutional or legal impediments to the financing of needed investments in WMAs.

- How to assure that communities in areas designated as WMAs—many of which were not familiar with normal commercial practice—could avail themselves of the services they need to enter into contracts with hunting and photographic safari operators, lodge operators, wildlife ranchers, and providers of transport and other ancillary services that meet their legitimate expectations.
- How to apportion revenue likely to be generated as a result of new activity in WMAs in a way that covers the cost of services provided by the public sector (such as infrastructure and technical assistance) without destroying the economic incentives for the private sector—including the communities themselves.
- How to assure that designation of WMAs, and new activities begun in areas so designated, would not run afoul of legislation, policy, and practice developed over the years to support an approach to wildlife conservation that was effectively gutted by the new WPT.

UNDERSTANDING THE POLICY REFORM CONTEXT— ***Implementation of the Wildlife Policy of Tanzania required a thorough reorientation of legislation, regulations, guidelines, and public sector management perspectives, as well as a consideration of the issues from the perspective of local communities and private and public sector managers.***

CASE 8.2 INVESTMENTS IN INFORMATION SYSTEMS HELP MADAGASCAR BUILD CAPACITY TO MONITOR AND ASSESS DEVELOPMENT IMPACTS

Donor investments in internal project monitoring can yield significant benefits to counterparts if designed to track impact as well as implementation. This may require larger investments in monitoring (above the 10 percent of project budget "rule of thumb") and the use of more sophisticated and costly monitoring methods.

USING INFORMATION MANAGEMENT SYSTEMS TO BUILD INSTITUTIONAL CAPACITY—*Investments in aerial and satellite imagery, GIS and global positioning system (GPS) technology, surveys and analyses improved the capability of the Madagascar authorities to monitor soil and water quality, protection of biodiversity, and maintenance of forest cover. It also helped support government discussions with prospective mineral investors.*

In general, environmental programs have invested in evaluation, monitoring, and analysis because the nature of the programs often demands improved monitoring capability as an objective in its own right. The policy concerns—improved soil and water quality, protection of biodiversity, and maintenance of forest cover—often lend themselves to aerial photography, satellite (LANDSAT) imagery, geographic information system (GIS) investments and other measurement activities that can represent significant investments. Often these investments are not just to track program impacts over the life of the donor investment, but to improve the capability of the country itself to monitor the environment, to assess impact from developmental programs, and to improve strategic planning and implementation.

A good example of this is in Madagascar, where as part of their longstanding environmental program in support of the country's National Environmental Action Plan the USAID Mission invested heavily in aerial and satellite imagery, GIS and global positioning system (GPS) technology, surveys, and analyses. One of the largest investments in the sector by USAID over the last decade, the cluster of contracts and grants included a number of significant informational components. Investments since 1990 included the development of a national biodiversity GIS system, designed to become an integral component of ANGAP, the Malagasy NGO that has evolved into the country's Park Service, as well as numerous surveys, mapping exercises, and site-specific GIS mapping efforts.

The USAID Mission and its partners considered monitoring to be a key component of the program's internal operations, in essence one of the developmental "results" being supported, not just an ancillary function needed only for donor reporting. It was seen to be essential in carrying out their policy reform work, especially in tracking progress, letting them judge whether policy changes were indeed having the anticipated impact. More important, having such information, and the expertise to properly assess it, monitoring was considered to be one of the Mission's environmental objectives. This has had a series of major impacts; most importantly, to give the government a major weapon to wield in discussions with new multinational mineral investments.

This improved information base in the environment also significantly improved the USAID Mission's ability to consider how best to merge the environmental and agriculture portfolios into a new strategic objective. The same database also has been used to provide common ground for evaluating program impact across sectors for the Mission's other Strategic Objectives.

CASE 8.3 THE PHILIPPINES ADOPTS A SYSTEM OF NATIONAL ACCOUNTS TO ASSESS ENVIRONMENTAL COSTS

A system of environmentally adjusted national accounts provided information on the environmental costs of development as well as a strong analytical framework that could be used in problem diagnosis and policy design.

From 1991 to 2000, the USAID-funded Environmental and Natural Resources Accounting Project (ENRAP) in the Philippines assisted the development of a new system of **national income accounts** This project went through four successive phases: Phase I estimated adjustments to the national income accounts as related to forest resources; Phase II concentrated on quantifying the loss of natural capital and valuing environmental services and damages; Phase III continued to refine data collection and conducted environmentally related policy studies in priority sectors and locations; and Phase IV planned processes to be institutionalized and continued analytical efforts at local levels and in priority sectors.

Generally, environmental and natural resource accounting consists of augmenting the **national economic accounts** to include values for environmental services and assets. ENRAP is one of the most comprehensive systems of **augmented national accounts.** The basic principle of the ENRAP framework is that the services of valuable environmental assets should be treated in an accounting system just like the services of human-made assets. Additionally, natural assets should be subject to economic depreciation just as human-made assets are.

A unique feature of the ENRAP framework is that it allows for two values to be placed on pollution: one from the point of view of the polluter (the cost of waste disposal services), and one from the point of view of the injured party (damages to the environment). Another important feature of the ENRAP framework is that it accounts for the production of fuel wood and food by rural households that is not marketed. While not all non-marketed household production is covered, household fuel wood and food production in the uplands were considered because of their possible links to deforestation.

The application of the ENRAP accounting framework has been particularly useful to the government of the Philippines in identifying major trade-offs between economic development and environmental protection. Various applications to national policy and sector-specific concerns arose from the databases generated by ENRAP. These concerns were investigated as a response to the needs expressed by policymakers and interest groups, and as a result of interactions between ENRAP and other users of the data. The data generated by the successive iterations of the ENRAP accounts led to a number of policy studies on problems confronting the Philippine economy.

ADJUSTING TRADITIONAL INFORMATION REPORTING TO ACCOUNT FOR THE ENVIRONMENT—*A system of environmentally adjusted national accounts provided Philippine authorities with information on the environmental costs of development as well as a strong analytical framework that could be used in problem diagnosis and policy design.*

LESSON 9: COMMUNICATION LEGITIMIZES THE POLICY PROCESS AND REINFORCES POLICY CHANGE

Communication provides the means for building consensus among the public and stakeholders to support the policy reform. A system of clear and open communications promotes transparency and accountability, and may also play a role in improving environmental performance of facilities, thereby enhancing environmental quality.

WHAT HAS BEEN LEARNED

Communication plays an important role in the policy process, providing the means for building consensus among the public and stakeholders in support of the policy reform process and the reforms that emerge from that process. A system of clear and open communication using a variety of instruments will simultaneously promote transparency and improve accountability of policymakers and implementing agencies. Effective communications may also play a role in improving environmental performance of facilities.

KEY UNDERLYING ISSUES

Scope of communications. The transfer of information plays an essential role in the policy process. Communication within the government, among policymakers and implementing agencies, and between the government and stakeholders are needed at each stage in developing and implementing reforms. In addition, information on the nature of reforms and progress in implementing them will have value in legitimizing the policy process among members of the general public, as well as those directly affected by reforms. A variety of formal and informal mechanisms are used to communicate information. Some is mandated by statute and regulation, such as announcements of rulemaking, public hearings, and public disclosure by facilities of the use or storage of hazardous or toxic chemicals and wastes. There may also be provisions in law requiring that certain non-proprietary information be published or made available on internet sites. Information will also be exchanged during policy dialogue, and will be included in reports, such as annual statistical reports.

A variety of formal and informal mechanisms are used to communicate information.

Accountability. Communications can be an important tool to policymakers and implementing agencies in demonstrating their accountability both for the policies they develop and for the manner in which they are implemented. In cases where policy reforms are extremely controversial, communication of the results or impacts to those favorably or adversely impacted by the reforms can help build broader support for the reforms, foster dialogue, and lay the foundation for subsequent reforms or environmental initiatives. In some cases, communications are needed to reassure stakeholders that perceive that the reforms will have a negative impact on their economic activities. Case 9.1 illustrates such a situation where the Egyptian government conducted and publicized frequent farmer surveys to monitor the impact of removing price and market controls for ten agricultural commodities. The surveys confirmed the benefits of the policy reforms for farmers and helped to build support for subsequent reforms among stakeholders. In addition, when government agencies are required to disseminate information to the public, the requirement may encourage improved implementation efforts to avoid public criticism.

Transparency. Transparency refers to the openness and clarity of the process of policy reform. Communication of information about problems, design options, provisions of adopted reforms, and the anticipated impacts the reforms will make the policy process more transparent. Transparency and accountability are mutually reinforcing: the more transparent the flow of information, the easier the task of government in accounting for and enhancing perceived legitimacy of the reforms. However, in order for stakeholders and members of the public to use this information effectively, there need to be provisions for access to the policy process including involvement in dialogue, public hearings, and opportunities to provide written or oral comments on policies throughout the process. One potential downside of this transparency may be a tendency to provide

only information that illustrates success and avoid communicating information that highlights problems and constraints. To overcome this problem, the public and stakeholders need to be firmly grounded in their understanding of policies. NGOs and trade associations can play a role in monitoring government on behalf of these groups and by educating their members so they can effectively confront their officials, raise these issues, and hold government accountable. Also, by making this information available to stakeholders and the public, policymakers provide an opportunity for industry and NGOs to assess the information independently.

Improving environmental performance through public awareness and education. In some cases, the communication of information can become an important component of implementation. If the public understands the implications of information that is provided, it can pressure industries within the various sectors to redouble their efforts to improve their public image both locally and abroad. Public disclosure laws may contribute to such efforts to avoid local and national criticism, and in some cases international bans and embargoes. Two cases are provided to illustrate how communications may improve environmental performance. In China, local officials have become sensitive to their ranking compared to other cities in terms of the level of environmental quality indicators and have made an effort to make or facilitate improvements (Case 9.2). In Indonesia, facilities are designated by one of five colors based on environmental performance. There is evidence that this disclosure program has provided an impetus for firms with the poorest performance levels to address problems in order to avoid the label of "polluter" (Case 9.3).

PROGRAMMATIC IMPLICATIONS

1. Encourage partners to support communication of information with resources and staff and to ensure the public's access to the policy process, extolling the potential benefits to the government of legitimizing the policy process and garnering support for reforms.

2. Support capacity building efforts among NGOs, local research and training institutions, and relevant stakeholder groups to ensure these groups can analyze information effectively and educate the public.

3. Make information available in the form of public disclosure documents and lists, environmental quality indexes, and environmental labeling campaigns as important complements to other environmentally related policy instruments; good information can help increase policy compliance in the absence of adequate institutional capacity for monitoring and enforcement.

In some cases, communications are needed to reassure stakeholders that perceive that the reforms will have a negative impact on their economic activities.

CASE 9.1 EGYPT BUILDS SUPPORT FOR AGRICULTURAL POLICY REFORMS BY SHOWCASING STAKEHOLDER BENEFITS

To respond to stakeholders' concerns about controversial agricultural policy reforms, the government of Egypt evaluated and publicized the positive impacts of reforms on farm incomes. The USAID-funded Agricultural Production and Credit Project (APCP) was initiated in 1986 with the goal of assisting Egypt in increasing agricultural production, farm incomes, and agricultural exports. In addition to technical assistance, the APCP included a provision for cash transfer tied to the achievement of ex ante policy reform benchmarks. The project was divided into two stages. During the first phase (1987–1989), the project stressed the removal of price and market controls and delivery orders for 10 major and minor crops. For the second phase (1990–1994), policy reform benchmarks included quantifiable targets such as increasing procurement prices for cotton to 66% of the economic price, removal of procurement quotas on rice and all subsidies on agricultural inputs, and several related to agricultural subsidies provided by the state-owned Principal Bank for Development and Agricultural Credit (PBDAC).

COMMUNICATING BENEFITS TO STAKEHOLDERS—*To respond to farmers' concerns about controversial agricultural policy reforms, the Egyptian Ministry of Agriculture evaluated and publicized the positive impact of reforms on farm incomes. Subsequent monitoring uncovered additional benefits in farm productivity and more effective use of key agricultural inputs.*

From the outset of the APCP, USAID and the government of Egypt cooperated in the design of the policy reform program as well as the plan to monitor implementation of the reforms and track their environmental and economic impacts. To meet program objectives, the APCP design included several components. First, the Egyptian government and USAID reached agreement on the policy benchmarks, the means of verification, including the use of indicators and evaluation methods, and the formulas for matching cash transfer amounts to verified results. Second, the Egyptian government participated actively in monitoring implementation of the program and associated policy reforms. Most significantly, the PBDAC conducted an extensive survey of farmers twice a year to provide a "snapshot" of the impacts of reforms on farm-level indicators related to income, production, and production costs. Third, USAID-funded agricultural policy experts visited Egypt three or four times a year to review progress in implementing policy reforms, assess indicators, and evaluate sectoral impacts.

In retrospect, the APCP resulted in significant beneficial changes to Egyptian agriculture that have included increased incomes and productivity and more effective use of key inputs—land, water, and agricultural chemicals. In addition, the well-conceived implementation monitoring plan has enabled USAID and Egyptian government to conduct a comprehensive evaluation of the impacts of the APCP, documented in *Egypt's Agriculture in a Reform Era,* Lehman B. Fletcher, ed.

CASE 9.2 PUBLICIZING CHINA'S SYSTEM OF URBAN ENVIRONMENTAL INDICATORS LEADS TO IMPROVED PERFORMANCE

Since 1989, China's State Environmental Protection Agency (SEPA) and newspapers and television in some provinces have publicized the rankings for major cities based on the results of the Urban Environmental Quantitative Examination System (UEQES). There is substantial evidence that this publicity has enhanced awareness of environmental quality among the public and city mayors, and may have led, in a few instances, to improved environmental performance to enhance a city's national ranking.

The UEQES is linked to a set of annual negotiated environmental performance targets agreed by SEPA and large cities' mayors. On an annual basis, SEPA uses the UEQES to assess major cities according to 21 indicators linked to a target responsibility system in three categories: (1) ambient environmental quality (six indicators); (2) level of development of urban environmental infrastructure (five indicators); and (3) urban environmental management/pollution control (ten indicators). Each of the indicators is given a numerical weight to facilitate comparisons and to calculate a composite score. Then, each city is ranked from highest to lowest on the basis of their composite score. In 1995, 37 large cities were ranked using the UEQES. In addition, smaller cities were evaluated by their respective provincial governments using a composite index adapted from the UEQES.

Until the introduction of the UEQES, mayors, Economic Commissions, Planning Commissions, and Industrial Bureaus in the cities focused limited attention on ambient environmental quality.

Environmental issues were subordinate to economic growth and the local Environmental Protection Bureaus (EPBs) did not have much influence on the more powerful economic decision-makers. The publication of the UEQES rankings in SEPA's yearbook elicited numerous inquiries from mayors on the construction of the index and low-cost options for increasing a city's score and ranking. The interest of mayors in improving their cities' rankings enabled local EPBs to engage in greater dialogue with the economic bureaucracies on the economic development targets of line agencies because of the potential ramifications of economic decisions on urban environmental indicators.

The UEQES has also influenced the structure of five-year environmental performance contracts between mayors and provincial governors. The goals in these contracts are stated in terms of the UEQES indicators. Interestingly, the mayors have arrived at these targets through a bottom-up planning process, orchestrated by line agencies and commissions. In Nanjing, all economic investments for the five-year period were evaluated in terms of their positive and negative implications for the UEQES indicators and the resulting contract reflected significant improvements in many of the indicators. Similar results were observed in the city of Tianjin, which committed to 40 percent reductions in ambient levels of total suspended particulates.

Based on a document by Michael Rock, Yu Fei, and Chonghua Zhang, The Impact of China's Urban Environmental Examination System on Urban Environmental Management and Ambient Environmental Quality, 1999.

PUBLICIZING ENVIRONMENTAL QUALITY INDICATORS—*By publicizing the rankings of environmental quality in China's major cities, the State Environmental Protection Agency (SEPA) and the media effectively pressured mayors into finding options to find ways to improve their city's score and ranking, thus opening dialogue with local environmental authorities and encouraging commitments to increased ambient environmental quality.*

CASE 9.3 PROPER: INNOVATIVE USE OF FACILITY INFORMATION GENERATES SUPPORT FOR POLICY REFORMS IN INDONESIA

An industrial emissions disclosure program in Indonesia has demonstrated how facility pollution information summarized in five performance "colors" can help a fledgling environmental agency **maximize the public policy value of information and achieve levels of environmental quality that would be difficult using only regulatory instruments.**

USING PUBLIC PRESSURE TO INFLUENCE INDUSTRIAL ENVIRONMENTAL PERFORMANCE—*The Program for Pollution Control, Evaluation and Rating (PROPER) provides a simple way for consumers and the general public to recognize industries' superior performance (rated as "green") and non-compliance with environmental standards (rated as "black"). Half the firms that received a "black" rating in the pilot program upgraded their status.*

Few, if any, economic activities are completely unregulated. Where formal regulators are absent or ineffective, "informal regulation" often takes its place through community groups, NGOs, local religious and social institutions, community leaders, or peer pressure. Indonesia's environmental impact management authority, Bapedal, had a limited management budget, lacked enforcement and inspection authorities, operated in a politically indifferent climate in 1994, and faced a daunting challenge in enforcing industrial emission regulations. That year, Bapedal worked with the World Bank to design, implement and evaluate a novel public industrial disclosure program. The program, called PROPER—Program for Pollution Control, Evaluation, and Rating—was intended to **use public pressure on factories to provide a low-cost substitute for formal enforcement of environmental regulations, and to create incentives for the adoption of cleaner technologies.** The program also was one of the earliest efforts in the environmental arena to **encourage transparency.**

Bapedal developed an initial database of firms rated by their conformity to pollution emission and other standards in five categories: black: out of compliance; red: some effort to address non-compliance; blue: fully in compliance; green: exceeding standards; and gold: on par with international standards. The PROPER program continued to use traditional practice by penalizing non-compliance with standards but it also used a more market-oriented approach **by publicizing and awarding superior performance.** In this way, consumers were provided information that might affect their purchases, communities near factories had a better idea of who was responsible for what kind of pollution and industrialists found themselves facing a variety of positive and negative incentives for changing industrial practices or investing in cleaner technology.

In the pilot phase of PROPER, 187 plants were rated. Of those, five were able to obtain green status and were publicly announced. Another 121 plants were rated as red or black and were privately notified, while given until the end of the pilot period to improve their performance. By the time the pilot was over, half of the black plants had successfully upgraded their status, along with a substantial number of red plants.

Although, the PROPER approach is not a substitute for regular inspection and enforcement, it is a pragmatic and creative effort to **mobilize the forces of the media and public opinion to leverage effectively the modest powers and budget of an environmental enforcement agency**

In Indonesia, PROPER also was a useful object lesson for NGOs and other government agencies and, as a model, it has been adapted and copied by a number of them, including the use of public disclosure and ratings by color codes and other systems both for environmental and non-environmental issues.

SECTION II:
STAGES OF THE POLICY PROCESS

Chapter 5: Diagnose the Problem

Chapter 6: Design the Policy

Chapter 7: Implement the Policy

Chapter 8: Evaluate the Policy

CHAPTER 5: DIAGNOSE THE PROBLEM

Problem diagnosis is a key link in the policy process, having significant bearing on whether policymakers and stakeholders are prepared to take the critical step of policy design. If the analysis that comprises problem diagnosis does not establish a compelling case for changing policies, the process is likely to stall. Both the content and the process of problem diagnosis contribute to developing the consensus necessary to design policies. This chapter includes one lesson learned, with four cases provided to illustrate the importance of good analytics.

LESSON 10: BE SURE ANALYSES ARE SOLID AND CREDIBLE

10

Thorough analysis of the political, economic, and social shortcomings of current policies provides the foundation for constructive discussions of policy options. While good analysis doesn't guarantee good policies, the converse is seldom true. Problem diagnosis involves effective planning to ensure that analytical approaches are credible, and that the analysis is conducted in a timely manner within resource constraints, drawing on local expertise to the greatest extent possible.

WHAT HAS BEEN LEARNED

Problem diagnosis is pivotal in developing the necessary understanding of the problems that need to be addressed and engendering sufficient commitment from policymakers and stakeholders to move the process to the design stage. Problem diagnosis must link problems to their root causes and make the case that current policies are not desirable from a political, economic, and social, and long-term environmental health perspective, taking into account the policy's impact on a broad array of stakeholders. Ideally, problem diagnosis would also identify and assess a range of policy options since a more compelling case for policy change can be made if there are practical options that potentially could address the weaknesses of the current policy. The analysis should not only be of the highest quality given resource limitations, but the process of conducting the analysis, vetting the results, and communicating the results in appropriate public forums is important in establishing the credibility of the analysis.

KEY UNDERLYING ISSUES

Where evaluation ends and problem diagnosis begins. In many cases, evaluation and problem diagnosis are part of the same analytical effort. This may occur when there is widespread agreement that current policies are performing poorly, even if this agreement is based on anecdotal or qualitative evidence. The analysis then might include a rigorous quantitative evaluation to: a) reinforce or affirm the conventional wisdom related to current policies and b) be a catalyst for serious discussions with policymakers and stakeholders on policy reforms and the problems or obstacles that have to be overcome and c) identify critical information gaps. Examples of such analyses combining evaluation and diagnosis include the USAID-funded Egypt Environmental Sector Assessment that provided the analytical background for the follow-up policy assistance program (Egyptian Environment Policy Program) and the Ridges-to-Reef assessment conducted for USAID in Jamaica.

Having strong analytics. The value of solid analytics in diagnosing problems with current policies is obvious; discussions and subsequent decisions based on good information surpass those based on flawed or incomplete information. While good analysis does not always lead to good policy, constructive policy is more difficult in the absence of reliable information. It should be recognized that a considerable number of global policies are made with imperfect information, requiring the employment of "the precautionary principle" to compensate for the current scientific level of understanding and the difficulty to analyze complex, long term impacts.

Choosing analytical approaches. The selection of analytical approaches can be important in gaining the support of local agencies and staff for the analysis. The use of analytical models that are widely accepted or that can be provided to research and industry counterparts to carry out additional or follow-up analysis can increase credibility. In addition, willingness to share tools and provide training will be appreciated. Illustratively, analysis of supply and demand of environmental financing has been systematized into a computer program by a Danish consulting firm, enabling staff in environmental ministries to update the consulting firm's initial analysis, adding new information and introducing parametric and policy changes into supply and demand simulations. In another example, a system of natural resource accounts was developed for the Philippines that enables agencies to better track environmental and natural resource quality on a sustained basis and use these accounts in analytical reports (Case 8.5).

Drawing on local expertise. Involving local experts in analytical work often contributes to greater usefulness, acceptance, and impact of a policy, and may also promote replication, both domestically and internationally. These experts can help donor partners and advisors identify and gather information that is not easily collected by foreigners. The intensive involvement of local experts serves as an important capacity-building technique and offers important long-term results. Further, having local experts as integral members of the analytical team can help persuade stakeholders and policymakers of the validity and usefulness of the analysis and induce positive policy change. The Romanian government introduced a new system of timber auctions after the C4EP project demonstrated the potential for increasing revenues for these sales (Case 10.1). In developing these recommendations, C4EP utilized local experts to conduct an extensive review of more than 2000 previous auctions and convene meetings with participants in these auctions, thereby overcoming initial skepticism among Romanian counterparts about the need for reforms. It can also help create and support a network within the country. Similarly, local stakeholders and policymakers that can assist with analytical work should be consulted in the study design. They can participate in seminars and conferences at which goals and objectives are discussed, preliminary findings are described, and final results are presented, and help serve in a unique advocacy role. Maximizing the involvement of key local stakeholders in as many facets of the work as possible usually results in greater acceptance of the results and contributes to a more open dialogue on new policies.

While good analysis does not always lead to good policy, constructive policy is more difficult in the absence of reliable information.

Conventional wisdom. Local decision-makers and stakeholders may have previously reached conclusions based on anecdotal or incomplete information on the causes and impacts of an environmental problem. In this situation, the advisor must overcome initial resistance to the idea that more information is needed and may subsequently face skepticism if new findings question the conventional wisdom. In its search for solutions to its environmental problems, the Siberian city of Novokuznetsk requested assistance from USAID and the World Bank to conduct a diagnosis of the scope of environmental problems in the emerging market economy. Previously, relying on conventional wisdom about the Soviet economy and the link between production and pollution, the cost of needed investments to address environmental concerns were estimated to be $1.2 billion, but the new analysis indicated lower production intensity under market assumptions and a different set of priority investments (Case 10.2). In cases where highly visible problems create pressures to find quick solutions, stakeholders and policymakers might need convincing that analysis is valid and necessary.

Time and resources commitments. Undertaking solid analysis takes time and resources. Although "quick and dirty" studies may be possible, such an approach can lead to misleading conclusions when the issues are complex and dynamic. It is also worth noting that some issues/indicators require both varying spatial and temporal levels of analysis—and in some case sufficient time hasn't passed to show the data (e.g., periodic flooding/storms, El Niño effects) due to normal but cyclical extreme events. Policies that don't account for these extremes (or are absent of information with which to predict the extreme values) may fail due to associated environmental and human disasters. Advisors must commit the time and money needed to discover and document the central issues and must be able to gain the support of in-country counterparts for this endeavor. The value of comprehensive problem diagnosis is demonstrated in the development of a National Forestry Policy in El Salvador (Case 10.3). Over a 14-month period, NGOs, government, and representatives of forest cooperatives and the private sector combined efforts and resources to prepare a series of policy working papers that provided a thorough analysis of problems related to production, marketing, and impacts on biodiversity and the environment.

Drawing on experiences in other regions and countries. Before designing a new policy, it may be possible to improve the design by anticipating potential problems. As there may be no current problems in the area covered by the new

policy, a surrogate problem diagnosis might involve drawing from analyses in other regions or countries. For example, in designing new management programs for the southern Red Sea coast, the government of Egypt (with USAID assistance), drew from experiences in previously developed areas, analyzing the challenges of balancing tourism development with resource protection (Case 10.4). The introduction of new policy instruments or creation of institutions such as environmental funds will often benefit from analysis carried out in other countries.

Multidisciplinary perspectives. Solid analysis is needed to identify and include all of the relevant facets of environmental problems and the likely impacts of possible solutions. Frequently, multidisciplinary analysis is required. Physical and biological sciences describe environmental systems' response to pollution; engineering identifies technical problems related to the generation of pollutants; economics can analyze and quantify investments of various stakeholders; institutional analysis helps determine the roles and responsibilities of government and NGOs; and the social sciences examine human behavior patterns and interaction as they relate to environmental challenges.

Information dissemination. Effectively communicating the results of analysis is as important as the analysis itself. If results are poorly communicated and not understood by other policy dialogue participants, the probability of its acceptance and impact are greatly diminished. Foreign advisors serving as policy analysts must find effective ways to communicate both methodology and results.

PROGRAMMATIC IMPLICATIONS

1. Include solid analyses in the policy dialogue process, with the support of multiple stakeholders, even if there is intense pressure for rapid solutions or where a local consensus on causes and impacts already exists.

2. Employ a variety of frameworks for local involvement from policymakers participating in determining goals and objectives to local experts performing key analytical tasks.

3. Incorporate a collaborative applied research program that tests new theories and technologies in the local context (such as through surveys and pilot projects) combined with frequently briefing policymakers and holding workshops for stakeholders. This is important not only for effective policy dialogue, but also for human and institutional capacity building, for changing behavior patterns, and for promoting acceptance of policies or policy changes.

Local involvement can take many forms, from policymakers participating in the determination of goals and objectives to local experts performing key analytical tasks.

CASE 10.1 SOLID ANALYSIS FURTHERS DIAGNOSIS OF TIMBER AUCTIONS IN ROMANIA

ENSURING LOCAL PARTICIPATION IN POLICY ASSESSMENTS—*By conducting an extensive diagnosis, combining detailed analyses of more than 2,000 timber auctions with a highly participatory process, the research team composed of both local and international experts was able to convince the Romanian Ministry of Environment to accept and implement recommended improvements.*

In 1995, the USAID-funded environmentally related policy program in Romania (C4EP cooperated with the Ministry of Environment (MoE) to examine issues related to financing forest management and protection. The ensuing assistance, involving the assessment of the auction system for timber tracts, **had to overcome initial skepticism among Romanian counterparts, many of whom were not convinced that the system needed reform.** By conducting an **extensive diagnosis, combining detailed analysis of over 2000 timber auctions with a highly participatory process** wherein auctions were attended and numerous interviews undertaken to elicit input from industry and government, the research team established their credibility with the Romanian officials and the report's recommendations presented to MoE were accepted and implemented.

As in most transition economies, state support for natural resource management and environmental protection had been cut. The MoE was actively considering new ways to finance these activities. In late 1992, the Romanian government introduced an auction system for timber tracts that generated more revenue than the previous system of administered prices. However, C4EP carried out some preliminary analyses suggesting that the auction system could potentially generate even more revenue by correcting defects in the system. The MoE was skeptical, but it agreed to cooperate with C4EP on an expanded auction system study.

To assess the situation accurately and to develop reliable policy recommendations, the study needed to be sound, but, equally important, it needed to be credible to Romanian counterparts who were not convinced that the auction system needed fixing. Romsilva, the para-statal responsible for administering the auction system, was even more skeptical than the MoE.

CASE 10.2 ANALYTICAL CAPACITY FOR PROBLEM DIAGNOSIS MAY BE NEEDED TO ENSURE THAT INVESTMENT DECISIONS ARE SOUND: NOVOKUZNETSK, RUSSIA

In some cases analytical capacity for diagnosing a problem needs to be developed before the problem can be properly analyzed and an appropriate reform program designed.

In September 1993, a joint World Bank–USAID sponsored team composed of USAID staff and consultants provided by the project visited Novokuznetsk to work with city officials, scientific and technical institutions, public interest groups, and industrial managers to assess the local environmental action plan (LEAP) prepared for that city in the late 1980s. It concluded that, while technically adequate, implementation of the LEAP would be impeded by a profound change in economic situation associated with the breakup of the Soviet Union.

The issue centered on the economic viability under market conditions of major investment projects called for in the LEAP (the price for which was estimated at $1.2 billion), and of the enterprises slated to make the investments. The problem was that the plan had been formulated before privatization of state enterprises that followed the demise of the Soviet Union and did not reflect new realities, namely a) the marked decline in the demand for the heavy industrial products Novokuznetsk-based enterprises produced, b) increases in the cost of production, and c) limited capacity to raise the huge sums required both to make the industrial enterprises competitive and to reduce pollution as a result of the Russian government's inability to provide capital combined with reduced capacity of the enterprises themselves to self-finance investments.

ASSESSING PROGRAM IMPLEMENTATION IN CURRENT ECONOMIC CONTEXT—*The Novokuznetsk Local Environmental Action Plan (LEAP), prepared prior to the break-up of the Soviet Union anticipated that enterprises would need to make environmental investments of $1.2 billion. With the shift to market conditions, implementation of the LEAP required a reassessment of costs and priorities.*

CASE 10.3 A COMPREHENSIVE FOREST POLICY IS DEVELOPED IN EL SALVADOR

In El Salvador, stakeholders (both public and private) were willing to dedicate their time and resources to compile and analyze information needed to diagnose problems and develop a comprehensive national forestry policy. The process, which took fourteen months, served not only to develop the analyses required but as a forum for policy dialogue and negotiation with key stakeholders.

CONDUCTING COMPREHENSIVE PROBLEM DIAGNOSIS— ***Following on recommendations of eight policy papers that considered the technical, social and economic aspects of forestry in El Salvador, several innovative forestry incentive programs, including proposals for forestry bonds, forest taxes, tax exemptions, credit lines, and marketing information that had not been previously considered viable were incorporated in the National Forestry Policy and implementing strategy.***

In 1996, USAID financed technical assistance—the Green Project—to support the development of a national forestry policy. At that time, El Salvador had only 2 percent of its natural forest cover remaining, and a major effort to preserve remaining cover while expanding plantation and commercial forestry was considered crucial. Past efforts at reforestation and natural forest management were largely ineffective because the programs did not consider the demand for forest products, technical aspects of forest management, markets, and community participation. Additionally, these efforts were characterized by a lack of legal and policy frameworks and weak institutional structures in support of these programs.

At the inception of the Green Project, it was clear that there was the political will in various sectors to propose a solution to the critical forest situation. NGOs, government officials, the productive cooperative sector, and the private sector were ready to participate in discussions. The process was launched with the presentation of a stakeholder analysis that identified all possible actors. An ad hoc forestry sector commission, composed of key stakeholders, was created to develop a draft forestry policy to be submitted to the Ministry of Agriculture, which would then present it to the economic and social cabinets and the president for approval.

Early in its deliberations, the commission decided that a coherent forestry policy should address the basic forest management principles of conservation and production. It soon became apparent that there was little current data and information on the technical, social, and economic aspects of forestry on which to base any recommendations for the forestry policy. The commission members divided into a number of working groups to develop specific analyses required to draft the policy. Eight policy working papers were produced on topics such as credits and financial incentives for forestry, institutional and organizational structures, internal and international markets, including agroforestry, such as shade coffee, as a means of increasing forest cover, community forestry, and protected area management. Each analysis was presented and discussed in a public forum (hearings, presentations to special interests and the economic cabinet, technical workshops) where further input was given to policy recommendations.

The development of these working papers served several purposes. Principally, the papers provided concrete data and verifiable information on the nature of the problems in this politically charged and sensitive sector. The process of vetting these papers brought together political factions that just four years earlier had been at war with each other. Out of the analysis came several innovative forestry incentive programs, including proposals for forestry bonds, forest taxes, tax exemptions, credit lines, and market information that had not been tried or considered viable in El Salvador previously. In the process of preparing the working papers, sectors of Salvadoran society that had not previously been involved in policy formulation became involved and took ownership of the recommended policy, eventually serving as advocates in obtaining approval at the national level. In early 1997, the National Forestry Policy and its implementing strategy were approved by the national government.

CASE 10.4 EVALUATING AND LEARNING FROM EXPERIENCE: DESIGNING POLICIES AND PROGRAMS TO PROTECT EGYPT'S RED SEA COASTAL RESOURCES

The design of management policies and programs for an area of largely undeveloped Red Sea coastline benefited from an analysis of the problems encountered in managing the coastal resources of previously developed tourist destinations.

Over the past decade, the spectacular coastlines along Egypt's Red Sea and Gulf of Aqaba have been the sites of rapid growth generated by tourism. The Egyptian Government understands the great potential for expanded foreign exchange earnings from further growth of coastal tourism, and at the same time wishes to reduce settlement pressures in the heavily populated Nile River Valley by fostering employment opportunities elsewhere. There are proposals for at least 240 major resorts to be built along the Red Sea coast by 2020, and regional population is expected to increase at a rate of 10 to 15 percent annually.

A major environmental challenge is how to protect the beautiful coral reefs and fragile coastal ecosystems that provide the attraction for the tourists in the face of this projected growth. As part of the process of considering what policy and management arrangements are needed to assure that development patterns are sustainable, the government and USAID have considered, contrasted, and drawn lessons from recent experience with tourism growth in the Gulf of Aqaba and the northern part of the Egyptian Red Sea coast, especially in the Hurghada area. In the former, protectorates were established, staffed and financed, mainly from funds donated by the European Union. In many instances, widespread damage to coral reefs was averted. By contrast, inadequate policies and policy implementation led to unconstrained development and environmental degradation in and around Hurghada.

With assistance support provided by the USAID-funded Egyptian environmentally related policy Program, the Egyptian Environmental Affairs Agency and the Tourism Development Authority are developing policies and programs to protect and sustainably use the coastal resources of the southern zone of the Red Sea Coast, which is expected to experience rapid tourism growth in the years to come. The aforementioned informal assessment of recent experiences in the Gulf of Aqaba and the Hurghada area is serving to inform the design process and the features the development of a Conservation Management Plan for this southern zone to be prepared through a participatory process. The plan calls for: (1) preparation of accurate maps of high-priority marine and terrestrial areas; (2) activity zoning plans describing what kinds of activities are allowable in these zones; (3) carrying capacity analyses, health analyses, and monitoring systems to provide information on the current and projected status of priority natural resource zones to regulate use and measure impacts; (4) identification of services to be offered in these areas, such as shelter, information, patrolling, monitoring, and stakeholder self-policing; (5) incentives for stakeholder self-regulation; and (6) design and implementation of tourism fees and other measures to generate revenues for conservation management.

APPLYING THE LESSONS LEARNED FROM OTHER JURISDICTIONS—*The Egyptian government applied the experience of the Gulf of Aqaba and the northern Red Sea coast in developing a conservation management plan for the largely undeveloped Southern Red Sea Region.*

CHAPTER 6: DESIGN THE POLICY

During policy design, options for addressing a diagnosed problem are identified and analyzed, leading to the selection of the options to be implemented. Design involves three steps: (1) review and assessment of alternative intervention points, policy tools, and approaches; (2) development of supporting information on the short list of interventions, tools, and approaches; and (3) selection of the best policy option for implementation under given situation.

LESSON 11: HELP DONOR PARTNERS TO SUPPORT POLICY EFFORTS

Donor partners may resist assistance that is perceived to compromise their sovereignty in developing policy, necessitating adjustments in assistance efforts to gain our partners' confidence.

WHAT HAS BEEN LEARNED

USAID's development assistance partners are often protective of their role in policymaking. While they welcome project assistance, they may resist activities aimed at shaping or implementing policy. Helping with policy design may be perceived as too intrusive a role for donor organizations, signifying the recipient's weakness and diminishing the credibility of the government's policymakers. Donors must break down barriers to policy support and seize opportunities for intervention

KEY UNDERLYING ISSUES

Sovereignty. As steward of the natural resources within a country's boundaries and responsible for environmental protection, government is accountable for decisions that contribute to the quality and value of these resources and the environmental services of both national and global importance. Policymaking is a core management function of government. By their nature, policies establish rights of access to resources, conditions and limits of resource use, and grant property rights to the benefits that may be obtained to the holders of these resources. Host-country nationals, many of whom are USAID partners, are often concerned about compromising national sovereignty rights if they permit foreign intervention in setting policy, even when a compelling case can be made that the country will benefit from the proposed policy changes. Policymakers must establish their credibility both within the government and among stakeholders affected by their policies. This credibility is easily undermined if donors are perceived to be leading, rather than supporting policy reform and implementation.

Resistance to change. Donor organizations often encounter resistance to rapid change. Protocols for revising legislation and regulations must be followed, even if the process is slow and uncertain. In some cases, elected officials may try to avoid introducing controversial policy reforms just before elections if the reforms could have a bearing on the outcome of the elections. And if the benefits of the policy reforms are not perceived to be large enough or if the reform effort would pull resources away from other agendas, agencies or policymakers may be reluctant to champion policy reforms. In other situations, government officials may want to slow down reforms because of opposition within the government or among staff in the agency that will be responsible for implementation. For example, in Tanzania, career wildlife officials opposed the devolution of wildlife management responsibility to local people because of concerns that the new local managers, many of whom had been fined in the past for poaching, would not be effective enforcers.

Projects vs. programs. "Brick and mortar" projects yield tangible, visible, and immediate benefits and may be preferred by donor partners rather than policy assistance. Governments can readily translate project results that are tangible into political credibility and leverage. Policy is a far slower, more uncertain process that often creates losers as well as winners and yields benefits that may only be realized after several years of effort.

Barriers to policy assistance. USAID can help "sell" its participation in policy issues in a number of ways. Most importantly, current policies must be carefully evaluated and alternatives identified and assessed. Partners will be more receptive to outside involvement if proposed changes yield significant net benefits over current policies. In addition, partners may be swayed by the nature of USAID's commitment both in the duration and scope of assistance being offered. It is important for USAID staff and contractors to view the assistance as a partnership. One mechanism that has been effective in breaking down barriers to policy assistance

Donors must break down barriers to policy support and seize opportunities for intervention.

has been USAID's cash transfer program (Case 11.1). Cash transfers have been provided to the Government of Egypt as an incentive to implement economic, agricultural, and more recently, environmentally related policy reforms. Sometimes the opportunity to promote policy reforms arises because host-country counterparts want other forms of assistance. For example, in 1997 the IMF organized a financial restructuring program to assist the Government of Indonesia tied its economic emergency package to reforms in the forestry sector (Case 11.2). While this case illustrates how IFIs may be able to combine their financial support with targeted policy reforms, it also shows that one-shot interventions may not be effective if the normal process of policy reform is circumvented or the government's commitment to policy reforms is not strong.

Tying assistance to performance. Recognizing that the policy process may move very slowly as a result of changes in government and shifts in champions from one stage to the next, it may be useful to introduce incentives for reaching policy milestones. Such milestones may include completion of background reports, development of draft legislation, or commitment and mobilization of resources for implementation. USAID has successfully tied assistance resources to policy milestones in the Egyptian environmentally related policy Program, where cash transfers are based on the Egyptian partners agreeing on policy measures. This program is structured around defined periods and amounts of cash that will be transferred as policy measures are met and by a list of policy measures that have been negotiated with the Egyptian partners before each payment is released. Each tranche must be of no less than 12 months and no longer than 18 months. The policy measures have to be met by the end of the period to trigger the cash transfer. A simpler type of conditionality is illustrated by the use of graduation requirements to secure additional funding. For example, under USAID's DEMO project in Jamaica, environmental NGOs were required to reach a prescribed level of self-generated financing before they were eligible to receive additional grant financing from USAID (Case 17.2).

PROGRAMMATIC IMPLICATIONS

1. Encourage donor partners to establish their credentials and make a commitment as early as possible in the policy process (donor partners can get involved initially in policy dialogue by supporting analyses of existing policies and by participating with other donors in workshops and roundtables, which can help identify how the donor can become more involved and supportive of the policy process.

2. Encourage donor partners to avoid "pushing" the policy process: the host government's leadership role in setting the schedule and the agenda should be respected, and donors should expect to play a supporting role.

3. Emphasize to donor partners the win-win nature of the environmentally related policy assistance effort.

CASE 11.1 CASH TRANSFERS ARE CATALYSTS FOR EGYPTIAN POLICY REFORM PROGRAMS

For several years, USAID has supported macroeconomic and agricultural policy reforms in Egypt. Recently, a similar program was initiated for the environment. These sector reform programs provide technical assistance to the Egyptian counterpart ministries and agencies to facilitate the adoption of significant and sustained policy reforms. A **cash transfer mechanism—tying cash to the successful adoption of policy measures—has been an important incentive in the sector reform programs, providing counterpart agencies with much needed resources outside the normal budget cycle while enabling USAID to press for reforms**

USAID's sector reform programs have all involved a similar structure featuring close cooperation with Egyptian counterparts in identifying the reform agenda, a targeted technical assistance program and cash transfers. With its Egyptian partners, USAID has negotiated tranches of policy measures that have resulted in the transfer of hundreds of millions of dollars to Egypt. Technical assistance is provided to help counterparts design, implement and monitor reforms. **If policy measures are achieved within a specified timeframe, the U.S. transfers cash in amounts agreed in earlier bilateral negotiations.** For example, if most (but not all) of the policy measures are achieved in the tranche, some portion of the total amount (say 80 percent) would be transferred.

To be successful, these **sector reform programs must meet two challenges.** First, the slate of policy reforms must result in real and sustainable benefits to Egypt. Current policies and options for reform must be carefully analyzed based on international experience; they must also be discussed thoroughly with policymakers and stakeholders to ensure that they are grounded in Egyptian political, economic, social, and cultural realities and that potential obstacles to reform can be addressed. The outcome of this process is a set of realistic policy measures that can be endorsed by the Egyptian counterparts in negotiation of each tranche. Second, the cash transfer must benefit the counterparts responsible for achieving the policy measures.

Although cash transfers are often effective, this mechanism also has some weaknesses. Most importantly, **cash transfers may create the expectation that counterparts must be rewarded for adopting reforms, even though the reforms should stand on their own merit.** This can make it difficult for other donors to press for reforms if they are not able to offer financial incentives. Also, not all USAID missions or other donors have the resources to offer large cash transfers.

However, **even small amounts may still have a catalytic effect.** Also, in the Egyptian programs, there is a time lag between when the cash transfer is made and when resources become available to the counterparts. When U.S. currency is transferred to an account controlled by the Ministry of Finance, it can be used to retire official U.S. debt (up to 25 percent) or purchase U.S. commodities. When commodities are purchased, the U.S. vendor is paid out of the "dollar account" and the equivalent amount in local currency is transferred to the counterpart agency or ministry. Thus, only a portion of the initial cash transfer is received by the counterpart, and then only months or even years after the policy measure has been achieved. Also, even after the local currency is received by the counterpart, there is no assurance that individual departments that had achieved the measures will gain access to these financial resources. Because of the uncertainty surrounding the timing and receipt of local currency, counterparts at the departmental level may value brick and mortar projects more highly than policy assistance.

INCENTIVIZING POLICY REFORM THROUGH CASH TRANSFERS—*In Egypt, a cash transfer mechanism—tying cash to the successful adoption of policy measures—has been an important incentive in sector reform programs, providing counterpart agencies with much needed resources outside the normal budgeting cycle.*

CASE 11.2 EXTERNAL PRESSURE LIMITS FORESTRY SECTOR REFORMS IN INDONESIA

In structuring an economic emergency package for Indonesia, the IMF was able to attain concessions for much-needed policy reforms in forestry. However, the reforms were elaborated in a timeframe dictated by the economic package, thereby circumventing the normal process of policy reform. In retrospect, the government was not committed to the changes, and the implementation had only limited success.

SUSTAINING ECONOMIC PRESSURE FOR COMPREHENSIVE POLICY REFORM—*An IMF-organized financial restructuring for Indonesia appeared to provide an ideal opportunity for donors and civil society to pursue long-advocated and comprehensive forestry sector reforms. However, linking policy reform to a short-term economic emergency package and the failure to analyze the forestry sector in a comprehensive way resulted in limited implementation and increased illegal logging and conversion of native forests in protected areas.*

Indonesia's forests were the source of more than $5 billion per year in foreign exchange earnings over the past decade. But these valuable rainforests were also being exploited unsustainably. The forest harvesting and processing industries in Indonesia have been described as a typical factor that contributed to the Asian financial crisis. Accounting for two-thirds of the foreign currency earned by the forestry sector, the export-oriented plywood industry was tightly controlled by an association headed by one of former President Suharto's closest associates. The pulp and paper industry had long promised to establish forest plantations, but made little progress and continued to rely on biologically rich rainforests as feedstock for this industry. Policies governing industry taxation and reinvestment in forest husbandry have been inconsistent and susceptible to political manipulation.

By late 1997, Indonesia's currency and economy were collapsing, and its forests were in flames and suffering from mismanagement. An IMF-organized financial restructuring appeared to provide an ideal opportunity for donors and civil society to pursue long-advocated and comprehensive forestry sector reforms. The World Bank included a slate of such reforms in the IMF's letter of intent. However, neither organization established credible mechanisms for monitoring and evaluating the implementation of the policy reforms and their results. In fact, reforms were mostly in the form of ministerial decrees from the Ministries of Forest and Trade and Industry that often failed to address the structural problems of the forestry sector.

Some progress was made in implementing several of the key measures, especially those that could be implemented by presidential or ministerial decree. The plywood and rattan marketing cartels were dismantled, a new forest taxation scheme was introduced, and the Ministry of Finance took control of an off-budget $1-billion reforestation fund financed by a special tax on harvested logs. A new policy allowing greater community involvement in the management of state forests was also issued, though not actually implemented.

However, the reform process at the time lacked transparency and failed to address the most important issues of overcapacity of the plywood industry, illegal logging by

concessionaires, and reform of forest land tenure and land use. Plywood output declined for a while, but this mainly reflected a depressed regional market rather than a response to structural reforms. The IMF-led reform process was entirely a central government affair that excluded private forestry enterprises (who were the object of the reforms) donors, NGOs, and local and regional governments. In fact, after the reforms were implemented, a marked increase in illegal logging and unauthorized conversion of production land and protected forests into oil palm and other plantations occurred. The condition of the forests was worse than before the reforms.

Several lessons can be learned from this case. First, in this situation, linking fundamental economic reforms to a short-term economic emergency package was an inappropriate strategy. The IMF package may have catalyzed the reform process but could not support it for the longer timeframe required. Second, the incentive to reform was lacking: the central government agencies charged with the reforms stood to gain the least from their implementation; rather they would lose both political power and economic rents. Third, the IMF process excluded the most important actors in the forestry reform process. The IMF's preference for secret negotiations—whatever the merits of such an approach with respect to financial markets—only encouraged a lack of accountability on the part of the government, diluted their commitment to reform, and made it difficult to build the broader private sector and regional government consensus required to implement forestry reforms.

LESSON 12: ACCOUNT FOR A VARIETY OF FACTORS WHEN HELPING DESIGN POLICY

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The importance of non-environmental factors needs to be appropriately accounted for in policy design. In particular, consider linkages between environment, macroeconomics, and development and the challenges of crafting transboundary policies in light of differing national agendas.

WHAT HAS BEEN LEARNED

Maintaining or enhancing environmental quality and conserving natural resources require that the economic challenges faced by developing countries and economies in transition be addressed. Most countries, especially those with low per capita incomes, are unwilling to make economic sacrifices to enhance environmental quality given the critical and competing needs for social services. That is why environmental goals are more easily advanced when they also contribute to economic progress. However, such win-win approaches may be more of a catalyst to policy, i.e., to achieve some improvements without engendering costs. However, for most policies, trade-offs are inevitable; addressing environmental problems will require a careful specification of the economic and other costs and specific actions to minimize these costs

KEY UNDERLYING ISSUES

Market failures. Environmental economics focuses on the need for trade-offs—attempting to achieve a balance between long-term environmental health and sustainable use of resources (goods and services) and immediate socioeconomic gains. Market failures result when prices reflect only private costs and ignore damages from pollution, or natural resource damage and unsustainable exploitation. Under these circumstances, the market neglects external environmental impacts of production, consumption, and other activities and the result of which may be positive or negative, more often the latter. An integrated environmental-economic perspective includes an examination of financial incentives and disincentives (taxes, tariffs, embargoes), regulations, and other policy instruments that a government can apply to alleviate market failures.

Environmental goals are more easily advanced when they also contribute to economic progress.

Policy failures. While market failure is pervasive in low-income countries, unregulated and excessive pollution and resource depletion often result from governmental suppression (or inability to influence) market forces, scarce or poorly trained and equipped human capital, and weak, ineffective, or corrupt institutional underpinnings for a market economy. Critical problem analysis and policy design can best address such "policy failures" by focusing on ways to increase environmental and economically sustainable productivity, maintain or enhance environmental quality, and contribute to economic well-being. For example, municipal water supply systems throughout the developing world have been heavily subsidized. Tariffs paid by those firms and households that are fortunate enough to have water system connections seldom cover the full cost of the service; central governments usually defray the system's financial losses. Thus, neither suppliers nor users have incentives to conserve water. At the same time, pumping stations, water mains, and related infrastructure are constructed and operated with little heed for cost-efficiency, and managers are seldom responsible for the financial shortfalls resulting from their decisions. Rather, the poor—who most often rely on unsanitary, expensive water sources—"foot the bill."

Appropriate resource pricing and cost recovery. Many opportunities exist to increase efficiency, promote equity, and conserve natural resources through appropriate pricing and cost recovery. In particular, increasing prices (and reducing subsidies) can impel consumers to use water and other resources more carefully. Moreover, the need to cover expenses out of revenues—instead of the central government's budget—inspires system managers to accurately account for costs and encourages efficient design and operation of physical assets. It also makes managers more inclined to conserve watersheds. Appropriate resource pricing creates the opportunity to extend environmental services to poor communities and properly maintain plants and equipment so the quality of services provided does not deteriorate. They also maintain the resilience of the system to allow it to continue in the wake of extreme events.

Macroeconomic linkages and incentives. Micro-level incentives must reflect the macro-level options available. For example, if a policy change aims to slow the rate of agricultural expansion into forested lands, then the macro-economy must offer farm households alternative ways to increase their income. Access to fertilizer and credit, market and transportation infrastructure, availability of imported or domestically produced agricultural machinery, and foreign exchange policies may have as much influence on deforestation rates as forestry sector policies. If, as in the former socialist countries of Eastern Europe, the declared policy is to reduce energy consumption—and pollution levels—per unit of economic output, then it matters whether energy prices reflect true economic costs and whether cost-saving and profitability create any appreciable benefits for the industrial-plant managers who make the decisions.

National and global context. environmentally related policy options depend on a society's broader economic, political, and governance paths and the stability of the government. Transition economies face a number of challenges in establishing effective capital markets. Also, the most appropriate instrument must be identified: i.e., command-and-control environmental approaches must be weighed against the growth and efficiency benefits of a market-driven economy. This may lead to environmental policies with lengthy but realistic compliance schedules, complemented by financial incentives to spur investments. Central and Eastern European countries faced such challenges during the economic transition at the beginning of the 1990s. With investment priorities focused on economic restructuring, many countries developed environmental funds to provide subsidized financing for environmental investments (Case 12.1). In the United States, for example, judicial and governance systems have strongly influenced environmentally related policy, including the right to file suit against polluters and the public's right to information. In the rapidly expanding economies of Southeast Asia, the emerging concept of "greening the supply chain" is affecting environmental policies because export industries depend on Western consumers who increasingly place a high premium on environmentally responsible production. NGOs, both domestic and international, have also gained influence as information networkers and lobbyists.

Environment and development links. When people are convinced that a habitat—or management practices associated with conservation—offers economic value, they are more eager to protect that habitat. In Madagascar, conservation strategies have focused some attention and resources on understanding and promoting development opportunities for local populations in the regions surrounding parks and protected areas as a mechanism for reducing pressure on the resource base in these management areas and to improve the effectiveness and sustainability of other policies (Case 12.2).

Spatial dimension of environmental problems. Today's major global and local environmental problems—global climate change, loss of biological diversity, unsustainable land use, natural resource depletion, air and water pollution, the demographic resource imbalance—all require action that cut across national, sectoral, and institutional boundaries. Watersheds provide excellent examples of this: soil erosion in the Himalayas affects flooding in the Ganges delta; deforestation in the Futa Jallon, through the effects of evapotranspiration, reduces water flows and irrigation potential along 1,000 miles of the Niger River. Cases in Botswana and Central Asia demonstrate the importance of setting an appropriate spatial scale for policy design that is coterminous with the problems at hand. In Botswana, park and wildlife managers involved communities in the development of policies to protect wildlife populations and secured local cooperation through a plan to share revenues from safari company leases with the communities (Case 12.3). In Central Asia, the scale of water policies needed to expand beyond territorial boundaries in order to make progress in improving the efficient allocation of regional waters (Case 12.4).

PROGRAMMATIC IMPLICATIONS

1. In many cases it will pay to assess environmental deterioration and resource depletion caused by policy failure or inadequate investment in human and social capital, because there may be opportunities for win-win solutions that simultaneously improve environmental quality and contribute to economic development

2. Carefully appraise the potential effects of environmentally related policy change on natural systems given the increasing pressures due to population growth rates in many developing countries, in order to determine appropriate boundaries for environmentally related policy analysis and actions.

3. Account for the underlying causes of environmental problems and the role of civil society when helping to prepare national environmental action plans or other higher-level strategies, policies, and institutional reforms, because positive action requires a strong consensus that the social costs of ignoring environmental problems or mismanagement exact a serious economic toll.

CASE 12.1 POLICY DESIGN IN ECONOMIC TRANSITION: OVERCOMING THE POOR CLIMATE FOR ENVIRONMENTAL INVESTMENT IN CENTRAL AND EASTERN EUROPE AND THE FORMER SOVIET UNION

The economic transition in Central and Eastern Europe and the former Soviet Union provides a number of illustrations of the affect that prolonged recession and sluggish market reforms can have on environmental investment. These factors have profound implications for the design of environmental policies and the subsequent pace of implementation.

Among the economic factors that led to a virtual cessation in environmental investment in the former Soviet Union and decreased levels in Central and Eastern European countries were the following:

- Loss of historical markets for both inputs and outputs, followed by new barriers in trade resulting from the creation of new countries and borders, with the flow of goods monitored by customs services.
- Protracted periods of recession, reduced per capita incomes, high rates of inflation, and under-employment coupled with a rigid, immobile labor market and a severely stressed social safety net.
- Poorly functioning capital markets that focus mainly on servicing official government debt and currency transactions. When loans have been available, they have been characterized by short repayment periods and high interest rates.

These factors have seriously constrained investment in the environmental sector of countries hardest hit by the economic downturn. Among enterprises, capital and operations and maintenance expenditures on the environment have declined precipitously, with many enterprises resorting to economic triage to maintain bloated labor forces and keep production lines open. Investments in municipal environmental services, which must increasingly rely on user charges and local taxes as national governments devolve authority to municipalities, have also been seriously curtailed because households and businesses are unable to pay user fees that fail to cover even operations and management (O&M) expenditures adequately.

Countries in the region have taken account of economic realities in designing environmental policies. Stricter standards have been phased in to allow adequate time for facilities to comply, environmental funds have been established to provide subsidized financing for environmental investments, and donors have been encouraged to provide investment support in addition to technical assistance.

OVERCOMING POOR CLIMATE FOR ENVIRONMENTAL INVESTMENTS—*Loss of historical markets, protracted periods of recession and poorly functioning capital markets were causes for declining environmental investments in the former Soviet Union and Eastern European countries. In response, these countries have designed policies that phase in stricter standards and set up environmental funds to subsidize environmental investments.*

CASE 12.2 CONSERVING MADAGASCAR'S UNIQUE BIOLOGICAL DIVERSITY THROUGH RURAL DEVELOPMENT

Madagascar's strategy to conserve its unique biological diversity has been recently reoriented to mitigate land-use conflicts, provide a greater voice to rural stakeholders, and target some resources to economic development and poverty alleviation in rural areas. A 1995 environmental analysis helped reorient the focus of policy design from resource protection to understanding the dynamic linkages between environment and development. Winning the environmental battle absolutely requires successful policies to address the economic battle.

Madagascar's population will at least double in the next generation, even if fertility reduction programs are successful. Food availability must double over the next 25 years—a growth rate of 3 percent per year—and most of this growth will need to come from increased crop output and yields rather than imports. Most farmers in Madagascar are poor, small landholders who practice traditional land management. Little intensification of land use is as yet taking place. Most increases in output driven by the growing population's need for food security and survival take place through "extensification" of land use—pushing up fragile hillsides and out into biodiversity-rich forests. This results in more land degradation and shrinking commons—both of which spell even greater impoverishment of farmers and of the country as a whole.

Breaking the vicious circle of extensification and degradation of farmlands and commons cannot be accomplished sustainably by somehow barring small landholders from forests or hills since their strategies are based on desperation and a lack of alternative strategies. Rather, the battle to protect Madagascar's biodiversity will be won or lost on agricultural land away from the forest because the battle in which rural populations are engaged in is about production and land use, not the environment. In this battle, environmental outcomes are the byproduct of land management and production decisions. In the absence of a sound land management and agricultural production policy, there is no viable resource conservation policy because how people manage land and production options determines what they do to the forest.

Striking the right balance in program resource allocation is key. Specifically, the environment strategy needs to be adjusted by substantially increasing the emphasis on rural development and small landholder management on farmlands and open-access lands, especially in areas where population pressure is the greatest, often far from the protected forests and parks. This will require links between sectoral programs.

The suggested rural development path would intensify production in the valley floors and lower hillsides and protect the land through anti-erosion investments on hillsides and upper watersheds. Intensification will require much more fertilizer and manure use, as well as roads and jobs to generate cash to help buy them and to sell the products. But poverty alleviation also needs to be a key part of the strategy. Rural poverty is the enemy of intensification and land protection insofar as widespread rural poverty directly and indirectly drives destruction of forests and hillsides. Poverty also exacerbates the dilemma by increasing population growth. Thus poverty alleviation strategy will also enhance family-planning programs.

PROMOTING DEVELOPMENT THAT SUPPORTS BIODIVERSITY CONSERVATION—
Madagascar's strategy to conserve its unique biological diversity was reoriented by targeting resources for economic development and poverty alleviation in rural areas. This has stemmed the trend of agricultural encroachment on biodiversity-rich forests.

Critical time and scale elements are implicit in this strategy. It must respond quickly enough for poor peasants on the margin of survival. It must also make substantial numbers of small landholders better off, rather than just reaching the pockets of people in buffer zones around the forests.

CASE 12.3 REGIONAL POLICY DESIGN PRESERVES WILDLIFE HABITATS IN BOTSWANA

This case from Botswana highlights the point that policy design must account for regional economic conditions to solve the technical problems in park and protected area management and create the enabling conditions to support actual increases in tourism revenues. As in many countries, parks and protected areas in southern Africa compete with alternative land use by local populations, such as raising crops and livestock, gathering fuel, and hunting wildlife.

ENCOURAGING COMMUNITY-BASED RESOURCE MANAGEMENT—*In the Chobe Enclave in Botswana, representatives of each village serve on the Conservation Trust Board, which manages wildlife quotas for the protected areas through a safari company. Revenues from the safari company services flowing to local communities have offset the loss of income from restricted livestock use and farming practices in the area.*

The region, richly endowed with some of the most stunning natural assets in the world, can support high-value tourism that could generate substantial income for local populations. If properly managed, returns from tourism could vastly exceed returns from resource mining, reversing current incentives. Revenues derived from tourism create powerful, long-term incentives for resource conservation, while also directly increasing rural incomes.

Regional coordination in tourism development, including investment, training, capacity building, and infrastructure development, can enhance the attractiveness of packages offered, thus increasing the size of the tourism pie. Tourism in every country depends heavily on a strong regional image overseas—turmoil in one country hurts all the countries in the area.

Tourism development in the Chobe Enclave in northeastern Botswana illustrates the need for policy dialogue since improvements in national policy environments might still leave the desired result unattained. The Chobe Enclave is surrounded by protected areas that contain abundant wildlife and provide income to the farming and herding families nearby. To reduce the costs to the Chobe community that come from restricting livestock use and farming practices, the USAID-funded Botswana Natural Resources Management Project began a process of involving the community in the planning and management of wildlife utilization proposals. Each village in the enclave has participated in meetings to foster understanding of community-based resource management projects with a focus on wildlife quotas. Representatives from each village form the Chobe Enclave Conservation Trust Board, which manages wildlife quotas for the protected areas through a safari company. Through leases to safari companies, revenues can potentially provide more income to local populations than traditional subsistence activities. Since its inception, revenues from tourism activities undertaken by the safari company have continually risen and were expected to double with the reintroduction of elephant sport hunting in 1996.

The first revenue received from the lease was 25,000 pula in 1993. By 1996, annual revenues from the leases were expected to reach 300,000 pula (about $100,000) for local communities, exceeding current household per capita income, assuming the revenue is distributed to villagers. Most project income is passed on to the participating villages, further strengthening their commitment to maintain the environmental and biological assets of the surrounding parks and protected areas.

CASE 12.4 MANAGING CENTRAL ASIA'S WATER RESOURCES: SETTING AN APPROPRIATE SPATIAL SCALE FOR POLICY DESIGN

This case from the Central Asian Republics illustrates the **need for policy design and associated dialogue on a scale appropriate to environmental problems being addressed.** Further, what began as an effort to deal with acute problems of a shared ecological catastrophe evolved into an opportunity to promote regional peace and prosperity. Assistance to the Central Asian states is helping **convert water issues from a source of conflict into a force for peace and economic stability.**

Irrigation-based cotton production in the 1970s had a catastrophic effect on the Aral Sea and the region's residents. With the breakup of the Soviet Union, the Aral Sea Basin encompassed six independent states, each with its own requirements for water quality and quantity. Leaders from five of the Central Asian Republics (excluding Afghanistan) met in 1993 and 1994 to establish an Interstate Commission on Problems of the Aral Sea (ICAS) and pledge their support for cooperative solutions to the ecological crisis.

The international community also responded. The World Bank supported broad-based studies to help define a set of concrete investments in the water sector. The European Union stepped in with related analyses of water and agricultural institutions. USAID's investments in providing access to drinking water helped to create strong working relationships with the region's new governments on issues of water management. Beginning in 1995, this credibility was used to establish a new USAID-supported regional program on water resource management to introduce concepts of water economics and conservation to the Aral Basin.

U.S. experts felt that the greatest single barrier to more efficient use of the region's scarce water resources was the lack of effective water pricing. Introducing water metering and pricing to the new republics seemed a radical idea at the time, but it quickly caught on among water planners and environmental officials alike. A recent survey found that all five republics now employ some form of water pricing.

Another component of U.S.-sponsored policy analysis and follow-up dialogue focused on conflicts over competing water uses between upstream and downstream states. The pure water from the Tien Shan Mountains become highly polluted with waste from industry, mining, cities, and agriculture as it flows toward the Aral Sea. A plan of action was prepared for cooperative efforts to address a variety of upstream-downstream water quality issues.

Even more contentious than water quality problems, though, are concerns about water distribution. The major question is whether upstream reservoirs should be used primarily to store water for irrigation or to generate hydropower. The problem is most acute in the Syr Darya River, where Kyrgyzstan is inclined to run its Toktogul Dam power turbines all winter to provide cheap electricity for heating. This creates huge problems downstream—Kazakhstan and Uzbekistan want the water stored for the summer growing season. Another problem arises: Frozen rivers cannot accommodate the flow of the water released for hydropower in the winter. Much of the water is diverted to an inland depression in Uzbekistan and will never even reach the Aral Sea.

SETTING AN APPROPRIATE SPATIAL SCALE FOR POLICY DESIGN—*The leaders from five Central Asian Republics established an Interstate Commission on Problems of the Aral Seas and pledged their support for cooperative solutions to the ecological crisis. With EU and USAID support, the governments have negotiated agreements on water resource management and cooperative efforts to address upstream-downstream water quality issues.*

A series of one-year agreements had been negotiated between Kyrgyzstan, Uzbekistan, and Kazakhstan to set the water-release pattern from Toktogul Dam in favor of agriculture, with compensation in the form of cash payments and transfers of gas and coal to Kyrgyzstan. U.S. water and energy experts worked alongside their Central Asian counterparts to devise an equitable multiyear agreement for water sharing in the Syr Darya River that features the principles of fair cost allocation and compensation. After two years, a new five-year interstate agreement linked the three countries plus Tajikistan in cooperative use of the Syr Darya's waters. The agreement will also help to ensure adequate annual flows to the Aral Sea to support its gradual restoration.

LESSON 13: ANALYZE THE INCENTIVE STRUCTURES OF POLICY INSTRUMENTS

A thorough understanding of implementer and stakeholder incentive structures can improve policy design by anticipating subsequent impediments to effective implementation.

WHAT HAS BEEN LEARNED

Policies may perform poorly in practice for a number of reasons including the fact that they provide inadequate incentives (or disincentives) to comply. Ideally, policies will result in certain and predictable directional changes in stakeholder performance such as reductions in pollution, improved forestry management, reduced harvesting to allow natural population to increase, or adoption of more environmentally sound technologies. However, in practice, flaws in the design or weak enforcement or implementation may undermine policy goals. To a certain extent, these types of problems can be anticipated at the design stage; it may be possible to modify the policy or, if not, to make adjustments during implementation to compensate for design flaws. It is important to fully assess the structure of incentives and the factors that may reduce a policy's effectiveness.

KEY UNDERLYING ISSUES

The nature of incentives. All environmental and natural resource policy reforms involve modifying the existing incentive structures of stakeholders. In some cases, policy reforms dictate changes in behavior such as compelling stakeholders to adopt certain practices or discontinue use of inputs. Examples include bans on certain imports, regulations requiring specific technologies to address pollution or issues of sustainability, modifications in manufacturing or processing (such as elimination of lead in gasoline or reduction of sulfur content in diesel fuels, or sawmill requirements), management practices or equipment restrictions, and regulations on restoration following destructive practices or to accelerate natural regeneration or population recovery. For other types of policies, changes in the incentive structures involve the modification (or introduction) of prices for inputs, outputs, or pollution. In these cases, stakeholders are afforded some flexibility in responding to the new price information and in modifying their consumption or production decisions. Examples of policy instruments that provide flexibility to respond to prices include such mechanisms as product charges, fuel taxes, emission trading, pollution fees, environmental liability rules, or severance taxes on timber or minerals.

Economic assumptions. For many environmental and natural resource policies, incentive structures for stakeholders are designed to encourage investment or changes in the production process. Policy reforms are structured in a way that will elicit the desired shift, whether to reduce pollution levels through abatement controls and process changes or to alter economic incentives to promote investment in natural resources. In designing incentives, assumptions are made about economic and market conditions and stakeholders' motivational structure (for example, profit maximization). As long as these assumptions reflect the actual situation, the policy reforms, all things being equal, will yield the desired results. Unfortunately, considerable uncertainty may be associated with these assumptions, especially in developing countries and economies in transition, such as those of the former Soviet Union. Similar problems have been observed in Asian markets, where a combination of decreased demand and tightening credit have reduced overall investment, crowded out environmental investment activity, and discouraged natural resource-based industries from making environmentally sound investments.

Market assumptions. Another type of market problem relates to the development of new markets for commodities. In Jamaica and elsewhere in the Caribbean for example, small farmers and larger plantation owners were encouraged by the prospects of high export demand to convert lands to crops such as bananas and other fruits. However, a

combination of excess supply, trade barriers, and overly optimistic price predictions resulted in the abandonment of many of these crops when prices fell too low to even justify harvesting. Thus careful analysis of emerging markets for agricultural crops and forest products is necessary to ensure that stakeholders respond to policies in the desired way. For example, a policy designed to encourage cultivation patterns that reduce erosion, conserve water, or require less chemical inputs must be responsive to market conditions and potential barriers.

Conflicting policies. The effectiveness of environmental and natural resource policies may be diminished because they conflict with other policies. Often, these conflicting policies have been promulgated and justified on economic grounds, resulting in trade-offs between environmental and economic goals. Examples of sector policies that may undermine environmental policies include customs and tariff policies that inhibit access to (or increase the cost of) innovative technologies that can effectively reduce pollution and commodity Board requirements that necessitate the profligate use of agricultural chemicals to meet export product standards. Another example is inheritance and property ownership laws in some African countries that prohibit or severely limit the ownership of property by women, thereby restricting their ability to meet collateral requirements of loans. Several examples of conflicting policies arise in forest and watershed management. As demonstrated in forestry policies in Burkina Faso, Niger, and Thailand, government efforts to encourage good stewardship of the land with one policy change were thwarted because of other policies that seriously reduced the potential benefits of the first policy (Case 13.1).

Benefits and costs. From a social perspective, policy reforms should result in net benefits—though there may be immediate "losers" and "winners." Policymakers need to recognize the key benefits and costs associated with a policy and anticipate the pressures that may be exerted on the policy by powerful stakeholders who are motivated by self-interest to alter incentive structures in their favor, dilute enforcement, or derail the policy entirely. In Ecuador, tourism operators agreed to pay higher fees for access to the Galápagos Islands archipelago, a national treasure of global importance, once they were assured that additional revenues would fund improved environmental management (Case 13.2). Some key characteristics of benefits and costs include the following:

- Most mainstream environmental policies are characterized by a large beneficiary group for which benefits per individual are small. Those who consider themselves "losers" are typically stakeholders who must comply with the policy and forgo immediate financial gains or incur costs.
- Historically Environmental and natural resource policies exhibit a distinct temporal structure, with benefits often lagging behind costs and accruing over a longer time period, although recently policy designs have attempted to address this issue.
- The benefits of environmental policies are often non-monetary due to the issues associated with market failures while costs are often reported solely in monetary terms.

For many environmental and natural resource policies, incentive structures for stakeholders are designed to encourage investment or changes in the production process.

Because environmental protection has been ignored in many developing countries and resource exploitation has been controlled by the elite members of society (the rich, the politicians, or the military), those interests that benefit from the status quo and would be negatively affected by a policy change are likely to be better organized and more motivated to act than those that would benefit from the proposed change. This is particularly true in environment and natural resource policy where the principal beneficiaries are often the population at large, or future generations, and where the initiative for policy reform often originates outside the country. Moreover, few of the civil society groups in developing or transitional countries concerned with advancing

public interests on environment and natural resource policy are broad-based membership organizations or can credibly claim to represent the interests or views of large constituencies. Well-organized or politically connected stakeholders may be able to exert pressure on government officials to ensure their interests are protected, even if those interests conflict with those of society at large. Two examples in Zambia, one involving the management of deer populations and the other harvesting of trees for charcoal production, demonstrated that new policies were tenuous and unsustainable in the face of pressure from groups with strong economic influence and alternative plans for the resources protected by the policies (Case 13.3).

Empowered stakeholders are often better served than those with less power, particularly if a policy is not clearly and formally articulated.

PROGRAMMATIC IMPLICATIONS

1. Carry out analysis that identifies key assumptions linked to how stakeholders respond to incentives, so that the impacts on stakeholders of alternative scenarios can be assessed.

2. Identify potential conflicts with other policies early in the design process to determine the extent to which the conflicting policy will adversely affect the proposed reform and whether the proposed environmentally related policy adversely affects sectoral policies.

3. Ensure that a new policy or policy change is clearly and formally articulated so that the impacts on both empowered and unempowered stakeholders can be assessed.

4. Overcome the political pressures that aggrieved powerful stakeholders may exert on the policies process through careful attention to the process of policy design, implementation strategies, issues such as monitoring to improve accountability,and transparency through greater involvement of NGOs and PVOs.

CASE 13.1 CONFLICTING FORESTRY POLICIES IN BURKINA FASO, NIGER, AND THAILAND CREATE DISINCENTIVES FOR SUSTAINABLE MANAGEMENT STRATEGIES

When policies of different sectors conflict or authorities fail to account for local interests and incentive structures, it may be difficult to successfully implement policies. Policymakers need to assess and rethink incentives for complying with new policies, from the perspective of those affected by the policy, either positively or negatively.

Burkina Faso attempted to preserve the few trees remaining from deforestation by affirming the government's authority over the management of trees and forests. This meant that farmers who had planted trees in their fields could not freely use them. At the same time the government gave new recognition to traditional healers to deal with a number of ailments and gave them official posts in the hospitals. Healers told of being praised by the Health Ministry for their work and arrested by forestry personnel as they cut tree bark and roots or harvested leaves and wildlife products necessary for their locally produced medicines.

In Niger, a government-instituted policy intended to enhance tree cover had the opposite effect. For years, fines had been levied for cutting branches of trees. Property owners could be fined even if the branches had been cut illegally on property they owned. At the same time, a permit to harvest trees could be purchased from the government and include trees on any private property in a particular zone. Farmers who planted trees for live fencing gave up the practice because it required the continual trimming, shaping, and reinforcing the fence line, for which they could be fined. Owners lacked incentives to plant trees and would pull out wildlings before they were noticed to avoid fines or the prospect that the trees would later be harvested without compensation. When local forestry agents and development workers agreed to suspend the enforcement of the government policy and regulations against trimming and cutting of live trees, farmers were quick to encourage and manage natural regeneration of trees and shrubs on their farms to their advantage, with a resulting increase in the production of forest and agricultural products.

In northeast Thailand, in an effort to get people in selected watershed areas to plant trees, land certificates are offered to those who plant trees on their land. However, the forest service has designated only five species of trees that qualify, all of which are forest trees "owned" by the government. Local residents would like to plant trees with secondary outputs—such as mulberry, the leaves of which are used for silk production, or jackfruit, which provides a valuable fruit and timber. The failure to include these types of trees in the certification program has diluted local support of the environmentally related policy goals. In other areas of Thailand, farmers who gained the rights to manage teak plantations have frequently pulled out teak in favor of less desirable species. Again, all teak trees are owned by the government, whereas less valuable species may be managed with fewer constraints and controls, thereby benefiting the landholder. The same situation is seen in India where the valuable but increasingly scarce sandalwood tree has been the sole property of the government. Local people remove the seedlings rather than risk cultivation on their land for the benefit of the government.

AVOIDING CONFLICTING POLICIES THAT UNDERMINE SUSTAINABLE MANAGEMENT STRATEGIES—*In Burkina Faso, Niger, and Thailand, policymakers did not fully assess the effects of incentives for complying with new forestry polices from the perspective of the affected stakeholders, resulting in mismanagement of forest resources.*

CASE 13.2 AGREEMENT FOR HIGHER TOURISM OPERATOR FEES IN GALÁPAGOS REACHED BY EXTOLLING BENEFITS OF PROTECTING ECOLOGICAL RESOURCES

PROVIDING DIRECT BENEFITS FROM MANAGED TOURISM DEVELOPMENT—*Stakeholders supported a 30-fold increase in fees for accessing the Galapagos Islands in Ecuador once they understood the higher fees would support local projects and conversation measures.*

An ecotourism industry that generates tens of millions of dollars in foreign exchange each year thrives on the Galápagos Islands today. Despite initial fears that increasing the berth fees for cruise ships to operate in the Galápagos would be detrimental to tourism, **stakeholders changed their perception once they understood that increased fees would be used to aid, not inhibit, local development, while protecting ecological treasures.** Ecuador's Institute of Forestry and Natural Areas (INEFAN) administers the Galápagos and determines access fees to the park. Domestic and foreign visitors pay well-established entrance fees. But in the early 1990s, tourism industry payments to INEFAN were scrutinized more carefully.

In 1991, a researcher working on a USAID contract in Ecuador carried out a study revealing that yearly berth fees (patentes) paid by cruise ship operators were ridiculously low. For example, patentes paid by large vessels, which could carry up to 100 guests and had annual net revenues of at least $1.5 million, were under $1,000.

In August 1992, these findings were presented to INEFAN's new director, who responded by calling a meeting for representatives of conservation organizations, the tourism industry, and various government agencies. All agreed that the existing patentes were too low, but no consensus was reached on an appropriate increase. During the course of negotiations, municipal officials, concerned that higher fees might cause industry cutbacks, were won over with the promise that some additional revenues would benefit local projects. Industry representatives agreed to the policy change because additional monies would be spent on effective conservation measures. By the end of the meeting, all agreed on raising the annual per-berth fee—from $6 to $200.

CASE 13.3 STRUCTURING INCENTIVES FOR REFORM IN ZAMBIA

Two examples from Zambia illustrate cases where implementers lacked appropriate incentives to promote changes in behavior, leading interests that felt threatened by reforms to derail or subvert the policy reform process.

Under a community forestry project funded by the FAO, the government of Zambia established a forestry program for local communities in the early 1990s. The program would enable local communities to manage the forests and wildlife to meet their needs and involved a planning process with forestry officials providing advice. One community wanted to reintroduce a type of deer native to their island home that had been previously over-hunted. Forestry officials approved an inexpensive plan in which local residents would capture and transport the deer, working with a professional zookeeper who had experience moving and managing these animals. Officials reported that they had obtained a permit for the community to capture the deer. Community members invested a great deal of time and energy readying the area for the deer and in developing a management plan. However, just before the deer capture began, an official from a different service within the same wildlife ministry decided that the deer could only be captured by his staff, at considerable expense, and transported by airplane instead of local boats. (It was rumored that the richer farmers on the mainland coast had offered to buy permits to capture the deer for game ranching.) Government support of the community plan and the permit for the animals evaporated.

In another case, Zambian charcoal makers living illegally in a forest near the capital Lusaka proposed that they manage the forest for the government according to an agreed-upon management plan. In return they wanted to live in their homes legally and to retain and sell the cuttings as charcoal. The forestry officials, without personnel or funds to manage the forest itself, agreed to a consultation to establish the legal basis for such management and a baseline of the biophysical and human resources for establishing the plan. After initial progress, the government rescinded approval for the consultancies. It was found that the Commonwealth Development Corporation, with frozen local currency, had proposed to clear-fell the local forest and replant with a fast-growing species—a plan that had been rejected earlier by the World Bank as not being economically sound. To garner support, the corporation had offered individuals—and ministries—part of the stock in this for-profit venture. The charcoal makers were given notice to vacate the forest.

STRUCTURING INCENTIVES FOR POLICY REFORM—*In Zambia, policymakers' efforts to create incentives for wildlife and forestry management were undermined by disagreements among relevant government authorities that pursued conflicting plans and strategies.*

LESSON 14: ANTICIPATE BARRIERS TO POLICY IMPLEMENTATION

WHAT HAS BEEN LEARNED

Even if policy reforms are conceptually sound, providing appropriate incentives for stakeholders to address environmental problems or use natural resources more effectively, experience shows that the best design can fail unless implementation problems are anticipated and addressed before the final design is approved. Two keys to better design are early, preemptive analysis of potential implementation barriers and accommodations for implementers to participate in finalizing the design of policies.

KEY UNDERLYING ISSUES

Taxonomy of implementation barriers. Implementation barriers may decrease the effectiveness of policy reforms. Generally, three players have key roles in policy implementation: government institutions that facilitate implementation, implementing agencies and organizations, and stakeholders. Each group can make a significant contribution to the policy process, but each also has the ability to reduce the effectiveness of policy reform. Each group faces potential barriers:

- **Governmental power structures.** Once a policy has been approved, the executive, legislative, and judicial branches of government all have the potential to derail the policy. Major losers from policy reform will often be well organized and have access to the government through trade associations, lobbyists, and personal connections with government officials. These officials, even if they are not directly involved in the implementation of policy, can influence policy through their role in allocating budgets to implementing agencies, enacting legislation to complement policy reforms, or adjudicating legal challenges to policy or specific attempts to enforce the policy. In South Korea, lagging industrial compliance in the 1980s and early 1990s could be attributed in part to the political influence of the country's large business groups (chaebols). As seen in Indonesia, cutbacks in agency budgets can limit the ability of regulators to monitor air and water quality, detect permit violations, and develop an enforcement case against noncompliant facilities (Case 14.1). In addition, courts can slow the pace of implementation by enjoining new legislation. Policy reforms that feature enforcement sanctions as a deterrent to noncompliance often depend heavily on the support of the judiciary to prosecute violators and levy sanctions commensurate with the violation. In some countries, officials may be unwilling to arrest or prosecute the poor for crimes they commit to eke out a subsistence existence, in part because judges may be lenient and may reduce or dismiss damages. An example of alternative punishment occurred in Negril, Jamaica: a local man, arrested for fishing with dynamite, was offered the opportunity to learn to dive so he could obtain legal employment.

> ***Two keys to better design are early, preemptive analysis of potential implementation barriers and accommodations for implementers to participate in finalizing the design of policies.***

- **Institutions.** After approval, responsibility for implementation shifts to government agencies, or in some cases to NGOs, that are sometimes ill equipped to carry out the functions elaborated in policy reform. Potential problems include unclear delineation of roles and responsibilities, limited resources or capacity to carry out

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> **Policy design must anticipate and examine the potential implementation problems that could undermine the success of reforms. Design must anticipate issues such as the financial and technical capacity of agencies and institutions to implement reforms and stakeholders' access to information and training needed to respond to reforms in the desired way.**

the new responsibilities, or a lack of commitment to the new policy on the part of the implementing institution's management. In Egypt, the introduction of fines for marine damages was undermined by the inability of government lawyers to prepare and prosecute cases, resulting in significant delays and a dilution in potential revenues (Case 14.2). This is particularly true in countries with a deeply rooted tradition of centralized policymaking. If implementers have not "bought into" the policy reforms, there may be resistance, as was seen in India. A plan to restructure electric power, developed at the National level was stymied by Indian states unwilling to give up authority they had over the power sector (Case 14.3). In many cases, enforcement may put local officials at risk without adequate compensation. For example, the introduction of new laws to curb poaching or illegal harvesting may receive limited support from local officials and could provide incentives for officials to receive illegal payments for lax enforcement.

- **Stakeholders.** Beneficiary groups are often not organized or empowered to assert their interests in policy reforms. To ensure that implementers are accountable to the public for policy, appropriate information must be made available to the public—and the public must be able to assess and disseminate this information. In some cases, it may be necessary to create or refocus the activities of NGOs to play this role.

Ex-ante assessment requires early involvement of donors. Ideally, potential implementation barriers are evaluated and discussed during the stage of policy design. For such a discussion to occur requires the participation of implementing agencies and stakeholders who are in the best position to identify potential problems and to help find solutions. In some cases, implementation barriers may be so difficult to overcome that an alternative policy, perhaps less complex or relying to a greater extent on voluntary compliance, must be considered. Discovering serious implementation barriers after a policy has been adopted can reduce the government's credibility and dampen donor interest in providing technical or financial assistance.

PROGRAMMATIC IMPLICATIONS

1. Carry out an analysis of the implementing institutions and players and ensure that important players in implementation are adequately engaged during diagnosis and design.

2. Determine likely policy winners and losers, recognizing that powerful stakeholders may have supporters in sector ministries and agencies that may be able to exert indirect influence on the policy through budgeting of financial resources for the implementing agency or by reducing political support for enforcement.

3. Strengthen linkages between central and local authorities by involving local agencies and authorities in the implementation process as early as possible, convening workshops to present the new policy to local implementers, and targeting local officials and staff for training programs and procurement programs that support effective implementation.

In some cases, implementation barriers may be so difficult to overcome that an alternative policy, perhaps less complex or relying to a greater extent on voluntary compliance, must be considered.

CASE 14.1 ENVIRONMENTAL MONITORING AND ENFORCEMENT AUTHORITIES DEVOLVE TO LOCAL GOVERNMENTS IN INDONESIA

Indonesia's plans for a more decentralized and pluralistic political system increases the prospects for expanding the scope and shifting leadership of environmental monitoring and enforcement to regional and local agencies.

Indonesia is a large, populous, and biologically, geographically, and socially diverse country, dependent heavily on natural resource extraction and healthy environmental systems for its economic development. While this would seem to argue for vigorous environmental regulatory enforcement, these same factors also mean that control of Indonesia's environment and natural resources is the most powerful political and economic dynamic in the government. Indonesia's Basic Law on the Environment (1982) required government agencies to police themselves, with the Environment Ministry providing policy coordination and guidance. Not surprisingly, most powerful central government line agencies have viewed environmental management mostly as a threat to their political and economic interests, a sense compounded by the fact that the active environmental NGO movement and the Environment Ministry usually stood for greater public participation, transparency, and less resource extraction. In part to address this institutional weakness without making more fundamental changes, Indonesia created a national environmental impact agency, BAPEDAL, in 1990 and vested it with responsibility to implement the country's environmental laws and regulations. Between 1990 and 1996, BAPEDAL's staff increased from 30 to 500, and by 1997 it had a budget of $12 million. With support from the World Bank and other donors, the technical capabilities of its staff have improved steadily. However, serious problems remain. Inspections, data collection and analysis, and public reporting on environmental quality have been limited, despite innovations such as the PROPER program (see Case 9.3). Quality control problems plagued data collection and laboratory analysis because labs suffered from outdated and inadequate equipment, a shortage of well-trained staff, and a lack of standardized protocols for monitoring and analyzing samples. In addition, BAPEDAL's legal authority for monitoring and enforcement is hampered by flaws in its mandate that prevent it from entering facilities to monitor emissions and bringing charges against polluters in court.

Given Indonesia's size and diversity, the most serious problems in environmental monitoring and enforcement were its restriction to a single central government environment agency supplemented by weak, captive inspection units in the line agencies and the lack of transparency, enforcement, and accountability of regulators and those regulated (with the partial exception of the PROPER program). A radical decentralization policy, only two years old, has begun, perhaps unintentionally, to address both of those weaknesses. On the one hand, political liberalization and decentralization have allowed the emergence of many new civil society organizations (religious, environmental, social) demanding greater participation and benefits from natural resource related activities and this has led to the creation of new watchdog and advocacy voices at the local and regional levels of government where political access is also much easier. On the other hand, decentralization also created local (municipality, district) and provincial branches of BAPEDAL (called Bapedaldas). While understaffed and under-budgeted, Bapedaldas in a number of localities have begun to develop informal alliances with NGOs and other sympathetic elements to develop more vigorous monitoring and public awareness activities.

DEVOLVING ENVIRONMENTAL MONITORING AND ENFORCEMENT TO LOCAL AUTHORITIES—*By shifting authority to the local level in Indonesia, new civil society advocacy and watchdog organizations, as well as local and provincial environmental authorities, were created. This resulted in alliances between NGOs and local authorities to develop more vigorous environmental monitoring and public awareness activities.*

CASE 14.2 PROSECUTION CONSTRAINTS LIMIT EFFECTIVENESS OF SYSTEM OF FINES FOR MARINE DAMAGES IN EGYPT

A system of fines for marine damages in Egypt has been hampered by limited institutional capacity to prosecute violations and recover fines commensurate with violations.

The Red Sea's marine resources are vital to Egypt's burgeoning "sun and sea" tourism industry and represent a major source of foreign currency. However, the high volume of marine traffic passing through the Red Sea to the Suez Canal and Mediterranean Sea has generated a substantial amount of pollution from accidental spills and illegal pumping of bilges. The 1994 law included provisions for assessing and collecting marine damages, and provided that the revenues from marine damage settlements should be deposited in the account of the newly created Egyptian Environmental Protection Fund (EPF). Through mid-1998, marine damages represented 78 percent of EPF revenues in local currency (about $6.4 million) and 100 percent of revenues in hard currency ($7 million).

Administering marine damages involves a number of steps. First, a minimum fine is collected from the ship's captain prior to the boat's departure from Egyptian territorial waters. This fine is held in trust until the court has issued its decision, after which the amount of the fine assessed by the court is transferred to the account of the EPF. In many cases, the defendants seek to settle out of court to save time and expense. In fact, defendants tend to fare well in both settlements and the courts, with the actual amount of settlements or court assessments being significantly below estimated damages. The problem comes from a lack of capacity in the legal department in the Egyptian Environmental Affairs Agency (EEAA) to negotiate settlements or prepare court cases. Accordingly, there is always a backlog of cases under study and settlements may take years to reach. This lack of capacity dilutes the incentive value of the sanctions and significantly reduces the revenue base of the fund.

This case raises an interesting implementation issue. The cost of strengthening the legal capacity of EEAA is far less than the additional revenue that could be collected with better management of damage cases. But it has been difficult to increase the budget of the EEAA to fund staff positions, partly because of rigidities in the budget process and competing demands for staff among departments of EEAA. In addition, it is difficult to recruit competent legal staff, given the civil service pay scale.

The EEAA established a special committee to consider options to increase the collection of fines from marine damages. Two mechanisms were recommended and subsequently adopted. First, for certain fines an immediate settlement mechanism was introduced, effectively circumventing the current judicial process. Second, agencies (but not individuals) that contribute to the prosecution effort are authorized to share up to 10 percent of the damage settlement.

OVERCOMING CONSTRAINTS TO PROSECUTION OF ENVIRONMENTAL VIOLATIONS—*The Egyptian Environmental Affairs Agency introduced two mechanisms to increase the collection of fines from marine damage caused by accidental spills and illegal pumping of bilge water. The mechanisms used were immediate settlement, effectively circumventing the current ineffective judicial process, and rewards of up to 10% of the damage settlement to agencies that assist in the prosecution effort.*

CASE 14.3 POWERFUL INTERESTS DERAIL REGULATORY REFORM OF ELECTRIC POWER IN INDIA

This example from India underlines the fact that stakeholders who are excluded from dialogue early in the process of designing policy reforms often reject implementation of the reform package.

In 1997, USAID implemented the Regulatory Reform and Restructuring Program in India directed at creating independent electric power regulatory commissions at the national level and within individual states and unbundling state-owned electricity boards into separate generation, transmission, and distribution companies. The primary goal was to move state-owned utilities to the private sector, thereby creating the opportunity to substantially increase sector efficiencies. The regulatory role would be twofold in this program, acting as overseer of the power sector reform and functioning as conventional regulatory commissions of the reformed sector.

WINNING OVER AFFECTED ENTITIES—*State-owned electricity board unions and state governments resisted national efforts to privatize state owned utilities and create independent electricity regulatory commissions in India because of anticipated downsizing and loss of control, respectively.*

During the design phase of the program, USAID consulted with ministries and received enthusiastic support for the goals of the program. A commitment was secured from the Ministry of Power to establish a unit within that ministry that would lead the reform effort in India and also function as the program counterpart with USAID. A second counterpart organization, the Power Finance Corporation (PFC), agreed to assist in selecting states that would participate in the restructuring program.

India had instituted a program to attract private investment into power-sector generation before starting the reform program. This program was intended to solve serious power shortages throughout much of the country. Since few power generation projects reached advanced stages, the government concluded that the early focus on power generation was mistaken and that the focus should have been on resolving the significant distribution problems. The Regulatory Reform and Restructuring Program was thus designed to address the perceived failure of the earlier power-sector assistance program.

The assistance enabled the drafting of legislation that allowed the creation of independent regulatory commissions, and provided simplified processes for individual states to create commissions. At the end of the project, ten such commissions were in operation. This success can be attributed in part to the desire of politicians to shift the criticism attached to electricity tariffs from themselves and the offer by the PFC to award concessional loan rates to state electricity boards if the state established a regulatory commission. Whatever the reasons, the commissions developed into professional organizations in a very short time. USAID contributed to this success by providing significant training and assistance. An interesting, and unexpected, outcome of this project was the interest and participation of the public in commission hearings, which gave the public a voice it had never had in the past.

The restructuring aspect of the regulatory reform program was less successful. Although the government and USAID were firmly behind the program, the decision to reform the state electricity boards depended on state action. The states had not participated in the original development of the program and were mostly unwilling to give up the authority they had over the power sector. State electricity board unions were opposed to restructuring because it led to privatization and subsequent downsizing. Several strikes were held opposing any changes to the state electricity boards. Although PFC nominated several states for restructuring assistance, all but one was turned down by USAID. At the end of the program, Orrissa was the only state that had successfully restructured and partially privatized its power sector—and this without assistance from the program.

Overall, while there appeared to be full and widespread support for the program as designed, an inability to get states to accept assistance was a major shortcoming of the project.

CHAPTER 7: IMPLEMENT THE POLICY

The ultimate test of a policy is its implementation, during which agencies strive to meet the environmental goals elaborated in the policy. Even if all stakeholders believe that the policy emerging from the design stage provides optimal incentives to achieve desired environmental or natural resource goals, many things can go wrong during implementation. In most countries, local and regional agencies play a larger role in implementing policy than in designing policy. A lack of local support and commitment may derail policies. In addition, effective implementation requires resources and sustained commitment to monitor and enforce the policies. This chapter includes five lessons and fifteen cases that illustrate lessons learned about providing assistance for implementation activities.

LESSON 15: BE ALERT TO POLICY IMPLEMENTATION REALITIES

In some cases, obstacles to implementation have not been anticipated during policy design or the drafters of the policy were guided by an agenda not shared by stakeholders or by the implementing agencies. Or, political, social or environmental conditions may have changed significantly. It may be necessary to revise the design to meet these changes or as new information and technologies become available. It may also be necessary to target additional resources to institutional capacity building to ensure effective implementation.

WHAT HAS BEEN LEARNED

A number of factors can impede the implementation of the policy as originally designed. Before implementation assistance is provided, it is useful to analyze the policy to identify barriers that may reduce its effectiveness and assess options for overcoming these barriers. This is especially important when the donor has not been involved in earlier stages of the policy reform process or donor support is requested for implementation of an existing policy. The assessment may indicate the need for changes in the policy or changes in the implementation strategy to overcome weaknesses in the policy and aid donors in determining the likely success of proposed assistance programs and deploying these resources strategically.

KEY UNDERLYING ISSUES

To assist or assess? Donors are often asked to provide assistance in support of policy implementation. This may involve training for staff in environmental agencies or technical assistance for stakeholders. Before providing such assistance, it is useful to determine whether the policy provides adequate incentives for stakeholders to respond and whether there are impediments that may diminish the policy's effectiveness. Possible impediments include weaknesses in institutional capacity to implement a policy or the inability of stakeholders to respond to incentives because of their limited access to capital or information. The scope of assessment will depend on the nature and timing of the request for assistance as well as the resources the donor can mobilize for the assessment. For example, an assessment of water-quality problems in Jamaica was conducted in 1998. This so-called "Ridge-to-Reef" assessment focused on policies that affect water quality and included recommendations for new assistance activities to promote improved watershed management and water quality downstream. In this case, USAID was developing a new initiative rather than responding to specific assistance requests from partners.

Changing the policy. If there is agreement that a new or revised policy is flawed, the next step is to determine whether the policy can be changed. The donor and its assistance partners must examine the design process, how long it took to approve the policy, major problems that had to be overcome before consensus was reached, and the receptiveness of policymakers to changes. These lessons were learned during the early stages of implementation of a management plan after the Bunaken Sea Gardens in Indonesia were designated as Bunaken National Park (Case 15.1). If the policy has been in place for several years, changes are likely to entail a comprehensive assessment and vetting of this analysis during problem diagnosis. Donors assisting CEE countries in addressing air quality problems documented the weaknesses of the existing system of ambient standards developed by the Soviet Union and recommended changes in these standards in order to make progress in

implementing effective measures (Case 15.2). If the policy has only recently been introduced, it may be possible to short-circuit the process if the policy has already been designed and the needed changes are minor. Again, if the donor has participated in the design process, the prospects for changing the policy before implementation may be better.

Overcoming bad policy with good implementation. In some cases, the donor may be unable to persuade partners to change a policy, but may be able to overcome some of the weaknesses identified during implementation. The donor, working with local and international experts and partners, must first determine the policy's flaws, identify options for overcoming them, and then determine if such an implementation approach can be facilitated. Even if the success of the implementation options is uncertain, the donor-sponsored effort may enhance its credibility and commitment to assisting the partner and provide an opportunity to revise the policy in the future. As a rule, it is easier to address policy flaws during the implementation stage if they relate to capacity issues for implementers and stakeholders rather than to poorly design incentive structures.

As a rule, it is easier to address policy flaws during the implementation stage if they relate to capacity issues for implementers and stakeholders rather than to poorly designed incentive structures.

PROGRAMMATIC IMPLICATIONS

1. Make a careful review of the problem, the process, and the policy goals before embarking on policy implementation in order to better gauge the host government's responsiveness to making additional changes in the policy.

2. Plan to introduce policy in phases, establishing intermediate goals or benchmarks so that performance can be evaluated, when skepticism is prevalent that policy change is needed: new policies can be simplified, broken into manageable components, or piloted in limited form to better assess implementation barriers.

3. Take steps to ensure USAID remains positioned to assist policy change by targeting some assistance to initial implementation tasks, helping design protocols for monitoring implementation progress, maintaining open dialogue with both policy formulators and implementers, and the like.

CASE 15.1 CHANGES IN POLICY DESIGN IMPROVES MANAGEMENT OF BUNAKEN NATIONAL PARK IN NORTH SULAWESI, INDONESIA

Designation of an important tourist designation as a national park as part of project implementation may not ensure protection of its physical resources if there are flaws in the design of management systems. Bunaken National Park in Indonesia (described in the introduction to this report), has suffered slow but continuous deterioration of its marine resources because of the application of centrally mandated administrative procedures that failed to account for differences between marine and terrestrial systems or adapt to local conditions.

RETHINKING POLICY DESIGN BASED ON IMPLEMENTATION REALITIES—*Flaws in revenue sharing provisions in Indonesian law and a confusing land zoning policy necessitated changes to the design of the Bunaken National Park management plan.*

Prior to its designation as a national park, the area—then known as Bunaken Sea Gardens nature reserve—was under the control of local authorities. As a national park, control was transferred to the central government, including authority to collect entrance fees. Local authorities contend that North Sulawesi receives no direct benefits from the park as a result of its designation. Moreover, park entrance fees are not being collected, largely because of the lack of a park "gateway" and lack of consensus on how fees might be collected. This has resulted in an estimated aggregate revenue loss of $50,00– $250,000 since the park was established. Although Indonesian law provides for revenue distribution between central and local governments, the majority of funds, if they were collected, would remain in the state treasury. These revenues could be used to improve the management of the park and, if a portion were transferred to local governments, might improve the relationship between the park and local authorities (which has been described as antagonistic).

A consensus has been reached on how the fee collection system should be structured, but Indonesia law appears to be too inflexible to accommodate these proposals. Key elements of the fee system would include: (1) equitable revenue distribution between the park management and local government to fund enforcement, education and awareness, reef and beach cleanups, and public works projects in the park; (2) an increase in the entrance fee for foreign visitors (from less than $3 to about $10); and (3) creation of a gateway for land-based use and alternative collection methods for divers. For now, some enforcement costs are being funded by a preservation fund financed by a voluntary $5-per-diver fee that is being collected by dive operators. In addition, discussions are underway to establish a trust fund dedicated to park management.

Another problem relates to the official zonation system that has been promulgated by the Director General of Forest Protection and Nature Conservation. This system is characterized by zone categories that have resulted in confusion as to the range of permitted activities and weak regulations for each zone. Locally, there are also concerns about how the boundaries for each zone have been drawn and frustration that the official zonation system differs from the system proposed in the park's management plan, which was designed by the North Sulawesi Provincial Office of Forestry with local input from villagers, dive operators, and government officials. The USAID-funded Natural Resources Management II (NRM2) program has been assisting locally initiated efforts to hold a series of meetings to discuss a revision and simplification of the zonation system. It is hoped that the revised zonation system can be implemented in the spirit of the government's decentralization policy and will provide a basis for improved management and enforcement activities in the park.

CASE 15.2 UNREALISTIC ENVIRONMENTAL STANDARDS IMPEDE IMPLEMENTATION IN THE FORMER SOVIET UNION

In the 1980s, the Soviet Union developed an extensive system of ambient standards for air, water, and soil. While acclaimed as the toughest standards in the world, environmental authorities could not implement them as, in many cases, control was not technically or economically practical.

Ambient standards were developed and implemented for hundreds of individual air pollutants, water pollutants and solid waste. Standards often were set at levels that were fully protective of human health, meaning that the pollutant concentration should be sufficiently low to ensure that no adverse human health effects—morbidity, mortality, mutagenicity, developmental disabilities—would result.

These ambient standards were far stricter than those recommended by the World Health Organization or implemented by most Western countries. Apart from the ideological baggage attached to these strict standards, there were also fundamental differences between the methodologies behind the standards and those implemented in Western countries. In the Soviet Union, the standards were established by the State Committee on Health based on human physiological responses to various pollutants and the determination of de minimis levels at which no adverse response could be expected. In setting these ambient standards, no consideration was given to the technological or economic feasibility of achieving the standards. In Western countries, ambient standards allow for very small "acceptable" health risks (such as one cancer case per million population) and consider costs and existing technology in establishing emission or technical standards designed to achieve the standards.

The use of strict ambient standards as long-term goals, while commendable, created difficulties in setting emission standards for industrial facilities. Emission standards were supposed to be set at levels that would ensure that the ambient standards were met. For air, ambient concentrations were to be measured at the edge of the sanitary protection zone (typically one kilometer from a facility's property boundaries). Several difficulties were encountered in making these determinations. First, few of the ambient standards could be monitored, which meant that theoretical dispersion models would need to be relied on to estimate ambient concentrations. Second, for those pollutants that could be measured, no account was taken for background levels or pollutant transport. Third, the emission levels needed to meet the ambient standards could only be achieved by discontinuing the offending activity. As a result, emission levels set by environmental authorities and reflected in a facility's "ecological passport" were the result of negotiations between the authorities and facility managers. Their main purpose was to establish the basis for payment of environmental charges and often did not require facilities to adopt any pollution control measures.

In effect, the policy as it was designed could not be implemented. This undermined the credibility of the environmental authorities and created a mentality among facilities that, by paying their environmental charges for non-compliance, the responsibility for addressing environmental concerns shifted to the environmental authorities that controlled the revenues that facilities paid. As the newly independent states began to develop their own environmental policies following the dissolution of the Soviet Union, a central theme among donors providing assistance to countries in the region has been to reduce the number of standards and revise the stringency of remaining ambient standards in order to match these standards to technologies and production processes.

SETTING REALISTIC STANDARDS THAT CAN BE IMPLEMENTED—*The Soviet Union's extensive standards for ambient air, water, and soil quality in the 1980s exceeded World Health Organization guidance and standards in Western countries but were not technically feasible or affordable. The governments of the newly independent states have abandoned the former system of standards and now are adopting more realistic standards.*

LESSON 16: DEVELOP AN IMPLEMENTING STRATEGY

Development assistance partners face significant challenges in mobilizing resources and building capacity to implement policies. Implementation plans play an important role in elaborating compliance or implementation schedules, identifying capacity gaps, and informing discussions with budget authorities and donors.

WHAT HAS BEEN LEARNED

Once a policy is approved, counterparts should be encouraged to prepare an implementation strategy or plan. Such plans serve a useful role in establishing compliance or implementation schedules and helping implementers identify key gaps in institutional capabilities and funding, thus enabling donors to target their assistance resources more effectively.

KEY UNDERLYING ISSUES

Capitalizing on the momentum of design. The design stage leading up to approval of a policy is often characterized by intense last-minute negotiations, fine-tuning of laws or regulations, and mobilization of legislative support. Practical issues relating to implementation budgets, compliance planning, and capacity building are put aside to concentrate efforts on approval of the policy. Once the policy is approved, stewardship for the policy shifts to implementing government agencies or private entities. A challenge for implementing bodies is to capitalize on the support and attention that various decision-makers and stakeholders have focused on design. The development of a comprehensive strategy for implementing the policy may aid in focusing attention on resource needs and institutional strengthening requirements. Ten CEE countries developed implementation strategies to describe their "game plans" for complying with EU environmental requirements following accession (Case 16.1). These strategies highlighted investment and staff requirements as well as obstacles that necessitated delays in meeting compliance schedules.

A challenge for implementing bodies is to capitalize on the support and attention that various decision-makers and stakeholders have focused on design.

Strategy basics. In recent years, the development of implementation plans has become more common in developing countries and economies in transition. The ten accession countries in Central and Eastern Europe have recently prepared strategies for implementing specific EU environmental legislation that address many of the issues enumerated in Table 3. These documents serve the purpose of helping to mobilize resources and upgrade staff, set compliance schedules, monitoring plans and conduct negotiations with the EU. Monitoring plans may serve the dual purpose of tracking progress in implementing assistance programs as well as measuring the impacts of policy reforms as demonstrated by cases in Panama related to protection of the Panama Canal's watershed and in West African countries where forest codes reforms were introduced (Cases 16.2 and 16.3). As part of its assistance programs in Africa, the World Bank cooperates with partner countries in the preparation of Environmental Support Plans (ESPs). These plans are designed to expand on the institutional needs identified and prioritized in National Environmental Action Plans. A third type of implementation plan is the environmental financing strategy. Financing strategies typically focus on environmental expenditures required to meet the stated goals in national strategies or action plans, including the costs of management and investments, sources of financing, and options for closing the financial gaps that typically exist in these countries. Financing strategies may also focus on specific legislation; priorities by media, sector, or region; or a comprehensive slate of environmental objectives as demonstrated by the analyses required of accession countries by the EU to justify proposed delays in compliance schedules (Case 16.4). To date, financing strategies have been prepared in Lithuania, Georgia, Moldova, Kazakhstan, and two oblasts in Russia (Novgorod and Pskov) and Armenia, and the Danish EPA is supporting additional national and regional strategies in the countries of the former Soviet Union.

Some problems that need to be addressed in developing implementation strategies include the following:

- **Implementer incentives.** One of the major difficulties in developing countries is providing appropriate incentives for implementing agencies and staff. Often, salaries in government ministries and agencies are far lower than those in the private sector, making it difficult for implementers to retain their most highly skilled staff. This may diminish support for staff training among managers. In addition, understaffing may lead to overworked staff or create significant lags in key implementation activities such as permitting, inspections, and enforcement. Low salaries may diminish staff initiative to undertake potentially risky activities such as inspections of fishing boats or forested areas where illegal harvesting, gathering or cultivation might occur.

- **Opportunity costs of donor projects for agency staff.** Donor assistance is often a conundrum for implementers. Most donors are prohibited from compensating government staff for the time they spend on coordination of donor projects although these activities detract from their regular duties. In some countries, however, staff receives salary supplements when they participate in donor-financed activities such as training, workshops, and advisory or steering committees. Such incentives can lead staff to pursue these financial rewards to the exclusion of other work. In some cases, training and study tours to other countries can partially compensate for lower salaries. Ultimately, problems of staff incentives and high salary differentials can be addressed only through comprehensive civil service reforms.

- Lack of transparency and accountability. The public can be an important ally of agencies in their implementation efforts provided the public has access to information and is allowed to participate in the review of environmental management actions. Bilateral assistance programs often feature democratization as a key objective, with the environment sector offering significant opportunities for changing the relationships with the public. By conducting implementation activities openly and transparently and providing public access to information on the performance of the regulated firms, implementers can increase their accountability with the public and legitimize their enforcement role with stakeholders. Mobilizing recipients of policy benefits to make effective demands on policy implementers and to provide feedback to policy monitors is another way to deal with problems of unresponsiveness, sloth, and slippage.

PROGRAMMATIC IMPLICATIONS

1. Support counterparts by providing financing experts outside the agency and arranging twinning relationships with countries that have experience in developing implementation strategies.

2. Encourage counterparts to prepare implementation strategies by promoting strategies as mechanisms that help all donors identify and prioritize their assistance resources.

TABLE 3 COMPONENTS OF IMPLEMENTATION STRATEGIES

- Sequencing of activities, creation of intermediate deadlines, use of pilots and demonstrations, and phased implementation by sector, facility size, geographical location, etc.
- Elaboration of the respective roles of agencies at the national, regional, and local levels.
- Staff resource requirements in terms of skill levels and deployment.
- Training and capacity-building requirements for implementers and stakeholders.
- Financial requirements for staff and equipment and assessment of financing gaps.
- Identification of institutional gaps requiring the creation of new institutions (such as development of environmental funds and other financing facilities to help enterprises in transition economies undertake compliance investments).
- Strategies for addressing unanticipated events, such as political or economic changes that alter the flow of financial resources.
- Protocol for monitoring performance of the policy during implementation.

CASE 16.1 CENTRAL AND EASTERN EUROPE PREPARES IMPLEMENTATION STRATEGIES TO MEET EU ENVIRONMENTAL LEGISLATION

PREPARING IMPLEMENTATION STRATEGIES TO MEET INTERNATIONAL REQUIREMENTS—*Central and Eastern European countries developed implementation strategies to demonstrate technical, institutional and financial capabilities to comply with EU legislation and identify assistance needs.*

The elaboration of implementation strategies has proved a useful exercise enabling CEE countries to demonstrate technical, institutional, and financial capabilities to comply with EU legislation and also to identify assistance needs.

Ten Central and Eastern European (CEE) countries are on track to become full members of the European Union in the current decade. As a precondition for membership, the countries' environmental laws must approximate the EU legislation. Implementing the environmental requirements is viewed as one of the major and most costly challenges for CEE countries, with cumulative investment costs for the air, water, and waste sectors estimated at 80–110 billion euros. These estimates focus on investment and O&M costs but do not include the costs of managing the implementation of this large body of legislation.

To assist CEE countries in preparing for membership, the EU and bilateral donors have funded the development of "approximation" strategies in these countries. These strategies have generally included an analysis of the legislative changes required to transpose existing national laws with EU laws, estimated costs (often directive-by-directive) of the new requirements, and the institutional capacity required to guide implementation.

In addition to providing a "game plan" for preparing for EU membership, these approximation strategies have been useful in determining key gaps in skills that may be addressed with donor assistance, informing negotiations between the accession countries and the EU on their proposed schedules for transposing and enacting new legislation, and providing an analytical basis for discussions within the government on future staffing and budget requirements for implementation. One weakness of the earliest approximation strategies was their lack of attention to the issue of mobilizing the financing required to fund implementation of the environmental requirements. This is a critical omission because it is difficult for the EU to judge if proposed compliance schedules are realistic. This shortcoming can be addressed by preparing environmental financing strategies (see Case 19.2) or incorporating elements of financing strategies into approximation strategies.

CASE 16.2 DESIGNING MONITORING PLANS TO EVALUATE PANAMA'S PROGRESS IN PROTECTING THE CANAL'S WATERSHED

A monitoring program that strives to track the results of reforms can be very challenging, particularly when change is slow and measurement is difficult and costly. In Panama, USAID has implemented a broad-based assistance program designed to help their partners develop the institutional capacity to manage the Panama Canal Watershed sustainably. The first priority for watershed management is to assure adequate water for canal operations and increasing municipal and industrial consumption. Population pressure in the watershed is also linked to water quality degradation. Another important relationship exists between deforestation (also the result of population pressure), erosion, and increasing sedimentation in the canal.

Similar to most donor programs, USAID/Panama has devised a plan to track the evolution of watershed management, including indicators to monitor the process of building institutional capacity, adopting policies and strategic plans, and putting sustainable financing arrangements in place. However, there was also a commitment to include indicators designed to measure the impact of policies and institutional development on the quality and quantity of water in the watershed. Initially, USAID selected "change in land use" as a proxy for the impact of these management initiatives. Conceptually, this indicator was flawed because it did not adequately capture the impact of management on other critical resources such as water quality and richness and diversity of flora and fauna. Operationally, change in land use had two major limitations:

- **The time required to identify measurable change in land use.** USAID was seeking yearly time series data. The time needed to see progress from recommended land use activities—investments, agro-forestry, sustainable agriculture, reforestation—is five to seven years.
- **Available technology and its cost.** A geographic information system, preferably one that uses satellite imagery interpretation, is recommended for measuring land use change. This technology can differentiate land-use categories (forest cover, secondary growth, cultivated areas and areas in the initial stages of reforestation, urban areas, soils with no vegetative cover, bodies of water), but its reliability is limited by persistent cloud cover. Expert opinion limits the probability of getting useful imagery in Panama during the dry season to only 40 percent. During the seven-month rainy season the probability is much lower. An enhanced technology, IKANOS, is commercially available, but its high cost—$900,000 for an image covering a 185km x 190km area compared to $4,000 with Landsat—prohibits its use.

Given these difficulties, USAID commissioned a study to assess the possibility of an alternative to "changes in land use." The analysis pointed out that "changes in land use" was an appropriate performance indicator, but should be augmented by measures more easily monitored at time intervals more frequent than five to seven years. The supplemental indicators recommended were:

- Measurement of environmental health-biophysical measures including biological monitoring and water quality monitoring correlated with monitoring of anthropogenic factors such as population trends, point sources of pollution, and vegetative cover.
- Measurement of areas of land used in alternative ways that result from specific public sector institution programs and projects.

DESIGNING MONITORING PLANS TO EVALUATE PROGRESS IN WATERSHED MANAGEMENT— ***Initial plans to monitor land-use changes as a proxy for the impact of policies to manage the quality and quantity of water in the Panama Canal watershed were later supplemented with measures that were easier to monitor with greater frequency.***

- Measurement of compliance with the land-use norms as established in the regional plan—the record of the environmental impact assessment and approval process for all proposed watershed investments would provide an objective measure to verify that the principles of the regional plan are being followed.

These recommendations are under review. The expectation is that they will be adopted as part of the mission's effort to monitor impacts of watershed management.

CASE 16.3 MONITORING THE RESULTS OF FOREST CODE REFORMS IN WEST AFRICA: TRACKING THE PROCESS AND MEASURING THE IMPACT

Policy reform activities face the dual challenge of reporting on progress in enacting and implementing policy reforms, while also seeking to report on their ultimate, field-level impacts.

USAID programs that support the reform of forest codes have yielded a number of insights in Guinea, Mali, Niger, and Senegal. Across the Sahel of West Africa, farmers traditionally managed a certain density of "farm" trees in their millet fields to maintain economically important tree and shrub species that provided edible fruits, leaves, condiments, browse for livestock, and other products and services. Extensive areas of farmed "parklands" of gao (Acacia albida), nere (Parkia biglobosa), and karite (Butyrospermum parkii) were developed by farmers to protect cultivated fields from erosion, maintain soil fertility, and provide other economic benefits. The farmers actively trimmed branches off the trees and controlled natural regeneration of valued species in their fields to maintain an optimal density, balancing the need for protection from a tree canopy with the crops' need for exposure to sunlight. As many of the managed farm trees were nitrogen-fixing legumes, those in cultivated fields also directly contributed to the maintenance of soil fertility.

MONITORING THE RESULTS OF FOREST CODE REFORMS—*Both process and impact indicators were used in West African countries to monitor the progress in implementation and the changes in farmer and forester practices.*

With the advent of colonial administrations and the adoption of forestry codes designed to protect certain tree species claimed as property of the state, tension developed between local foresters charged with enforcement of the codes and farmers trying to manage the woodstock in their fields. The forest code shifted the authority and rights to manage trees from local communities to government agencies. Since foresters were able to collect fines from farmers caught cutting protected tree species, many farmers simply cut all trees and shrubs as they began to sprout, instead of letting them mature and risking fines if they were caught in the act. The longer-term result was a pattern of open fields, prone to wind erosion. At the same time, supplies of fuelwood, browse, and other forest products contracted. People, crops, and livestock were more vulnerable to the effects of periodic drought, and crop yields declined.

During the 1980s, in the wake of severe droughts and widespread land clearing and expansion of cultivated areas, several efforts were launched to encourage the adoption of agroforestry practices, and the restoration of an overstory of trees and shrubs in farm fields. It soon became evident that the provision of seedlings and extension messages was not sufficient to promote the adoption of such practices, without a substantial reform of the forest codes and changes in the role of foresters. In the 1990s, USAID assisted a number of countries in reforming outdated and counterproductive codes to recognize the rights of farmers to manage trees on their land and institutionalize changes in the Forest Service to define a new role for foresters as extension agents in support of community-based management of trees.

Monitoring and evaluation of such reforms in the forest codes posed challenges. The programs needed to monitor the process for reforming the code. Several process indicators were used to track progress for a study on needed changes, application of the results of the study, adoption of changes in the code, and implementation of institutional reforms and application of the reformed forest code. Additional monitoring was needed to track changes in practices of farmers and foresters and the associated environmental changes (increases in the density of farm trees, restoration of soil fertility) and economic benefits (increased crop yields, reduced fines, greater production of fuelwood and other forest product).

Monitoring the longer-term consequences of the reform of forest codes was particularly problematic as many of the changes did not occur until well after USAID's program assistance had ended. Without sufficient provision for monitoring such long-term impacts, USAID may fail to fully capture the value of its investments and the impact of its programs.

CASE 16.4 DEVELOPING ENVIRONMENTAL FINANCING STRATEGIES TO SUPPORT COMPLIANCE SCHEDULES IN CENTRAL AND EASTERN EUROPE

Environmental financing strategies are a recent development, designed to address the need to analyze the demand for investments and other expenditures and the supply of financing for those purposes. They play an important role **in ensuring that compliance schedules are realistic and informing discussions on how to mobilize financing.**

As part of the Environmental Action Programme (EAP) for Central and Eastern Europe launched at the Lucerne meeting of environmental ministers in 1993, the participating countries agreed to prepare national environmental action plans (NEAPs). These NEAPs enumerated and ranked environmental priorities, described necessary policy reforms and institutional strengthening activities, and identified the investments and other actions required to achieve priority environmental objectives.

A major weakness of NEAPs has been their limited attention to the assessment of the costs of proposed actions and the development of realistic plans for mobilizing and efficiently allocating the financial resources to support required investments and other activities. Recognizing these shortcomings, the EAP Task Force supported the development of a pilot environmental financing strategy in Lithuania in 1997. The purpose of this pilot was to demonstrate the potential use of a strategy narrowly focused on the supply and demand of financing for environmental investments.

One weakness of the Lithuania pilot strategy was the lack of well-defined goals and targets, complicating the task of determining the demand in each of the sectors analyzed. However, the preparation of the Lithuanian Approximation Strategy in 1997–1998 provided a set of goals articulated at the level of individual EU directives. In 1999–2000, a second environmental financing strategy was prepared for Lithuania that examined the demand and supply for investments in the water, wastewater, and municipal waste sectors in sufficient detail to determine realistic compliance schedules, identify specific sources of financing that would be used for investments, and analyze the affordability of the proposed expenditure program. The strategy also enabled policymakers to better understand potential financing obstacles (particularly on the domestic side) and the range of supporting activities that would be needed to develop and implement the slate of investments proposed in the strategy.

The EU, in recognition of the potential role of the types of analysis included in financing strategies, issued a communication in 2001 requiring Central and Eastern European countries seeking EU membership to prepare financing strategies to support requests for longer compliance periods for each environmental directive. In ongoing negotiations between accession countries and the European Commission, transition periods of up to ten years are requested for the so-called "heavy investment" directives (urban water and wastewater, landfill directives).

HARMONIZING ENVIRONMENTAL FINANCING STRATEGIES WITH IMPLEMENTATION SCHEDULES—***An assessment of the cost of water, wastewater and municipal solid waste investment needs in Lithuania resulted in developing a realistic compliance schedule for meeting EU requirements.***

LESSON 17: IDENTIFY FINANCING SOURCES FOR SHORT- AND LONG-TERM IMPLEMENTATION

Donor financing can be a catalyst in implementation start-up, but it can become a crutch if there is not a strong commitment from the government to sustain financing, or the implementing agency does not have a sense of "ownership."

WHAT HAS BEEN LEARNED

National funding for policy implementation is often limited in duration or amount, particularly in developing countries and economies in transition. Donor financing can play an essential role during the start-up phase of implementation. However, this may hinder the development of domestic funding if support is viewed as a permanent substitute for a strong commitment from government to sustain financing or adopt revenue mechanisms that can be phased in as donor financing phases out. Implementation may be threatened if the donor support is cut or the donor terminates its support for implementation activities. The issue of sustaining financing is not limited to expenditures by implementing agencies. Investment in environmental protection and natural resources is an ongoing process, which requires a sustained commitment. Governments are not expected to shoulder the responsibility for financing in the private or municipal sector, but they can play an important role in creating institutions and adopting and enforcing policies that will solidify the commitment of stakeholders to investment.

KEY UNDERLYING ISSUES

Devolution of management responsibility without revenue authority. Central authorities have increasingly delegated authority for environmental protection and natural resource management to local agencies or even to community-based organizations (CBOs) or NGOs. Such delegation may be motivated by a desire to reduce demands on central budgets or a recognition of the comparative advantages of local management compared to central management. In many instances, however, the transfer of these responsibilities has not been accompanied by funding to cover local costs or authorization to implement revenue-generating mechanisms. In Jamaica, the Natural Resources Conservation Authority has delegated management authority to NGOs to manage such as the Montego Bay Marine Park and Negril Environmental Protection Area. However, the NGOs are not allowed to charge user fees to defray their management costs. Instead, they have been forced to rely on donor support, contributions, and merchandise sales. As donor support is withdrawn, other sources will be inadequate to fully cover management costs.

Investments versus recurring costs. Donors often provide assistance in financing or co-financing for environmental infrastructure or equipment for environmental services (garbage trucks and trash compactors) or management (computers and monitoring and laboratory equipment). Financial support for investment is often more attractive to donors than support for recurring costs since the benefits are easier to quantify and it provides opportunities for private enterprises in a donor country to enter the market in a recipient country. Most investments require associated expenditures on recurring costs, such as maintenance of equipment, replacement of broken parts, fuel and electricity, and staff to operate the equipment. The benefits of these initial investments may be decreased considerably by the failure or unwillingness of counterparts to sustain financing of recurring costs. In the case of natural resources, this hesitancy is further exasperated when products that are harvested illegally enter the market and undercut the profit of legitimate companies that must reinvest their profits into recurring costs (such as replanting and land and stream restoration). While many of these investments do not directly relate to policy, they can undermine the success of policy reforms. In addition, environmental agencies cannot fully use donor-funded equipment if recurring costs are not covered in their operating budgets. Case 17.1 provides illustrations of investments in CEE countries where donors provided equipment but there was no commensurate funding for recurring costs to maintain and operate the equipment provided by the donor or committed by the beneficiaries.

Planning for sunset. Part of the reason for unsustainable financing can be traced to the design of donor programs. Project assistance often is not contingent on financial

contributions from the recipients. For example, the USAID-funded Hillside Agricultural Project in Jamaica provided seedlings and technical assistance to encourage planting of trees to reduce erosion and improve water retention. The project continued for approximately ten years without securing a commitment from the government to continue either component of the project. More recently, USAID has gained a greater appreciation for the use of counterpart incentives, graduation provisions, and diversified assistance to help partners develop financing to sustain projects and programs. In Jamaica, future donor support for environmental NGOs was tied to progress in developing new sources of financing (Case 17.2). In Egypt, USAID announced plan to phase out financial assistance for the management of the Red Sea protected areas, thereby accelerating discussions with counterparts on options for sustained self-financing of management costs (Case 17.3).

PROGRAMMATIC IMPLICATIONS

1. Review and assess the national and local budgeting process, identify barriers that limit budget increases, and determine the stability of earmarks, the nature of intergovernmental transfers, and any legal constraints on local governments' ability to raise revenue, so as to pinpoint the support most needed.

2. Exploit the catalytic nature of donor assistance both to leverage scarce assistance resources and to encourage commitments to sustained financing.

3. Frame assistance programs to focus on goals that are regionally or globally important (such as transboundary pollution, global warming, and biodiversity protection) within the context of local or national development goals in order to encourage sustained commitment to policy implementation.

4. Create conditionality for assistance programs through means such as:

   – Increasing awareness of sustained financing issues by introducing this component into implementation strategies.

   – Tying assistance efforts to related and mutually reinforcing policy and institutional measures that will promote sustained financing.

   – Incorporating financing indicators into evaluation process.

   – Sequencing assistance efforts and require assistance partners to reach performance benchmarks before "graduating" to the next phase of assistance.

   – Collaborating with other donors and IFIs on tied (or coordinated) assistance strategies to increase counterpart incentives for sustained financing.

Donors will be more successful in their efforts to encourage sustained financing if their counterparts have a sense of "ownership" in the policy … and are committed to the implementation effort.

CASE 17.1 ANTICIPATING THE CHALLENGE OF SUSTAINING ENVIRONMENTAL INVESTMENTS IN EASTERN EUROPE

Capital projects financed by donors and international financial institutions (IFIs) often suffer because of limited commitment or follow-up by recipients to cover the cost of staff, consumables and replacement parts, and maintenance and repairs for the sustained operation of facilities and equipment. In some instances, these constraints may be anticipated and measures taken in preparing the project to increase the likelihood that these investments will achieve the desired goals.

ANTICIPATING THE CHALLENGES IN SUSTAINING ENVIRONMENTAL INVESTMENTS—*In Eastern Europe, funding was made available for equipment investments without adequate commitment for increasing staff and consumables, and installation support.*

Environmental projects often involve equipment purchases or the construction of infrastructure facilities. Central ministries and local environmental agencies request that donors provide equipment to monitor and improve the data management and analytical capacity of staff, but fail to adequately complement this equipment with staff or consumables or provide installation support:

- The U.S. Environmental Protection Agency provided the municipality of Stara Zagora, Bulgaria, with a mobile air pollution monitor and vehicle to be used to measure air pollution and develop a plan for improving air quality, only to discover later that the municipality did not use the equipment because it didn't have enough money for gasoline.

- The World Bank and Switzerland funded the set up of an air monitoring system in Mariupol, Ukraine. Substantial delays in getting the system operational were traced to problems such as: one of five stations could not be used until electricity could be run from a nearby building; staff lacked a vehicle to drive between monitoring stations; staff to maintain and repair the equipment could not be hired; and replacement filters could not be procured.

In many cases, these funding shortfalls cannot be anticipated; agencies often do not receive the full amount of budget requests and must cut back on expenditures. However, if such budget shortfalls are common, donors should account for problems in determining the type of equipment they provide, replacement part costs and availability, and staffing requirements.

Similar problems arise with environmental infrastructure projects. In some cases, international financial institution (IFI) loans co-finance projects. IFIs require loan recipients to prepare cost recovery plans to ensure that there will be adequate funding to service the loan, cover O&M, and replace depreciated capital. Even when the recipient and the IFI reach an agreement on the cost recovery program, there may still be considerable uncertainty inherent in the assumptions on which the plan is based. For example, the city of Siauliai, Lithuania, financed a new wastewater treatment plant using a World Bank loan. The cost recovery plan called for increased tariffs to generate the necessary revenue for debt servicing. However, water consumption declined precipitously when the new tariffs were introduced, creating a significant revenue shortfall.

CASE 17.2 GRADUATION REQUIREMENTS PROVIDE STIMULUS FOR JAMAICAN NGOS TO FINANCE THEIR OPERATIONS SUSTAINABLY

In Jamaica, the USAID-funded project, Development of Environmental Management Organizations (DEMO) used an innovative mechanism, tying future grants to NGOs to their progress in raising revenue to sustain operations. These graduation requirements provided incentives to NGOs to focus their efforts on fund-raising but could not fully overcome some of the constraints faced by NGOs, particularly in the charging of entrance fees.

The government of Jamaica has delegated management of two national parks and important coastal areas to three NGOs. The Jamaica Conservation Development Trust (JCDT) manages the Blue and John Crow Mountains National Park; the Montego Bay Marine Park Trust (MBMPT) manages the Montego Bay Marine Park; and the Negril Area Environmental Protection Trust (NEPT) manages the Negril Environmental Protection Area. They received financial and technical assistance from DEMO, a project designed to strengthen the capacity of NGOs and CBOs to manage environmental protection areas. Despite the support, these organizations were unable to sustain the funding needed to carry out their responsibilities without continued financial assistance. To encourage sustainability, the DEMO project focused on two fronts: (1) a "graduation" program for NGOs, whereby future assistance was contingent on their ability to reach self-financing benchmarks; and (2) dialogue with the Natural Resources Conservation Authority to remove impediments to raising revenue for NGOs that manage national and marine parks in Jamaica.

All three NGOs have made progress in sustaining their operations. A stable but typically small source of revenue for these NGOs comes from membership fees, donations, and sale of t-shirts and other items displaying the NGO logo. All three have also engaged in grant-making, applying for support from bilateral and multilateral donors and foundations such as the Environmental Foundation of Jamaica. JCDT and MBMPT receive some funds from the Jamaica National Parks Trust Fund. Additionally, JCDT, which manages John Crow Mountains National Park, pressed the government for several years to allow JCDT to charge entrance fees. In July 1999, the government authorized JCDT to levy a park entry fee and trail use fee on both Jamaican and foreign visitors. From December 1999 to January 2000, JCDT raised about $15,000. Although not sufficient on an annual basis to cover all costs, the user fee provision has reduced JCDT's reliance on other less certain revenue sources.

NEPT has developed a strategic plan with broad-based fund-raising activities designed to increase financial independence. Two fund-raising efforts involve the Visitor Donation Programme, with display boards placed in area hotels and business development proposals focusing on nature and community-based management. The MBMPT has worked with the local arts and crafts community to develop and market products that could benefit the community and the trust.

ENSURING SELF-FINANCING FOR NGOS WITH PROTECTED AREA MANAGEMENT AUTHORITY—*Membership fees, donations, and concession sales provide an insufficient revenue bases for three Jamaican NGOs to manage two national parks and a protected area. Faced with a phase-out of donor grants, the NGOs were developing broader fundraising strategies and pressing for authority to raise additional revenue from entrance and park user fees.*

CASE 17.3 REVENUE ENHANCEMENT SUPPORTS RED SEA PROTECTION

REPLACING DONOR SUPPORT WITH OTHER MECHANISMS TO SUSTAIN IMPLEMENTATION— ***The Egyptian Environmental Affairs Agency is exploring a number of revenue mechanisms in order to sustainably finance their management expenditures for the Red Sea coast.***

The government of Egypt is considering revenue mechanisms that would provide adequate, sustainable resources to ensure effective management of Red Sea protectorates.

Although Egypt's central government is charged with management of natural protectorates in the Red Sea, a substantial share of the costs historically have been financed by donors, including USAID. Under the Egyptian environmentally related policy Program (EEPP), USAID is encouraging the government to assume responsibility for a larger share of these costs. Given the rigidities in the public budgeting process, a number of non-budgetary options are being considered to increase the financial independence of the management system of the natural protectorates.

In recent years, USAID has supported efforts to manage Red Sea coral reefs with both technical and financial assistance. The comprehensive program helped to establish the Ranger Program to monitor diving activities and an extensive system of mooring buoys to protect the coral reefs from damage from boat anchors. Initially, USAID supported both investments with financial assistance, purchasing boats, buoys, and other equipment; providing technical assistance to train rangers; and financing the installation of the buoys in the dive areas near Hurghada. USAID does not plan to finance these investments in the near future and the EEPP is working with officials to explore alternative financing mechanisms that would not only support the investment programs but also sustain other management expenditures.

A number of revenue mechanisms are being considered, including:

- Expanded system of user and entrance fees
- Promotion and development of ecolodges
- A concession for the mooring buoy system
- marketing of videos, CDs, and publications
- Development and marketing of local handicrafts and other community-based income generating projects
- Development of visitor centers, camping areas, concessions, and training facilities.

LESSON 18: PLAN TO HELP BUILD THE CAPACITY OF STAKEHOLDERS

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Implementing agencies must be responsive to the needs of stakeholders by communicating new policy requirements and helping stakeholders acquire new skills or information to use the new policies to their advantage. In some cases, the environmental goal can only be achieved with the participation or co-management by local communities and organizations due to the limited resources that are typical for developing countries.

WHAT HAS BEEN LEARNED

Often the major assistance priorities conveyed to donors are activities that strengthen the institutional capacity of implementing agencies. While such capacity building is important, the need to help multiple stakeholders to participate constructively in the policy process and respond to policies is often overlooked—even though it may make a greater contribution to sound policymaking and compliance rates.

KEY UNDERLYING ISSUES

The increasing complexity of policy. Policy reform often involves the introduction of management approaches or tools that have not previously been employed in the partner country. For example, the introduction of concentration-based emission standards, vehicle emission testing equipment, state-of-the-art abatement technology, or environmental monitoring and testing equipment can require the recruitment of specialized and skilled staff, as well as training for existing staff. Aside from the costs and time requirements of training programs, additional expenditures are often required to purchase and maintain the equipment needed to enable staff to carry out the implementation functions. Stricter environmental standards translate into higher investment costs and place a premium on the design of compliance plans to minimize costs. Stakeholders also may be expected to self-monitor and report.

Weaknesses in stakeholder capacity. A potentially weak link in the implementation process is the limited capacity of stakeholders to respond to incentive structures associated with the new policy. Issues that may account for weak capacity include limited access to information and limited skills to evaluate financial alternatives and select the most cost-effective strategy or investment. In some cases, the targeted stakeholder group cannot take advantage of new policies because of a lack of education or language barriers in countries where a number of local languages or dialects are spoken in addition to the "official" language. In Niger, for example, these constraints were overcome through multilingual and visual awareness campaigns used to promote and popularize the Rural Code (Case 18.1). Other weaknesses in stakeholder capacity include:

- **Limited access to information.** In many countries where Western environmental standards have been adopted and regulated firms have been required to develop compliance strategies, it is difficult to obtain information on suitable abatement technologies. Ideally, with the greater availability of Internet services, information will be more readily available. However, for small businesses, acquisition of computers and the associated training may be beyond their means. Implementing agencies and donors can play a constructive role in developing information bases and helping facilities access this information.

- **Limited capacity to develop projects.** In the economies in transition in Central and Eastern Europe, the lack of skills in preparing investment projects, including assessing cost-minimizing technologies, developing financial plans, and identifying financing, has been a major impediment to investment. Several donor efforts to help investors build capacity have been organized through a network of donors and IFIs called the Project Preparation Committee. Although the major function of this committee has been to match donors and IFIs with project proponents, it has also supported the development of project pipelines. In addition, USAID's assistance programs have worked closely with environmental funds, ministries, and investors to prepare projects, train applicants in the preparation of

applications to environmental funds, and strengthen institutions. In Poland, USAID programs prepared a sourcebook on domestic and foreign sources of financing for environmental investments, which was distributed in hard copy and made available on the environmental ministry's Web page (Case 18.2).

- **Limited capacity to develop and review policies and strategies.** Providing a role for NGOs and other stakeholder groups in policy development may not guarantee effective participation. In Central America, USAID and other donors provided training and financial assistance to the Central American Commission for Environment and Development to address this capacity issue (Case 18.3).

Before providing capacity-building assistance to stakeholders, it would be useful to identify barriers that limit their ability to use the assistance.

- **Matching technical assistance to educational levels.** In sub-Saharan Africa, high rates of illiteracy are the rule in rural areas, particularly among women. Assistance programs have often been under-subscribed because target groups lack the education to fully use the assistance offered, or are unaware of the opportunity. Even if target groups can read and write, and notices are published in a local language, the types of financial analysis required may be beyond their capabilities. In all cases, programs that provide training to stakeholders should include both a needs assessment and a skills assessment. Assistance programs that have proven effective elsewhere can be tailored to enhance their effectiveness in a new country or region.

PROGRAMMATIC IMPLICATIONS

1. Evaluate policies in terms of how stakeholders are likely to respond to incentives and determine if their response could be enhanced through capacity building, as a step in programming assistance resources.
2. Identify barriers that limit stakeholder ability to use assistance as a step in programming capacity-building resources (for example, people with limited education, living in remote locations, or with limited access to media forms may not be able to take advantage of the assistance offered).
3. Take account of cultural differences in programming policy implementation assets.

CASE 18.1 STRENGTHENING STAKEHOLDER CAPACITY: POPULARIZATION OF THE RURAL CODE IN NIGER

In Niger and other West African countries, USAID has helped their partners implement new policies by supporting dissemination and training activities for stakeholders.

A series of landmark meetings in countries of the West African Sahel, addressing desertification control, environmental and natural resource management, and sustainable local development, all pointed to the critical importance of land tenure. Without secure tenure, rural producers had little incentive to invest in agricultural intensification, soil fertility management, soil and water conservation, agro-forestry, reforestation, and other environmental management practices.

Between 1980 and 1990, USAID and other donors invested considerable resources in researching land tenure and related policy issues in Niger. After years of field studies, consultation, policy dialogue, and assistance in crafting a new rural code, the government of Niger officially adopted a new tenure policy in 1993. Niger's rural code was formulated to increase the security of land tenure by providing a legal basis for the recognition of customary (informal) and modern (formal) land-use rights. But the application of the code was dependent on making its contents known to a multicultural population of millions of farmers, herders, and other rural producers.

To help support both the formulation and implementation of the new land tenure policies, USAID funded the Agriculture Sector Development Grant-Phase II (ASDG-II). This ambitious program included $8 million of project assistance and $20 million in non-project assistance. The project assistance funded work by the Land Tenure Center and other groups designed to support the analytical research that fed into the formulation of the rural code. It also provided technical support for the establishment of a Permanent Secretariat for the rural code and other institutions to assist with administration. Non-project assistance was released when a number of conditions for targeted policy reforms were satisfied, such as the adoption of the rural code. The funds were in turn programmed to help support country-level activities related to the implementation of the new policies. For example, a portion of the first tranche of non-project assistance was used to disseminate and popularize the rural code.

Working closely with the rural code secretariat, the ASDG-II project assistance team helped develop a popularization plan that included translation of the rural code into the eight major languages spoken in Niger and widespread distribution of copies of the code. This team also helped organize a series of workshops in each major administrative region to provide a forum to present and discuss the contents of the new code and a campaign using radio, television, and other media to familiarize the population of Niger with the rural code. In less than two years, the rural code became widely known among the dispersed rural populations of Niger, and the stage was set to progress further in implementing the new policy. USAID provided assistance of a similar nature in Mali and Senegal to popularize and help implement the newly enacted forest codes and other environmental policies.

COMMUNICATING POLICIES EFFECTIVELY WITH LOCAL STAKEHOLDERS—*Funding for the popularization plan for the new Rural Code Secretariat in Niger included translation of the code into the eight major languages spoken in Niger and widespread distribution of copies of the code. In less than two years, the rural code became widely known among the dispersed rural populations of Niger.*

CASE 18.2 INCREASING STAKEHOLDER CAPACITY TO IDENTIFY AND MOBILIZE FINANCING FOR ENVIRONMENTAL INVESTMENTS IN POLAND

Developing significant new sources of environmental financing in Poland has required a related effort to strengthen the capacity of stakeholders in project preparation and packaging of project financing. Since 1989, Poland has taken steps to improve the quality of the natural and built environment. Anticipating the high costs of investments, Poland implemented numerous measures to provide financing. But to use these resources effectively, facilities needed to develop the capacity to prepare investment projects.

PROVIDING SUPPORT FOR ENVIRONMENTAL INVESTMENTS PROPOSALS—*In Poland, a USAID-funded project assisted in developing technical and financial components of facility improvement projects and developed a source book on financing from commercial sources, national and regional environmental funds and donor grants.*

In 1989, Poland consolidated a number of environmental and natural resource funds, establishing a national environmental fund and 49 regional funds. To provide working capital for them, the system of environmental charges and fines was revamped, and revenues—quickly rising to more than $500 million per year—were earmarked for environmental projects. In 1992, Poland created the Polish Ecofund, the first debt-for-environment swap in Central Europe. With France, Switzerland, and the United States forgiving a portion of Poland's debt, Polish Ecofund has supported environmental projects with annual working capital in excess of $30 million.

Although there has been a substantial amount of financing available in Poland for environmental investments—much of it as grants or loans with very attractive credit terms—project preparation capacity among regulated facilities was identified as a key constraint to environmental investment.

To address this problem, USAID funded the Environmental Action Program Support (EAPS) project to assist facilities in tapping Poland's environmental funds. Under EAPS, facilities could submit project summaries and request assistance in developing technical and financial project components. In addition, EAPS collaborated with the Polish Ecofund and the Katowice Regional Fund to conduct a special competition to address low-stack air emissions in Katowice. EAPS provided training to facilities in preparing applications for support from the two funds. EAPS, in cooperation with HIID's C4EP project in Poland, also developed a sourcebook on financing that was available to Polish facilities. The sourcebook covered commercial sources, loans and lines of credit, donor grants, and environmental funds. More than 5,500 copies of the sourcebook were published in Polish (plus a smaller number of English abstracts), and an electronic version of the sourcebook was made available on the ministry's Web site early in 1999.

Such stakeholder assistance can greatly accelerate environmental compliance. However, it is a challenge to convince environmental authorities that support for stakeholders in investment preparation is valuable, both in terms of the environmental benefits accruing from accelerated compliance and the reduced costs of environmental monitoring and enforcement programs. A promising development has been the distribution of a questionnaire on financing sources by the Fundacja Economistow Ochrony Srodowiska in Bialystok under the auspices of the Ministry of Environment in 2000, indicating that there was significant demand for an updated sourcebook.

CASE 18.3 BUILDING CAPACITY TO ADDRESS REGIONAL ENVIRONMENTAL ISSUES IN CENTRAL AMERICA

In 1989, the leaders of five Central American countries established the Central American Commission for Environment and Development (Comisión Centroamericana para el Ambiente y el Desarrollo-CCAD) to help catalyze unified action for improving the region's environment. Backed by donor financial and technical assistance, CCAD developed the capacity to facilitate broad-based stakeholder dialogue, conduct analyses, and lead the preparation of strategic plans.

During its first four years, the CCAD's executive secretariat focused on developing the capacity to bring together environmental officials from member countries and to address their mutual concerns. Regional planning, harmonization of laws, and strengthening of national environmental commissions were the primary activities of the secretariat, based in Guatemala City. The first outwardly visible products of the CCAD's work (in collaboration with other regional and national institutions) included a regional action plan to address tropical forest loss and the region's Agenda on Environment and Development for the United Nations Conference on Environment and Development in Rio in 1992. Some 360 different organizations participated in that process, which indicated successful leadership on CCAD's part. CCAD's inclusion of nongovernmental organizations, indigenous peoples' groups, forest industry representatives, and others ensured that a broad range of participants was heard. In addition, the CCAD helped leverage $50 million in support from a range of donors for critical forest management projects, establishing itself as an important partner in raising funds for implementation as well as regional harmonization efforts.

In 1993 and 1994, the CCAD formed part of a group pushing for an umbrella Central American Alliance for Sustainable Development to harmonize approaches in areas including the environment, social, cultural, and political arenas. The following year USAID responded with a broad regional program—PROARCA—to help the CCAD and national governments promote integration of environmental issues into each of these areas, based on the common concept of the Mesoamerican Biological Corridor. The program provided assistance to consolidate a Central American protected area system, and promoted improved land-use practices by linking upland communities with coastal resource users. It also supported CCAD with strengthened administrative and financial operations, and helped CCAD establish a regional information clearinghouse and support networks of environmental management professionals. Finally, it provided further support for harmonization of environmental legislation and regional dialogues on environmental issues.

CCAD grew during these years from a three-person policy team to an implementation organization of some 20 staff persons and affiliated subgroups. It became an established part of the environmentally related policy making process in Central America. After 1999, however, the administration of CCAD changed, the secretariat was relocated from Guatemala to El Salvador, and many of the elements in the organization that made it successful for ten years were lost. Today it faces numerous challenges, including development of a plan to operationalize the Global Environment Facility fund for regional environmental investment under its control.

BUILDING CAPACITY IN NEW SPECIAL PURPOSE ORGANIZATIONS—*The Central American Commission for Environment and Development—established to catalyze unified action on improving the region's environment—made significant gains in its first 10 years in terms consultation, research, advocacy and dissemination.*

LESSON 19: DELEGATE IMPLEMENTATION RESPONSIBILITY TO LOCAL AUTHORITIES

Local incentives are the driving force for widespread adoption of environmental policies. Governments, donors, and NGOs can encourage and support improvements in environmental protection and natural resource management, but they must account for local obstacles and resource constraints. Local agencies, which are more accountable to stakeholders, play an important role in implementation.

WHAT HAS BEEN LEARNED

Governments, donors, and NGOs can encourage and support widespread improvements in environmental management. But only local actors influencing specific resources can implement necessary changes in the most cost-effective and long-lasting basis. Local incentives are the driving force for widespread adoption of improved methods, and removing policy obstacles to sound investment systematically helps to improve incentives. Delegating implementation responsibility to those who are closer to the problem may improve effectiveness because the authorities will be more motivated to carry out the policy as designed, have greater credibility with stakeholders, and are likely to be more accountable because they are part of the community.

KEY UNDERLYING ISSUES

Political economy. Whether dealing with the global issues of climate change and loss of biodiversity or local issues such as village production systems and water quality, the basic question remains: How can public policy, within the society's basic economic, political, and social frameworks and ecological constraints, influence individual choices in ways that lead to environmentally sound practices and outcomes? A basic lesson learned over nearly thirty years of environmentally related policy efforts is that people choose outcomes that they believe will help them. Often these are motivated by immediate needs of the current generation. Policymakers must find solutions that offer both practical benefits to local stakeholders and preferred environmental outcomes from broader societal perspectives and to ensure a sustainable and productive country for future generations.

Global–local linkages. Depletion of the world's rainforests contributes to global warming and to loss of biological diversity. But whether in Central Africa, Madagascar, the Amazon, or Indonesia, deforestation is driven by local opportunities and localized incentives that ignore the costly environmental degradation. Large timber concessionaires in the Amazon, Indonesia, or Central Africa will not readily sacrifice hundreds of millions of dollars in income for diffuse environmental gain. Efforts in Madagascar, which has among the richest biological diversity in the world, to sell the plants and animals as a reason to protect the forests have been unsuccessful. Environmental groups committed to preserving Madagascar's biodiversity recognize that increasing economic opportunities for impoverished Malagasy farm families is the only effective way to protect a resource so highly valued by the outside world. These local people want more land to grow rice. And as their population continues to grow and the level of agricultural productivity continues to decline people cut and clear more forested lands. In Niger, sustained resource management policies requiring longer planning horizons and lower initial returns were promoted through a strategy of creating alternative or supplementary income opportunities for local communities (Case 19.1).

Attitudes change with rising incomes. With average GDP growth rates of more than 6 percent per year for the past two decades, Southeast Asian countries now manifest the preferences that are characteristic of middle-income economies. While urban pollution and congestion were acceptable prices for higher incomes, populations are now willing to trade some income potential for environmental, health, and welfare benefits. Priorities for desired local impacts vary according to complex income, social, and environmental factors; nevertheless, the motivating impacts are not global, or even national, but local.

Decentralization. Throughout the developing world, central authorities have been encouraged to decentralize many of the functions of government. In part, this strategy

has been motivated by a political agenda to democratize government, promote shifts from centrally planned governments and economies, spread power more widely, and lay the foundation for greater participation in the election process. However, the strategy also reflects the experience of countries throughout the developed world in implementing all types of policy. A key issue is whether central authorities can effectively implement national policies. In case after case, it has been demonstrated that devolving responsibilities to local authorities increases the effectiveness of policy implementation. Generally, central agencies are less responsive to local concerns and priorities than local officials, and local stakeholders perceive that their access to central officials is more limited. However, there are also certain types of local problems where the central government can play a prominent role. For example, the selection of sites for municipal landfills or incinerators may be difficult to resolve at the local level. In addition, central agencies are more likely to be accountable to large well-organized constituencies that can influence policy at the national level. But if the policy is poorly designed, local implementers may undermine it for all the reasons they would have implemented a well-designed policy. For example, forestry or fishery officials may be reluctant to prosecute illegal harvesting if they perceive that policies preclude the offenders from pursuing other economic opportunities. Local governments, assuming they have control over revenue and some managerial capacity, are at times (but not always) more responsive to the needs of those who stand to benefit from policy.

Setting the roles for central and local implementers. Policies on the environment and natural resources require the participation of more than one implementer, particularly if the policy reforms are introduced nationally. Central agencies, even if they are not responsible for compliance monitoring and enforcement, often contribute to the implementation effort, taking a lead role in interpreting legislation by writing regulations, developing more informal procedures, or preparing the implementation plan. In addition, central agencies may be better positioned to secure financial resources needed at the local level, resolve disputes, facilitate the transfer of technologies and knowledge among local implementers, and monitor and evaluate the overall effectiveness of implementation. The role of local authorities in implementation usually focuses on those activities involving direct and frequent contact with stakeholders such as development and review of permits, facility inspections, monitoring and review of compliance activities, and enforcement action against violators. The following have been identified as key challenges to ensuring effective local roles in implementation of environmental and natural resource policies:

- **Selection of local implementers.** The selection of the local implementation partner may depend on what skills and resources the local agency can apply to the task and the degree to which the local authority's traditional jurisdiction relates to the area covered by the policy. The devolution of management or implementation responsibilities to local agencies may be difficult if the focus of a policy is a geographical area that covers more than one jurisdiction (such as a national park, watershed, or wildlife range). In these cases, it may be more desirable to create new institutions or devolve authority to NGOs, as has been done in Montego Bay Marine Park and Negril Environmental Protection Area in Jamaica (see Case 17.2). Such decisions must consider the timeframe for implementation, barriers to transferring management authority, and other factors, such as historical relations between central authorities and the proposed local implementer. In Tanzania, wildlife ministries opposed a new wildlife management plan because the local managers to be entrusted with the country's wildlife had previously been targets of enforcement efforts.

A basic lesson learned over nearly thirty years of environmentally related policy efforts is that people choose outcomes that they believe will help them.

- **Adequate funding for local staff.** In many countries, local governments have limited authority to generate revenue to cover costs, and they must often depend on transfers from central budgets to support their activities. Local authorities rely on a combination of transfers and self-generated revenues in many OECD countries. In the

United States, consistent implementation of national legislation is sometimes achieved through program certification provisions that are linked to transfer of federal funds to state environment programs.

- **Local capacity.** Lack of local capacity is often the most difficult and time consuming problem to overcome. Monitoring and enforcement activities require a level of education and training among staff that may be in short supply in local jurisdictions. Such constraints were overcome in Tanzania by building capacity among community-based organizations (CBOs) to assist in the implementation of local wildlife management policies (Case 19.2). In addition, salaries are often low compared to salaries in the private sector. Thus, recruitment and retention problems may make it difficult to carry out implementation activities in local agencies.

- **Delineation of responsibilities.** The local authority's responsibilities are often not clearly defined in legislation or regulations, making it difficult for local people to execute the functions of government. In some cases, various agencies may have overlapping responsibilities, or an important component of implementation activities may not be permitted (in Indonesia, environmental officials are not authorized to enter businesses to conduct inspections). In other cases, the responsibilities are not clearly communicated to local officials or the central government fails to help local officials develop the needed capacity. EPIQ used its small grants and technical assistance resources to support an alliance of NGOs to work with local governments in Indonesia to begin implementing natural resource management responsibilities delegated by the central government (Case 19.3).

PROGRAMMATIC IMPLICATIONS

1. Look for ways to involve and support local partners and create local demand for policy implementation, for example by working with or creating local NGOs to monitor implementation of policies with distinct local benefits.

2. Determine weak links in the implementation process (typically as they relate to local agencies), and encourage national agencies to address legal or institutional impediments (such as failure of the courts to prosecute violations) and help co-finance capacity-building activities.

3. Look for opportunities to demonstrate the benefits of local implementation through the support of pilot programs and demonstrations, coupled with public awareness and outreach activities.

CASE 19.1 PROSPECTS FOR IMPROVED RESOURCE MANAGEMENT IN NIGER ENHANCED BY REFORMS THAT GENERATE LOCAL ECONOMIC BENEFITS

In the face of Niger's rapid population growth and associated resource depletion, restoration of both rural income and the environment requires a policy framework that recognizes a new set of balancing mechanisms. Provided that a favorable policy environment is in place, improved natural resource management can contribute to sustainable increases in production as well as a diversification of sources of rural income. A combination of improved resource management, small-scale infrastructure development, and the increased availability of external inputs, including chemical fertilizers and credit, can extend the horizon of sustainable increases in per capita production for at least another 20 to 40 years.

Since 1950, at least 4 million hectares of vegetated land in Niger has been converted to agriculture. In areas lacking investment in improved forest management, harvesting and consumption of forest products are well above sustainable levels, as a result of increasing demand for forest products and the shrinking area of natural woodlands. The gap is being filled by resource mining, which is eating into the resource stock and further aggravating imbalances between consumption and sustainable yields.

A central strategic question for policymakers remains: Does Niger have the biophysical capacity to restore the ecological equilibrium and support a growing population? The answer has two parts: (1) biophysical capacity can support real per-capita growth in agricultural output for the next generation if improved land-use management practices are widely adopted, including eventual use of external inputs; and (2) this success is biophysically feasible, but it cannot be separated from changes in the incentive system, the cost-benefit equation of specific land-use and investment choices, the growth of markets, and trade and commercial production.

Since 1990, following a series of critical policy reforms and as annual crop production became extremely constrained, the number of farm households adopting improved natural resources practices has accelerated sharply. Interviews with several hundred villagers from 1987 to 1994 indicate that household-level economic impacts are the dominant factor in adopting the improved natural resource management and related production practices. New opportunities that alter the local incentive structure-such as the devaluation of the CFA franc, the growth of urban markets, and regional economics and trade (particularly with Nigeria)—also provide a dramatic impetus to the transition from rain-fed subsistence agriculture to input-based, commercial production systems that incorporate improved natural resource management practices.

Under the pressure of rapid population growth, traditional balancing mechanisms no longer work. Soil mining, a practice that extracts more nutrients from the soil than are put back, has been documented in several scientific studies throughout the Sahel, including studies by the Royal Tropical Institute and the Centre for Agrobiological Research, both based in Holland. Over the last generation, unsustainable levels of crop production have been achieved through shortened fallow periods and associated soil mining. However, the long-term cost includes an accelerating loss of resiliency in the ecological system.

LINKING IMPROVED RESOURCE MANAGEMENT TO LOCAL ECONOMIC BENEFITS— ***Interviews in several hundred villages in Niger from 1987 to 1994 indicated that household-level economic impacts were the dominant factor in adopting improved natural resources practices and related production practices.***

CASE 19.2 BUILDING COMMUNITY CAPACITY FOR IMPROVED WILDLIFE MANAGEMENT IN TANZANIA

To assume a greater role in managing Tanzania's wildlife, rural communities had to develop new institutional structures and related management capabilities to gain the confidences of wildlife ministries whose previous interactions with communities had been mostly adversarial, focused on prosecution of poachers.

Tanzania recently adopted a new wildlife policy that vests responsibility for wildlife in rural residents living in villages near wildlife populations. This strategy is based on the theory that if communities receive economic benefits from the animals (through tourism and hunting), they will have incentives to conserve them. Even assuming that political will (and government institutional capacity) for this change exists throughout the relevant line ministries, the institutional challenge at the community level to implement such a change is enormous. Communities are at a big institutional disadvantage in trying to take responsibility for protection of wildlife. They cannot succeed by themselves, even with a supportive and capable wildlife ministry. Community-based organizations (CBOs) may need legal, socioeconomic analysis, organizational, public relations, credit, cooperative production and marketing, and technical assistance with natural resource management.

BUILDING COMMUNITY CAPACITY FOR IMPROVED WILDLIFE MANAGEMENT— ***While rural communities were able to overcome government perceptions that they posed a threat to wildlife management, building the capacity in CBOs to assume a greater role in managing Tanzania's wildlife presented a much greater challenge.***

Communities are clearly starting off at a disadvantage in assuming these responsibilities:

- Years of training, experience, and know-how have helped African wildlife professionals become expert in the requirements of law enforcement, wildlife management, disease control, water management, and range management. Communities are being expected to absorb these skills overnight.
- Communities are expected to be able to organize themselves to execute the task (assuming the technical skills exist). Yet, problems such as these accompany this approach: (1) community residents, unlike park wardens, don't know the applicable boundaries; conservation areas normally encompassing more than one traditional community, require forming larger alliances; (2) they lack an organizational structure as the wildlife areas often involve establishing modified decision structures including more than one community; and (3) rules don't exist because the right to regulate wildlife is being introduced for the first time in modern governance.

To address this constraint, CBOs in USAID target areas formed alliances with Tanzanian organizations that can provide such assistance. A supportive Tanzanian institutional network is needed to establish and perpetuate these fledgling institutions. Government can't provide all these support services and it is expensive, unwieldy, inefficient, inappropriate, and unsustainable for U.S. PVOs or contractors to provide them. Thus, limited assistance to these potential allies is important to USAID's policy implementation program.

This relatively straightforward concept, adopted as policy after a ten-year gestation period, requires an almost revolutionary change in thinking. For years the Tanzanian government was the sole guardian of the nation's wildlife endowment, and wildlife officers were trained to view community residents as potential criminals to be kept away from the nation's treasures.

Current middle- and upper-echelon managers of wildlife ministries spent their formative professional years chasing the same community members they are now expected to entrust with a cherished resource. Many are unwilling to promote this transition rapidly. However, thorough implementation is necessary to produce the incentives required for community conservation.

For the policy implementation to succeed, communities must gain rights over wildlife and assume responsible stewardship. Because the government cannot police all game outside protected areas, the only feasible alternative is to foster community collaboration via CBOs.

CASE 19.3 SUPPORT FOR CIVIL SOCIETY-LED DECENTRALIZATION INITIATIVES FOR NATURAL RESOURCE MANAGEMENT IN INDONESIA

Decentralization of natural resources management responsibilities in Indonesia has been a challenging process for which many local authorities were unprepared. A significant effort has been required to elaborate the division of responsibilities between central and local authorities and to prepare local institutions and staff to assume these new responsibilities.

Following the political watershed in which the 32-year authoritarian regime of President Suharto was replaced by a democratically elected government in 1999, Indonesia embarked on a radical policy of political and fiscal devolution of authorities from central to local levels of government, in so doing transforming itself from one of the most centralized to one of the most decentralized countries in the region in a two-year period. The political turmoil this caused has opened up unprecedented opportunities for civil society initiatives.

EPIQ's Indonesia program works in East Kalimantan, one of the largest and most resource-rich provinces. Like the country's other resource-rich outer islands, East Kalimantan historically generated huge revenues from oil, gas, coal, wood, and other resources but received only a small fraction of the development budget in return. Essentially, local and regional government structures were designed to facilitate the extraction of resources and revenues to the center rather than to support a wide range of local mandates. As a part of the decentralization process, eight new districts and municipalities in East Kalimantan were created—each with little or no existing administration or local legislative assembly.

Legislation was enacted devolving most economic and political authorities, including natural resource management, to sub-provincial and village level governments. This included the creation of new provinces and kabupatens (districts) to size regional and local government jurisdictions more efficiently and manageably. Also, local government assemblies were given significant fiscal and political powers. All of these fundamental policies and legislation were undertaken with very little consultation and communication with the affected local and regional governments, either to prepare them for their new responsibilities or to determine their capacity to take on these new functions. Meanwhile, Jakarta's central government continued to debate which powers should be devolved and to which levels of government, since decisions would have potentially major consequences for new revenues and shifts in power bases.

East Kalimantan's active environmental NGO network, which spans the range of resources and NGO types (service, advocacy, education), quickly realized that (1) local governments needed a rapid education in their new responsibilities; (2) local governments and assemblies needed a vigorous dialogue and watchdog function from civil society to ensure that new local policies and regulations did not actually increase resource degradation, social conflict, and economic problems, and (3) national government agencies were not going to provide either guidance or training soon. Some local assemblies and governments also realized that they could gain from reaching out for the expertise and guidance of the civil society sector.

Through its small grants and technical assistance program, EPIQ has helped develop and fund an alliance of NGOs that recognizes the link between policy and their members' field activities and the importance of developing credible political clout to effect policy change. Successes include the signing of a memorandum of understanding with the head of one kabupaten and an agreement with its district assembly to assist in strengthening the legislature, close involvement in the preparation of local legislation governing the establishment and management of community forests, and helping the local assembly to draft legislation for managing mangrove areas. In an adjoining heavily forested kabupaten, populated mainly by indigenous forest communities, EPIQ has worked with the local government to develop a public consultation and planning process that has developed the first local forest land management and revenue distribution system in the country and used GIS systems to demarcate forested lands and their status and use for the first time.

SUPPORTING THE ROLE OF CIVIL SOCIETY IN DECENTRALIZATION INITIATIVES—*In Indonesia, legislation was enacted that devolved natural resource management to sub-provincial and village level governments. An alliance of environmental NGO helped identify local capacity building needs and provided expertise and guidance to local assemblies and government organizations.*

CHAPTER 8: EVALUATE THE POLICY

Evaluation is the key stage of the policy process for building accountability for reforms as well as the institutions that promote and implement them. The conclusions of evaluations—when positive—validate the reforms and afford policymakers with the credibility needed to secure the resources and governmental commitment to sustain or even improve policies in the future. Even if evaluations are less favorable, they are valuable, nevertheless, in providing a basis for policymakers to press for additional reforms or the resources needed to make the current policies function effectively.

Three lessons are presented in this chapter. Lesson 20 makes the point that policy reforms can be evaluated, even though there are important obstacles to overcome in analyzing the results of reforms. While acknowledging the complex nature of policies and the context in which they are implemented, the lesson encourages donors and counterparts to adopt a flexible approach to evaluation, using interim and progress reports as well as basic information and trend indicators to focus attention on implementation progress. Such intermediate steps will also help donors and counterparts effectively plan for the larger and more comprehensive "evaluation" that is typically viewed as the primary or final output of this stage of the policy process. Lessons 21 and 22 relate to the more operational details of evaluations. Lesson 21 focuses on questions that an evaluation needs to answer and suggests that these questions will vary according to the audience. Lesson 22 examines the role and selection of performance indicators in evaluation. Although evaluations may involve a variety of analyses (such as knowledge, attitudes, and practices (KAP); market; and willingness-to-pay surveys), indicators are an essential input to evaluation, particularly in tracking intermediate progress in the early stages of implementation.

LESSON 20: EVALUATE POLICY PERFORMANCE

WHAT HAS BEEN LEARNED

Donors and their partners often are reluctant to undertake evaluations of environmentally related policy reforms. This reluctance can be attributed partly to the nature of environmentally related policy reform that makes it difficult to unambiguously answer the questions: is the policy working and what is its impact. In addition, donors may not recognize the full benefits of evaluation, perceive that the benefits do not justify the costs, or choose to target funds for activities without such lag-times due to limitations of their reporting requirements. Often partners fail to incorporate monitoring and evaluation activities, preferring to channel their limited funds to on-the-ground activities rather than funding what they perceive to be reporting requirements of the donor. The lack of appreciation for evaluation may result if "evaluation" is narrowly construed as a single report (that is limited in its capacity to provide feedback on a continual basis) rather than a stage of the policy process involving a number of analytical activities. environmentally related policy can be evaluated but only if it is conceptualized and planned at the beginning of the implementation stage and involves a well-conceived participatory process during which the parameters of evaluation are set, all parties who can use and/or disseminate the results are engaged in discussions, and agreement is reached on the frequency and scope of evaluation outputs.

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Donors and their partners often are reluctant to undertake evaluations of environmentally related policy reforms. It is sometimes difficult to unambiguously answer the questions: is the policy working and what is its impact. There may be a lack of appreciation for evaluation as a strategic stage of the policy process that fosters accountability and transparency. environmentally related policy can be evaluated if carefully planned using a well-conceived participatory process.

KEY UNDERLYING ISSUES

The nature of environmentally related policies. Evaluating environmentally related policies presents a number of challenges related to the characteristics of the policies, the stakeholders who respond to these policies, and the types of environmental and natural resource systems that are impacted by the policies. These challenges are described below:

- **Policy reform is "noisy."** A key challenge in evaluation is to "filter out the noise" in order to focus only on the relevant information and analysis that answers the question: Is the policy achieving or likely to achieve the desired results? This noise occurs because policy reforms are complicated and can only be viewed in a dynamic timeframe in which policies and political, social and economic context are changing continuously. Policy must be viewed in terms of the complexity of what it hopes to achieve: generating changes in the behavior of a variety of stakeholders, requiring changes in the institutions that implement, monitor, and enforce the reforms, and respond to new and better scientific information and the development of new technologies. A policy reform thus must consider the many "working parts" that can change simultaneously or independently, requiring that an evaluation consider how each of these component parts individually and in combination are functioning. None of these changes occur in a vacuum but in a dynamic economic, political, and cultural setting, often characterized by a flurry of reform activities with both positive and negative impacts on stakeholders and their response to the policy. The institutional setting for implementation is similarly dynamic: Implementing agencies may have responsibility for several different policy reforms, and with limited budgets, must balance priorities and determine what reforms have greatest priority among the public, the government, and the agency.

- **Lags in policy impacts.** For certain types of policies, the impact is almost immediate. For example, changes in environmental governance or bans on substances such as lead in gasoline may result in rapid, observable changes. For other policies, impacts may not be observed for many years after they are implemented. This is especially true of natural resource policies. Time is required for stakeholders to respond to new policies and information or adapt to new technologies or innovations. In addition, there may be a lag between the behavioral response to the policy and the response of physical and biological systems. Ultimately, impacts depend on how these environmental systems respond to policy changes, and in some cases on the continuing improvement of the state of our knowledge of biogeochemical and atmospheric systems. Even for the so-called "brown" policies of energy, industry and

transportation, compliance schedules are commonly flexible, enabling polluters to reduce emissions or discharge over a period of years. Case 20.1 illustrates how the impacts of a policy may change over time. The FAO conducted an evaluation of its forestry programs in India shortly after implementation. Several years later, a second evaluation indicated that the programs had resulted in very different impacts than had been observed earlier in the implementation of these programs.

Evaluation: a stage of the policy process. Evaluation is often treated as a discrete one-time analytical exercise rather than a multi-faceted stage of the policy reform process involving a number of analytical activities. This misperception of evaluation as simply a reporting requirement may account for the lack of interest among donor partners and counterparts. Given the technical issues discussed above, a single evaluation may be of limited use in tracking implementation success or analyzing impacts of policy reforms. In addition, if the evaluation has not been planned from the beginning of policy implementation, the information needed to track progress may be limited, making it more difficult still to prepare the evaluation report. While the report may be the culmination of this stage of the policy process, evaluation should embody many intermediate activities that involve tracking and analyzing progress.

Even for the so-called "brown" policies of energy, industry and transportation, compliance schedules are commonly flexible, enabling polluters to reduce emissions or discharge over a period of years.

The benefits of evaluation. Donors and their partners do not always appreciate the full benefits of evaluation in the process of policy reform. For donors, it is a matter of their accountability for the assistance resources devoted to programs and projects. Unless donors are explicitly required to analyze the results of the policy reforms, it is less costly in time and resources to focus their evaluations on the inputs and outputs of the assistance program or project-reports generated, institutions strengthened, stakeholders trained, equipment purchased. In addition, if the evaluations required of donors must be planned and executed during the timeframe of the assistance program or project or finalized shortly after termination, it may be difficult to analyze the implications for the environment associated with reforms. Thus, the impetus for evaluation of policy reforms often must come from the implementing agencies. They will need to understand that interim and final evaluation reports have value in providing them with information and analysis that can be used in discussions with the government and stakeholders. The evaluation outputs foster transparency, can be viewed as a mechanism by which the implementing agency's accountability can be judged and provide agencies assurance that the reforms are working.

Need a chorus, not one voice singing the praises of the policy. Many voices will often be more convincing than a single voice and will lend credibility to the policy as well as the policymakers. To ensure that these voices are mutually reinforcing, two issues must be addressed:

- **Evaluations include both formal and informal analyses at frequent intervals.** The implication is that attention should be focused on engaging those policymakers and stakeholders early in the evaluation process to ensure agreement is reached on the parameters of the various evaluation outputs.
- **In conjunction with the evaluation, it is important to identify who needs information on the policy and who can present the results of evaluation to these groups.** A dissemination strategy should be developed to identify and implement various mechanisms—workshops, press releases, and conferences.

PROGRAMMATIC IMPLICATIONS

1. Reach agreement with all relevant parties on the expected results of the policy reform, when they are expected to occur, how the results might change over time, the potential obstacles to success and how to account for these in evaluation.
2. Utilize the work planning process (a management tool that donors' assistance providers prepare before initiating policy assistance) to engage counterparts in discussions about what will achieved by the assistance program and by the policy reforms; the planning process also offers an opportunity to decide how to measure and evaluate success and to discuss the timing and frequency of evaluation activities.
3. Build progress reporting into the implementation process, so that local partners can observe whether or not the reforms being implemented are accomplishing the goals that were set during the design stage, and can consider the need for mid-course corrections.

CASE 20.1 FAO: LOOKING FOR IMPACT BEYOND THE LIFE OF THE PROGRAM IN INDIA

A series of policy evaluations of FAO's social forestry programs in India and other countries indicated that the conclusions formulated in earlier evaluations changed when the reforms were reevaluated years after the assistance programs had ended.

One difficulty faced by any environmentally related policy reform program is the time lag between the policy reforms and environmental impact. In most cases, if evaluations are timed to coincide with the termination of donor assistance (as donors often pay for such evaluations), evaluations may have to use proxies of impact, or predict impact on the basis of "enabling conditions" which have been shown to be effective in leading to long term change. While the use of proxies and developmental hypotheses to predict biophysical impact can be useful when funding is constrained by five-year funding cycles, experience shows that unintended impacts can occur that change the possible impact in ways that cannot be predicted, or monitored.

In the late 1980s, FAO decided to look back at the impact of a series of programs initiated in the 1970s, well after the formal funding for the social forestry program dried up. In the case of India's Gujarat District, FAO had supported an innovative effort to promote agroforestry, included policy reform that permitted the local control of tree planting and harvesting. By the end of the assistance program, evaluations universally applauded the success of the program. For years after the program was completed, the Gujarat forestry program was heralded as an agroforestry success story—a clear best practice.

On reviewing the program well after its completion, it was clear that the changes to the region were indeed significant—large numbers of trees were being planted and sold throughout the region. The program had indeed had a major positive impact in the region, but one fundamentally different than had been expected—instead of providing opportunities for the poorest of the poor, the greater impact was with the rural middle class who were able to take advantage of the new policy environment to plant woodlots. The access to new wood resources by the rural poor though did not significantly increase. In fact to some extent their access rights diminished as the amount of biomass grown in the region increased. The program had indeed been able to change the region's enabling conditions, **but what was not anticipated was which economic group was going to be able to take advantage of these conditions**, to the detriment of the program's nominal beneficiary group.

REVISITING THE RESULTS OF EARLY EVALUATIONS—*The Gujarat District social forestry program in India promoted agroforestry and permitted local control of tree planning and harvesting. Initial findings that the program was successful in providing access to new wood resources by the rural poor were later found to mainly benefit the rural middle class that was able to take advantage of the incentives to plant woodlots.*

LESSON 21: TELL A STORY—PROCESS AND RESULTS

Evaluation must answer questions about the performance of the policy as well as the way it is implemented. To achieve these goals, it is necessary to establish the baseline and develop plans to collect and analyze information that will help answer the questions on performance and implementation.

WHAT HAS BEEN LEARNED

Evaluation must tell a story—in other words, it should provide feedback to policymakers and managers that can guide diagnosis and changes in the policy design and its implementation. Evaluation will be more useful if care is taken to carefully present the problem statement (see Chapter 7), establish the baseline for comparing the before and after policy scenarios, identify criteria and indicators to monitor change, identify information gaps and plan how to collect actual or proxy data for the analysis, and establish the appropriate monitoring schedule to answer the various questions that comprise the evaluation.

KEY UNDERLYING ISSUES

Answering the basic policy question. The role of evaluation in the policy process is to provide an answer to the questions: Is the policy working? This question can be examined on two levels, the first focusing on whether the policy, as designed, is effective, and is the implementation of the policy effective. Answers to the first question will focus on the structure of incentives provided by the policy and the way that polluters or resource users and managers respond. For example, are investment tax credits effective in encouraging sustainable natural resource management practices? In addition, the policy will be evaluated by the results achieved in terms of improved environmental quality or allocation and use of natural resources. Are pollution standards strict enough? Has the rate of deforestation slowed to the desired rate of the policy? The second level focuses on how well implementing agencies perform in their support of the policy. These focus on the capacity of agencies, staffing levels, skills, and resources, quality of compliance monitoring programs, extension services for landowners, and communication programs.[3]

Persuasive evaluations. Even if the story is compelling and complex, short sound bites will often be needed to attract the attention of the audience or convince policymakers that the detail merits their time. In effect, the five-minute summary of evaluation results should tell the story in a way that is interesting to the policymaking audience in terms that are clear, understandable, and unambiguous. It should be recognized that the content of the "story" may need to be varied depending on the audience. For example, a senior government manager may need to know all the key points of the evaluation—if the policy is time-sensitive, is it accomplishing objectives or meeting targets, are stakeholders and the public better off as a result of the policy, is public money accounted for and spent effectively, and most importantly is the policy achieving its intended goal..

Less than everything you need to know. An evaluation has some cost associated with it. It may not be possible to carry out a comprehensive analysis of all the relevant policy questions. In addition, there may be both spatial and temporal dimensions that must be considered in conducting evaluations. For example, some evaluation questions on implementation of a policy may be analyzed after one or two years. However, it might be more appropriate to evaluate the policy design after it is possible to observe how stakeholders respond to the policy's incentives. Thus, evaluations do not necessarily cover all of the policy questions that can be asked but should strike an appropriate balance between cost-effectiveness and precision.

Planning ahead. An important consideration in laying the groundwork for policy evaluation is to characterize the baseline so that evaluators can distinguish the before from the after. In cases where the policy reform process has involved diagnosis and extensive dialogue between policymakers and stakeholders, there already may be baseline information available. Illustrative information that will be needed to characterize the situation before the policy is implemented includes ambient levels of air and water quality, land use patterns, measures of biological diversity (at

3 There is a large volume of information and guidance material on evaluating institutional capacity. A useful introduction to this literature is Measuring Institutional Capacity, Recent Practices in Monitoring and Evaluation, USAID/CDIE, 1996, Washington, DC.

the genetic, population, species, and community levels), soil geochemical composition as an indicator of potential crop productivity and nutrient loss associated with erosion and mineral leaching.

Policy performance is not easily evaluated. From the point in time when a policy is designed, many factors can affect how well it performs, including how it is implemented. However policy performance can also be affected by external factors such as the general economic conditions, financial markets, political strife, and natural disasters to name just a few. A number of challenges must be met in conducting evaluations:

- **Setting the hypothesis.** The goals of the policy reform are often stated in qualitative as opposed to quantitative terms, requiring the analysts to determine what constitutes success or effectiveness. Often this reflects the early stages of our scientific understanding, especially of the natural systems. It may be necessary to discuss different specifications of the hypothesis before undertaking the evaluation. In cases where donors provide the funding, the evaluation may focus on hypotheses that are more useful in answering questions more closely linked to the donor's current assistance program or interests in providing future assistance than to the overall policy reform. Case 21.1 describes the use of Knowledge, Attitudes, and Practices (KAP) surveys in Senegal, where initial surveys were tailored to USAID's information requirements under their annual reporting requirements, but later broadened to focus as well on the performance of the policy reforms.

- **Attributing change.** External factors may have both positive and negative influences on the performance of policies. It may be necessary to analyze these factors and attribute results to each of the most important factors. For example, periods of recessions may alter facilities' willingness to undertake investments, or high rates of inflation may make it difficult for farmers or timber interests to take on new loans. In Guatemala, for example, the evaluation of forest policies included an analysis of foreign exchange rates and domestic interest rates to determine their role, relative to the policies' incentives, in encouraging forestry investments (Case 21.2)

PROGRAMMATIC IMPLICATIONS

1. Formulate a set of questions early in the process that will help assess the use of assistance resources and document the results of policy reforms. Case 21.3 illustrates the use of "best practices" criteria to guide the framing of the questions addressed in performance reviews of environmental funds in Central and Eastern European countries.

2. Plan the evaluation of the policy process using questions such as: Who will need or use the results of the evaluation?

   – How does each user define success?

   – What types of information and analyses will best enable these users to judge if the policy is successful?

   – When are evaluation results needed?

   – How should evaluation results be communicated to various audiences?

   – Who will set or frame questions, establish performance criteria, develop baselines, collect trend data, conduct the analyses, and disseminate the results?

   – Do the institutions that will be involved in conducting the evaluation have the appropriate skills and resources?

   – How will evaluation be financed?

3. Revisit the goals of the policy in the course of evaluation in order to ensure that the process and results associated with assistance and policy reforms are being assessed accurately.

CASE 21.1 ADJUSTING PROGRAM EVALUATIONS IN SENEGAL

This case illustrates how the scope of program evaluations was adjusted to help answer questions about the impacts of USAID assistance in Senegal. Over the past 10 to 15 years, USAID/Senegal has invested some $100 million in agricultural research, extension, reforestation, environment and natural resource management and other rural development programs. Monitoring and evaluation of the success and impacts of these investments was initially limited to project-specific systems. However, the mission wanted to assess broader rural development and environmental trends and the aggregate and long-term impact of programs. It therefore funded a baseline natural resource assessment in the mid 1980s, followed up with a long-term environmental monitoring project that was carried out with the technical support of the US Geological Survey during 1994–2000. This effort yielded important insights into changes in land use among the different eco-regions of Senegal, and provided a context for the assessment of the impact of demographic pressures and agricultural practices on the natural resource base of the country.

ADJUSTING PROGRAM EVALUATIONS—*In an effort to assess broader rural development and environmental trends and the long term impact of its programs in Senegal, USAID revisited the data gathered from previous KAP surveys to provide compelling, quantitative evidence for the major determinants of the adoption of natural resource management practices.*

One of USAID's contractors was tasked to help with the design of a national household survey of knowledge, attitude, and practices (KAP) related to the adoption of natural resource management practices and associated agricultural and rural development parameters. The KAP surveys were carried out in 1992, 1994, 1996, and 1998 to assist the mission in compiling information for its annual R-4 reports. Senagrosol, a Senegalese consulting firm carried out data collection and reporting for household surveys, which provided for continuity and consistency in the survey methodology and use of the questionnaire. However, adjustments in the indicators selected by USAID for their R-4 reports caused changes in the manner that key questions were posed in the survey and made it more difficult to track changes in certain practices over time.

The focus on USAID's internal requirements for R-4 reporting did not lead to a sense of ownership and vested interest in the data on the part of Senegalese government institutions or the network of partners involved in NRM programs in Senegal. USAID/Senegal only used Senagrosol to administer the KAP questionnaires and did not endeavor to build capacity outside of the mission in data analysis and strategic planning in relation to the use of the KAP survey results. The capacity for data analysis and useful application of the survey results was in fact quite limited, even within the USAID mission. As a result, the mission had little real understanding or appreciation of the implications of the KAP surveys with respect to needed adjustments in development assistance strategies and program design.

This situation was rectified to some degree through a major effort funded by the mission in 1998–1999 to complete the fourth KAP survey and carry out an analysis of the survey data in conjunction with an assessment of the impact of the mission's investments in Strategic Objective 2, the Agriculture/ Natural Resource Management portfolio. As part of the scope of work for that assessment, the team was asked to identify plausible causes, reasons, purposes and logic for the use and non-use of improved NRM technologies, and to identify the various determinants of adoption of specific practices in different eco-regions, villages and households. Once the team was able to recover, recode and organize the KAP survey data, a number of useful insights were in fact generated from the statistical analysis of the KAP data. In contrast to much of the anecdotal evidence related to the use of NRM practices, the KAP survey analysis provided relatively compelling, quantitative evidence for the major determinants of the adoption of NRM practices. For example, the survey analysis confirmed the value of extension visits (access to technical information on NRM practices), as well as the importance of access to capital (households with more than 25,000 CFA francs per year in remittances) and labor (households with more adult labor available were more likely to be users of natural resource management technologies). USAID/Senegal is using the results of this analysis to launch the next phase of program investments in agriculture and natural resource management.

CASE 21.2 MACROECONOMIC POLICIES AFFECT THE SUCCESS OF FORESTRY POLICIES IN GUATEMALA

The analysis of the foreign exchange and interest rates and their effect on the forestry sector, provided Guatemalan policy makers with insight on where and how both macroeconomic and forestry policy need to be adjusted to provide the enabling conditions for profitable forestry investments.

As part of its ongoing environmentally related policy support to the government of Guatemala, the EPIQ team examined legal and financial impediments to the economic viability of forestry-related investments. The team recently conducted a study to analyze the impact of macroeconomic policies on the forestry sector, to provide the basis for a more informed policy dialogue in the forestry sector and in macroeconomic reforms. The information generated by the study will be used not only to guide changes in the current forestry policy, but also to advance the discussion of needed macroeconomic adjustments.

Forest production has never been a profitable venture in Guatemala due in great part to macroeconomic distortions and the high cost of production. In 1997, the Guatemalan government established forestry incentives (PINFOR) to stimulate investment in the forestry sector. PINFOR provides payments for reforestation and for natural forest management (for production as well as for conservation). In exchange for the incentive payments, recipients are required to implement sustainable forest management practices.

Specifically the study analyzed how the distortions on the exchange rate affect the economic viability of investments related to the conservation of renewable natural resources, investments that are generally considered to be long term. The study analyzed secondary information and data to obtain an approximation of the probable values of economic distortions that affect the exchange and interest rates in Guatemala. This value combined with estimates of the cost of production and income generated in pine forestry plantations for sawn wood, allowed the team to calculate values of distortion impacts on the profitability of plantation forestry.

The study found that in spite of the adoption of a flexible exchange rate system (introduced in 1989), the tendency to overvalue the queztal (Q), compared to the U.S. dollar, continued to grow reaching 22.6 percent overvaluation by 1996, thus generating distortions in the exchange rate. Additionally, the active nominal interest rate, also deregulated in 1989, rose from 13.4 percent (1980–1989) to an average of 21.2 percent during 1990–1999. The risk of inflation and continued political instability in Guatemala were found to be the key factors in these rate increases. The effect of these distortions reduced the net actual value of forestry plantations from a profit of Q 1,651.10 per hectare to a loss of Q8,223.85 per hectare.

Although PINFOR was not expressly designed to ameliorate the effects of macroeconomic distortions, in practice, it has helped offset these effects by increasing the net value of plantations receiving the forestry incentives, as compared to forestry activities not benefiting from the program. It was found that in plantations receiving benefits under PINFOR the profit increased by Q 701.70 per hectare, despite the observed distortions, on a undistorted scenario this benefit would be Q 11,499.4 per hectare. The study concluded that by eliminating these distortions and continuing with the PINFOR incentive program, pine forestry plantations could become an economically viable investment.

ASSESSING THE EFFECTS OF MACROECONOMIC POLICIES— ***The effect of distortions in the Guatemalan foreign exchange rate were not originally considered in the government's forest incentives program that included payments of reforestation and natural resource management in exchange for recipients implementation of sustainable forest management practices.***

CASE 21.3 BEST PRACTICES GUIDE ENVIRONMENTAL FUND REVIEWS IN CENTRAL AND EASTERN EUROPE

External evaluations of environmental institutions will often be more credible and result in changes if guided by criteria viewed as objective or reflective of best practices. A case in point is the series of Central and Eastern Europe (CEE) environmental fund reviews conducted since 1997.

During the 1990s, most CEE countries established environmental funds to provide financial support for environmental investments and related activities. These funds have relied on revenues from both domestic and foreign sources and provided support mainly in the forms of grants and/or loans with attractive credit terms relative to those offered by commercial banks.

USING BEST PRACTICES AS THE BASIS FOR REVIEWING ENVIRONMENTAL FUNDS—*The St. Petersburg Guidelines were used as the benchmark for evaluating fund organization structure and operations in Poland, Estonia, Czech Republic, Slovenia, and Moldova.*

In 1995, the Environmental Action Programme (EAP) Task Force, in collaboration with the OECD, convened a workshop in St. Petersburg, Russia to vet a set of guidelines on the operation of environmental funds. The resulting document, referred to as the St. Petersburg Guidelines, were endorsed by countries participating in the Environment for Europe Ministerial Conference in Sofia, Bulgaria that was held in October 1995.

Subsequent to this conference, several funds requested the EAP Task Force to organize and secure financing for independent reviews of their funds. Beginning in 1997, five CEE fund reviews were conducted for the following funds: Polish EcoFund Foundation (1997); Estonia Central Environment Fund (1998); Czech Republic State Environmental Fund (1998); Slovenia Environmental Development Fund (1998); and Moldova National Ecological Fund and Chisinau Municipal Fund (2001).

The fund reviews involved common design elements that appear to have contributed to the quality of the evaluations, as reflected in the funds' adoption of recommendations. For example, in one case, the government of Estonia undertook an extensive modification of the fund involving the fund's legal status, management procedures, and relationship to the Ministry of Environment. The common elements of the fund reviews were as follows:

- **Well-defined, consensus-based evaluation criteria—**The St. Petersburg Guidelines were used as the benchmark for evaluating fund organizational structure and operations.
- **Performance indicator data compiled since the establishment of each fund—** The funds monitored revenue flows, disbursements, results of project cycle appraisals and selection processes. In some cases, funds even had conducted post-implementation monitoring of environmental results.
- **Open and transparent process, guided by mutually agreed terms of reference—** The evaluation teams were provided with access to all documents, fund staff, and stakeholders (such as successful and unsuccessful applicants). In addition, the reviews were conducted by independent teams under the aegis of the EAP Task Force.

LESSON 22: LEARN TO TRACK WHAT IS IMPORTANT

WHAT HAS BEEN LEARNED

As noted in the previous lesson, an evaluation is tailored to answer the set of questions that donors, their partners, and other counterparts and stakeholders have identified as being appropriate to measure progress in achieving policy goals. Just as evaluations do not analyze every possible question that could be asked about the policy and its implementation, not all types of information should be monitored and evaluated. The selection of indicators will often be the critical step in planning and conducting evaluations. Given the inherent difficulties in measuring the success of environmentally related policy reforms, donors and counterparts will often face challenging choices in selecting indicators.

KEY UNDERLYING ISSUES

Tracking for accountability. For donors or their partners, what is important to track depends on what they are accountable for to their respective governments, stakeholders, and the general public. For donors, accountability, particularly while assistance is being provided, focuses on whether the assistance resources are being used effectively. Tracking may involve monitoring of indicators that describe assistance inputs and outputs to determine how the resources were employed. However, tracking of outcomes and results may be necessary to determine if the assistance effort is effective. Annex 3 provides a detailed discussion of the range of process and result indicators that have been used by USAID to monitor environmental and natural resource assistance programs. For counterparts, accountability requires tracking of both process indicators and results because of their need to demonstrate progress as well as the effectiveness of policy reforms. Case 22.1 illustrates many of the challenges in the implementation of the Niger Agriculture Development Grant in tracking the results of the assistance program and policy reforms simultaneously.

Making difficult choices. Even if the evaluation questions seem simple and straightforward, identifying the best indicators to answer the question will often be difficult. Some of the challenges that will need to be addressed include the following:

- **Different audiences.** For a given evaluation question, different audiences may expect the question to be answered in different ways. For example, if a policy is designed to reduce nutrient loading by encouraging farmers to adopt practices and select crops that require lower fertilizer use, farmer groups will want to know what impact the policy has had on farm profits while the public will be interesting in how the policy affects the quality of water. Thus, more than one indicator may be needed to answer a single question. Often, the audience will want the question tailored to a very specific issue. If implementation of a policy involves demonstration or pilot activities, it may be desirable to focus evaluations on the effectiveness of implementation in the pilot regions or institutions before full implementation proceeds. Such a "mini-evaluation" is illustrated in Egypt, where one of the eight planned Regional Branch Offices of the environmental agency (EEAA) was organized and operationalized as a pilot to evaluate the effectiveness of the proposed management structure and capabilities (Case 22.2).

- **Complex processes.** The implementation of policy reforms will often occur in a number of steps and involve numerous agencies or institutions (see Chapter 7). It may be necessary to track implementation decisions (promulgation of procedures and regulations, creation of new institutions), progress in training staff to implement

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An evaluation is tailored to answer the set of questions elaborated by donors, their partners and other counterparts and stakeholders. Just as evaluations do not analyze every possible question that could be asked, not all types of information should be monitored and evaluated. The selection of indicators will often be the critical step in planning and conducting evaluations.

policies, and the flow of resources to recruit additional staff and provide them with equipment and other supplies necessary to carry out their responsibilities. While it may be possible to develop indicators to track all of these implementation activities (Annex 3), it may be useful to combine indicators i.e., creating "composite" indicators or indexes. For example, donors or agencies may be asked questions related to the progress to date in implementing the policy or in strengthening the agency to carry out its responsibilities. USAID programs have used composite indicators to be able to respond to such questions. Obviously, such indicators may provide the audience with the "big picture" but are less useful for analyzing specific problems.

- **Complex results**. The use of indicators to track the results of policy reforms is even more challenging than monitoring the process. In addition to the problem of different audiences requiring a "different bite out the same apple" that requires results to be tailored to different audiences, tracking results is difficult because of timing and measurement problems.

- **Timing.** As noted in Lesson 20, results may be observed many years after the reforms are implemented. Illustratively, reforms of Niger's forest code yielded results more than 20 years after their adoption. When there are substantial lags in results, an "ideal" result indicator may fail to show progress in early years. To address this timing issue, it may be possible to identify intermediate results, typically related to how stakeholders respond to the policy reforms. Ideally, for these indicators there are clearly understood causal linkages to the ultimate policy result. Another example relates to reforms designed to rebuild coral reefs. While it may take decades to measure discernible improvement in reefs, indicators that can be linked to such improvements—elimination of destructive fishing and gathering practices, installation of mooring buoys to limit damage from anchors, improved education and awareness programs—may provide credible surrogates.

- **Results vs. impacts.** The best measure of the magnitude of impacts may often be beyond the capacity of indicators and require additional analysis. For example, ambient air quality can be monitored on a continuous basis, but doesn't enable policymakers to place a value on the benefits of improvements in terms of reduced incidence of health effects and reduced damage to agriculture, forestry, or buildings. Similarly, the act of designating national parks or protected areas (either by number or acreage) does not adequately measure the impact on biodiversity or tourism. In most instances, the costs of valuing impacts cannot be justified as part of a donor's or implementing agency's budget. Thus, to tell a story using these surrogate indicators will require some supporting discussion of the linkages between the surrogates and the ideal measure of impacts.

Unintended successes. It may be useful to track information that is seemingly unrelated to the policy reform program. For example, sometimes the policy reforms result in different types of successes than was originally envisioned. An "unintended success" might result if, for example, a donor-led policy dialogue related to a specific policy reform encourages assistance partners to adopt and make wider use of such participatory processes in designing and implementing other policy reforms.

Unintended failures. A policy may be sound and complemented by effective implementation and yet still fail to yield desired results due to exogenous factors or policy decision unrelated to the environmentally related policy reform. Where such a potential for failure exists, it may be necessary to use indicators to document such factors. For example, high rates of inflation, weak capital markets, and disruptions in export markets due to external conflicts might decrease the adoption of sustainable management practices.

PROGRAMMATIC IMPLICATIONS

1. Employ USAID's series of guidance documents including the Performance Monitoring and Evaluation Tips to support development and implementation of performance indicators; these documents offer tips such as:
   - Indicators should be clearly understandable by policymakers, stakeholders, and the public.
   - Establish baselines for all indicators.
   - Make available the input indicator data employed in constructing the composite variables or indexes.
   - Define indicators that involve threshold terms used to characterize a degree of completion or implementation such as "operational," "fully implemented," or "innovation adopted."
2. Balance simplicity against the substantive content of the indicators. Information presented in a form that engenders confusion or leads to contradictory or ambiguous interpretations has only limited value in the policy process.
3. The ideal or most accurate indicator may not be affordable or practical to track on a sustained basis. If a donor anticipates shifting responsibility for tracking indicators to assistance partners, resource requirements such as staff time and monitoring equipment maintenance and replacement costs should be carefully considered to ensure partner have the capacity and willingness to assume monitoring responsibilities.

CASE 22.1 USE OF INDICATORS IN MONITORING AND EVALUATION: NIGER AGRICULTURE SECTOR DEVELOPMENT GRANT, PHASE II

During the design of potentially complex policy reform programs, the desire to address the underlying problems and development challenges in a comprehensive manner needs to be weighed against the need to limit the program to what can be managed and tracked in a practical manner. Research and analysis may lead one to formulate a development hypothesis that is conceptually sound, but program assistance must contend with institutional constraints and a host of other potential obstacles in monitoring and reporting. For example, the soundness of the development hypothesis underlying the program design and the fundamental importance of the program activities supported by Agriculture Sector Development Program, Phase II (ASDG II) enabled the program to make significant progress in achieving its objectives and in improving the management of natural resources in Niger. However, the results and impacts of the program were not easily discerned in the midst of the lengthy documentation required for the satisfaction of the too numerous program conditionalities. In time, the difficulties inherent in capturing and conveying the program's impact amid the myriad activities that needed to be documented eroded political support within USAID for continued funding of the program.

USING INDICATORS IN MONITORING AND EVALUATION—*The higher level results of the Niger Agricultural Sector Development Grant Phase II, such as adoption of improved practices, biophysical changes, and improvements in socio-economic well-being, were not monitored and evaluated because program managers were obliged to spend so much time tracking, monitoring, and reporting to satisfy the multitude of program conditionalities.*

A number of innovative programs at the time in environment and natural resource management (E/NRM) were being designed with a view towards achieving specific results, based on a flexible, rolling design. In order to track the intermediate results achieved and adjust the program design, a considerable effort was invested in monitoring a set of key indicators. These indicators were developed to help identify results achieved at different levels, as a function of the analytical framework for E/NRM programs that had been developed by USAID's Africa Bureau.[4] The framework included five levels of anticipated results or impacts:

- Socio-economic indicators to track progress against the longer term goals related to improving the well-being of target populations.
- Bio-physical indicators, to track progress in reducing environmental degradation and in increasing the productivity of natural resources.
- Adoption of practices, to track changes in the rate of adoption of improved NRM practices that were positively correlated with positive environmental and socio-economic impacts
- Establishment of enabling conditions which favor the adoption of improved practices, with indicators to track selected policy and institutional changes
- Mobilization of actions that contribute to the establishment of enabling conditions, and to the subsequent higher rates of adoption of improved practices and positive environmental and socio-economic impacts.

USAID/Niger funded ASDG II with the aim of supporting the actions needed to establish the key enabling conditions for widespread adoption of improved NRM practices in Niger. The program was national in scope, and included $20 million in non-project assistance and $8 million in project assistance. Although the program was terminated early before

all the tranches had been disbursed, in the wake of a coup d'état in January 1996, a number of valuable lessons were learned with respect to the use of non-project assistance and associated monitoring and evaluation activities.[5]

ASDG II was intended to contribute to longer term rural development objectives through the strengthening of decentralized, democratic, community-based land use planning and local development activities, and through the diversification and intensification of land use. The development hypothesis for ASDG II was based on a series of field level assessments of agricultural programs and related NRM initiatives in the region which had been identified, documented and analyzed through a series of assessments, strategic reviews and lessons learned studies. The program was based on the premise that rural producers would invest in NRM practices, provided they resulted in demonstrable benefits in terms of increased incomes.

The program design was comprehensive in scope, endeavoring to establish all of the key enabling conditions thought to be necessary for the increased adoption of NRM practices in Niger. In total, there were 86 conditionalities tied to the $20 million in non-project assistance. While the scope and number of conditionalities was laudable from conceptual standpoint, it also proved too problematic with respect to program implementation. By putting so many components into one program, the large number of institutions that were responsible for the various areas targeted by the program led to the organization of several layers of relatively unwieldy program management structures.

The monitoring and evaluation system reflected the overall complexity of the program, and engendered a number of challenges in monitoring and reporting upon the achievements of the program. Because the technical support team and program managers were obliged to spend so much time tracking, monitoring, reporting, promoting and supporting actions required to satisfy program conditionalities, little time was available to assess and monitor the progress in achieving the higher level results of the program (in terms of adoption of improved practices, biophysical changes, improvements in socio-economic well-being).

Unlike some programs using non-project assistance, ASDG II stipulated that the funds to be released upon satisfaction of the conditionalities would have to be programmed and used in support of the overall program objectives, and not simply turned over to the treasury of the government of Niger. This enabled the various institutions involved in carrying out the program activities that satisfied the conditionalities to directly benefit from the non-project disbursements. The government was quite supportive of this innovation. However, it added to the number of conditionalities and overall complexity, as it required all the various institutions to meet and agree on the manner in which the funds would be allocated and programmed, in advance of a given disbursement. It also built up expectations and even a certain dependency on these non-project funds (as work plans and annual budgets for GON agencies were developed on the assumption that non-project funds would be forthcoming), which resulted in frustrations and disappointments when USAID was delayed in its processing of the voluminous paperwork submitted to document the satisfaction of the conditionalities. **The process would have worked much more smoothly had there been fewer conditionalities, and a streamlined process for monitoring compliance as well as a rolling verification of the satisfaction of each conditionality.**

4 See The NRM Framework: what it is, what it does, and how it works with an example from the field. By Fred R. Weber, AFR/TR. September 1991.

5 See ASDG II NRM and Institutional Turn-over Plan, prepared for USAID/Niger by IRG, December 1996, and Impact et Durabilite des Reformes et Realisations SDSA II, par Ibrahim Ba et Mamadou Maman, consultants, September 1996.

CASE 22.2 TESTING AND EVALUATING ARRANGEMENTS FOR DECENTRALIZED POLICY IMPLEMENTATION IN EGYPT

TESTING AND EVALUATING ARRANGEMENTS FOR DECENTRALIZED POLICY IMPLEMENTATION—*The Egyptian Environmental Affairs Agency has taken a measured approach to decentralized management by building the capability of one Regional Branch Office in the Middle Delta. The idea of having one RBO become fully operational provides for an evaluation of the policies, procedures and mechanism for coordination to determine what adjustments are needed before rolling out the decentralization program nationally.*

In Egypt, the government's proposed decentralized management structure was tested in selected regions and then evaluated in advance of full implementation. Law 4 of 1994 reflects a recognition that in many circumstances decentralized environmental management and policy implementation serves the dual (and related) purposes of good governance and attuning policy to the needs of the people it directly affects. Accordingly, Article 2 of that law delegates some Egyptian Environmental Affairs Agency (EEAA) functions to regional branch offices (RBOs) throughout the country. In turn, the RBOs are expected to provide technical support and guidance to governorate-level environmental management units (EMUs) that are responsible for administering, implementing and enforcing all environmental legislation.

To make this system work, it is necessary to clarify roles and responsibilities, to establish mechanisms for coordination and collaboration, and to strengthen capacity for effective environmentally related policy implementation and management in the sub-national units.

EEAA is taking a measured approach to decentralizing management. With support from USAID and Japan, eight RBOs were established. Physical facilities, including buildings equipped with laboratory facilities, are being developed; policies and procedures have been approved; and staff is being appointed and trained. The next step, which is being carried out with USAID support under the current phase of the Egyptian environmentally related policy Program, is to provide field-oriented training for staff of the Middle Delta (Tanta) RBO, one of the first with facilities and staff in place. The idea is to help that RBO become fully operational, and in the process to test out and evaluate policies, procedures and mechanisms for coordination to determine what adjustments are needed before the scheme for decentralized management is implemented on a national scale. To assure that staff of other RBOs, EMUs and EEAA central departments fully understand the scheme and are involved in adjusting it to reflect lessons learned in the pilot test, they too will participate in the training.

ANNEXES

Annex 1: Case Sources

Annex 2: Matrix for Cases

Annex 3: Overview of USAID Environmental and Natural Resource Performance Indicators

ANNEX 1: CASE SOURCES

Case 1.1	*Being prepared to face down the opposition: air pollution control in Quito, Ecuador,* Douglas Southgate, based on conversations with Jorge Jurado, Director de Medio Ambiente, Municipio Metropolitano de Quito, March and July 1996.
Case 1.2	*Private sector power development in Pakistan proves difficult without "champions,"* Charles Ebinger.
Case 1.3	*Reform of water policies in Jordan requires willing and committed partners,* Russell Misheloff.
Case 1.4	*Engaging high-level forums to champion policy change: the US-Egyptian partnership for economic growth and development,* Douglas Clark.
Case 2.1	*Involving key stakeholders in policy dialogue: USAID's Natural Resources Project,* David McCauley, based on *BAPPENAS, Multi-Stakeholder Resource Management: Reflections on Lessons Learned from the Indonesian Natural Resources Management Project* (1997).
Case 2.2	*The importance of building consensus for policy change: Ecuador's Agrarian Development Law of 1994,* Douglas Southgate, based on D. Southgate, C. Camacho-Saá, and J. Strasma. 1997. "La Articulación de la Propiedad Privada en el Ecuador Rural" in M. Whitaker (ed.), *Evaluación de las Reformas a las Políticas Agrícolas en el Ecuador*. Quito: Instituto de Estrategias Agropecuarias.
Case 2.3	*Building consensus on regional initiatives to improve water quality in Central Asia,* David McCauley.
Case 2.4	*Monitoring and evaluation of the forest policy reform process: Global Witness as a watchdog in Cambodia,* Kara Page.
Case 3.1	*Donor coordination in Indonesia's forestry crisis,* David McCauley.
Case 3.2	*Coordination and cooperation improve donor assistance to Central and Eastern Europe,* Theodore Panayotou.
Case 4.1	*FAO's efforts to involve and better address concerns of all stakeholders: Gender and the policy process in natural resource management in Asia,* Marilyn Hoskins.
Case 4.2	*Opportunistic policy dialogue: shifting the focus to capitalize on contextual change and structural transformation in Niger,* Asif Shaikh.
Case 4.3	*Forest policy dialogue in a variety of forms and settings,* Marilyn Hoskins.
Case 4.4	*The importance of local institutions: IMAZON in Brazil,* Author unknown, based on conversation with Robert Schneider, World Bank, Brasilia, June 1996.
Case 5.1	*Sharing of international experience enhances policy dialogue to improve water quality,* Theodore Panayotou.
Case 5.2	*Interactive Water Policy Dialogue in Egypt*, Michael Rock.
Case 6.1	*South Korea's environment improves two decades after legislation introduced,* Glen Anderson, based on report by Michael Rock
Case 6.2	*Reforming institutions often takes longer than finding technical solutions: Solid waste collection in Machala, Ecuador,* Douglas Southgate, based on Stern, J., D. Southgate, and J. Strasma. In press. "Improving Garbage Collection in Latin America's Slums: Some Lessons from Machala, Ecuador" Resources, Conservation and Recycling.

Case 6.3 *Small start to win early successes: A bite-sized approach to tradable permits in the Czech Republic,* Theodore Panayotou.

Case 7.1 *Political change provides stimulus for environmentally related policy and institutional reform in Sri Lanka,* David McCauley.

Case 7.2 *Officials in 10th of Ramadan City, Egypt involve stakeholders at early stage in developing a municipal environmental management system (EMS),* Glen Anderson.

Case 7.3 *Window of opportunity opens to test market-based air pollution policies in Almaty, Kazakhstan,* Jeffrey Vincent.

Case 8.1 *Successful policy reform requires understanding of complex multidisciplinary contexts: Wildlife management in Tanzania,* Russell Misheloff.

Case 8.2 *Investments in information systems helps Madagascar build capacity to monitor and assess development projects,* Tony Pryor.

Case 8.3 *Use of analytical approaches in the Philippines Environmental and Natural Resources Accounting Project,* Juan Sève.

Case 9.1 *Egypt builds support for agricultural policy reforms by showcasing stakeholder benefits,* Glen Anderson.

Case 9.2 *Publicity of China's system of urban environmental indicators leads to improved performance,* Glen Anderson, based on paper by Michael Rock, Yu Fei, and Chonghua Zhang, *The Impact of China's Urban Environmental Examination System on Urban Environmental Management and Ambient Environmental Quality,* 1999.

Case 9.3 *PROPER: Innovative use of facility information to generate support for policy reforms in Indonesia,* Jeffrey Vincent, based on S. Afsah and J.R. Vincent, *Putting Pressure on Polluters: Indonesia's PROPER Program.* Cambridge, HIID, 1997.

Case 10.1 *Solid analysis furthers diagnosis of timber auctions in Romania*, Jeffrey Vincent.

Case 10.2 *Building analytical capacity for problem diagnosis may be needed to ensure that investment decisions are sound: The case of Novokuznetsk, Russia,* Russell Misheloff.

Case 10.3 *Development of a comprehensive forest policy in El Salvador,* Anne Lewandowski and Carlos Rivas.

Case 10.4 *Evaluating and learning from experience in designing policies and programs to protect Egypt's Red Sea coastal resources,* Russell Misheloff.

Case 11.1 *Cash transfers play catalytic role in Egyptian policy reform programs,* Glen Anderson.

Case 11.2 *External pressure results in limited forestry sector reforms in Indonesia,* David McCauley, updated by Jim Tarrant.

Case 12.1 *Policy design in the period of economic transition: Overcoming the poor climate for environmental investments in CEE and NIS countries,* Glen Anderson.

Case 12.2 *Conserving Madagascar's unique biological diversity through rural development,* Asif Shaikh.

Case 12.3 *Regional policy design to preserve wildlife habitats in Botswana,* Asif Shaikh.

Case 12.4 *Managing Central Asia's water resources: Setting an appropriate spatial scale for policy design,* David McCauley.

Case 13.1 *Conflicting forestry policies create disincentives for sustainable management strategies,* Marilyn Hoskins.

Case 13.2 *Agreement for higher tourism operator fees in the Galápagos Islands reached by extolling benefits to economic interests of protecting ecological resources,* Douglas Southgate, from Douglas Southgate, 1997. *Alternatives for Habitat Protection and Rural Income Generation,* Inter-American Development Bank, Washington, DC.

Case 13.3 *Challenges of structuring incentives for reform in Zambia.* Marilyn Hoskins.

Case 14.1 *Environmental monitoring and enforcement authorities devolve to local governments in Indonesia,* Jeffrey Vincent.

Case 14.2 *Prosecution constraints limit effectiveness of system of fines for marine damages in Egypt,* Glen Anderson.

Case 14.3 *Powerful interests and regulatory reform of the electric power sector in India,* Ronald Leasburg.

Case 15.1 *Changes in policy design to improve management of Bunaken National Park in North Sulawesi, Indonesia,* Glen Anderson, based on report by Mark V. Erdmann.

Case 15.2 *Unrealistic environmental standards undermine implementation in the former Soviet Union,* Glen Anderson.

Case 16.1 *CEE countries prepare implementation strategies for approximating with European Union environmental legislation,* Glen Anderson.

Case 16.2 *Designing monitoring plans to evaluate Panama's progress in protecting the Canal's watershed,* William Kaschak.

Case 16.3 *Monitoring the results of Forest Code reforms—Tracking the process and measuring the impact,* Robert Winterbottom.

Case 16.4 *Developing environmental financing strategies to support compliance schedules among CEE countries,* Glen Anderson.

Case 17.1 *Anticipating the challenge of sustaining environmental investments in Eastern European countries,* Glen Anderson.

Case 17.2 *Graduation requirements provide stimulus for Jamaican NGOs to sustainably finance their operations,* Glen Anderson.

Case 17.3 *Revenue enhancement to support Red Sea protection,* Glen Anderson.

Case 18.1 *Strengthening stakeholder capacity: Popularization of the Rural Code in Niger,* Robert Winterbottom.

Case 18.2 *Increasing stakeholder capacity to identify and mobilize financing for environmental investments in Poland,* Glen Anderson.

Case 18.3 *Building capacity to address regional environmental issues in Central America,* Kara Page.

Case 19.1 *Prospects for improved resource management in Niger enhanced by reforms that generate local benefits,* Asif Shaikh.

Case 19.2 *Capacity building in communities for improved wildlife management in Tanzania,* Asif Shaikh.

Case 19.3 *Support for civil society-led decentralization initiatives for natural resource management in Indonesia,* James

ANNEX 2: MATRIX FOR CASES

Cases	Page No.	USAID Regions				Natural Resources Management						Environmental Quality				Involved Institutions or Groups			
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Cases	Page No.	LAC	ENI	ANE	AFR	Water	Agriculture	Forests	Biodiversity	Tourism	Energy	General	Air	Water	Waste	Central Government	Local Government	NGOs	Stakeholders
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Cases	Page No.	USAID Regions				Natural Resources Management						Environmental Quality				Involved Institutions or Groups			
		LAC	ENI	ANE	AFR	Water	Agriculture	Forests	Biodiversity	Tourism	Energy	General	Air	Water	Waste	Central Government	Local Government	NGOs	Stakeholders
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Cases	Page No.	LAC	ENI	ANE	AFR	Water	Agriculture	Forests	Biodiversity	Tourism	Energy	General	Air	Water	Waste	Central Government	Local Government	NGOs	Stakeholders
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ANNEX 3: OVERVIEW OF USAID ENVIRONMENTAL AND NATURAL RESOURCE PERFORMANCE INDICATORS

I. INTRODUCTION

As part of USAID's R-4 process, all Missions and Bureaus are guided by a set of strategic objectives, each with some number of intermediate results specified to facilitate tracking of year-to-year progress in achieving the strategic objectives. The basic monitoring currency that USAID uses to evaluate progress is the system of performance indicators. As noted in Lesson Learned #4, the design of indicators is a critical step in assessing USAID programs and projects as well as the implementation of policy reforms by USAID's partners. By following the guidelines elaborated by USAID and the suggestions offered in Lesson Learned #4, a performance-monitoring program can provide effective inputs into the process of evaluation.

This annex provides an overview of the environmental and natural resource indicators that have been used by USAID Missions and Bureaus. Because of the difficulty of obtaining exhaustive lists of indicators from each USAID office, this overview is based only on those indicators that are to be reported to USAID in Washington for FY2002. For ease of discussion, the indicators have been grouped into five categories.[6] These categories are (i) quantitative indicators of program and policy outputs and outcomes; (ii) quantitative and qualitative indicators of impacts; (iii) indicators of participation; (iv) monetary indicators; and (v) policy and institutional strengthening indicators. A brief discussion of each category of indicators is provided below, followed by one or more tables listing the performance indicators of each type, the sector in which they are used, and the mission, bureau or office where they have been used.

II. QUANTITATIVE INDICATORS OF PROGRAM AND POLICY OUTPUTS AND OUTCOMES

Indicators to measure program and policy outputs and outcomes are divided into three groups and presented below in Tables A1-A3. Table A1 presents indicators of the number of activities and plans directly related to USAID assistance or facilitated or catalyzed by USAID assistance. In some cases, these indicators simply account for the number of activities and plans that result from assistance, such as the number of AEP-assisted business transactions. But in most instances, the number of activities or plans is the result of assistance as well as changes in policies and incentive structures. In this respect, the indicators report on the outcomes of assistance rather than direct outputs. For example, training and education programs may lead farmers or business to undertake environmentally friendly activities, make new investments, or prepare conservation plans.

[6] A number of possible taxonomies were considered in arriving at the categories described in this annex. Other approaches included the following: 1) delineation of indicators according to whether they measure inputs or outputs of assistance efforts, outcomes, or impacts; 2) distinguishing between process and impact/result indicators; 3) classification by type of environmental or natural resource problem the indicator is used to monitor, for example, the structure of the presentation in *Performance Monitoring of USAID Environmental Programs-An Introduction to Performance Monitoring* and a *Review of Current Best Practice, Environmental Indicators Working Group,* USAID, February 20, 1998; and 4) technical categories of indicators (e.g., simple quantitative approaches, composite approaches, and descriptive approaches) discussed in *Recent Practices in Monitoring and Evaluation—Tips,* USAID Center for Development Information and Evaluation, Number 14, 2000.

Table A1. Activities and Plans

SECTOR	USAID PROGRAM	INDICATORS
Agriculture	Panama	Sustainable small-producer agroforestry and agriculture activities implemented-number of activities.
	Panama	Community-based pilot agro-forestry activities planned and ongoing-number of pilot projects.
Biodiversity/NRM	Guatemala	Contracts and agreements signed which increase local participation in sustainable management.
	Guinea	Number of land use agreements between landowners and land users signed.
	Indonesia	Number of site-specific management plans/agreements between stakeholders that are government recognized and under implementation.
	Madagascar	Number of investment projects passed through environmental review.
	Tanzania	Number of mariculture activities that are operating under certified best practices.
Climate Change	G/ENV	Institutions strengthened in support of participation in the United Nations Framework Convention on Climate Change (UNFCCC); in the land use/forestry sector; or in the energy sector, industry, or urban areas-number of capacity-building activities.
Energy	G/ENV	Number of clean energy activities initiated by the private sector.
	G/ENV	Number of new energy service company (ESCO) projects in key countries.
	G/ENV	Number of cases in which clean energy technologies are demonstrated in key countries.
	Nepal	Environmental/Social Impact Assessments for hydropower proposals.
	Nepal	Public hearings for hydropower projects conducted with local stakeholders and NGOs.
	Nepal	Private sector projects progressing towards hydropower investments: survey license issued.
	Nepal	Private sector projects progressing towards hydropower investments: construction licenses requested.
Energy	Nepal	Private sector projects progressing towards hydropower investments: financial closure.

Table A1. Activities and Plans (cont'd)

SECTOR	USAID PROGRAM	INDICATORS
Environment	Morocco	Number of environmental activities implemented with non-governmental partners.
	US-AEP	The number of US-Asia Environmental Partnership (US-AEP) assisted business transactions, other than direct sales, between U.S. and Asian companies.
Urban/Industrial	G/ENV	Number of cases in which efficient technologies are demonstrated and replicated in key industries.
	Indonesia	Number of community-originated urban environmental projects included in annual and medium-term development budgets.
	Panama	Actions taken by the Inter-Institutional Commission for the Canal watershed (CICH) on strategies, policies, programs and projects that could affect the Panama Canal Watershed (PCW).
	Panama	Residents in the PCW and buffer areas served according to integrated solid waste management plans-number of plans.
	Panama	Financing arrangements for key PCW management and protection activities in place-number of arrangements.
	Peru	Environmental technologies tested and validated through pilot projects

Table A2 presents the types of indicators that are used to measure the land area or linear distance (in the case of shoreline) that has been provided with improved management practices or designated as "protected." Generally, the lands of interest are agricultural, forests, habitat for threatened, endangered, or highly valued species, unique ecosystems, or areas managed for multiple uses such as parks and other protected areas. For determining how many acres or hectares of land should be included in the calculation, definitions of management levels of performance are critically important. Some of the indicators in Table A2 are described in terms such as "improved," "adequate," or "effective" management. For other indicators, performance is determined by summing up the land area for which special management plans (e.g., Integrated Coastal Zone Management (ICM) programs, Natural Resources Management (NRM) plans) have been prepared or which have been independently valued in terms of criteria related to best management practices.

Table A2. Spatial Indicators (land area, linear measures)

SECTOR	USAID PROGRAM	INDICATORS
Agriculture	Guinea	Area of land under sustainable agricultural practices in the zone of activity.
	Malawi	Adoption of improved soil conservation practices-number of hectares.
	Malawi	Adoption of improved soil fertility practices-number of hectares.
Biodiversity/NRM	Guatemala	Area of natural habitat (primarily forest) saved from conversion to other uses (primarily agriculture) in comparison to historic trends (1970-90) and projections (1991-2010).
	Bangladesh	Improved floodplain resource management established.
	Bolivia	Area of forest independently certified to be well managed. Area of protected areas with adequate management.
	Bolivia	"Management"-Hectares of protected and special management areas under improved management with assitance from the Central American Regional Protected Areas (PROARCA) project.
	Central America	Hectares of land in selected protected areas and buffer zones under participatory Natural Resources Management (NRM) plans (thousands).
	Ecuador	Area covered by improved soil conservation and reforestation practices.
	El Salvador	Area of natural forest and tree systems brought under improved management
	G/ENV	Area of natural forest and tree systems brought under effective management.
	G/ENV	Area in key countries/regions with improved Integrated Coastal Zone Management (ICM) programs.
	G/ENV	Area in key countries/regions with effective ICM programs.
	G/ENV	Area of biologically important habitat (terrestrial and aquatic) under improved management.
Biodiversity/NRM	G/ENV	Area of biologically important habitat (terrestrial and aquatic) under effective management.
	Guatemala	Area of habitat under improved management.
	Guatemala	Area of habitat under effective management.
	Guinea	Total area under formal concessions and contracts for sustainable management.
	Honduras	Area of forests in the zone of activity managed according to a sustainable management plan.
	Honduras	Increased area under conservation programs as protected areas.

Table A2. Spatial Indicators (land area, linear measures) (cont'd)

SECTOR	USAID PROGRAM	INDICATORS
Biodiversity/NRM	Madagascar	Natural habitat in Madagascar National Park System.
	Malawi	Increased adoption of Community Based Natural Resources Management (CBNRM) practices in target districts-percent of customary land.
	Mexico	Number and area of critical eco-systems, in target areas, with adequate management-area of sites.
	Philippines	Kilometers of shoreline where improved management of coastal resources is being implemented.
	Philippines	Hectares of forests where improved management of forest resources is being implemented.
Biodiversity/NRM	RCSA	Area under improved natural resource management.
Climate Change	G/ENV	Area where USAID has initiated interventions to maintain or increase carbon stocks or reduce their rate of loss.

In virtually all cases, total land area meeting the management/protection criteria is reported by the USAID office, Bureau or Mission rather than incremental areas added since the indicator was last reported or the percentage of land meeting the criteria relative to the total amount of land (baseline or benchmark). One exception is Malawi's use of an indicator that reports the percentage of customary land that is utilizing community-based NRM practices. Each method of measuring these outcomes has advantages and disadvantages. The use of total land area provides an easy method of aggregating over countries or regions (for reporting progress for Regional Bureaus and the Agency), but doesn't provide perspective to the observer on whether the land area is small or large in terms of total area of land of interest. For example, 10,000 hectares of protected habitat could represent 90 percent of the area targeted, while 100,000 hectares of forests under improved management could represent 10 percent of total forested land area. A simple solution is to develop benchmark levels or targets, then present the indicator both in terms of total area and as a percentage of the benchmark. However, in some cases, it may be difficult to establish the benchmark because of data limitations (e.g., determining total forest area when there is no recent land survey).

Table A3 presents indicators that describe the number of management units that have implemented management practices or are designated for a particular protected status. In some cases, USAID reports both land area and number of management units (e.g., protected and special management areas assisted by PROARCA in Central America). However, in most instances, the number of management units is used without acreage. Generally, the explanation for using management units rather than area may relate to the availability of information on land area associated with the respective sites, parks, or protected areas or simply more interest in the number of units rather than their area. In terms of assessing impacts or results of policy reforms, it would seem easier to link impacts to land area than management units. As with spatial indicators, a better perspective on performance is obtained if the number of management units is compared to some target.[6] For example, the goal of the policy might be to increase the number of protected areas to some target number; expressing the indicator as the percentage of new protected areas relative to the target number could provide a better sense of progress.

[6] Typically, the R4 documentation will list the proposed targets for each indicator, so that such calculations can be made by referring to this documentation.

Table A3. Management Unit Indicators (no. of sites, parks, protected areas)

SECTOR	USAID PROGRAM	INDICATORS
Biodiversity/NRM	Central America	"Governance"-Number of PROARCA assisted sites which have achieved an effective level of governance for stewardship of the environment and natural resources.
	Central America	"Threats Reduced"-Number of USAID/G-CAP assisted transboundary sites where local threats to key natural resources and the environment have been reduced.
	Central America	"Management"-Number of protected and special management areas under improved management with PROARCA assistance.
	Egypt	New tourism development sites where environmental safeguards are undertaken to eliminate the practice of coastal alterations that threaten fringing reefs and mangroves.
	Honduras	Increased number of declared protected areas under Improved Management
	Mexico	Number of sites meeting pre-determined management goals.
	LAC Regional	Number of targeted parks and protected areas with adequate management.
	Paraguay	Number of reserves that are offering educational programs to people in the reserves or in buffer zones.
	Peru	Number of biologically important national parks that have achieved management improvements.
	LAC Regional	Number of parks and reserves with long term financial plans completed and updated regularly by government/NGO partners.
	LAC Regional	Sites with adequate number of trained park guards and protected areas specialists.
	Mexico	Number and area of critical eco-systems, in target areas, with adequate management-number of sites.

III. QUANTITATIVE AND QUALITATIVE INDICATORS OF IMPACT

Two types of impact indicators are presented in this section. The indicators in Table A4 represent a mixture of process and impact indicators. Like the spatial and management unit indicators in Tables A2 and A3, some of the physical change indicators can only be indirectly linked to impacts (e.g., the documented improvements indicators used by G/ENV). However, most of the indicators in Table A4 either are directly linked to impacts or are designed to reflect impacts of policy reforms.

The physical change indicators in Table A4 can be subdivided into three groups. Several indicators are expressed in terms of pollutant levels or emissions (e.g., lead emissions in Egypt, water pollution in Morocco, carbon dioxide equivalents of greenhouse gases (GHGs) in India). Other indicators measure environmental quality directly (e.g., percentage change of coral cover in the Philippines) or using an index (e.g., coral reef index in Egypt). Finally, other indicators measure natural resource quantities or capacity. Generally, all of these impact indicators can be combined with either spatial or management unit indicators to reflect the impact of policies. For example, introduction of improved management practices in marine parks could be assessed in terms of area with improved practices or protected area status as well as the condition of the marine habitat.

The second group of impact indicators is presented in Table A5 and measure the number of people impacted by programs, projects, or policies. Most often, these populations represent the beneficiaries of the changes. For example, typical indicators in Table A5 are the number of people with access to clean drinking water or sanitation services. Such indicators can be used to estimate benefits in monetary terms or in terms of expected reductions in health risks.

Table A4. Physical Change Indicators (pollutant levels, environmental quality, natural resource quantities)

SECTOR	USAID PROGRAM	INDICATORS
Agriculture	Haiti	Annual number of tree seedlings planted or grafted.
Biodiversity/NRM	Uganda	Biophysical changes in landscape-trees.
	Egypt	Coral Reef Index (CRI) to characterize biological and physical condition of the coral reefs.
	G/ENV	Documented improvements in biodiversity conservation as a result of strengthened policies or improved policy implementation.
	G/ENV	Documented improvements in coastal and freshwater systems as a result of strengthened policies or improved policy implementation.
	G/ENV	Documented improvements from partners in biodiversity conservation as a result of strengthened policies or improved policy implementation.
	G/ENV	Documented improvements from partners and cooperators in biodiversity conservation as a result of strengthened policies or improved policy implementation.
	Philippines	Risk to environment and human health.
	Philippines	Percentage change of fish abundance inside marine sanctuaries
	Philippines	Percentage change of coral cover inside marine sanctuaries.
	Philippines	Percentage change of coral cover adjacent to marine sanctuaries.
Climate Change	G/ENV	GHG emissions avoided.
	India	Carbon dioxide equivalents of GHG emissions avoided.
	G/ENV	GHG emissions avoided-direct (D).
	G/ENV	Emissions of carbon dioxide equivalents avoided due to USAID assistance.
Energy	Armenia	Energy consumption per unit of economic output.
Energy	G/ENV	Energy saved by adopting efficient technologies, practices, and policies.
	G/ENV	Newly installed capacity on-grid.
	G/ENV	Newly installed capacity off-grid.
	Philippines	Fossil fuel-based energy saved or avoided through clean fuels, cleaner fuel technologies, and increased efficiency in energy generation, transmission and distribution.
	Philippines	Fossil fuel-based energy saved through increased end use efficiency.
	Egypt	Cleaner and more efficient energy use.

Table A4. Physical Change Indicators (pollutant levels, environmental quality, natural resource quantities) (cont'd)

SECTOR	USAID PROGRAM	INDICATORS
Urban/Industrial	West Bank/Gaza	New water wells developed with USAID support (cumulative).
	West Bank/Gaza	Increased/improved storage of storm water collection systems (improved/expanded with USAID support).
	Egypt	Percentage of tested vehicle fleet meeting government emission standards.
	Egypt	Annual emissions of lead from industrial emissions sources.
	El Salvador	Water-related changes resulting from citizen-group actions.
	Jamaica	Percentage samples within U.S. Environmental Protection Agency limit for fecal coliform in target coastal sites.
	Jordan	Volume of fresh water made available.
	Jordan	Total wastewater treatment capacity available.
	Morocco	Amount of water pollution in target areas.
	West Bank/Gaza	Volume of wastewater treated to prescribed levels for BOD (45mg/l) and suspended solids (45 mg/l) at level at USAID financed sites.

Table A5. Impacted Population (individuals, institutions)

SECTOR	USAID PROGRAM	INDICATORS
Biodiversity/NRM	Zimbabwe	Number of households in Communal Areas Management Programme for Indigenous Resources (CAMPFIRE) communities
Environment	US-AEP	The number of institutions impacted by US-AEP activities-U.S.
	US-AEP	The number of institutions impacted by US-AEP activities-Asian.
	US-AEP	The number of institutions impacted by US-AEP activities-Total U.S. and Asian.
Env. Education	G/ENV	Number of people in key countries exposed to environmental issues via all-media-millions.
Urban/Industrial	Egypt	Cumulative change in the number of customers with new or upgraded water utility service.
	Egypt	Cumulative change in the number of customers with new or upgraded wastewater service.
	Egypt	(Population served by) City of Alexandria wastewater conveyance and primary treatment facilities.
	El Salvador	Rural households in target areas with water that meets quality and time standards-male-headed households.
	El Salvador	Rural households in target areas with water that meets quality and time standards-female-headed households.
	G/ENV	Total number of target households benefiting from improved urban environmental infrastructure and shelter solutions.
	G/ENV	Total number of households benefiting from improved urban environmental infrastructure and shelter solutions.
	Panama	Residents in the PCW and buffer areas served according to integrated solid waste management plans-number of people.
	Morocco	Number of municipalities with improved wastewater treatment, garbage collection, landfill management, green spaces and recycling services: population.
	South Africa	Number of households receiving municipal services disaggregated by service type including housing-water.
Urban/Industrial	South Africa	Number of households receiving municipal services disaggregated by service type including housing-sewerage
	South Africa	Number of households receiving municipal services disaggregated by service type including housing-solid waste.
	West Bank/Gaza	Population in communities with internal distribution systems improved by USAID (cumulative).

IV. PARTICIPATION INDICATORS

USAID uses a variety of indicators to measure the level of participation of assistance recipients. In some cases, participation can be viewed as an assistance input or output, or as an outcome. In the latter case, outcome indicators may measure or be influenced by policy reforms as well as USAID's assistance programs. Participation indicators have been grouped into four tables. Table A6 includes indicators that report the number of people participating in various activities such as training or implementing management plans or sustainable resource practices. Table A7 focuses on participation among businesses, while Tables A8 and A9 present participation indicators for private and non-governmental institutions and for government agencies, respectively.

Table A6. Individuals

SECTOR	USAID PROGRAM	INDICATORS
Agriculture	Haiti	Number of farmers using at least one improved agricultural practice.
	Malawi	Adoption of improved soil conservation practices-number of farm families.
	Malawi	Adoption of improved soil fertility practices-number of farm families.
	Panama	Sustainable small-producer agroforestry and agriculture activities implemented-percent of participants that are women.
	Panama	Community-based pilot agro-forestry activities planned and ongoing-number of community leaders.
	Panama	Management practices for execution of the Regional Plan supported by key PCW stakeholders-sustainable agriculture (% of participants).
Biodiversity/NRM	Guatemala	People adopt more sustainable practices.
	Mexico	Number of men and women in target areas practicing sustainable activities promoted by USAID (not cumulative)-men.
	Mexico	Number of men and women in target areas practicing sustainable activities promoted by USAID (not cumulative)-women.
Environment	G/ENV	Index measuring quality and effect of participation among stakeholders in policy interventions.
Env. Education	G/ENV	Number of targeted professionals receiving bulletins and materials.
Urban/Industrial	Jamaica	Number of trained wastewater plant operators and staff working in sewage treatment capacity in Jamaica.
	South Africa	Number of households assisted to obtain shelter and urban services through the provision of credit to emerging developers, builders and service providers to low-income communities.

Table A7. Businesses

SECTOR	USAID PROGRAM	INDICATORS
Biodiversity/NRM	Guinea	Number of non-agricultural production enterprises which have expanded in targeted zone.
Energy	G/ENV	Number of partnerships between U.S. and host-country businesses brokered.
	G/ENV	Businesses investing and joint ventures formed.
Urban/Industrial	Bolivia	Number of industrial plants and other sources that have adopted cleaner production practices.
	Ecuador	Number of industrial plants implementing cleaner production technologies in their production processes.
	Egypt	Industries with compliance action plans submitted to Egyptian Environmental Affairs Agency (EEAA) as required by the Environmental Law 4/94.
	India	Increased number of firms that meet international environmental quality standards in selected industrial sectors.
	Peru	Number of industrial plants in targeted sectors that have adopted new pollution prevention/cleaner production practices.

Table A8. Private and Non-Governmental Organizations

SECTOR	USAID PROGRAM	INDICATORS
Biodiversity/NRM	Bangladesh	Management groups established.
	Bangladesh	Community groups involved in alternative income generating activities.
	Bangladesh	Community awareness of the need for renewable resource management.
	Indonesia	Number of targeted institutions exceeding 2.5 on their Institutional Development Framework.
	Jamaica	Number of target organizations demonstrating tangible benefits to beneficiaries in the field.
	Tanzania	Number of Tanzanian institutions strengthened to improve NRM/E in Tanzania.
	LAC Regional	Number of NGOs that have met and continue to meet the Parks in Peril (PiP) institutional, administrative, and management criteria.
	Madagascar	Number of villages in priority zones participating in community-based conservation activities.
	Malawi	Increased adoption of CBNRM practices in target districts-number of communities.
	Zimbabwe	Number of CAMPFIRE communities with established NRM programs.
Energy	G/ENV	Number of host-country institutions adopting improved operating policies, practices, or technologies.
	G/ENV	Number of host-country institutions strengthened.
	G/ENV	Number of host-country institutions established and significantly strengthened for the purpose of promoting renewable energy- established, significantly strengthened.
	G/ENV	Number of host-country institutions adopting improved operating policies, practices, or technologies.
Energy	Armenia	Percentage of electric utility enterprises ownership privately owned for distribution.
Environment	Caribbean Regional	Private, community, and public organizations independently securing finance for environmental management activities.

Table A8. Private and Non-Governmental Organizations (cont'd)

SECTOR	USAID PROGRAM	INDICATORS
Env. Education	G/ENV	Number of service providers receiving guided practice and training in development and use of Environmental Education and Communications (EE&C) strategies, methods, and tools.
	G/ENV	Number of trainees and service providers reporting changes in knowledge, skills, and attitudes toward EE&C in key countries.
	G/ENV	Index measuring quality and effect of participation among stakeholders in policy interventions.
	G/ENV	Number of service providers receiving guided practice and training in the development and use of EE&C strategies, methods, and tools.
	G/ENV	Number of trainees and service providers reporting changes in knowledge, skills, and attitudes toward EE&C in key countries.
	Caribbean Regional	Target groups exposed to environmental information in the region.
	Ecuador	Number of elementary and high schools integrated into a national network for information exchange on environmental observation and measurement.
	G/ENV	Number of agencies, institutions, and NGOs where EE&C strategies, methods, and tools have been tested and applied systematically in environment-related programs.
Urban/Industrial	Egypt	Utility organizations within minor urban centers delegated appropriate authorities.
	Panama	Environmental NGOs reach sustainability.
	Panama	Institutional arrangements for execution of the Regional Plan recognized by key PCW stakeholders-NGO/private sector representatives
	Panama	NGOs make an impact on the PCW and buffer areas.

Table A9. Governmental Bodies

SECTOR	USAID PROGRAM	INDICATORS
Biodiversity/NRM	AFR/SD	Countries in which there is adoption of programs aiming at broader use of sustainable natural resource management practices.
Urban/Industrial	Ecuador	Number of municipalities adopting cleaner production policies and/or improved solid waste management practices.
	Ecuador	Number of national entities consulting information sources on cleaner production and urban environmental management.
	El Salvador	Municipalities with water-resource management plans.
	G/ENV	Progress toward implementation of improved urban environmental management systems-local government implementation.
	G/ENV	Extent to which local governments are utilizing best practices to improve technical capabilities.
	G/ENV	Extent to which local governments are managing the delivery of urban services efficiently.
	G/ENV	Extent to which municipalities are implementing disaster mitigation practices.
	G/ENV	Extent to which local governments officials are being trained in modern management practice.
	G/ENV	Extent to which transfers are predictable, reliable, and equitable.
	G/ENV	Extent to which the public has access and is able to influence local governments on key environmental issues.
	India	Local government/authorities with urban environmental management tools available to them.
	Indonesia	Number of local governments using improved management tools and practices.
	Morocco	Number of municipalities with improved wastewater treatment, garbage collection, landfill management, green spaces, and recycling services.
	Panama	Local governments have action plans for conformance with the Regional Plan-PCW corregimientos that have developed action plans for conformance with the Regional Plan.

Table A9. Governmental Bodies

SECTOR	USAID PROGRAM	INDICATORS
Urban/Industrial	Panama	Local governments have action plans for conformance with the Regional Plan-local governments in the PCW with organizations units or offices devoted environmental issues.
	Panama	Institutional arrangements for execution of the Regional Plan recognized by key PCW stakeholders-government representatives
	Panama	Inter-Institutional Commission for the Canal Watershed (CICH) and subordinate administrative entity established-Commission established.
	Panama	Inter-Institutional Commission for the Canal Watershed (CICH) and subordinate administrative entity established-subordinate administrative entity established.
	Panama	Inter-Institutional Commission for the Canal Watershed (CICH) and subordinate administrative entity established-decision-mechanisms functioning.
	US-AEP	The number of municipalities engaged in US-AEP-supported improvements in environmental management.

V. MONETARY INDICATORS

Many USAID Missions, Bureaus, and offices have used monetary indicators. These indicators generally fall into two categories. First, indicators measure the level of expenditures that result from USAID programs. As illustrated in Table A10, these indicators include the level of expenditures in the private or public sector for investment or the provision of public services.

Table A10. Value of Program-Induced and Leveraged Expenditures

SECTOR	USAID PROGRAM	INDICATORS
Biodiversity/NRM	Egypt	Operations and Maintenance (O&M) costs funded by government-Red Sea marine park.
	Egypt	O&M costs funded by government-Sinai marine parks.
	Egypt	O&M costs funded by government-overall marine parks.
	Madagascar	Financing provided for local environmental actions by the Malagasy Environmental Foundation "Tany Meva."
	Ecuador	Increased financing of local partners by outside (non-USAID) sources.
Energy	Armenia	Sector revenues attaining full cost recovery-percent.
	Armenia	Collections from end-users paid to distribution companies.
	G/ENV	Value of private and public investment leveraged by G/ENV.
	G/ENV	Value of private and public investment leveraged by G/ENV-energy efficiency.
	G/ENV	New financing explicitly made available for, or committed to, renewable energy projects by the private or public sector.
	Egypt	Percent of electric power system O&M costs recovered.
	G/ENV	Value of private and public investment leveraged by G/ENV-clean energy.
	Nepal	Private financial commitments for hydropower project development.
Environment	Caribbean Regional	Non-USAID dollars supporting new Caribbean Regional Program (CRP) environmental initiatives.
	US-AEP	The dollar value of the resources leveraged by the US-AEP from non-USAID sources.
	US-AEP	The dollar value of US-AEP-assisted sales of U.S. environmental equipment and services.
Urban/Industrial	Egypt	Percent of water and wastewater systems O&M costs recovered.
	Egypt	Percent of water and wastewater systems O&M costs recovered.
Urban/Industrial	Egypt	Minor urban centers utility costs covered by generated revenues-percent.
	Egypt	Alexandria wastewater O&M cost covered by generated revenues-percent.
	G/ENV	Level of financial sector and other involvement in municipal and urban infrastructure finance in targeted countries.
	Panama	Financing arrangements for key PCW management and protection activities in place-$ million available annually.

The second category of monetary indicators is presented in Table A11 and focuses on the monetary value of program-induced benefits. Generally, these indicators require a methodology for quantifying observed impacts in monetary terms. For example, information can be collected on the number of people with access to public services (see Table A5) but then the aggregate value of these services must be estimated using some functional relationship that may simply require multiplication of population by a fixed value/person or involve formulas with more than one variable.

Table A11. Value of Program-Induced Benefits

SECTOR	USAID PROGRAM	INDICATORS
Agriculture	Egypt	Real value of agricultural production per unit water (1000 c.m.) for agricultural use.
Biodiversity/NRM	Bolivia	Value of certified forest products exported.
	Zimbabwe	Value of total CAMPFIRE benefits-US$
	Zimbabwe	Value of total CAMPFIRE benefits-Z$.
	Zimbabwe	Value of total-level CAMPFIRE benefits per benefiting household.
	Uganda	Critical ecosystems generate benefits and revenues.
Urban/Industrial	Romania	Dollars saved as a result of pollution prevention projects.
	South Africa	Rand value of municipal services disaggregated by service type, including housing-water.
	South Africa	Rand value of municipal services disaggregated by service type, including housing-sewerage.
	South Africa	Rand value of municipal services disaggregated by service type, including housing-solid waste.
	South Africa	Rand value of credit obtained by historically disadvantaged population (HDP) households, developers, builders and service providers for HDP shelter and urban services provision.

VI. POLICY AND INSTITUTIONAL STRENGTHENING INDICATORS

The final grouping of indicators includes a diverse set of quantitative, qualitative, and composite indicators related to policy and institutional strengthening. Many of these indicators primarily function to measure progress in meeting targets for policy reforms or for strengthening institutions. Indicators of progress in designing and implementing policy are presented in Table A12, while indicators for institutional strengthening are presented in Table A13.

In some cases, the indicator is binary (either the target is fully achieved or not) while in other cases, weighting schemes are used to either reflect intermediate levels of progress (e.g., law in draft form or law passed but not codified in regulations) or to provide an overall measure of progress where several policy or institutional reforms are involved. Each of these approaches for reflecting progress has their advantages and disadvantages (see Recent Practices in Monitoring and Evaluation—Tips, USAID Center for Development Information and Evaluation, Number 14, 2000). Composite indicators require some justification for weighting the importance of reaching a given stage in the policy reform process or deciding the relative importance of different policy reform or institutional strengthening activities. On the other hand, simply using binary indicators for each policy reform or simply adding the number of reforms achieved may be less useful in assessing overall performance of assistance program relative to a weighted indicator.

Table A12. Policy Indicators

SECTOR	USAID PROGRAM	INDICATORS
Agriculture	Morocco	Progress towards adoption of 11 key reforms
Biodiversity/NRM	Central America	Sustainability-Number of Sustainable Mechanisms Implemented to Protect the Regional Environment.
	Ecuador	Key policies, legal frameworks, and enforcement mechanisms prepared, modified & introduced at appropriate government level to improve biodiversity conservation in targeted protected areas/buffer zones.
	Indonesia	Number of policy advances along policy and enabling condition index.
	Malawi	New policies and legislation enacted-policies.
	Malawi	New policies and legislation enacted-new legislation.
	Paraguay	Number of models of biodiversity conservation and sustainable use of natural resources implemented.
	Paraguay	Number of economic alternatives implemented on protected areas.
	RCSA	Adoption of policy framework-number of stages adopted.
	RCSA	Steps taken towards making TBNR (Transboundary Natural Resources) protocols operational-water.
	RCSA	Steps taken towards making TBNR (Transboundary Natural Resources) protocols operational-wildlife.
	Tanzania	Environment/Natural Resource Management Policy Index.
Climate Change	G/ENV	Policy advances in support of participation in the UNFCCC; in the land use/forestry sector; or in the energy sector, industry, or urban areas.
Energy	G/ENV	Number of energy efficiency policies adopted and implemented.
	G/ENV	Number of public policies adopted and implemented to promote environmentally sound energy production and use.
	G/ENV	Number of policies or regulations adopted and implemented that are clearly favorable to renewable energy.
Energy	G/ENV	Number of clean energy policies adopted and implemented.
	Philippines	Policy advances that contribute to the adoption of legislative or administrative actions which increase efficiency and/or cleaner production in the Philippine energy sector.
Environment	Caribbean Regional	Key policy and compliance initiatives progressing towards implementation.
	Peru	Number of targeted ENR policy and legislation overlaps, inconsistencies, or gaps eliminated.
	US-AEP	The number of environmental laws and regulations strengthened through US-AEP activities.

Table A12. Policy Indicators (cont'd)

SECTOR	USAID PROGRAM	INDICATORS
Urban/Industrial	G/ENV	Extent to which central/state policies, codes, and practices are implemented to facilitate autonomy in decision-making and revenue generation.
	G/ENV	Degree of choice among appropriate financial mechanisms for municipal and urban infrastructure and shelter solutions.
	G/ENV	Extent to which an integrated policy framework is in place and is used to guide the system whereby urban infrastructure is financed.
	Indonesia	Policy index calculated as the average score for multiple policies on a scale of 0-100.
	Jamaica	Number of key policies in place
	Jordan	Index of water policy implementation.
	Romania	Improved regulations issued.
	Romania	Amount of income generated for local environmental agencies from permitting fees authorized by the Law on Self-Financing.

Table A13. Institutional Strengthening Indicators

SECTOR	USAID PROGRAM	INDICATORS
Biodiversity/NRM	Egypt	Coral Reef Management Index (CRMI).
	AFR/SD	Increased capacity of African institutions in examining the uses of forest products at household level.
	Panama	Management of new and existing protected areas strengthened.
	Panama	Management practices for execution of the Regional Plan supported by key PCW stakeholders-ecotourism.
	Uganda	Critical ecosystems managed rationally (with a plan that sets limits of acceptable use and/or allocates resources to sustain/improve the desired flow of benefits from the system).
Climate Change	G/ENV	Institutions strengthened in support of participation in the UNFCCC; in the land use/forestry sector; or in the energy sector, industry, or urban areas-number of institutions strengthened.
Energy	G/ENV	Number of host-country institutions established and significantly strengthened for the purpose of promoting renewable energy-(E) established.
	Philippines	Tools for improved energy sector development and mgmt, provided with assistance from USAID capacity/capability building, implemented or used by Philippine government agencies or electric utilities.
Environment	AFR/SD	Monitoring network established for environmental advocacy.
Urban/Industrial	G/ENV	Extent to which municipalities are implementing network activities.
	G/ENV	Progress toward implementation of improved urban environmental management systems-index.
	G/ENV	Extent to which an integrated policy framework is in place and is used to guide the system whereby urban infrastructure is financed.
	G/ENV	Timeliness and effectiveness in facilitating and managing the privatization process.
	Jordan	Index of stronger water sector institutions.
	Jordan	Index of water policy implementation.

Table A13. Institutional Strengthening Indicators (cont'd)

SECTOR	USAID PROGRAM	INDICATORS
Urban/Industrial	Panama	Environmental monitoring of the PCW contributes to management.
	Panama	Environmental monitoring of the PCW is sustainably financed.
	Panama	Management practices for execution of the Regional Plan supported by key PCW stakeholders-solid waste management.
	Panama	Institutional arrangements for execution of the Regional Plan recognized by key PCW stakeholders-PCW residents.
	G/ENV	Extent to which local governments are using best practices to improve technical capabilities.
	G/ENV	Extent to which systematic integrated capital budgeting systems are used in targeted areas.
	G/ENV	Extent to which municipal services and other municipal functions are well managed financially in targeted areas, using annual-budgets, program-based budgets, performance reporting, and/or industry's.
	G/ENV	Degree to which rate-making accounting, cost recovery regimes, and financial reporting are implemented in targeted areas.
	G/ENV	Degree of independence municipalities and their citizen have to make investments decisions.
	G/ENV	Extent to which systematic integrated capital budgeting systems are used in targeted areas.
	G/ENV	Extent to which municipal services and other functions are well managed financially in targeted areas, using annual-budgets, program-based budgets, performance reporting, and industry.
	G/ENV	Degree to which rate-making, accounting, cost recovery regimes, and financial reporting are implemented in targeted areas.

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