The Role of Local Benefits in Global Environmental Programs

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1818 H Street, NW
Washington, DC 20433
Internet: www.thegef.org
E-mail: gefevaluation@thegef.org

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Director of the GEF Evaluation Office: Robert D. van den Berg
Task Manager: David Michael Todd, Senior Evaluation Officer
Evaluation report prepared by: David Michael Todd, Lee Alexander Risby, and John Soussan
Special Advisor: Michael Cernea; Co-Reader: Siv Tokle

Editing and layout: Nita Congress
Printing: Graphic Communications

Cover Photos

Front: Global and local benefits: A sturgeon farmer displays a young sturgeon caught in the Danube Delta about to be released back into the river. The sturgeon is one of many protected and threatened species that inhabit the delta (Romania Danube Delta Biodiversity Project). ©Dirk Frans *Back:* Grevy's zebra, shown here grazing inside Lewa Conservancy, is a globally threatened species and a major tourist attraction in Northern Kenya (Lewa Wildlife Conservancy Project). ©Lee Alexander Risby

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Foreword

An important task of the Evaluation Office is to explore issues that cut across the focal areas in which the Global Environment Facility (GEF) operates. One such issue is the role and achievement of benefits at the local level that have been generated by GEF activities. Many evaluations and studies of the GEF, including the Second Overall Performance Study, have commented on the absence of reliable information on this issue, which has limited the ability to assess the role played by such benefits in catalyzing sustainable gains for the global environment—which are the ultimate objective of the GEF. To address this gap in knowledge of GEF operational practices and achievements, the Evaluation Office undertook the current study, which had as its main research method a set of extensive fieldwork case studies of projects in the biodiversity, climate change, and international waters focal areas.

The study found that the role of local benefits in supporting the environmental objectives of GEF activities raises a broad and potentially conflicting range of viewpoints, which influence the approaches applied to project design and implementation. On the basis of the substantial body of evidence gathered, the study concludes that, for many areas of GEF-supported activity, local and environmental benefits are interlinked. Local support for improved environmental management is built upon the achievement of benefits at the community level, which can offset locally incurred costs and generate sustainable support. The study highlights good practices found in the projects studied, as well as areas where challenges need to be overcome. It also raises fundamental issues about GEF approaches, which require clarification and dissemination within the GEF family. Central to these issues is the relationship between poverty and the environment, as well as that between conservation and development. In this respect, the study provided valuable inputs into discussions within the GEF, which informed the preparation of programming papers for the GEF-4 replenishment process.

The study concentrated only on those GEF projects that had stated objectives to generate local benefits as an essential mechanism in achieving their intended global benefits. Thus, projects were reviewed on the basis of results targeted in their initial design. Local benefits were defined as "outcomes that, directly or indirectly, have positive impacts upon people and ecosystems within or adjacent to project areas and that provide gains, present and future, in the livelihoods of communities and to the integrity of ecosystems." This definition was built on a review of relevant literature, which showed that a major proportion of project costs are often borne by residents at the community level, whereas benefits accrue at a higher level, posing a challenge in generating local support for improved environmental management practices.

GEF partners recognize the important role that local benefits can play to ensure sustainability of the global environmental benefits that the GEF aims to achieve. However, there has also been a persistent impression that local benefits should and could be left to cofunders and national and local authorities and organizations, so that the GEF could concentrate on achieving the global benefits. This envisaged division of labor meant that many GEF partners did

not believe they had a responsibility to ensure local benefits. This, in turn, made it difficult for them to accept the relevance of the study and of its findings to their own activities.

The study focused on the role of benefits at the local level: that is, the geographical area directly affected by the intervention. It deliberately did not concentrate on the many benefits interventions can and do generate beyond the direct area of intervention, whether in other regions of the country, or at the national or even transnational level. Typically, all of these benefits are interpreted as "local" in common GEF parlance. However, to group all nonglobal benefits together as "local" ignores important differences between them, and this practice was not followed in the study.

Given the study's assumptions and focus, some of its findings were hotly debated among the GEF partners. This lack of consensus meant that extra care and time had to be taken to ensure that the final synthesis was sound in terms of both the facts it presents and its analysis of them, so that it could stand as an authoritative statement on how the GEF interacts with local benefits. I am happy to state that the report has managed to achieve this. It received a positive management response in October 2005 and was discussed and accepted by the GEF Council at its November 2005 session.

The study cost a total of US$1.8 million. It was undertaken by staff from the Evaluation Office, together with consultants from the Stockholm Environment Institute. It received financial and advisory support from the Canadian International Development Agency and from the Ministries of Foreign Affairs of Norway and Sweden. The study task manager was David Todd, Senior Evaluation Officer, who also led the study team and oversaw production of the final report. Key team members were Lee Alexander Risby, GEF Evaluation Officer, and John Soussan, Stockholm Environment Institute; together with David Todd, they were responsible for leading the fieldwork, analyzing the results, and writing up the final report. Rebecca Frischkorn provided the analyses of project evaluation reports, new projects, and financial allocations. Alonso Zarzar-Casis of the World Bank provided the team with additional field data on indigenous peoples aspects of GEF projects in Latin America, and the late Professor David Pearce contributed a paper on the economic overview of the local costs and benefits of GEF projects. Siv Tokle and Aaron Zazueta, Senior Evaluation Officers, led the Francophone and Latin American field studies and contributed inputs and comments to the final report. Jarle Harstad, Lead Evaluation Officer, provided support and direction to the study development and fieldwork, and helped secure external funding. Throughout the process, valuable conceptual and methodological guidance, as well as participation in the Romania and Yemen field case studies, was provided by Michael Cernea in his capacity as Special Advisor to the study.

The GEF Secretariat and the GEF offices in the World Bank, United Nations Development Programme, and United Nations Environment Programme participated in the field case studies and provided valuable comments on the resulting findings and their interpretation. The study's Advisory Panel, which included representatives of the GEF's nongovernmental organization and indigenous peoples' networks, environmental institutions, and the donors that contributed toward the study, was instrumental in guiding the study team's work. Finally, many thanks are due to the 29 national consultants in 14 countries who conducted the fieldwork. Without their efforts, this study would not have been possible.

The study's findings, conclusions, and recommendations create an important platform on which the GEF can further strengthen the delivery of its global environmental mandate by more effectively developing and sustaining local-level support for its objectives and the activities needed to deliver them. The 18 field case studies can be found on the CD ROM that accompanies this publication, and further products will be developed for dissemination.

Rob D. van den Berg
Director, Evaluation Office

Acronyms and Abbreviations

CBO	Community Based-Organization
CDNP	Coukouati-Douli National Park
CEO	Chief Executive Officer
COGEREN	Comite de Gestion des Resources Naturalles de Conkouatli
COP	Conference of the Parties
COREMAP	Coral Reef Rehabilitation and Management Project
FSP	Full-Sized Project
GEF	Global Environment Facility
GHG	Greenhouse Gas
GIC	Gross Incremental Cost
IA	Implementing Agency
IGAs	Income-Generating Activities
IP	Indigenous People
ICZM	Integrated Coastal Zone Management
IUCN	World Conservation Union
MDG	Millennium Development Goal
MSP	Medium-Sized Project
NGO	Nongovernmental Organization
NIC	Net Incremental Cost
OP	Operational Program
OPS	Overall Performance Study
PA	Protected Area
PRSP	Poverty Reduction Strategy Paper
PV	Photovoltaic
SAP	Strategic Action Program
SIDS	Small Island Developing State
STRM	Short-Term Response Measure
TDA	Transboundary Diagnostic Analysis
UNCBD	United Nations Convention on Biological Diversity
UNCCD	United Nations Convention on Combating Desertification
UNDP	United Nations Development Programme
UNEP	United Nations Environment Programme
UNFCCC	United Nations Framework Convention on Climate Change

Part I.
Study Nature and Conclusions

Micro-hydel energy is a poor substitute for the fuelwood needed for cooking and heating in Assam, India (India Hilly-Hydel Project). ©Dirk Frans

1. Main Conclusions and Recommendations

1.1 Introduction

This study analyzes the interrelationship between local benefits and global environment benefits in the Global Environment Facility (GEF) strategies and projects in order to:

- Enhance GEF policies, strategies, and project design and implementation so these can effectively promote the potential for local gains in those global environmental programs where actors need to be mobilized for long-term support of sound environmental management, costs incurred by local communities for supplying global environmental goods need to be reduced, and possible negative impacts need to be ameliorated.
- Strengthen GEF monitoring and evaluation policies and processes to develop indicators for, and enhance the tracking of, local benefits and negative impacts.
- Expand the body of existing operational knowledge of good practices and experiences germane to pursuing global environmental issues and of constraints or fallacies to be avoided in operations.
- Disseminate widely the most valuable lessons of existing experience and show how these lessons can be implemented in future GEF operations.

The GEF mandate addresses the role of local benefits through its focus on sustainable development: "The GEF shall fund programs and projects that are country-driven and based on national priorities designed to support sustainable development."[1] From its inception, the GEF has attempted to focus on one aspect of sustainable development—global environmental benefits—in a manner that explicitly recognizes the links to wider conservation and development frameworks.

GEF funding is focused on the attainment of global benefits rather than local, and the GEF funds only the agreed incremental costs necessary to achieve global environmental benefits. Local benefits should, in principle, be funded by the recipient country. The GEF can only fund local benefits when they are clearly part of the incremental cost—that is, when the recipient country will fund no local benefits at all or a lower level of local benefits than would be sufficient to generate or sustain the intended global environment change. In many cases, components intended to generate local benefits are funded mainly or entirely by cofinancing institutions.

In several GEF focal areas, local benefits—or recompense for costs incurred locally to protect the environment—are an essential means of generating and sustaining intended global benefits.

In several GEF focal areas, local benefits—or recompense for costs incurred locally to protect the environment—are an essential means of generating and sustaining intended global benefits. In other areas, issues concerning local populations may be minor or absent. The recommendations of this study therefore apply specifically to those parts of the

[1] GEF (1996b), p. 2.

portfolio that affect local communities and do not imply that all GEF projects need to focus on social and participatory aspects. Financial analysis of case studies established that the GEF has provided substantial funding for local incentives for global environmental benefits in some (predominantly larger) projects. The majority of GEF projects do not provide funding specifically for local benefits.

Local benefits are defined by this study as outcomes that, directly or indirectly, have positive impacts upon people and ecosystems within or adjacent to project areas and that provide gains, present and future, in the livelihoods of communities and to the integrity of ecosystems. Global environment benefits are defined as outcomes that, directly or indirectly, have positive impacts on global environmental sustainability through reducing the risks of climate change, stemming biodiversity loss, safeguarding international waters, preventing ozone depletion, eliminating persistent organic pollutants, or preventing land degradation.

The GEF family has historically not defined "local benefits" per se, but has treated all nonglobal benefits as being local. This approach therefore includes benefits for local (project area) communities, regions within countries, national benefits, and some international benefits of a regional or intergovernmental nature. This study, in contrast, focuses primarily on benefits for local project area communities, although benefits at the regional and national levels are also touched upon in focal area analyses.

To understand how potential local and global benefit links may support the GEF mandate and its operational activities, the study scope covered the following dimensions of selected projects in the GEF portfolio:

- the links between attaining global environmental benefits and generating local benefits, based on an analysis of how the former can affect benefit streams at the local level and how the latter can affect global environmental goals;
- the types and scale of local benefits and of any negative impacts, intended or unintended, that have resulted from GEF projects, including local perceptions of these impacts; and
- the extent to which project design and the environmental management options selected in a project can either maximize opportunities to generate greater levels of local benefits or insufficiently exploit such opportunities—essentially, this implies taking stock of good project practices and identifying existing constraints, weaknesses, and lessons for improving future projects.

1.2 Study Design, Analytical Framework, and Methodology

The study design was based on three distinct but related approaches:[2]

- implementation of a series of case studies, including both field-based and nonfield studies, aimed at addressing causal links in project implementation and broader program effects between local and global benefits;
- review of assessments provided by previous evaluative studies at the project, program, and thematic scales; and
- examination of related donor agency and research community experiences.

In view of the complex nature of the issues studied, qualitative field research methods, including semi-structured interviews and focus groups, were used to provide detailed evidence. Some of the field studies also used quantitative approaches in a mixed-method approach. The first-hand evidence of the field studies[3] was supplemented by documentary analysis of all available GEF program and project evaluations, detailed review of project files and documents, discussions with Implementing Agency (IA) staff,[4] and external literature reviews. Case studies were developed at three levels:

[2]The information in this section is drawn from GEF (2003a, 2003b); for more detail, refer to those publications.

[3]Refer to the CD-ROM accompanying this publication.

[4]The IAs for GEF projects are the United Nations Development Programme, the United Nations Environment Programme, and the World Bank.

- detailed field case studies (18 project studies) based on qualitative and quantitative fieldwork;
- nonfield case studies (25 project studies) based on a detailed review of documents, including records of implementation, aide-memoires, correspondence, and social and environmental assessments, supplemented—where possible—by interviews with project staff; and
- project desk reviews (89 project studies) based on documentary analysis of project implementation reports and evaluations, where available.

The study sample included 132 projects spanning the GEF pilot phase to GEF-2 replenishment period (1991–2000). The selection was based on those projects under implementation or completed and included in the 2001 Project Implementation Review, as of July 31, 2001. The selection procedure was purposive in terms of selecting those projects that had a stated intention to provide local incentives as one of the means to generate global environmental gains. The GEF Small Grants Program, which generates many local benefits related to sustainable environmental management, was not included in the study, since it had recently been evaluated.[5]

A supplementary sample of 113 final evaluations conducted by the IAs was analyzed to provide further inputs into the development of key findings and lessons. This sample covered all terminal evaluations and related implementation completion reports received by the Evaluation Office up to July 31, 2004. To provide a perspective on changes concerning approaches toward issues affecting local communities within the GEF portfolio, the project documents of 30 new projects approved between December 2001 and December 2004 were also reviewed.

A case-focused analytical framework was applied to explore comparable aspects of each project such as types and scale of local incentives, links with attainment of global environmental benefits, impacts on vulnerable stakeholders, negative impacts, and project finances. This framework was based on a sustainable livelihoods approach and a typology of local benefits that identifies seven generic categories of improvement to livelihoods found in global environmental projects and programs. In accordance with the livelihoods framework, the study analyzed the links between local benefits and global environmental benefits in four ways:

- **changes in consumption patterns**—that is, switching to renewable energy sources, changing diet, or acquiring more-sustainable consumer goods;
- **improvements to the local resource base**—the global environmental processes involved in such areas as the hydrological cycle, land degradation, and atmospheric pollution are the accumulation of local resource dynamics over larger areas;
- **reduced vulnerability**—global environmental processes such as climate change become less of a threat to vulnerable people, and people become less risk averse, thus reducing pressures on the resource base; and
- **changes to the external institutional environment**—as a consequence of local-level empowerment, public awareness, and political support for environmental issues, and potentially fostering revisions in the balance of priorities as the urgency of poverty reduction and development pressures is reduced.

Potentially, almost every aspect of the interaction between humans and nature can be addressed in this framework through its range of livelihoods capitals. For example, health benefits are incorporated into the concept of human capital, and intangible gains are often included under the category of social capital. It is understood, however, that some intangible gains may be underemphasized in this framework, such as the aesthetic enjoyment of unspoiled nature.

1.3 Main Conclusions

Conclusion 1. In many areas in which the GEF is active, local and global benefits are strongly interlinked.

Global-local interlinkages are particularly found in activities that depend on lasting changes in human behavior to

[5]UNDP (2003).

achieve and sustain global environmental gains. Such interlinkages often have positive and negative aspects. Behavior that produces current gains to local residents may generate lasting environmental damage. Interventions designed to protect the environment may therefore reduce the livelihood options of communities as a whole or of groups within these. Within the portfolio areas studied, projects based on restricting access to natural resources impose local costs that may be unacceptable to the populations affected, unless adequate measures are taken to compensate for these losses. Protected areas (PAs), which are a major part of the biodiversity portfolio and also feature in some international waters projects, often impose costs on communities in or around the protected area. The study found that local support for such interventions, which is an important factor in their sustainability, can be generated through a combination of compensatory opportunities and environmental education.

Linkages between local and global dimensions will become increasingly important for the GEF portfolio as activities related to mainstreaming biodiversity production landscapes, land degradation, and adaptation to climate change gain greater prominence.

One approach found to generate positive interlinkages between local and global benefits is the provision of incentives for changes in resource consumption patterns that improve livelihoods, while promoting environmental protection. Another major option is to strengthen external enabling environments, such as policies and legislation, to provide enhanced opportunities for technological change and/or local natural resource management. This element provides strong connections with the GEF requirement of country-drivenness; it also provides the opportunity to mainstream environmental concerns into national policy, including poverty reduction strategies. A further opportunity is the generation of environmental improvements that reduce vulnerability of community livelihoods to environmental degradation and natural disasters, thereby demonstrating and encouraging sustainable environmental management. Linkages between local and global dimensions will become increasingly important for the GEF portfolio as activities related to mainstreaming biodiversity production landscapes, land degradation, and adaptation to climate change gain greater prominence.

Conclusion 2. Some GEF projects had made considerable achievements in developing local incentives to ensure environmental gains.

Lessons from successful projects can be developed as good-practice guidelines. A number of factors contributed to positive gains. At the national scale, the development of supportive policy and legislative frameworks enabled socioeconomic and political incentives for local environmental management (such as decentralization, comanagement, and financial and institutional incentives for market transformation). Connected to the national framework, local institutional and individual capacity-building activities strengthened the accountability and transparency of existing bodies or developed new institutions. Capacity building enabled institutions to better manage and deliver incentives for sound environmental management. Achievements in these areas built on good project design and delivery, which targeted long-term objectives while meeting local development needs.

One of the key tools and approaches employed by good-practice projects was the use of social assessment during design and implementation of project interventions to identify, disaggregate, target, and involve local communities and institutions. Also important were market and affordability assessments for income-generating activities and energy alternatives. Other factors included the role of committed and skilled internal and external project stakeholders (often referred to as "champions") and the systematic monitoring of local-global linkages to establish clearly what works and what does not, and thereby allow for effective lesson development and learning. Finally, local participation in design and implementation was critical in building ownership, relevance, and effectiveness of local incentives for environmental management and vice versa.

The presence of one or more positive factors or tools did not always guarantee success. Successful approaches and good practices were often highly context specific, and were underpinned by a good understanding of local contexts and active use of monitoring and evaluation to learn from and address problems adaptively. Successful approaches were also developed over longer time scales than the GEF project alone. This finding points to the advantage of locating interventions within broader development strategies, which can be achieved through programmatic approaches or through the blending of GEF activities with other activities. Concrete suggestions for improving approaches can be found in the body of this report. More detailed knowledge products on specific issues will be developed separately.

Conclusion 3. In many projects where local-global linkages were intended to be addressed, they were not sufficiently taken into account, resulting in less local and global benefits than anticipated.

Shortcomings encountered often began with an inadequate understanding of the community in terms of its socioeconomics; institutions; and resource access, use, and needs. This knowledge gap hindered project attempts to develop relevant and effective linkages between local incentives and changes contributing to global environmental gains. It also resulted in a number of missed opportunities for providing stronger benefits and reasons to local communities to participate in global asset protection. Such weaknesses were often exacerbated by the time constraints of short project implementation cycles, uneven implementation of local incentive project components, nonmaterialization of cofinancing for local activities, and inconsistent supervision of the activities necessary to generate linkages. Approaches to institution building also encountered challenges, in part because of an inadequate assessment of the strengths and weaknesses of local management capacity. Incentives for improved environmental management, such as income-generating activities, ecotourism, and new energy technologies, were in several cases delivered without sufficient consideration of the potential market, affordability, or local capacity. Finally, monitoring of local-global linkages proved to be particularly challenging in the majority of projects, reducing the opportunities to learn from success and failure.

New projects approved during the GEF-3 programming period demonstrate a more consistent and nuanced approach to the integration of local incentives and social issues into global environmental projects and programs across all focal areas. The development of the strategic priorities for GEF-3 and their continued refinement for GEF-4 represent a move toward a strategic, programmatic, and project-level inclusion of development and environmental aims. The IAs' own analyses and quality control systems (for example, the World Bank's Quality Assessment Group) confirm improvements at the project level in design and implementation. This study's review of recently approved projects shows that there is indeed a trend toward improved design.

Shortcomings encountered often began with an inadequate understanding of the community in terms of its socioeconomics; institutions; and resource access, use, and needs.

Conclusion 4. "Win-win" situations for global and local benefits proved to be unattainable in many cases.

In practice, it has been difficult to attain win-win situations that are sustainable and replicable. This difficulty is partly due to the incomplete development of alternative courses of action with a range of trade-offs among local costs, compensatory measures, and levels of environmental protection. Another responsible factor is a tendency toward inadequate attention to the potential for negative impacts and the need to develop mitigation strategies. Successful projects and programs assessed varying possible relationships between resource users and the environment and managed the trade-offs across different levels of intervention (such as policy support, institutional strengthening, and income generation). In essence, there are winners and losers in almost all interventions, and attaining the best compromise between these is a key factor in sustainable environmental improvement.

The GEF has relied heavily on alternative income-generating activities, and specifically on ecotourism, as potential approaches to substitute for destructive local livelihoods in many biodiversity interventions. The study found that, in general, income-generating activities and ecotourism were not able to act as a substitution for livelihood sources lost as a result of projects. In the context of poor local communities, they were rather regarded as additions to the range of available opportunities, without rejecting the natural resource use intended to be displaced. Thus the intended win-win situation did not materialize. In countries with an underdeveloped tourism sector and infrastructure, ecotourism rarely thrived, due to structural constraints beyond the project's control. When market contexts for alternatives and ecotourism were favorable and the project undertook preparatory socioeconomic assessment, the evidence shows that benefits for livelihoods and the global environment were attainable. Some people were better positioned than others to take advantage of the new opportunities, so some still lost as a result of the intervention, indicating the need to recognize and respond to opportunities for trade-offs.

1.4 Recommendations

Recommendation 1. Where local benefits are an essential means to achieve and sustain global benefits, the GEF portfolio should integrate them more strongly into its programming.

Improved integration of local benefits in GEF activities, where they can play a role in generating support for steps necessary to move toward the GEF's global objectives, would pave the way for more effective and sustainable progress toward those objectives. This integration should be pursued without changes to the current GEF mandate or its funding of incremental costs for global environmental benefits. Such integration promotes local support for improved natural resource management, enabling the adoption of new approaches and generating sustainability through containment and compensation of local losses and provision of gains.

Recommendation 2. Integration of local benefits should be carried forward more systematically into all stages of the project cycle.

Integration of local benefits into the project cycle may include complementary or alternative means of delivering GEF objectives, such as programmatic approaches and cofinanced or "blended" projects (as they are called by the World Bank) that enable development and environmental objectives to be pursued in a coordinated manner. At an early stage of project development, the potential local dimensions should be assessed to ensure that they are adequately addressed during the design phase. If it is not anticipated that a project has local implications, this should also be stated. Areas to strengthen include:

- ensuring that relevant project concept papers address local benefits issues as key elements in achieving and sustaining global benefits;
- assessing project proposals on local benefits issues (this includes appraisals undertaken by the GEF's Scientific, Technical, and Advisory Panel);
- ensuring a good fit between the task to be undertaken by national-level partners and their capabilities (for example, many government agencies need capacity building with regard to stakeholder involvement, and, in some cases, it may be appropriate to accord a greater role in implementation to nongovernmental organizations (NGOs) that are experienced in participatory approaches);
- systematic supervision of activities intended to generate local-global linkages by the IAs and Executing Agencies;[6] and
- strengthening the emphasis on linkages between local buy-in and sound environmental management in knowledge sharing, project evaluations, and other studies.

[6]The Executing Agencies comprise the four major regional development banks (the African Development Bank, Asian Development Bank, European Bank for Reconstruction and Development, and Inter-American Development Bank) and three specialized agencies (the International Fund for Agricultural Development, the Food and Agriculture Organization of the United Nations, and the United Nations Industrial Development Organization).

Recommendation 3. GEF activities should include processes for dealing with trade-offs between global and local benefits in situations where win-win results do not materialize.

Mechanisms for establishing trade-offs could be addressed through the adoption of guidelines or by requiring projects to specify how they will monitor issues of local costs and benefits and what adaptive approaches they may adopt if it emerges that the project is not going to generate its intended win-win solution. The foundation for anticipating and dealing with trade-offs is created during project preparation. It relies on accurate information concerning current natural resource use practices, how the intervention will affect these, and identification of who can be expected to gain and lose by the changes. Based on such knowledge, at-risk project systems and supervision systems can be tailored to play a role in monitoring the achievement of balanced trade-offs; such trade-offs will ensure that local stakeholders are not disadvantaged by GEF interventions while making a contribution toward an improved global environment.

The study has shown that, in many situations, the GEF's environmental objectives cannot be achieved and sustained independently of broader development processes that lie outside the GEF mandate and funding capacity.

Recommendation 4. To strengthen the generation of linkages between local and global benefits, the GEF should ensure adequate involvement of expertise on social and institutional issues at all levels of the portfolio.

The GEF and the IAs have various mechanisms and systems to address the issues of linkages, local buy-in to interventions, and generation of sustainable outcomes. In practice, these mechanisms have not always been effective in bringing a broad range of perspectives to bear on project development and implementation. Improvement of linkages may be addressed by consistently applying a balanced and appropriate expertise through:

- ensuring involvement of social and institutional expertise when preparing concept papers and at the Project Development Funds A and B stage;
- ensuring involvement of a full range of appropriate expertise within the IAs, the GEF Scientific, Technical, and Advisory Panel, and the GEF Secretariat when reviewing and appraising project proposals (currently, neither the Panel nor the Secretariat has sufficient capacity for this purpose); and
- including a broad range of expertise in supervision and monitoring and evaluation.

1.5 Other Major Issues Arising from the Study

The study has identified some issues beyond the scope of its recommendations that are critical to the future success of the GEF portfolio in helping develop and sustain improved management of the global environment.

The first of these is the need for the GEF to articulate the relationship between environment and development within its mandate. The study has shown that, in many situations, the GEF's environmental objectives cannot be achieved and sustained independently of broader development processes that lie outside the GEF mandate and funding capacity. This calls for an increased emphasis, where appropriate, on programmatic approaches, blended projects, and multi-phased projects. The GEF Council would need to discuss such a change of emphasis and approve any major move of the portfolio away from individual stand-alone projects.

Relatedly, the GEF needs to develop a coherent position on the relationship between its activities and the poverty reduction goals of most of its Implementing and Executing Agencies, as well as of many partner countries. This position should be established based on discussions within the GEF Council. The study found that the failure to address this relationship has reduced the effectiveness of the GEF portfolio in meeting its global environmental goals, since poor people are often left with no alternative to unsustainable natural resource use practices.

In light of the ambiguity in the GEF position on development-environment linkages, it is essential to reassess the GEF incremental cost principle and calculation and

the associated interpretations of what is "GEF-able" (with regard to definition of global environmental benefits). The narrow interpretation of incremental costs derived from Council guidelines and adopted by the GEF Secretariat has led to the rejection of proposals for GEF funding, on the basis that they are targeting local development or welfare benefits. This interpretation is often incorrect, since these elements are the means to develop local support for improved natural resource management practices, without which global environment gains cannot be reached or sustained. The Evaluation Office plans to evaluate the incremental cost principle and calculations in the GEF portfolio commencing in fiscal year 2006. The current study provides material showing the implications of the methods adopted for this calculation for activities at the field level (see chapters 5–7 and annex A).

2. Study Purpose and Methodology

2.1 Origins and Purpose

The mandate of the Global Environment Facility addresses the role of local benefits through its emphasis on sustainable development: "The GEF shall fund programs and projects that are country-driven and based on national priorities designed to support sustainable development."[1] From its inception, the GEF has attempted to focus on one aspect of sustainable development—global environmental benefits—in a manner that explicitly recognizes the links to wider conservation and development frameworks.

> The main rationale of the GEF is…to fund the incremental costs of achieving global environmental benefits. This principle was intended to be applied in a context that supports sustainable development goals. The Implementing Agencies were expected to address these larger sustainable development dimensions by relating GEF-funded activities, through national-level strategies and programs, to a development and environment policy framework.[2]

Within the international community, which now largely focuses its efforts on poverty reduction, specialist entities on the environment (most notably the GEF) have a specific and important role to play by promoting the centrality of sound management of the global environment to the relationship between sustainable development and poverty.

Previous GEF evaluations and program studies have focused on identifying impacts that produce global environmental benefits. The GEF's Second Overall Performance Study (OPS2) found it difficult to assess stakeholder participation, and pointed out that: "GEF projects would benefit from addressing socioeconomic and livelihood issues more thoroughly and systematically." It also recommended (recommendation 9) that the GEF develop an "effective and systematic way to document information on stakeholder consultations and participation, including the involvement of indigenous communities."[3]

This study analyzes how local benefits can contribute to the attainment of global environmental goals and vice versa.

To fill this gap and promote the sharing of knowledge and good practice in this area, this study analyzes how local benefits can contribute to the attainment of global environmental goals and vice versa, in accordance with the GEF mandate. Findings on linkages between global and local benefits support the study's overall objectives, namely to:

- Enhance GEF policies, strategies, and project design and implementation so these can effectively promote the potential for local gains in those global environmental programs where actors need to be mobilized for long-term support of sound environmental management, costs incurred by local communities for supplying global environmental goods need to be reduced, and possible negative impacts need to be ameliorated.

[1] GEF (1996a), p. 2.

[2] GEF (2002), p. 5.

[3] GEF (2002), p. 73.

- Strengthen GEF monitoring and evaluation policies and processes to develop indicators for, and enhance the tracking of, local benefits and negative impacts.
- Expand the body of existing operational knowledge of good practices and experiences germane to pursuing global environmental issues and of constraints or fallacies to be avoided in operations.
- Disseminate widely the most valuable lessons of existing experience and show how these lessons can be implemented in future GEF operations.

The study was cofunded by three bilateral agencies (from Canada, Norway, and Sweden) and the GEF Evaluation Office. It was approved at the November 2003 meeting of the GEF Council.

2.2 Scope

In the GEF context, *local* is commonly understood as a contrasting category to *global*.[4] While the present study pays particular attention to communities in and around a project intervention where actions must be taken to protect specific resources of global importance (see box 2.1), the concept of local is also seen as flexible and not limited to this level. It may also encompass a range of other levels, depending on context, including regions within countries, whole countries, or groups of countries involved in interventions, particularly in the international waters focal area.

Local benefits represent a strategic instrument for the GEF, rather than a goal. This is an important distinction between the mandate of the GEF and those of development agencies, which pursue local benefits as part of their primary task of poverty reduction.

To understand how the intentions of the GEF mandate have been expressed in the development of its operational activities with regard to potential local and global benefits links, the scope of the study covered the following dimensions of selected projects in the GEF portfolio:

Box 2.1: Definition of Terms

Local benefits are defined as outcomes that, directly or indirectly, have positive impacts upon people and ecosystems within or adjacent to project areas and that provide gains, present and future, in the livelihoods of communities and to the integrity of ecosystems.

Global environment benefits are defined as outcomes that, directly or indirectly, have positive impacts on global environmental sustainability through reducing the risks of climate change, stemming biodiversity loss, safeguarding international waters, preventing ozone depletion, eliminating persistent organic pollutants, or preventing land degradation.

- the links between attaining global environmental benefits and generating local benefits, based on an analysis of how the former can affect benefit streams at the local level and how the latter can affect global environmental goals;
- the types and scale of local benefits and of any negative impacts, intended or unintended, that have resulted from GEF projects, including local perceptions of these impacts; and
- the extent to which project design and the environmental management options selected in a project can either maximize opportunities to generate greater levels of local benefits or insufficiently exploit such opportunities—essentially, this implies taking stock of good project practices and identifying existing constraints, weaknesses, and lessons for improving future projects.

An analytical framework was developed based on a livelihoods approach and a typology of local benefits that identifies seven generic categories of improvement to livelihoods that can be found in global or local environmental projects:[5]

1. Improved access to natural capital, including plants and animals, water, fuelwood, and environmental services such as safe waste disposal.

[4]Thus, *local* benefits are also referred to as *national* or *domestic* benefits. See GEF (1994) and (1996a).

[5]This typology is discussed in detail in GEF (2003a, 2003b).

2. Improved social capital (including perceived well-being) and institutional capacities in local communities, including contact networks and the improved ability to deal with outside agencies. Specific attention was paid to the different roles of women and men in relation to natural resource management and flows of local benefits.

3. Improvements to physical capital, including investments in tools and machinery; access to or ownership of buildings; and access to infrastructure such as transport, telecommunications, or water supply and irrigation.

4. Improvements to human capital, which includes skills, knowledge, health, work ability, and management capabilities of local community members.

5. The cumulative outcomes of the above four forms of capital are likely to produce increased livelihood opportunities and incomes. This includes higher productivity of existing activities and new livelihood opportunities, increases in cash income, and improvements to the ability to save or access micro-capital.

6. Increases in the livelihood capital available to communities will promote improved health and food security.

7. Strengthened livelihood capitals and improved health and food security will reduce the vulnerability of local communities to external factors such as floods, droughts, and cyclones; environmental degradation; loss of ecosystem integrity; deforestation; climate change and variability; and social, political, and market disruption.

In accordance with this framework, the study analyzed the potential links between local benefits and enhanced global environmental benefits in four ways:

- **changes in consumption patterns—**for example, switching to renewable energy sources, changing diet, or acquiring more-sustainable consumer goods;
- **improvements to the local resource base—**the global environmental processes involved in such areas as the hydrological cycle, land degradation, and atmospheric pollution are the accumulation of local resource dynamics over larger areas;
- **reduced vulnerability—**global environmental processes such as climate change become less of a threat to vulnerable people, and people become less risk averse, thus reducing pressures on the resource base; and
- **changes to the external institutional environment—**as a consequence of local-level empowerment, public awareness, and political support for environmental issues, and potentially fostering revisions in the balance of priorities as the urgency of poverty reduction and development pressures is reduced.

The dynamics and variability of local-level social and economic processes, and the interactions between local communities and their natural resource base, is complex; and many factors may influence linkages. Such factors include local social dynamics; patterns of incentives that exist to conserve or exploit resources; the extent of people's understanding of the long-term consequences of actions; gender-based knowledge bases and differential patterns of access to natural resources; and the structure, approaches, and operational modalities of support provided.

The framework proved particularly useful in developing an understanding of the relationship of local communities to global environmental resources in specific case studies and projects. More broadly, it helped to understand the extent to which the conceptual and operational characteristics of the GEF have included strategies to motivate local actors—as distinct from state-level actors—to protect global assets and pursue global environmental objectives.

This analytical framework on local benefits is derived from international experiences of sustainable development approaches. The global consensus on the meaning of and approaches to sustainable development is expressed in the outcomes of the global summits in Rio de Janeiro in 1992 and Johannesburg in 2002. The Rio summit was a catalytic factor in the establishment of the GEF. It produced Agenda 21 and established the idea that sustainable development involves the linked and mutually dependent challenges of environmental protection and social and economic development.

2.3 Audiences

The study objectives respond to the interests of several audiences. These include the GEF Council, management and staff of the GEF Secretariat and its Implementing Agencies and Executing Agencies, and country recipients. Beyond these GEF-specific audiences, the study findings will be of great interest to a wide range of agencies and organizations that seek to promote environmental protection and sustainable development. These include bilateral and multilateral donors, NGOs, and national governments.

2.4 Approach

The study adopted a collaborative approach, both in terms of its external relations and with regard to the GEF family. It was guided at critical points by an Advisory Panel, which consisted of representatives of the three donor agencies providing external financial support to the study (the Canadian International Development Agency, Royal Ministry of Foreign Affairs of Norway, and Ministry of Foreign Affairs of Sweden) as well as representatives of the GEF NGO and indigenous peoples' (IPs') networks; international NGOs; the GEF Scientific, Technical, and Advisory Panel; and experienced development practitioners.

Most of the fieldwork studies included GEF Secretariat or IA participants, under the overall leadership of a representative of the study team. The study also cooperated with many other initiatives and organizations, including internal studies of the World Bank as well as several major NGOs and academic groups. Most importantly, the study included national-level workshops in almost all of the countries where field case studies were undertaken. These workshops were critical in providing feedback to national-level stakeholders on the initial findings and in ensuring that the perspectives of these stakeholders were incorporated into the final case study reports.

The Advisory Panel played an active role in guiding the study. The study team and consultants from the Stockholm Environment Institute together undertook the bulk of the study's field research, analysis, and documentation. Assistance was provided by more than 25 national consultants in fieldwork countries and by project personnel, government officials, NGO staff, and others in these countries (see annex B).

One of the study's local consultants interviews stakeholders at a tea plantation in Assam, India (India Hilly Hydel Project). ©Dirk Frans

2.5 Methodology and Process

The methodology was developed on the basis of verbal and written inputs from the IAs, the Advisory Panel, and the GEF Evaluation Office. The original methodology, together with the inception report containing the study work plan and procedures, is available on the GEF Web site.[6]

The study was conducted in three main phases:

- **Phase 1:** Preliminary stocktaking and portfolio analysis, including consultations among the review's supporting agencies and the GEF IAs; development and approval of a conceptual framework, methodology, and work plan, including refinement of definitions and scope.
- **Phase 2:** Analytical and empirical fieldwork; local and national consultations on selected projects in member countries.

[6]GEF (2003a, 2003b).

- **Phase 3:** Overall analysis of findings, preliminary report writing, and final report completion.

Phase 1

The initial conceptual framework was developed through preparatory desk reviews of 132 projects in the GEF biodiversity, climate change, and international waters portfolios, all of which had stated intentions to generate some form of local benefit. A separate review was conducted by the Stockholm Environment Institute to summarize salient examples of broader international (non-GEF) experience with connections between local and global benefits in environmental activities.

To ensure consistency across the nearly 50 projects included in the field and nonfield studies, a common conceptual framework for understanding local benefits was detailed in the methodology and inception report documents and carried forward into the terms of reference for each case study. The conceptual model proved a robust instrument in its ability to provide consistency across a broad range of studies undertaken by different specialist teams.

Phase 2

Eighteen in-country fieldwork studies were conducted by case study teams; in all, more than three years of fieldwork was undertaken over a 12-month period. The field case studies were based on a careful review of project and other documents (covering, among other items, national policy contexts) and discussions with Implementing and Executing Agencies' staff, who assisted the study team in identifying appropriate field research sites. The fieldwork was generally undertaken in two phases: an initial phase that involved local consultants and the external team, during which consultations with key stakeholders were held, the main issues for further analysis were identified, and a plan for the rest of the case study was prepared. This was followed by a second phase of more in-depth local-level fieldwork by the national consultants, during which a wide range of local, national, and regional stakeholders were reached. Numerous qualitative and quantitative methods were used, based on options outlined in the inception report and methodology; these were adapted to local needs based on discussions within the field study team. Most studies concluded with local and/or national workshops, at which the key conclusions from the fieldwork were discussed with relevant stakeholders.

Phase 3

Based on the fieldwork (and secondary) data collected using the conceptual model, the case study analysis framework was employed to explore the following dimensions of each project:

- overview of the project being evaluated, including the policy and institutional context, structure, objectives, and anticipated results (outputs, outcomes, impacts), related to the host country's development context which specifies intended local incentives and target groups;
- overview of the project's global environmental objectives and achievements, based on existing documents and interviews with expert stakeholders;
- types and scale of local incentives and negative impacts identified and analyzed on the basis of the study's model of livelihoods and benefit flows;
- relationship of local incentives and/or negative impacts to the livelihoods of different stakeholder groups, based on the model and incorporating gender differences and a focus on vulnerable groups, such as indigenous peoples and scheduled castes, where these constitute a distinct group in the project area;
- relationship of local-level processes to wider social (including gender), economic, and environmental processes, including external institutions, global environmental processes, and vulnerability context components of the model;
- nature of the links achieved between local-level benefits/impacts and the attainment of global environmental benefits;
- extent to which the project's environmental management options represent missed opportunities to generate greater levels of local incentives, relevant to its global

objectives, with particular attention given to opportunities for women, the poor, and minority groups; and

- lessons to be learned from the project, including any relevant accountability issues.

The draft final reports of the field case studies were posted on the GEF Web site in October/November 2004.

The 25 nonfield case studies explored the same issues as the field studies, using the same conceptual model and case study analysis framework outlined above. They primarily focused on reviewing available internal documentation and evaluations, supplemented on many occasions by interviews or email exchanges with key stakeholders to add depth and clarity to the information available on specific issues. One of the functions of these case studies was to triangulate with the data gained from the field case studies and see how these are reflected in a wider range of project experiences.

Analysis of Independent Evaluations

Projects not included in the original study sample reached completion and were evaluated by the IAs during the conduct of the study. As a supplemental activity, the study team reviewed all evaluations officially submitted to the GEF Evaluation Office by July 31, 2004; these totaled 113. Since these projects were a mix of both those with stated local benefits goals and those without, they were treated as a separate subset of data and not amalgamated with earlier data sets. The review drew out the IA evaluators' findings, interpretations, and recommendations on issues related to the themes of the local benefits study. Since these evaluations were independent of this study, they provided another useful source of triangulation of the key themes emerging from the desk, field, and nonfield studies.

Analysis of Project Finances

The study team attempted to assess the extent to which projects that had stated local incentives objectives and that sought to engage local communities in participation in project activities expended resources on these purposes. A review was undertaken of the financial information available to the GEF for 132 projects that fulfilled the criteria outlined above. The review found that there is insufficient financial information within the GEF database to make an informed assessment of the amount of funds expended to develop local participation or incentives. A follow-up review was undertaken of the same projects; this focused only on the planned allocation of resources for stakeholder involvement and activities related to local benefits. It was found that 101 out of 132 projects had sufficient information for this analysis (see chapters 5–7).

Analysis of New Projects

The GEF portfolio is evolving. To maximize the possibility of applying lessons from completed projects to the present and future portfolio, the study reviewed 30 projects that attained GEF Chief Executive Officer (CEO) approval between December 2001 and November 2004. This review was aimed at understanding new approaches developed and adopted toward participation and the possibility of linkages between local and global benefits. The review focused on IA project documents submitted to the GEF for funding approval and assessed the extent to which new approaches have been adopted.

Liaison with Related Studies, Institutions, and Activities

The study team networked to establish contacts with external parties concerned with the issues it was covering. Documents from the study have been shared with many relevant practitioners, reviewers, and academics; and team members participated in major events, such as the World Parks Congress in Durban and the World Conservation Forum in Bangkok. This enabled the study team to place its approach and conclusions within a broader context (see annex B).

Findings from these data sources were initially analyzed on a sectoral basis, as presented in chapters 5–7. This analysis provided a foundation for building an understanding of good practice and of the challenges facing the GEF. On the basis of this initial analysis, wider characteristics, good practices, and challenges emerged, along with sector-specific issues. These broader issues are covered in chapter 4.

2.6 Limitations

The complex subject matter of the study necessitated a case study approach to establish how intended relationships between local and global benefits were realized. These data provided the foundation for the analysis of achievements and challenges and were supported by desk studies. Although 132 project cases were covered in total, this sample does not allow for any statistically valid generalizations about the GEF portfolio as a whole or about any of the focal areas.

The study concentrated exclusively on projects that had stated intentions to generate local benefits, and its findings and recommendations apply only to such projects. Although these constitute a substantial portion of overall GEF activities, the study cannot precisely specify this proportion. The study focused on projects that were completed or in process as of July 2001. Although a modest attempt was made to assess new project designs, the study does not cover later developments in GEF programs such as land degradation, persistent organic pollutants, adaptation to climate change, and multifocal projects.

3. Local and Social Dimensions in GEF Guidance and Policy

This chapter outlines the treatment of local benefits–global environmental benefit linkages in the conventions that the GEF serves and in the GEF Instrument, Operational Strategy, and policies.

3.1 The Conventions and the GEF Mandate

The GEF mandate was developed on the basis of the United Nations Convention on Biological Diversity (UNCBD) and the United Nations Framework Convention on Climate Change (UNFCCC). The GEF was appointed the interim financial mechanism to both conventions in 1992 to provide support for new and additional efforts to address the underlying causes of global environmental degradation on an agreed full incremental cost basis.

In 2002, the GEF Assembly requested that GEF resources be made available to finance activities under the United Nations Convention to Combat Desertification (UNCCD). The following year, the GEF became a financial mechanism for the UNCCD to support efforts to address desertification and land degradation in developing countries on an incremental cost basis.[1]

The Conference of the Parties (COP) for each convention determines the policy, strategic direction, program priorities, and eligibility criteria for access to and utilization of financial resources available through the financial mechanism. In agreeing to act as a financial mechanism to the conventions, the GEF agreed to conform to guidance provided to it by the COPs.

United Nations Convention on Biological Diversity

The GEF is the financial mechanism of the UNCBD and supports the convention's goals:

> Conservation of biological diversity, the sustainable use of its components and the fair and equitable sharing of benefits arising out of the utilization of genetic resources, including appropriate access to genetic resources and by appropriate transfer of relevant technologies taking into account all rights over those resources and to technologies and by appropriate funding.[2]

The convention guidance is primarily aimed at the level of countries and intercountry issues and responsibilities. Convention articles also emphasize linkages between social development and biodiversity conservation and the roles of stakeholders (for example, national government, local and indigenous peoples). Specific areas of synergy are to be found in the sustainable use of biodiversity (article 10), economically and socially sound incentive measures (article 11), public education and awareness (article 13), the importance of traditional knowledge (articles 8 and 10), and the participation of indigenous and local communities and women in biodiversity conservation (preamble and articles 8 and 10).

[1] See UNCCD (1994), article 20. The GEF also serves as a financial mechanism to the Stockholm Convention on Persistent Organic Pollutants and provides financial support for the Montreal Protocol of the Vienna Convention on Ozone Depleting Substances and for regional seas and international waters agreements such as the United Nations Law of the Sea.

[2] UNCBD (1992), article 1.

It is notable that the issues of access and equitable sharing of benefits (article 15) are associated with the national level and are not explicitly cited with regard to social equity. Over the course of successive UNCBD COPs, the links between local community and indigenous livelihoods, broader development processes, and—more recently—the Millennium Development Goals (MDGs) have received increasing attention,[3] including through guidance to the GEF.

The COP meets biannually to provide further guidance and specificity to the parties (countries) on implementation of the convention. At this time, it also provides guidance to the GEF in terms of funding priorities. The UNCBD in COP I (1994) set the original program priorities for the GEF. These placed emphasis on sustainable use of biological diversity, including local and indigenous community involvement; social dimensions; and integration within the framework of poverty reduction efforts. Subsequent COPs (II–VII) have given more detailed guidance to the GEF relevant to local-global benefit linkages. This guidance has stressed the need for activities that address capacity building; stakeholder involvement; education and awareness; ecosystem approaches;[4] sustainable use (Addis Ababa Principles); access and benefit sharing (Bonn Guidelines);[5] financial, social, and institutional incentives for indigenous and local community partners' participation in the implementation of the convention articles; and synergies with national priorities for sustainable development. COP VII called for synergies between the convention implementation and larger macro-policy frameworks by inviting the GEF to support capacity building for the mainstreaming of biodiversity concerns into MDG processes.

This guidance was influenced by the increasing international debate surrounding poverty reduction and conservation, and the nature of policy and programmatic links between conservation and achievement of the MDGs.[6] Moreover, specific issues surrounding the rights of local, indigenous, and mobile peoples in the governance of protected areas (for example, comanagement and community management areas), gender relations, sustainable use (for example, tourism) and equitable sharing of benefits are being debated and discussed by the Subsidiary Body on Scientific, Technical and Technological Advice.[7] At present, there is no overall consensus within the conservation community regarding these issues, or on the relationship between them and the broader issue of conservation and poverty alleviation.

Because the sampled projects in this study span the COP I–IV period, much of the foregoing guidance was made available only after their design. The sample of new biodiversity projects included in the study provides insights into how the GEF is operationalizing COP IV–VII guidance.

United Nations Framework Convention on Climate Change

Article 11 of the UNFCCC established GEF as the interim financial mechanism to support the objectives of the convention:

> The ultimate objective of this convention and any related legal instruments that the COP may adopt

[3]With regard to the MDGs, issues surrounding access and benefit sharing have yet to be resolved.

[4]The ecosystem approach is a "strategy for the integrated management of land, water and living resources that promotes conservation and sustainable use in an equitable way" (UNCBD 2000, decision V/6); it helps the convention balance the objectives of conservation, sustainable use, and benefit sharing. The ecosystem approach principles place a strong emphasis on interdisciplinary management through decentralization of governance over biological diversity and stress "ownership, accountability, participation and use of local knowledge"; management of temporal and spatial scales involving managers, scientists, and indigenous and local communities; consideration of all forms of relevant knowledge including scientific, local, and indigenous innovations and practices; and involvement of all relevant sectors of society and scientific disciplines.

[5]See UNCBD (2004), decision VII/20. The Bonn Guidelines and the Addis Ababa Principles stress involvement of local and indigenous communities and synergies between conservation and poverty alleviation efforts.

[6]For example, the 2003 World Parks Congress, with its focus on "benefits beyond boundaries," raised the issue of poverty and conservation prior to COP VII. The issue was further debated and explored at the World Conservation Congress in November 2004. The GEF has not actively been involved in the discussion of these issues.

[7]The UNCBD recently issued guidelines on biodiversity and tourism development; see UNCBD (2003); equitable sharing of benefits is addressed in UNCBD (2004), decision VII/28.

> is to achieve, in accordance with the relevant provisions of the convention, stabilization of greenhouse gas concentrations in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system. Such a level should be achieved within a time-frame sufficient to allow ecosystems to adapt naturally to climate change, to ensure that food production is not threatened and to enable economic development to proceed in a sustainable manner.[8]

The convention preamble affirms that responses to climate change should be coordinated with social and economic development in an integrated manner, taking into account priority needs of developing countries and poverty reduction. Article 6(a)(iii) requests parties to "promote and facilitate public participation in addressing climate change and…in developing responses." At COP1, the convention set out short- and long-term strategies to mitigate emissions, transfer technology, build capacity and strengthen institutions, and research and educate to facilitate effective response measures within the context of local conditions. Subsequent COPs (2–10) have placed some emphasis on adaptation activities for small island developing states (SIDSs) and least developed countries including the funding of pilot projects that will provide benefits and capacity building for technology transfer. COP7 also called on the GEF to provide financial resources for community involvement.[9]

The new responsibilities imply a stronger requirement for interdisciplinary approaches, local involvement, incentives, and poverty considerations in climate change mitigation and adaptation. Socioeconomic/cultural issues relating to gender and local and indigenous communities are important to implementation of the convention in terms of reception, adoption, replication, and sustainability of technologies for mitigation and adaptation. To date, the convention and COP decisions and guidance to the GEF have not consistently stressed socioeconomic and sociocultural issues related to implementation activities. Guidance to the GEF has been at a general level and requires active interpretation to inform the design of projects and programs.

United Nations Convention to Combat Desertification

The GEF Beijing Assembly decided to designate the GEF as a financial mechanism for the UNCCD to provide new and additional support for efforts to reduce land degradation and desertification. The goal of the UNCCD is to:

> combat desertification and mitigate the effects of drought in countries experiencing serious drought and/or desertification, particularly in Africa, through effective actions at all levels, supported by international cooperation and partnership arrangements, in the framework of an integrated approach which is consistent with , with a view to contributing to the achievement of sustainable development in the affected areas.[10]

The preamble of the convention recognizes that implementation of the convention will depend to a large extent on local actors; it acknowledges the critical role of women in resource management and notes that their full participation must be obtained in measures to mitigate desertification. Article 3 outlines key principles and places particular emphasis on participation of NGOs, landowners, and communities in facilitating and implementing mitigation measures.

GEF financing is directed toward capacity building and implementation of innovative and indigenous sustainable land management practices. The GEF has agreed to assist countries in implementing national and regional programs.

[8]UNFCC (1994), article 2.

[9]At COP7, it was decided that there was a need for new and additional funding beyond allocations already made to the GEF Trust Fund. The Special Climate Change Fund was established to provide support for technology transfer and capacity building, adaptation, forestry, energy, transport, and economic diversification. The Least Developed Countries Fund was established to fund national adaptation strategic planning for least developed countries in recognition of their particular constraints and vulnerability to climate change, and the Adaptation Fund was created to provide "concrete funding" for projects and programs under the protocol. COP9 further decided that the Special Climate Change Fund activities should be linked to poverty reduction strategies. These activities are not covered by any of the sampled projects.

[10]UNCCD (1994), article 2, para. 1.

The COP invited the GEF to give support in its activities to livelihood systems that prevent (or provide incentives against) land degradation.

The UNCCD is the only convention involving the GEF that has clearly addressed the importance of targeting women as well as men at all stages of implementation. It has also stressed the linkage between poverty and desertification and, in doing so, seeks to combine local knowledge and socioeconomic perspectives with Western science. The recently approved GEF Operational Program 15 (OP15), Sustainable Land Management, which aims to address land degradation and desertification, also recognizes these links and the need to involve local stakeholders, gender-sensitive approaches, and indigenous knowledge.

3.2 GEF Instrument, Strategy, and Policies

The following sections provide background on the integration of local benefits and social issues as addressed in the GEF Instrument, Operational Strategy, and policies.

The Instrument

The instrument of the restructured GEF states:

> The GEF shall operate on the basis of collaboration and partnership among the Implementing Agencies, as a mechanism for international collaboration for the purpose of providing new and additional grant and concessional funding to meet the agreed incremental costs of measures to achieve agreed global environmental benefits.[11]

Within the context of global environmental objectives, the instrument emphasizes the need to integrate environmental and development approaches through consultative and participatory processes as a means to bring international, national, and local stakeholders together to address environmental problems. It does not provide specific guidance on the character or scale of integration and so allows for flexible interpretation of what socioeconomic incentives might be needed to produce appropriate local action to sustain global environmental benefits over time.

GEF Operational Strategy

The GEF Operational Strategy is based on 10 operational principles and provides overall direction to the biodiversity, climate change, and international waters focal areas "to maximize global environmental benefits."[12] Principle 7 relates directly to local benefits and social issues and states that "GEF projects shall provide for full consultation with, and participation as appropriate of, the beneficiaries and affected groups of people."

At a more abstract level, principle 4 implies the need for linkages between development and environmental programs based on country-driven priorities: "The GEF will fund projects that are country driven and based on national priorities designed to support sustainable development, as identified within the context of national programs."

The strategy acknowledges that GEF measures will need to be "environmentally and socially sustainable" if they are "to be part of a long-term solution"; it thus specifies various social aspects that need to be strategic considerations in the design of GEF activities. These should be consistent with national and, where appropriate, regional priorities and should include consultation with and involvement of local communities to ensure the quality and relevance of GEF activities. Table 3.1 summarizes the main social considerations laid out in the Operational Strategy across the focal areas. Social and local community issues receive significant consideration in the biodiversity and land degradation focal areas; the climate change and international waters areas tend to emphasize the need for consultation, public awareness, and education, and therefore pay less attention to spelling out the social and local aspects of GEF activities.

The Operational Strategy does not attempt to define the range of socioeconomic incentives for local stakeholder participation beyond references to the need for economic, financial, and social sustainability. Only financial sustain-

[11]GEF (1996b), p. 2.

[12]GEF (2004c), p. 10.

Table 3.1: Strategic Social Considerations in the Design and Implementation of GEF Operations, by Focal Area

Focal Area	Consideration
Biodiversity	• Country-driven GEF activities related to social development and economic plans • Poverty issues • Social development • Sustainable livelihoods • Common property • Participation of indigenous peoples and local communities • Public awareness and community-based outreach • Social, economic and cultural knowledge of local and indigenous peoples • Governance and devolution to local groups and NGOs • Distribution of benefits and accountability for conserving resources • Demographics • Gender roles • Social organization processes as related to human/environment interactions • Incorporation of lessons from implementing participatory approaches • Use of social assessment
Climate change	• Country-driven measures satisfying sustainable development needs • Public participation • Public awareness and education
International waters	• Country-driven needs • Stakeholder involvement • Public awareness and education • Stakeholder analysis and involvement to include economic and social aspects
Land degradation	• Country-driven and integrated with sustainable development plans and Poverty Reduction Strategy Plans • Poverty issues • Effective participation of stakeholders, including women, at all stages • Economic incentives to support local, national, and international responses

Note: Land degradation was not originally included as a focal area. It is included here based on a draft scoping paper presented to the GEF Council in November 2004.

Source: GEF (1996b).

ability was examined in detail in the strategy. The lack of clear definition of social and economic sustainability, and of the role tools such as stakeholder analysis and social assessment play in operationalizing the socioeconomic sustainability of environmental protection, highlight the importance of Implementing Agencies in defining and incorporating these dimensions into project activities. The Operational Strategy also does not discuss possible negative social impacts on local community stakeholders of activities designed to produce global environmental benefits.[13]

The Operational Strategy is applied across all 15 GEF operational programs (OPs) (see box 3.1). The individual OPs also contain more specific details on the integration of environmental, social, and local community issues where appropriate. In particular, the biodiversity OP and the new land degradation OP provide relatively detailed consideration of social and local community issues in GEF activities.

Operational Policies

In 1995, the GEF Council requested that the GEF Secretariat prepare a policy on information disclosure and public involvement. The request was, in large part, based on the challenges concerning stakeholder involvement—particu-

[13]See Griffiths (2005), pp. 85–87.

Box 3.1: GEF Operational Programs

The GEF has 15 operational programs that provide specific guidance for the development of projects across the focal areas. The OPs have evolved over time; 10 were developed in 1996, and 5 have been added since 2000. The OPs follow a common structure, laying out key program objectives (based on convention guidance where necessary and appropriate), expected outcomes, assumptions and risks, outputs, "typical" project activities, and public involvement guidelines.

Biodiversity

- OP1—Arid and Semi-Arid Ecosystems
- OP2—Coastal, Marine and Freshwater Ecosystems
- OP3—Forest Ecosystems
- OP4—Mountain Ecosystems
- OP13—Conservation and Sustainable Use of Biodiversity Important to Agriculture

Climate Change

- OP5—Removal of Barriers to Energy Efficiency and Energy Conservation
- OP6—Promoting Adoption of Renewable Energy by Removing Barriers and Reducing Implementation Costs
- OP7—Reducing the Long-term Costs of Low Greenhouse Gas Emitting Energy Technologies
- OP11—Promoting Environmentally Sustainable Transport

International Waters

- OP8—Waterbody-based
- OP9—Integrated Land and Water
- OP10—Contaminant-Based

Land Degradation

- OP15—Sustainable Land Management

Multifocal Area

- OP12—Integrated Ecosystem Management

Persistent Organic Pollutants

- OP14—Persistent Organic Pollutants

larly local community and NGO involvement—that were highlighted by the GEF pilot phase evaluation[14] and on the special emphasis placed on stakeholder involvement in the GEF Instrument. The resulting policy is the only operational GEF policy that relates specifically to social issues and local stakeholders/beneficiaries.[15] It applies to all GEF focal areas, programs, and projects; spells out the rationale, terms, and principles for public involvement; and solidifies the operational requirement for stakeholder involvement and partnership in the design, implementation, and evaluation of GEF-financed activities (see box 3.2 for a synopsis of the policy).

There has been no evaluation of the implementation of the GEF Public Involvement Policy, although OPS2 and OPS3 and the focal area program studies have, to some extent, assessed stakeholder involvement. This study in part, assesses local stakeholder involvement within the context of the delivery of local livelihood benefits and linkages to global environmental gains (see chapters 5–7).

Council policy papers and operational guidelines have in various ways made the point that "costs of the proposed GEF activity associated with an expansion of the project beyond what is strictly required for global environmental benefits are ineligible for GEF support."[16]

The GEF project cycle sets out the various steps that projects have to progress through to obtain financial support from the GEF, including project review criteria and considerations (see table 3.2). The initial project cycle policy/regulations were set out in 1995 and revised in 2000 and 2003.

In 1995, the social considerations/criteria were relatively broad, requesting that specific tools such as social assessment be applied in defining the roles of local and indigenous community stakeholders as well as in considering gender dimensions. In 2000 and 2003, the social considerations/criteria for GEF projects were more narrowly limited to stakeholder involvement, including descriptions of how stakeholders were involved in project development and in implementation, including marginal groups (the project cycle policy/regulations do not provide a clear definition of

[14]UNDP-UNEP-WB (1994).

[15]The policy is set forth in GEF (1996c).

[16]GEF (1997).

Box 3.2: GEF Public Involvement Policy

Rationale

Effective public involvement is critical to the success of GEF-financed projects. Public involvement improves project impacts by:

- enhancing country ownership and accountability;
- addressing social and economic needs of affected people;
- building partnerships among project executing agencies and stakeholders; and
- making use of skills, experiences, and knowledge—in particular of NGOs and community and local groups—in the design, implementation, and evaluation of project activities.

Definition

There are three main types of public involvement activity:

- **Information dissemination**—the availability and distribution of timely and relevant information on GEF-financed projects. Aspects of information dissemination include appropriate notification and disclosure of project information to the public.
- **Consultation—**information exchanges among government, IAs, and other stakeholders. Although decision-making authority rests with the government, consultation allows for informed choices based on local community contributions to project design, implementation, and evaluation.
- **Stakeholder participation—**stakeholders collaboratively engage, as appropriate, in the identification of project concepts and objectives, selection of sites, design and implementation of activities, and monitoring and evaluation of projects. Developing strategies for incorporating stakeholder participation throughout the project cycle is particularly necessary in projects that affect the incomes and livelihoods of local groups, especially disadvantaged populations in and around project sites (for example, women, indigenous communities, and poor households).

Principles

- Effective public involvement should enhance the social, environmental, and financial sustainability of projects.
- Responsibility for ensuring public involvement rests within the country, normally with the government and project executing agency or agencies. The IAs should be supportive to this end.
- Public involvement activities should be designed and implemented in a flexible manner, adapting to national and local conditions.
- To be effective, public involvement activities should be broad and sustainable. The IAs will include project budgets, as needed, and the financial and technical assistance necessary for recipient governments and project executing agencies to ensure effective public involvement.
- Public involvement activities will be conducted in a transparent and open manner. All GEF-financed projects should have full documentation of public involvement activities.

GEF Secretariat Responsibilities

- In consultation with the IAs, the Secretariat will establish operational guidelines for assessing the effectiveness of public involvement activities in design and implementation plans and evaluation of the impacts of public involvement.
- The Secretariat will facilitate the exchange of best practices on public involvement among recipient governments, IAs, project executing agencies, and other stakeholders to help ensure that lessons are incorporated into future design.
- In collaboration with the IAs, the Secretariat will explore ways in which the roles of NGOs and other stakeholders can be strengthened in project preparation, design, implementation, and evaluation.
- The Secretariat will ensure that funding is available for conducting effective public involvement.

the term "marginal groups"). The need to consider social assessment was removed.

3.3 Conclusions

In general, the conventions recognize the importance of local development for the sustainability of global environmental gains and look favorably on integrating these concerns into activities designed to improve the environment.

The UNCBD and UNCCD provide for local community (including indigenous peoples) and socioeconomic and cultural issues in the implementation of their objectives. The UNCBD has provided the GEF with significant guidance on the integration of local community concerns into key convention issues concerning incentive measures, sustainable use and access, and protected areas. The UNCCD has yet to provide specific guidance to the GEF, although the new OP15 on sustainable land management has taken an active approach to addressing key social concerns and linkages. UNFCCC guidance has been at a general level, and it has yet to provide specific guidance to the GEF on socioeconomic issues (for example, those related to sustaining positive social and cultural reception of climate change mitigation technologies).

Although there is a tendency to perceive the GEF as a funding mechanism to be used exclusively for global benefits, the GEF Instrument and Operational Strategy provide a broad framework for the consideration of social and local community issues beyond stakeholder involvement. However, they do not specify precise approaches to socioeconomic benefits or incentives to produce and sustain global environmental gains. Stakeholder involvement processes are stressed throughout the GEF Operational Strategy, programs, and policies. Furthermore, neither the GEF Instrument nor the Operational Strategy prohibits a maximization of, or emphasis on, local benefits issues to ensure the sustainability of global environmental benefits.

Table 3.2: GEF Project Cycle: Social Considerations

1995	2000	2003
Social assessment and consultation including: • Demonstration of local participation/ consultation in project preparation and measures for ongoing participation and consultation under implementation • Role of local communities • Role of indigenous peoples • Resettlement plans if human populations are going to be resettled • Plans for public awareness, environmental education, and social communication • Gender considerations • Capacity building	**At pipeline entry stage:** • Stakeholder involvement • Identification of major stakeholders relevant to project objectives including NGOs, communities, public agencies, and the private sector **At work program inclusion stage:** • Describe how stakeholders have been involved in project development • Describe the approach for stakeholder involvement in further project development and implementation **At CEO endorsement:** • Finalize the roles and responsibilities of relevant stakeholders in project implementation, including a public participation strategy	**At pipeline entry stage:** • Stakeholder involvement/intended beneficiaries • Identification of major stakeholders relevant to project objectives including NGOs, communities, marginal groups in ecosystem-based projects such as nomads, young people and women, others, public agencies, and the private sector **At work program inclusion stage:** • Describe how stakeholders have been involved in project development • Describe the approach for stakeholder involvement in further project development and implementation • Describe how marginal groups are going to be involved in project implementation

4. Cross-Cutting Findings and Challenges

This chapter summarizes the evidence and analysis that support the key findings presented in chapter 1. Later chapters present the detailed findings for each focal area, which in turn provide the foundation for this analysis.

4.1 Linkages between Local and Global Benefits

The first study finding is that local and global benefits are strongly interlinked in many areas where the GEF is active. Changing human behavior is one of the critical underlying premises of the GEF approach to achieving global environmental gains, and local benefits play a central role in stimulating changes that produce and sustain such gains.

Changes in Consumption Patterns

Linkages between local and global benefits led to changes in consumption patterns in effective projects. Such changes included the adoption of new natural resource uses and practices, as well as improved management of existing resource use to promote biodiversity conservation, carbon sequestration, energy use changes, or improved water resource management.

One of the main approaches used to encourage changes in natural resource management was to generate direct and material benefits to local communities, both in terms of improved livelihood opportunities and access to natural resources. For example, of the 88 projects studied from the biodiversity portfolio, 69 proposed to increase or introduce tourism-related activities, 51 proposed to create alternative income-generating activities and increased employment opportunities, and 27 aimed to assist in the development of small- and medium-sized businesses (see chapter 5).

In the climate change portfolio, a group of projects was developed on the assumption that the renewable energy technology implemented would be a viable substitute for the existing, mainly biomass, fuels used by the target households and that solar photovoltaic (PV) units would be affordable to local communities and commercially attractive to distributors. These assumptions proved largely incorrect in the projects studied (see chapter 6).

The international waters portfolio takes a long-term and programmatic approach that reflects the size and complexity of its interventions. Most of its projects are by nature multicountry and cover large geographical areas. The key to achieving environmental objectives in this area is to follow a systematic approach of detailed and sequenced studies, followed by comprehensive planning and strategy development, identification of site-specific priority activities, and participatory institutional mechanisms (see chapter 7).

In effective projects, linkages between local and global benefits led to such changes as the adoption of new natural resource uses and practices, and improved management of existing resource use to promote biodiversity conservation, carbon sequestration, energy use changes, or improved water resource management.

Improvements in the Natural Resource Base

Improvements in the natural resource base depended on a wide range of financial and nonfinancial local benefits, including improvements in social and human capital, which provided the incentives and capacity for change. Particularly in the biodiversity and international waters focal areas, the comanagement of resources was a means of engendering conditions for improved resource management and of providing disincentives for destructive practices. The findings in relation to changes in local people's access to the local natural resource base are mixed. In some cases, improvements were found; in others, access restrictions led to a decline in the availability of natural capital. In many projects, the actions taken made little difference to access (see chapters 5 and 7).

Changes in External Enabling Environments

An appropriate balance between local and global interests cannot be pursued just at the local level. It is dependent on a favorable overall policy framework that facilitates local community solutions. Changes in external enabling environments provided a basis to support and allow local-global linkages. Projects in the reviewed focal areas made significant contributions to interlinkages through new policies and legislation to enable local resource management opportunities and to promote new technologies.

Reduced Vulnerability

Reduced vulnerability of communities to environmental events encouraged support for new natural resource management practices. Communities quickly noticed improvements in resource protection that led to reduced vulnerability. For example, communities affected by biodiversity projects attributed improved reliability of the local water supply to forest cover promoted by protected area status. Similarly, enhanced local fish stocks were associated by local communities with the establishment of marine protected areas. Such gains provided local incentives, which contributed toward global environmental gains.

4.2 Local Benefits Achievements for Global Environmental Gains

The second finding is that some GEF projects recorded considerable achievements in local benefits to ensure environmental gains, based on effective approaches and practices; these are discussed in this section.

Social and stakeholder analysis proved valuable in identifying and disaggregating local communities and for providing a basis for targeting interventions.[1] Social analysis or assessment and regular monitoring of socioeconomic, behavioral, and attitudinal changes played an important role in understanding the extent of local commitment to project objectives; this in turn contributed to the sustainability of the behavioral changes needed to ensure achievement of the project's environmental objectives (see particularly chapter 5).

Such social analysis enabled the development of differentiated project approaches to local communities. Social differentiation in projects enabled the involvement of women, indigenous peoples, and other vulnerable groups. These two categories of local people are, in many places, of particular importance for the attainment of both local benefits flows and global environmental goals. For one thing, women and indigenous people often have a higher level of dependence on the local resource base than do other local residents: it is usually women who collect foods and fuels from local ecosystems, manage water, and tend small livestock. Similarly, many indigenous peoples still live in close harmony with and dependence on local ecosystems which provide for most of their needs. Whether this is the case in specific project localities can only be ascertained by detailed social analysis. Some of the advantages of systematically applied social and stakeholder analysis as derived from the projects studied are presented in box 4.1.

[1]Stakeholder analysis is a system for collecting information about groups and individuals who are affected by decisions, categorizing information, and explaining conflicts that may exist among important groups and identifying areas where there are trade-offs. Such analysis can be undertaken to identify stakeholders, manage stakeholders and their interests, or explore opportunities for getting groups and individuals to work together.

Box 4.1: Gains from Including Social and Stakeholder Analysis in Project Design and Implementation

- The knowledge gained from such analysis makes it possible to assess the most effective means of incorporating local communities into project processes.
- The analysis enables project designers to develop approaches that will maximize local support in a sustainable manner on the basis of long-term and equitably distributed benefits to the communities.
- Such analysis enables project proponents to assess the extent, duration, and distribution of any potential negative impacts from the project and make a preliminary design for a program intended to mitigate these impacts.
- Social analysis can provide baselines against which changes resulting from the project can be measured.
- Such baselines are a key component of project monitoring and evaluation systems and ensure that these include social as well as environmental factors.

A related approach that generated improved performance was the incorporation of local knowledge and institutions into project design and implementation. Good practices in this regard are outlined in box 4.2.

An approach found to be effective was the building of conservation strategies, and especially the management of protected areas, on the basis of sustainable management of natural resources by local communities. This means, for example, working with these communities in defining—using both local and external knowledge—what levels of off-take can be harvested sustainably, agreeing which areas or times of year should have particular restrictions to allow breeding or accommodate periods of stress, and identifying what sorts of management regimes will maximize potential off-takes without compromising ecological integrity.

Community Participation

GEF activities are required to conform to the GEF Public Involvement Policy. As discussed in chapter 3, this policy provides for levels of involvement ranging from activities intended to generate support for project objectives (awareness raising), through consultation (in which the public is asked to respond to and collaborate with externally designed interventions), to participation (in which the public plays an active role in shaping and implementing the intervention).

The involvement of local communities was mainly focused on information sharing as a means to support the attainment of global goals by persuading communities to change their natural resource management practices and customs. Almost all of the 132 projects studied intended to undertake awareness raising and information dissemination, and these activities were considered to be achieved in 82 percent of the sample. Eighty-seven projects (66 percent) achieved

Box 4.2: Good Practices Concerning Local Knowledge and Institutions

- Willingness to understand and find compromises between external scientific knowledge and local knowledge, which is based on historical interaction with the specific environment to be protected.
- Close teamwork between social and environmental specialists to establish and develop appropriate areas for building practical bridges between local and external knowledge and strategies for environmental management.
- Careful examination of the mandates, composition, and effectiveness of local institutions active in environmental management, including local units of national government, local government, NGOs, CBOs, and traditional institutions.
- Development of a strategy that maximizes use of or collaboration with existing local bodies where these appear legitimate and effective, together with a capacity-building program to strengthen these bodies.
- Creation of new bodies only as a last resort where existing bodies are demonstrably unlikely to be able to shoulder responsibilities throughout and beyond project duration.
- Development of new bodies, when necessary, in a participatory manner that draws upon existing resources as far as possible. There should be a plan to demonstrate and develop the local legitimacy of the new body, as a step toward promoting its sustainability beyond the period of project support, as well as a system to collaborate with other local bodies.

stakeholder consultation at various levels in their design. Enlistment of the active participation of local communities in the conception and design of activities intended to benefit them (decision making) was much less common, with the majority of projects showing little documentary evidence of community participation in their design. Some GEF projects implemented effective approaches to participation that generated local benefits such as strengthened institutional and social capital at the local level—for example, through the formation of community groups and revolving credit schemes. In turn, participation in these activities generated local commitment to the sustainable actions necessary for improved environmental management. Factors contributing to successful participatory approaches based on the projects studied are shown in box 4.3.

Comanagement of resources with local communities was recorded in 29 (32 percent) of the 88 biodiversity projects in the study sample. However, the field experiences showed that these approaches were often limited in scope due to the absence of clear enabling frameworks or sometimes to institutional inertia and resistance at the national level to comanagement and decentralization of control.

Local stakeholders participated in international waters projects through demonstration and/or pilot activities which were typically small in scale. In such activities as the removal of pollution or the management of marine or coastal resources, community participation proved to be instrumental in achieving favorable outcomes; and notable achievements in ensuring participation were made despite weak project implementation and political and institutional barriers in several locations.

Capacity Building

The projects reviewed largely focused on enhancing organizational capabilities through the creation of local groups to strengthen participation in project activities (see chapters 5 and 7). Good practices identified on the basis of the capacity-building programs studied are included in box 4.4.

Box 4.3: Factors Contributing to Effective Approaches to Participation

- Understanding differences within the community, rather than assuming that all members share a common understanding and interests with regard to the environment.
- Developing an approach that sees community members as active partners, with their own beliefs, viewpoints, and knowledge, rather than as recipients of externally generated wisdom and instructions.
- Changing project procedures to reflect inputs from the community, rather than "consulting" with the community about a preconceived approach.
- Engaging communities actively in the selection, design, and implementation of any major inputs such as physical capital improvements.
- Encouraging appropriate community inputs of time and labor to engender ownership in any new community assets.
- Ensuring that the approach to participation is transparent and accountable and that it manages to include a broad spectrum of people, including women, the poor, indigenous peoples, and other vulnerable groups.
- Applying adequate expertise and resources to participation to ensure that it is as effective as possible.
- Providing adequate support and capacity building to individuals and institutions to enable participation to increase in quality and quantity as the project progresses.
- Carefully monitoring and influencing approaches to participation of local government and nongovernment partners to ensure that these conform to those of the project concept.
- Including participation as a topic for the attention of monitoring and evaluation systems and of project management and supervision.

Box 4.4: Good Practices in Capacity Building

- Basing capacity building on local needs and tailoring it to project objectives, and avoiding the temptation to use existing programs that are not specifically relevant.
- Developing approaches that can blend the most effective elements of traditional knowledge and values with those derived from external science and conservation experience.
- Ensuring that training components, including field trips, are tailored to the needs, experience, and institutional location of participants.
- Carefully selecting participants to ensure that they have the capacity and intention to engage in natural resource management activities.
- Establishing clear linkages between capacity building and the generation of livelihood benefits at the individual and community levels, either directly through employment in project-related activities or through other appropriate income-generating activities.
- Aiming to produce institutions that can sustain the intended project benefits over the long term, whether these are enhanced existing bodies or newly created institutions.

Income Generation

Several projects demonstrated that there is scope for effective integration of viable and locally relevant livelihood-enhancement activities in project design. Some good practice elements from such successful income-generating activities (IGAs) are presented in box 4.5.

In the 88 biodiversity projects studied, ecotourism was included in the design of 69 projects (77 percent), with some degree of success recorded in 21 of these (30 percent). Successful projects were implemented in areas with a well-developed tourism industry, good infrastructure, a supportive and stable economic/political environment, and some domestic tourism (see chapter 5).

Alternative income-generating activities were most prevalent in the biodiversity projects studied, with 51 projects (57 percent) intending to develop alternatives for communities to substitute for existing destructive livelihood practices. Eighteen of these projects (35 percent) recorded some progress in developing such new livelihood activities. Success was often due to good project design practices based on socioeconomic and market assessment to identify viable alternative income-generating activities, strong local institutions, gender-sensitive and targeted approaches, and links to microfinance and/or savings and credit.

Critically, the extent to which alternative income-generating activities actually substitute for destructive livelihood practices was unclear in many cases because of ineffective monitoring and evaluation. Furthermore, in field case studies, it became clear that substitution was often imperfect, and alternative income-generating activities would often be adopted in addition to existing livelihoods.

Policy Frameworks

Building supportive policy and legislation often provided essential support to enable local-global linkages. The development of national policies and/or of interna-

Box 4.5: Good Practices in Income-Generating Activities

- Working with the right institutions—namely those with expertise and a track record in appropriate areas, such as microfinance and the development of nonfarm income programs—rather than relying on conservation-oriented government or nongovernment bodies to deliver income-generating activities.
- Conducting detailed and realistic market assessments of local possibilities, in relation to location, human resources, capacity, and finance, rather than relying on "one-size-fits-all" approaches such as ecotourism and handicrafts.
- Developing and implementing training programs carefully, which will enable potential enterprises to start up and survive in what are often difficult locations, and ensure sustained programs of follow-up and support beyond the limited project time span.
- Creating opportunities for small-scale community capital inputs (for example, through savings and credit schemes) to encourage a sustainable sense of ownership for the income-generating activities.

tional agreements was an objective of many projects in the international waters portfolio and was often successfully implemented. A total of 82 projects in the 132 sampled (62 percent) included policy changes that would enhance local impacts as an objective; 54 of these projects (66 percent) recorded some achievement. The inclusion of policy measures to accompany actions that enhance local benefits can be regarded as a key component of a comprehensive approach that has a strong potential to generate sustainable global environmental results.

The long-term approach, based on the transboundary diagnostic analysis–strategic action program (TDA-SAP) model (see chapter 7), used by many of the sampled international waters projects has often proved effective in catalyzing policy changes. In the climate change area, many projects successfully catalyzed positive actions of government to enable or even promote the uptake of renewable energy. In the biodiversity area, projects promoted increased government support for protected areas; some even succeeded in the most difficult task of obtaining government commitment to share revenues generated from protected areas with local communities affected by the new situation. Box 4.6 highlights the type of actions taken by effective projects in the GEF portfolio to influence regulatory frameworks.

Project Supervision and Management System

With regard to local benefits and their linkages to environmental objectives, a number of good practices in supervision were identified (see box 4.7).

Box 4.7: Good Practice in Supervision Favoring Local Benefits

- Matching the skills mix of supervision personnel to the objectives of the project, including local participation and benefits objectives.
- Ensuring that project supervision systems require coverage of poverty, gender, indigenous peoples, and participation, where these are part of the project design.
- Specifying a minimum level of actual field engagement of supervisors, including contact with community stakeholders.
- Carefully assessing the quality and independence of project evaluations.

4.3 Challenges to Achievement of Local-Global Linkages

The third finding is that the majority of projects did not fully operationalize their intent to link local and global ben-

Box 4.6: Creating a Favorable Policy Framework for Local Benefits

- Detailed analysis of existing policies and legislation, highlighting areas where these need to be strengthened to assist in attainment and sustainability of desired changes in behavior toward the environment.
- Development of effective relationships with politicians and administrators engaged in policy and legislation processes, including through third parties such as local and/or locally influential international NGOs.
- Implementation of programs to support and develop government ownership and political will toward positive environmental management, as well as the capacity and resources to deliver this.
- Incorporation of realistic time lines into the project for changes and contingency plans in case objectives are not realized during the project lifetime.
- Program of actions related to national policy and strategic measures, to help facilitate intended changes at the local level.
- Assessment of financial implications of policy changes and development of strategies to ensure the spread and sustainability of measures required under new approaches.
- Adoption of long-term strategies through programmatic or collaborative approaches with local institutions, which will have a sustained presence in the country and project localities, to ensure continued commitment to improved approaches to natural resource management.
- Addressing of national policies in other sectors to ensure synergies and consistencies with environmental policies.

efits in design or implementation. Planned linkages were not sufficiently taken into account, resulting in less local and global benefits than intended. Several common shortcomings limited the effective linkage of local benefits to the attainment of global environmental benefits.

Undifferentiated Approaches to the Local Population

Many projects included in the study demonstrated inadequate differentiation of the local population to enable them to take account of social factors relevant to project performance. The communities affected by projects often contained structural inequalities along gender, class, ethnic, or other lines. Participatory processes that did not take account of the poor and marginalized further alienated the disadvantaged from resources upon which they depend. The limited approach to both gender and poverty targeting is a significant shortcoming: poverty issues were considered in the design of only 36 of 132 projects (27 percent); gender was a consideration in 50 projects (37 percent).

A major factor underlying the undifferentiated approach adopted by many projects was the lack of social analysis or assessment to identify differences within local communities along resource access and use, gender, ethnic, and poverty lines and for developing appropriate strategies.

Different stakeholder groups were found to have structurally different patterns of needs and relationships to the natural resources that are the target of the projects. Women, indigenous people, and the poor are often more dependent upon harvesting foods and fuels and accessing natural resources for their livelihoods. Better-off sections of the community are more interested in the commercial exploitation of these resources or in converting common lands for private productive purposes.

In general, the projects reviewed lacked a coherent gender focus. They showed limited attention to gender issues, even though the needs, interests, and capabilities of women were habitually structurally different from those of men in relation to the resources focused on by the projects. Many projects in which gender analysis and gender-specific measures were weak or absent were also characterized by low involvement of women in decision making and the dominance of men. In some instances, the lack of adequate gender analysis and awareness led to negative impacts on women. Women in many project areas were often economically, socially, and politically marginalized, with poor access to government institutions and little voice in local decision making. Building on an analysis of the role of women in natural resource use and management, GEF projects have the opportunity to promote women's role in decision making in local and national institutions associated with delivering the projects' objectives. They can create valuable precedents in the field of environmental management by directly encouraging inclusion. This was rarely done effectively.

The skills and knowledge base of indigenous peoples often varied from those of other communities. In some project localities, they have long been engaged in sustainable harvesting of natural products, are highly dependent on local resources, and have relevant knowledge concerning sustainable management possibilities. Despite these factors, they often faced barriers to their involvement in decision making on new management systems.

Lack of Social Analyses

A major factor underlying the undifferentiated approach adopted by many projects was the lack of social analysis or assessment to identify differences within local communities along resource access and use, gender, ethnic, and poverty lines and for developing appropriate strategies.[2] Less than

[2] *Social assessment* is a process for ensuring that development operations are informed by and take into account key social issues (such as poverty, age, ethnicity, and gender) and incorporate a participation strategy for involving a wide range of stakeholders (including institutional arrangements). *Social analysis* is one component of social assessment; it focuses on one or more factors—including demographics, socioeconomics (including resource access and use), social and institutional organization and capacities, and needs and values—in order to account for social difference, assess risk and impact, mitigate adverse impacts, and build capacity of individuals and institutions. See Rietbergen-McCracken and Narayan (1997).

one-quarter of all project documents referred to any aspect of social analysis in their design process. Project documents for 19 out of 132 projects (14 percent) included reference to a full social assessment, and a further 12 (9 percent) to other forms of social analysis at the design stage.

There was greater emphasis on aspects of social analyses during implementation in 51 of the 132 (39 percent) projects, with 6 of these also carrying out social assessment. The use of social analyses in evaluation was frequently deficient, and opportunities to learn lessons were missed as a consequence.

The lack of analysis during design and preparation contributed to the finding that project components that were intended to generate community-level incentives did not fully reflect the reality of local livelihoods. Without a design process based on an understanding of the structure and dynamics of local societies and livelihood processes, the integration of viable and locally relevant livelihood-enhancement activities into projects was often ineffective.

Furthermore, projects were unable to use local knowledge and values or to base themselves on an informed assessment of the long-term sustainability, social organization, and environmental impacts of the use of natural resources by local communities and outsiders. This was a particular issue for effective and sustainable conservation of protected areas, where projects missed the opportunity to tap into the potential of traditional patterns of ecosystem management by local communities and explore the extent to which these could be blended with scientific knowledge to provide a basis for effective and sustainable conservation of threatened ecosystems.

Even where social analysis was undertaken, a number of weaknesses reduced its usefulness. Social assessment components were often treated as an add-on activity and not as an essential building block for the entire project, which needed to be interlinked with and to inform the design of other components. Other unfavorable characteristics of social assessments or analysis were found to include lack of specified methods and components, unclear objectives and focus, and weak analysis of policies that could affect attempts to foster local community involvement in resource management.

Projects reviewed showed a lack of design guidelines or standards for local development aspects. There are signs of improvement in this situation over time: of 30 new projects reviewed by the study, 24 included some level of social analysis in their design. The challenge now is to build on the inclusion of these dimensions in project design and ensure that local social dynamics are more effectively incorporated into implementation. The field research showed that social data and analysis, even when available, were often not accorded priority by project implementation teams.

Projects' Negative Social Impacts

Projects commonly faced challenges in dealing with the negative social impacts they caused. Several factors contributed to this difficulty.

- Not all agencies have specific policies covering such complex issues as relocation and restriction of access, which greatly affect local support for new patterns of environmental management (although the World Bank's revised policy on resettlement has comprehensive requirements covering these issues). In agencies without such policies, measures taken to redress loss of local assets are influenced by guidelines and the discretion of project designers and implementers. This produces variable approaches, including uncompensated losses. Such losses in turn produce negative social impacts, reducing the possibility of those sustainable environmental management approaches that projects seek to foster.
- Many of the responsible officers in the Implementing Agencies have substantial competing interests for their management attention, and GEF project issues may not be their top priority.
- The emphasis placed by the GEF mandate on the global environmental ends to be achieved often translates into a marginalization of the social means that may be necessary to attain them.

- Risks posed to environmental well-being by local resource management practices are not adequately situated within the appropriate context of poverty and limited alternatives available to the population.
- Project preparation is often weak in its understanding of local communities and their livelihoods, so project managers are unaware in advance of potential conflicts and, therefore, do not make decisions on them at the best time.

Timing of and Resources for Local Benefits Activities

Local benefits components, which are essential to generate changed resource use patterns, were often not pursued with the resources or timing necessary to play their intended role in project implementation. Projects were based on unrealistic expectations of how quickly complex social and institutional processes could materialize. This was particularly observed in relation to the introduction of new policies and national strategies, the establishment and creation of sustainable operational capabilities of new institutions, the development of participatory processes, the establishment of new resource management regimes, and the development of new livelihood activities and business opportunities.

A related challenge was the ineffective sequencing of activities in project design and/or implementation. The study found that activities to generate participation and local support often occurred too late in the implementation process to play their intended role in institutional development, resulting in limited local commitment to the mechanisms intended to ensure attainment and sustainability of project objectives.

As implementation constraints emerged, projects gave less attention to the underlying processes that activities were intended to influence. In projects needing to scale down or speed up their activities, the first items to be reduced or omitted were those considered to make an indirect contribution to project objectives, such as social assessments, participatory approaches, and the development of livelihood alternatives.

The incomplete implementation of such locally focused activities had substantial consequences for the sustainability of project outcomes and to activities such as enhancing policy and regulatory frameworks, the development of participatory processes, institutional capacity enhancement, building alternative livelihood opportunities, and the introduction of new resource management regimes.

Project Limitations and Funding Uncertainties

In part, these various constraints to local involvement and benefits stem from the very nature of projects, which are defined as stand-alone actions with discrete boundaries in time and space. Local participation, creating community benefits, and changing people's behavior are long-term processes that require sustained commitment and a set of activities that interact with and seek to influence local processes of change.

Projects often correctly identified the scope of work at national policy levels in institutional strengthening, stakeholder awareness raising, creating effective local-level participation, and implementing specific investments and actions on the ground. However, the time and resources available within the project framework did not permit the necessary sequencing to take place.

The limitations of projects as vehicles for intervention are not GEF-specific. Many international agencies have accordingly reduced their reliance on projects in favor of program and sectoral approaches. Given that the GEF is dealing with inherently long-term, complex, and diffuse processes, its current reliance on projects as a major tool has implications for its capacity to deliver effective and sustainable outcomes.

Many project proponents at the IA and national levels have indicated their preference for more attention to the social dimensions of environmental management in the projects they were implementing. Uncertainty over what the GEF would be willing to fund, coupled with the long time taken to develop projects, influenced project designers to limit the scope of proposed activities to those they felt were unequivocally within the GEF sphere. The GEF has not offered any clear guidelines in support of the role played by local benefits in generating support for improved environmental management. National authorities have therefore often per-

ceived that activities that had strong local and developmental elements should be excluded, to minimize the possibility of delay or rejection.

These uncertainties resulted in decisions to exclude local-level activities that would further community engagement and generate local benefits. In several cases, national authorities said that they thought these activities were essential for sustainable changes in environmental management and should have been included, but that their perception was that they would be rejected by the GEF. As a result, project proponents exhibited a tendency to define new activities in terms of what had been successfully funded in the past. This indirectly discouraged the development of innovative approaches in new projects, which are intended to be a major characteristic of the GEF approach. This issue of the perceptions of different stakeholders concerning what is "GEF-able" is an important one, since these perceptions play a major role in determining the direction and structure of GEF activities at the national level. The study team felt that this issue should be studied in more depth.

Challenges in National Dimensions of Implementation

The GEF relies on its partnerships with program country governments. Based on their adherence to the relevant international conventions and agreements, these governments are seen as the main actors in projects intended to conserve global resources. Since many projects deal with national policy frameworks, capacity building, coordination, national park management, industrial development, and regulation of the private sector, government bodies appear well placed to manage them. However, project implementation was often found to be restricted to a narrow range of technical line agencies, with little participation from other branches of government—let alone from civil society or the private sector.

In practice, implementation through a government line agency often proved problematic in projects that depended on the active participation of local communities. Particular problems arising included determining the most appropriate form and scope of local involvement; determining appropriate institutional modalities for project delivery; lack of capacity and experience on the part of centralized departments in interacting with local communities; budgetary decisions that reduced community-focused activities in cases of financial constraints; and lack of openness to and trust of local populations, where previous government interventions are perceived to have failed or disadvantaged local communities.

The concept of national ownership was often found to adopt a narrow interpretation of "country endorsement." Broad involvement beyond central government to include lower levels of government, the private sector, and civil society was rarely pursued, although such an approach is more likely to foster a truly national sense of ownership—which can in turn sustain environmental gains beyond the duration of individual projects.

The concept of national ownership was often found to adopt a narrow interpretation of "country endorsement."

National authorities often reported that their ability to define and direct GEF-supported activities was limited. Case study respondents referred to the broad range of institutions and systems involved in GEF activities, which seemed to them to be poorly coordinated. This situation is compounded by uncertainties at the country level over the roles and responsibilities of the different agencies and actors in the GEF network, notably concerning the role of the GEF Secretariat, which has a low profile within partner countries; and how the IAs operate vis-à-vis GEF projects as opposed to their own mainstream portfolios.

The capacity of the implementing national institutions—whether government, NGO, or other—was often found to be insufficient to deliver the anticipated results. There were numerous examples of projects in which centralized, traditionally nonparticipatory ministries were given the responsibility for implementing initiatives intended to be both decentralized and participatory; as well as cases in which local NGOs were given responsibilities that were too far

removed from their previous experience. Institutional analysis, which can help in identifying what capabilities already exist and in defining local benefits strategies, was often not undertaken or did not address these issues.

Few project designs included assessment of existing local institutional capacities or attempted to integrate existing local bodies into project implementation. Project community-level participatory activities were usually based on establishing new institutions at the local level, such as forest users' groups and fishermen's cooperatives. As a result, the new institutions often duplicated or came into conflict with existing local associations, bodies, or groups. Since projects did not capture the knowledge base of local communities, the steps taken to build institutional capacities were less effective than anticipated. The process of institutional capacity building and skills development was primarily a one-way transfer of external concepts and approaches to communities, reducing the likelihood of internalization and sustainability.

The involvement of civil society organizations, such as community-based organizations (CBOs) and NGOs, as well as the private sector was shown by the study to present a substantial challenge to GEF activities. The role of national and local NGOs needs to be further developed. Currently, they are often involved in a subordinate capacity to international NGOs or government agencies and play the role of implementers or subcontractors of activities, the development of which has been undertaken by others. This misses one of the key benefits of working with such bodies: namely, the important role they can play in bringing the local perspective into project development. The positive side of such arrangements is that they allow local NGOs to gain experience in the relatively complex procedures of GEF projects. Where they have played a substantial role, such NGOs (including local branches of some international NGOs) have been particularly effective at building local support and participation, thereby making a positive contribution to the sustainability of project objectives. As part of the essential preparations for collaboration with national NGOs, a careful assessment should be made of their skills and capacities and of any strengthening needed to enable them to effectively fill the role foreseen for them.

Local knowledge was not seen as an asset that could play an important role in improved environmental management regimes.

Weaknesses in Capacity Building

The study found that, in addition to the need to broaden the range of stakeholders involved in GEF projects, the capacities of these partners often need support and enhancement; this applies to the full range of stakeholders. The capacity of government departments to interact effectively with local communities is often low. Project staff (whether national or internationally recruited) often lack skills in participatory approaches, and NGOs may lack the experience and capacity to implement large project components. Local communities also need assistance in managing natural resources better or in developing new livelihoods and business capacities.

Often, the process of capacity building was delivered as a one-way transmission of external knowledge; this was assumed to be able to replace the existing knowledge among local communities and government staff, who had lived and worked for long periods in close proximity to the resources targeted for conservation. Local knowledge was not seen as an asset that could play an important role in improved environmental management regimes.

A challenge is to ensure that capacities that are built over project lifetimes and with project resources are sustainable. Although GEF projects aim to create long-term changes to conditions that support conservation, staff trained by projects are often redeployed or are unable to use their new skills in or with existing institutional structures and procedures. Equipment purchased cannot be maintained and is not replaced when redundant. Expected revenue streams do not materialize, which is particularly challenging where these revenues are meant to support community-level facilities or activities. Above all, adequate long-term budgets are not allocated to keep systems going once projects finish. Often, the project time scale of three to five years is not sufficient

to develop such long-term capacity strengthening, leaving project implementers with an unsolvable problem. This points toward the need to design and approve projects with longer time frames, to make project objectives less ambitious, or to move toward more programmatic or blended approaches in those countries where this is possible given available resources.

Need for Active Participation and Involvement of Local Communities

Where the involvement of local communities was identified as important in project design, projects commonly focused on ensuring community support for predefined project objectives. The projects generally used awareness campaigns to persuade communities to change their behavior toward the environment without exploring the role that natural resources played in their own livelihood strategies. The study found few examples of projects engaging communities in dialogue concerning their perspective on the proposed intervention—which could elicit information useful in developing approaches that could meet local needs, as well as those of the global environment.

The involvement of local communities in directly generating alternative opportunities or other forms of incentives was also uncommon. For example, in the 24 international waters projects for which final evaluation reports were available, half made reference to community participation in their design; of these, less than half (that is, less than 25 percent of the 24 projects) considered the local population as agents in and direct beneficiaries of the projects. While international waters projects often have components that can succeed without such participation, they also have substantial elements that depend on changed behavior (such as fishing practices, waste management, and agricultural techniques)—and thus, ultimately, on community-level support.

Of the 31 IA completion reports reviewed for climate change projects, less than half emphasized participation in design; and in those that did, local people were primarily seen as consumers of renewable energy technologies rather than active agents of change who should be involved in decision making. Comparing this body of evidence with that from the field studies, it emerged that the passive role allowed for potential adopters of new technology creates difficulties in meeting local expectations of an energy supply and overestimates the priority communities attach to the low power supply provided by most renewable energy sources.

In-depth case studies revealed that projects' participation components tended to be marginal with regard to overall project activities. In some cases, participation was confined to responses to decisions already made by external stakeholders with limited possibility of substantive influence by local communities; in others, training was identified by outsiders to advance project goals in relation to global environmental assets, but did not respond to local needs and interests.

In general, the approaches to participation in project design were not based on an effective assessment of local social dynamics and capabilities and were therefore not adequately tailored to the specific circumstances. This limited their scope and effectiveness. In particular, the inclusion of local participation in decision making was found to be limited. Even when information from social analysis was available, there was little evidence of its use to guide project decision making. Often, participation was reduced to informing people of decisions taken by government or project authorities and organizing local people to contribute to the implementation of activities defined by others. Participation rarely entailed empowerment by which local stakeholders could exercise influence over key decisions on the allocation and management of natural resources. Where such an empowering approach was adopted, it proved more effective in generating sustainable local "buy-in" than less intensive forms of stakeholder involvement.

Approaches to participation in project design were not based on an effective assessment of local social dynamics and capabilities.

Skills Mix in Project Design and Implementation

Inadequate assessment of the feasibility of activities upon which the attainment of project objectives depended was found to be a pervasive challenge. In many of the solar photovoltaic projects in the climate change portfolio, project design was based on the establishment of widespread dissemination through commercial channels based on small-scale local entrepreneurs. The commercial feasibility of this business was not established through market research and cost analysis. The same was observed in biodiversity projects that sought to establish tourism as a key livelihood alternative to the extraction of resources from conservation areas. Alternative income-generating activities and ecotourism were promoted on the basis of insufficient market or capacity assessment to enable the development of effective socioeconomic incentives and ensure affordability of technologies among poor rural communities. In many locations where opportunities for sustainable livelihoods are very limited, alternative income-generating programs did not deliver the anticipated benefits, and it was clear that the best options for generating and sustaining local support were in linking improved environmental management with broader development programs through cofinancing or blended approaches.

Contributing to the low awareness and integration of local community concerns is the skills mix deployed at the portfolio and project levels... most GEF projects are heavily weighted toward specialists with natural science and economic expertise.

A contributory factor to low awareness and integration of local community concerns is the skills mix deployed at the portfolio and project levels. The GEF project cycle currently depends largely on "technical" skills in design, appraisal, and monitoring and evaluation. Although the IAs have staff or consultant expertise on rural development, poverty, NGO cooperation, and social involvement, it is clear that inputs to most GEF projects are heavily weighted toward specialists with natural science and economic expertise. Furthermore, the GEF Secretariat currently incorporates no social science experts and is advised by a Scientific, Technical, and Advisory Panel with a strong predominance of natural scientists. In view of the conclusion of this study—that local benefits play a key role in substantial areas of the GEF portfolio in generating and sustaining improved environmental management—the inconsistent application of social science expertise across the GEF family is a shortcoming that needs to be addressed.

The study found limitations in the supervision, monitoring, and evaluation of projects related to aspects of local benefits. These limitations made it difficult to identify problems as they emerged, assess the effectiveness of activities, and generate lessons that could guide changes to approaches and implementation modalities. For example, a total of 131 projects included the intention of participation in their design, but only 55 referred to this participation in their supervision or evaluation reports.

With regard to monitoring during implementation, the systems of reporting to the GEF do not provide sufficient information on stakeholder involvement or local livelihood benefits and impacts. Participation was often referred to in terms of the number of and attendance at project meetings, without verification of local responses to the process or detailed assessment of community involvement in stakeholder participation. Poverty and gender, two factors intrinsically linked to natural resource management, were rarely addressed in supervision reports. The failure to undertake planned project components intended to provide local benefits was often not mentioned in supervision reports. In practice, there was a clear downward trend in project intention from awareness-raising exercises—which were almost universally present—to full participation—which was relatively rare. Project management documents were generally vague concerning the level of actual community engagement achieved, and almost any level of contact with local communities was counted as participation.

Further, a number of evaluations did not analyze why project components related to local participation or ben-

efits were not implemented; and many lacked substantive analysis of the practice and achievements of community involvement. One underlying reason for the lack of attention to these activities is that the GEF project systems do not require detailed information on them, and they are therefore not included in the terms of reference for evaluations. The lack of specificity in project design of participatory processes, intended local benefits, and development outcomes makes their subsequent assessment difficult. Since the GEF has not yet attempted on any scale to evaluate impacts after project completion, there is little objective information to assess the most effective approaches in the long term for linking local to global benefits. Such information could strengthen approaches to replication or to the adaptation of approaches of projects in the pipeline or under implementation.

Barriers to Knowledge Sharing and Strengthening Management Systems

The GEF portfolio now encompasses more than 1,000 projects, many of which have been evaluated by the relevant IAs. Yet the study found little evidence of systematic learning on issues relevant to local-global benefits linkages. Knowledge sharing and learning from experience did not emerge as major themes in the GEF portfolio. This is an important constraint given the intention of the GEF to use its limited resources to develop innovative and catalytic approaches that others may replicate or learn from. The GEF Secretariat has welcomed the recommendations of the recent program studies that it should develop a knowledge management strategy and system. Recently, project review criteria have placed more emphasis on the use of lessons from experience.

This study finds that GEF processes present specific impediments to lesson learning with regard to local community involvement, linkages between local and global benefits, and participation. Primarily, knowledge is generated within focal areas and for focal area practitioners, and tailored accordingly. Cross-cutting lessons are less regularly captured. The emerging GEF knowledge management strategy is proposed to be implemented through a focal area pilot—the climate change area—that has already been active in producing lessons documents. So far, these have been mainly organized according to technology or operational program. There is a danger that the lack of a clear institutional champion for lessons on social aspects of the portfolio will mean that this area is underrepresented in the emerging knowledge products.

Box 4.8: Components Generating More Effective Learning from Experience in Linking Local and Global Benefits

- Availability of staff with appropriate specializations to address the issue.
- More effective use by the focal area task forces of evidence from evaluations and other independent studies commissioned by the IAs or the GEF Evaluation Office.
- More effective recording of innovative activities in the portfolio and of their achievements.
- Systematic gathering and verification of evidence of good practice, together with analysis of which elements are context specific and which can provide a more generic basis for improvement.
- Incentives for the adoption of improved approaches.
- Increased sharing of experiences and lessons with external players active in fields relevant to the GEF.

This presents a challenge: how to establish an effective process of learning from experience that incorporates the areas of local community involvement and benefits. This process should not just be internal to the GEF. Other institutions, large and small, local and international, have a wealth of experience from which lessons could be derived. The GEF Council should ensure that its emphasis on measurable results does not promote a conservative and uncritical approach. Some of the elements of a potentially effective approach, derived from current shortcomings, are suggested in box 4.8.

4.4 Constraints on "Win-Win" Outcomes

The fourth finding is that expectations of win-win situations for global and local benefits proved unrealistic in many cases. It has been difficult to attain in practice win-win situations that are sustainable and replicable partly because of insuf-

ficient attention to the development of alternative courses of action and trade-offs, the potential for negative impacts, and the need to develop mitigation strategies. Many GEF interventions require trade-offs to be made between environmental conservation or restoration and existing local or national resource uses. This is implicit in the core GEF concept of incremental costs.

Most projects in the biodiversity portfolio and many in international waters involve some form of restriction of existing patterns of resource exploitation, which will lead to a loss of livelihood to communities or sections of communities. Indeed, the provision of alternative income-generating activities and ecotourism incentives in many projects implicitly acknowledged a trade-off relationship, but such interventions often lacked analyses of the community to ascertain appropriate targeting of interventions. (The climate change portfolio is less involved in trade-offs at the community level, since provision of energy or gains in energy efficiency are likely to produce both local and global benefits.)

The evidence of this study points to the need for projects and programs to assess a range of possible relationships between resource users and the environment, as well as trade-offs among different levels of intervention. In essence, there are initially winners and losers at local and national scales in almost all interventions. One of the key contributions of local benefits components is to provide opportunities for recompense to local community members who have suffered livelihood loss from project-induced changes in environmental management regimes, thereby promoting sustainable support for those changes.

Those projects studied that carefully assessed losses likely to be sustained by different community groups and tailored appropriate compensatory approaches achieved significant improvements in local support for enhanced environmental management. Such approaches were based on detailed understanding of existing natural resource use and management obtained through early social and stakeholder analysis. Effective interventions were built on community participation at the design stage, producing an appropriate blend of sustainable use and additional income-generating opportunities, combined with well-focused capacity building and strengthened local institutions.

Part II.
Study Findings

Young Masai women are among the beneficiaries of Tassia Lodge (Lerurukki Group Ranch), which was given support to build capacity for community-based tourism by the Lewa Conservancy (Lewa Wildlife Conservancy Project). ©Robert Craig

5. Biodiversity

> Issues of poverty, social development, sustainable livelihoods, and access to common property resources are closely linked to biodiversity conservation and sustainable use. Participation of affected stakeholders, including indigenous peoples, is of central importance, especially in the case of communities that reside inside Protected Areas and their immediate surroundings.[1]
>
> The success or failure of [a] biodiversity conservation project will in large measure depend upon ways in which local people are brought into the protected area management process. No amount of additional funding for protected area management will have a positive effect if local peoples and communities are not convinced, trained and empowered to be the key actors in biodiversity conservation. The fundamental question relates to how this can be achieved.[2]

This chapter presents the main findings of the sampled biodiversity projects. Section 5.1 provides a detailed overview of the biodiversity project sample. Section 5.2 describes the main findings, including elements of success and specific challenges. Section 5.3 presents strategic priorities and new projects to assess the integration of local and global issues into recent portfolio developments. Section 5.4 discusses several overall factors that influence the findings, and section 5.5 discusses missed opportunities.

[1]GEF (1996b), p. 20.

[2]GEF (1993b), p. 1.

5.1 Biodiversity Sample: Overview

The biodiversity study sample consisted of three distinct but related data sets:

- a purposive sample of completed projects and those under implementation (for more than one year) selected from the 2001 Project Implementation Review;
- a review of all completed biodiversity projects with implementation completion reports, project performance assessment reports,[3] and terminal evaluations that were received by the GEF Evaluation Office as of July 30, 2004; and
- a sample of new biodiversity projects that were approved by the GEF Council and GEF CEO between December 7, 2001, and November 17, 2004.

Information on the specific projects comprising these three data sets appears in the three tables of annex C.

Purposive Sample

The biodiversity focal area has developed into the largest of the GEF project portfolios, and its projects are characterized by their diversity in size, location, and content. According

[3]Project performance assessment reports are conducted by the World Bank Operations Evaluation Department two to three years after project closure and typically assess the immediate outcomes and sustainability of project interventions. These reports are an exclusive World Bank evaluation modality and do not assess GEF projects implemented by UNDP and/or UNEP. No similar modalities exist within the United Nations system for GEF projects.

to the GEF *Biodiversity Program Study 2004*, funding for 336 medium-sized projects (MSPs) and full-sized projects (FSPs) approved between 1991 through June 30, 2003, was $1.544 billion, with approximately $3.282 billion attached as cofinancing.[4]

This study purposively sampled 88 out of 157 biodiversity projects included in the 2001 Project Implementation Review for case study review (see annex C, table C.1). Total planned financing for all 88 projects was nearly $956 million. The GEF planned to provide $395.6 million in grants with an additional $560.8 million in cofinancing contributions made by the World Bank (the International Development Association and the International Bank for Reconstruction and Development), UNDP, UNEP, bilateral donors, foundations, NGOs, and national governments. All of the sampled projects were selected based on their intent to provide local livelihood benefits with explicit and/or implicit linkages between the attainment of those benefits and global environmental goals. Furthermore, the Implementing Agencies provided additional project examples outside the original sample with implementation and evaluative results relevant to the study objectives, which provided further information on good practices.[5]

Of the 88 projects, 47 are GEF-2 (approved between 1999 and 2002), 18 are GEF-1 (approved between 1995 and 1998), and 23 are from the GEF pilot phase (approved between 1991 and 1994). As of April 2005, 52 out of the 88 sampled biodiversity projects (66 percent of the total number of completed projects in the biodiversity portfolio) were completed for which evaluative data were available.

The sample of projects by operational program reflected the general portfolio distribution in 2001. The relatively large number of projects in OP1, OP2, and OP3 indicated the substantial diversity of investments the GEF has made in forest, coastal, freshwater and marine, and arid and semi-arid ecosystem conservation. In contrast, the number of OP4 projects is limited, because many of the OP3 projects include OP4 elements as a secondary designation. Due to the immaturity of the program at the time of the initial scoping sample, no OP13 projects were included. One OP12 project was included to capture synergies across GEF focal areas.[6] A greater number of OP12 projects could not be included due to the immaturity of the project portfolio at the time of sample selection. The prevalence of World Bank projects in the sample reflects differences in the types of projects undertaken by each IA and the exclusion of many global and regional projects implemented by UNDP and UNEP, on the grounds that local benefits from such projects would be very indirect and difficult to attribute. Table 5.1 shows the sample distribution by OP and IA.

Table 5.1: Biodiversity Project Sample Distribution by OP and Implementing Agency

OP	World Bank	UNDP	UNEP	Total
OP1	8	5	3	16
OP2	13	9	0	22
OP3	28	10	0	38
OP4	1	4	0	5
OP12	1	0	0	1
OP13	0	0	0	0
STRM	5	1	0	6
Total	56	29	3	88

Note: STRM = short-term response measure. These are projects that were design and implemented to address key issues and gain efficient and effective outcomes.

Geographically, the sample of projects was relatively evenly distributed across Africa, Asia, and Latin America and the Caribbean, with fewer projects in Europe and Central Asia (see table 5.2).

[4]GEF (2004a), p. 26; see this publication for an overall review of GEF biodiversity activities. All dollar figures cited in this report are current U.S. dollars.

[5]These projects were either excluded through the random sample or were not included in the 2001 Project Implementation Review because of their lack of implementation maturity.

[6]The project had a significant forest biodiversity component and thus, for ease of analysis, is included in the biodiversity sample.

Table 5.2: Biodiversity Project Sample Distribution by Region

Region	Number of Projects
Africa	23
Asia	30
Europe and Central Asia	10
Latin America and the Caribbean	24
Global	1
Total	88

The sample included MSPs and FSPs, including projects executed by government and NGO agencies. The sampling broadly reflected the distribution of project types and executing modalities across the GEF biodiversity portfolio (see table 5.3).

Table 5.3: Biodiversity Sample Distribution by Project Type and Executing Agency

Size	NGO Executing Agency	Government Executing Agency	Total
MSP	21	11	32
FSP	7	49	56
Total	28	60	88

Of the 88 projects, 11 were purposively selected, in consultation with the IAs, as detailed field-based case studies, and 15 were chosen as nonfield case studies (see annex C, table C.1).

The types of projects sampled predominantly supported protected areas and/or locations adjacent to PAs. In all, 76 out of 88 projects were PA-focused, and 12 projects were focused on non-PA landscapes. This reflected the GEF biodiversity portfolio's strong focus on support for individual PA-based conservation from the pilot phase and through GEF-2. The GEF-3 period has seen a significant strategic change in GEF biodiversity funding priorities: first, the emphasis on individual PA projects has decreased and been replaced with a longer term focus on supporting networks or systems of PAs at a country or regional scale through support that is often phased. Second, the GEF has begun to fund projects that concentrate on mainstreaming conservation in non-PA production landscapes, such as in agriculture; this change promotes the integration of local benefits and global environmental benefits by blending GEF grants with cofinancing (see section 5.3).

Supplementary Samples: Completed and New Projects

Two additional samples were made. First, a review of all completed biodiversity projects with implementation completion reports or terminal evaluations as of July 30, 2004, was undertaken (see annex C, table C.2) to collate and examine the key evaluative lessons and recommendations relating to integration of social/local benefits into project activities aimed at securing global environmental gains. In all, 57 biodiversity projects with implementation completion reports and terminal evaluations were reviewed, of which 31 were already included in the purposive sample. Next, 13 new projects were selected in order to look for any changes in the approaches toward integration of local livelihood and global environmental issues (see annex C, table C.3). These projects received GEF Council and CEO approval between December 7, 2001, and November 17, 2004, and thus partly cover the new biodiversity strategic priorities of GEF-3 (see section 5.3) and more recent guidance from the United Nations Convention on Biological Diversity.

5.2 Looking Back: Local Benefits in Biodiversity

This section focuses on the salient findings and experiences distilled from the analysis of 88 projects. Where appropriate, project examples are provided, although no attempt is made to reproduce the richness contained in many of the individual field and nonfield case studies. Readers are encouraged to consult the individual case study documents and publicly available implementation completion reports and terminal evaluations for more specific detail on projects of interest.[7] Each case study has been given a unique code and is referenced accordingly throughout this chapter; see annex C for full project names and details.

[7]Contact the GEF Evaluation Office for the nonfield case studies.

As with the projects studied in the climate change and international waters focal areas (see chapters 6 and 7, respectively), the outcomes and impacts varied significantly in terms of range and scale of local livelihood benefits generated and the extent to which those benefits contributed to project global environmental objectives. The findings cover:

- overview of project financing for local benefits,
- national policy formation to enable local incentives for conservation,
- socioeconomic incentives for conservation,
- community involvement and vulnerable groups,
- comanagement,
- conservation education and awareness raising,
- negative impacts, and
- global environmental benefits.

Given the complex interrelationships among and within findings, some issues are discussed from several overlapping perspectives.

Financing of Local-Global Linkages

The principle of agreed incremental costs stipulates that GEF financing is only available for the increment necessary to cover the costs of "global environmental benefits." The financing of incentives for local benefits is normally considered part of the baseline project funding and is classified as "national domestic benefits," which are to be funded out of external cofinancing and/or national government contributions.[8] To ascertain the amount of funding committed for generation of local benefits for global environmental gains, an analysis of the 88 projects' planned budgetary allocations was undertaken. Planned funding was assessed across two main categories: the stakeholder involvement process and support for local benefits generation.

Detailed financial data on stakeholder involvement and support for local benefits generation were not available for all projects. Eighteen projects provided insufficient data to assess intended expenditure on either category and were excluded from the analysis. Furthermore, there were some inconsistencies in reporting within categories for the remaining 70 projects, requiring an informed interpretation to be made on the basis of other project documentation.

The 70 projects for which analysis was possible had total planned expenditures of $810 million, with GEF funding of $298 million and cofinancing of $512 million. In 62 projects for which GEF budgetary data were available, part of the intended GEF funding was channeled toward support for local benefits generation, in terms of local individual and institutional capacity building, financing for alternative income-generating activities, and comanagement approaches connected to stakeholder involvement (see table 5.4).

[8]The GEF Secretariat and IA staff confirmed that local benefits generation is not generally considered "GEFable."

Table 5.4: Planned Funding for Local Benefits in Sampled Biodiversity Projects

	Total Financing ($ million)			Stakeholder Involvement[a]			Support for Local Benefits Generation[b]		
	Total	GEF	Cofunding	Total	GEF	Cofunding	Total	GEF	Cofunding
Total ($ million)	810.7	298.4	512.3	106	37.8	68.2	244	103.9	140.1
% of subtotal					35.6	64.4		42.6	57.4
% of total and GEF financing				13	12.7	13.3	30.1	34.8	27.3
# of projects with funding data	70	70	69	50	46	40	63	62	62

a. Includes funding in support of the GEF Policy for Stakeholder Involvement, education and awareness, consultations, and stakeholder participation. Based on project appraisal document and ProDoc information.

b. Includes funding for alternative income-generating activities, physical infrastructure, and building local individual and institutional capacity. Based on project appraisal document and ProDoc information.

Planned combined GEF financing and cofinancing of $244 million was allocated to support local benefits generation, and $106 million was allocated for stakeholder involvement processes, of which $103.9 million and $37.8 million were GEF funding contributions. GEF support for local benefits generation and stakeholder involvement in the 70 projects therefore totaled approximately $142 million.[9] Of the 62 projects that provided data on planned GEF contributions to support local benefits generation, the majority of the funding was concentrated in 18 projects, in which GEF financing ranged from $1 million to $13.5 million. These projects tended to be augmented by significant levels of cofinancing and/or blended with World Bank loans of between $1 million and $70 million and cut across the GEF pilot phase to GEF-2 periods (1991–2000)—for example, World Bank–implemented projects in Brazil, China, Ghana, Honduras, India, Morocco, Mozambique, and UNDP-implemented projects in Mongolia and Pakistan. Three projects from the GEF pilot phase/GEF-1 period in Kenya (Tana River National Primate Reserve project), Ghana (Coastal Wetlands Management), and the Philippines (Conservation of Priority PAs) were largely stand-alone projects with minimal cofinancing but had significant planned GEF contributions for local benefits support of $2.5 million to $13.5 million. (This type of stand-alone project is no longer typical of the GEF portfolio.) The remaining 44 projects had planned GEF contributions in support of local benefits generation of under $1 million, with the exact amount varying by project type and in-country context.

The data for stakeholder involvement were more fragmented than for local benefits generation. Forty-six projects indicated planned GEF commitments of $37.8 million with cofinancing of $68.2 million spread across 40 projects. Planned GEF funding contributions again varied significantly by project type, context, and scale from $0.01 million to $8.5 million. Funding was directed at facilitating public outreach, awareness, and education activities among local communities; consultation/participatory processes to improve project effectiveness and efficiency in other activities such as PA management planning and alternative IGA formulation; and initiating new forms of participatory comanagement and policy reforms.[10]

The analysis indicates that, in reality, there is a more flexible context-driven interpretation of incremental cost and incentives/benefits for global environmental gains than had been anticipated on the basis of discussion with a broad range of GEF stakeholders. GEF funding does provide significant support for local benefits generation in pursuing global environmental gains, in addition to the substantial cofinancing generated for this purpose.

National Policy Formation to Enable Local Incentives for Conservation

National policy and legislative reform and/or synergies are often necessary to enable and sustain local benefits for conservation. International experience in biodiversity projects has shown that interventions that attempt to link local benefits to improving conservation are more likely to fail in the absence of—or if they conflict with—national policies and legislation.[11] Of the 88 projects reviewed, 48 proposed to introduce policy reforms and/or develop synergies with existing policies to improve local involvement in governance of resources and provide incentives for sustainable use.[12] Of these 48 projects, half reported substantial progress toward

[9]It is predicted that this figure could be conservatively increased to $200–$220 million if data were readily available for all 88 projects.

[10]Comanagement implies a partnership by which two or more social actors collectively negotiate, agree upon, guarantee, and implement a fair share of management functions, benefits, and responsibilities for a particular territory, area, or set of natural resources. See Borrini-Feyerabend and others (2004), p. 69.

[11]See McShane and Wells (2004).

[12]BD-D-03, BD-D-07, BD-D-08, BD-D-09, BD-D-10, BD-D-12, BD-D-13, BD-D-18, BD-D-19, BD-D-23, BD-D-29, BD-D-32, BD-D-36, BD-D-38, BD-D-42, BD-D-44, BD-D-45, BD-D-46, BD-D-47, BD-D-48, BD-D-50, BD-D-51, BD-D-54, BD-D-58, BD-D-59, BD-D-66, BD-D-70, BD-D-76, BD-D-77, BD-D-84, BD-D-86; BD-F-03, BD-F-04, BD-F-06, BD-F-07, BD-F-08, BD-F-09, BD-F-10, BD-F-11; BD-NF-05, BD-NF-06, BD-NF-07, BD-NF-08, BD-NF-09, BD-NF-12, BD-NF-13 BD-NF-14, BD-NF-15.

achieving their policy objectives.[13] Key policy outcomes were realized in several areas:

- development of new policies and legislation to provide local communities with decision-making rights through comanagement (see "Comanagement Approaches: Empowering Communities for Conservation," later in this section) (11 projects)[14];
- synergies between project comanagement policy aims and ongoing government decentralization policies and programs (8 projects)[15] (see box 5.1 for an example);
- development and implementation of economic and financial policy to create incentives for conservation in production landscapes (2 projects);[16] and
- development of policy to secure land tenure rights for communities (4 projects).[17]

There have been several outcomes of policy reform. Policies favoring comanagement and/or decentralization have improved the involvement of communities in PA management and have provided a forum for conflict resolution and mitigation. In some cases, policy changes have also allowed for greater control over and access to important resources such as water, fuelwood, and non-timber forest products. Such changes are a catalyst for generating more favorable community attitudes toward conservation. Few projects attempted to address land tenure or rights; those that did tended to involve indigenous peoples. The findings show that granting such rights to IPs did lead to improved local conservation (see "Community Involvement and Vulnerable Groups," later in this section).

Box 5.1: Decentralization and Incentive-Based Policy Changes in Bolivia

Nine of the projects sampled successfully took advantage of national policy environments that had already begun fiscal and operational decentralization of government services. One of the most successful of these projects has been the World Bank–implemented Bolivia Biodiversity Conservation Project (phase 1) and its follow-up, Sustaining the Protected Area System (phase 2).

Phase 1 tapped into the decentralization and public participation law that was enacted in the early 1990s to develop 10 national park civilian participation committees. Seven PA communities made comanagement agreements with indigenous peoples, NGOs, and academic communities. The project also contributed to the development of a new (1996) biodiversity conservation law. Phase 2 has concentrated on building on the substantive progress made during the first phase, and on augmenting capacity at the local level for comanagement and sustainable use.

The comanagement approach with strong stakeholder involvement has reduced resource conflicts and built consensus within and around PAs and allowed communities to have a real stake in conservation decision making, thereby engendering ownership. By providing a conduit by which to discuss and debate local resource issues, the comanagement approach has become an important conflict management tool. Indigenous communities have been able to maintain their cultural identities and access key customary resources such as medicinal plants inside the PAs. Communities have also used their comanagement institutions in planning and developing opportunities for ecotourism.

Characteristics of successful approaches in securing enabling policy development/changes include the following:

- phasing of projects, which took into account the need for longer term approaches to policy development and implementation, particularly capacity building—such an approach was (or is being) successfully applied in Argentina, Belize, Bolivia, India, Indonesia, Morocco, Tanzania, and Uganda;[18]

[13]BD-D-03, BD-D-07, BD-D-09, BD-D-18, BD-D-42, BD-D-45, BD-D-46, BD-D-47, BD-D-50, BD-D-59, BD-D-70, BD-D-76, BD-D-77, BD-D-84; BD-F-03, BD-F-04, BD-F-06, BD-F-09, BD-F-10; BD-NF-07, BD-NF-12, BD-NF-13, BD-NF-14, BD-NF-15.

[14]BD-D-07, BD-D-09, BD-D-18, BD-D-45, BD-D-47, BD-D-58, BD-D-59; BD-F-03, BD-F-09; BD-NF-13, BD-NF-15.

[15]BD-D-42, BD-D-46; BD-F-04, BD-F-06, BD-F-08, BD-F-10; BD-NF-12, BD-NF-15.

[16]BD-D-03, BD-D-50.

[17]BD-D-42; BD-F-08; BD-NF-07, BD-NF-15.

[18]BD-D-09, BD-D-18, BD-D-59, BD-D-76; BD-F-03, BD-F-04, BD-F-10.

- identifying and supporting (or piggy-backing on), ongoing decentralization reforms to develop local-global benefit linkages;[19] and
- institutional and political analyses to determine exogenous drivers for policy changes (that is, commitment from government executing agencies, stable government with concomitant focus on accountability and transparency in service delivery, and local government and community capacities for implementation) and secure added value for biodiversity conservation and livelihoods.

Some projects have been successful even with one or more of these elements missing.[20] For example, the UNDP-implemented Protection and Utilization of Biological Diversity in the Bangassou Dense Forest project has successfully developed policy and legislation for decentralization/comanagement of PAs against the backdrop of political instability and social change in the Central African Republic; this has included recognition of community land rights and points of access to sacred sites. Similarly, despite ineffective country ownership and failures in project management by the NGO executing agency, the World Bank–implemented Conservation of Priority Protected Areas project in the Philippines developed comanagement and indigenous land rights law.

In contrast, approaches that have reduced achievement of intended outcomes include the following:

- inconsistent economic and institutional policy analyses in the project design stages;[21]
- failure to build government ownership of proposed policy changes[22] (see box 5.2 for an example);
- lack of national and/or local capacity to take on the responsibilities associated with decentralized control over resources, sometimes manifesting as government's unwillingness to cede power to communities; and
- exogenous political changes, such as changes in government, civil disturbance, and sudden reversals in policy support.

The World Bank Lao Forest Management and Conservation project's goal was to assist the government of Lao in implementing a decentralized forest management system in which village forest associations would be involved in comanaging timber markets and would receive a share of stumpage revenues as a "conservation incentive" for sustainable management of local forest reserves. Underpinning the project was the assumption that the government supported these reforms and the associations' retention of a share of the revenues. Although the project succeeded in demonstrating the economic viability of forest associations at the local level, government ownership of the policy reforms and their implementation was overestimated. This, as documented in the World Bank's project implementation completion report, resulted in the reversal of decentralization and market policy reforms, which undermined the sustainability of the project's achievements.[23]

Socioeconomic Incentives for Conservation

The GEF Operational Strategy and OP1–OP4 stress the importance of alternative livelihoods and income-generating activities, ecotourism, and broader "incentive systems" as a mechanism for conserving biodiversity within the larger context of activities aimed at sustaining global environmental benefits. Development of socioeconomic benefits to change resource use and encourage sustainable practices has been a significant part of GEF biodiversity project innova-

[19]BD-D-09, BD-D-18, BD-D-58; BD-F-03, BD-F-04, BD-F-08, BD-F-10. In some cases, such as in the World Bank–implemented Honduras Biodiversity Project, the objectives and approaches are linked or "blended" with International Development Association funding to support wider but related goals of land and agricultural reform. Such blended approaches are becoming an increasingly important instrument in the GEF portfolio to address local and global benefits at specific sites and national scales.

[20] BD-D-09, BD-D-46; BD-F-03, BD-F-04, BD-F-08, BD-F-10; BD-NF-15.

[21]BD-F-07, BD-F-09, BD-F-11; BD-NF-06, BD-NF-08, BD-NF-09, BD-NF-10, BD-NF-13, BD-NF-15.

[22]BD-D-19, BD-D-23, BD-D-66; BD-F-07, BD-F-11; BD-NF-03, BD-NF-06, BD-NF-08, BD-NF-09, BD-NF-10.

[23]This conclusion is well supported by the literature on decentralization policy development and implementation, both from the natural resource perspective and the emerging experiences of community-driven development. See Mansuri and Rao (2004).

Box 5.2: Politics, Promises, and Tourism Revenues in Nepal

The UNDP-implemented Nepal Upper Mustang Biodiversity Conservation project aims to conserve high-altitude rangelands, threatened species (the snow leopard and Tibetan aragali) and desert, and Buddhist cultural heritage in the kingdom of Mustang. The project is executed by two NGOs—the King Mahendra Trust for Nature Conservation and the American Himalayan Foundation.

Pastoral livelihoods in the kingdom are under stress due to overgrazing and a breakdown in traditional pasture management with the closure of Tibetan pastures, which has curtailed traditional stock movements. The main alternative source of new livelihood opportunities is tourism. The kingdom has been open to controlled low-impact tourism since 1992, and the Nepal government has set an annual limit of 1,000 tourists. The fees for hiking are among the highest in world at $70 per day. The shortest hike is 10 days; thus revenues for every hiker are at least $700. Tourism visitation has increased from 483 (1993) to 1,066 (1998) and is currently around 600–700 per year. Notwithstanding the fluctuations in visitor numbers, tourism revenues are very significant given the country's small local population. In the mid-1990s, the government promised (in accordance with the National Park and Wildlife Conservation Act of 1973) to share 30–50 percent of the tourism revenues with the people of Mustang. Initially, revenues were shared at 30 percent, but in the late 1990s, the government reduced revenue sharing to between 0 and 4 percent annually.

Cultural heritage and spectacular landscapes, exemplified here in the ruins of a 14th century Buddhist gompa, attract visitors to Upper Mustang, but the local people do not benefit from the tourist revenues collected by the central government in Kathmandu (Nepal: Upper Mustang Biodiversity Conservation Project). ©Lee Alexander Risby

Project Policy Assumption

The project assumed that policy and institutional issues relating to revenue sharing would be resolved prior to project implementation in 2001 and that revenue sharing of at least 30 percent (or approximately $100,000–$200,000 per year) would commence. These revenues are critical to a strategy that ensures financial sustainability for conservation and development activities in Mustang through a community trust fund. The main policy impasse concerns the Local Self-Government Act of 1999, which devolves natural resource management and tax and other revenue collection to the district levels, while the Tourism Act and Trekking Act stipulate that fees will be paid centrally to the Department of Immigration. Furthermore, interviews with central government officials revealed a strong perception that local government institutions have insufficient capacity to manage the revenues. Despite lobbying by the King Mahendra Trust, there has been little action on the part of the central government to resolve the policy conflicts.

The Impact: Unfulfilled Expectations and Conflict

Tourism revenues are the key incentive for communities to value both the natural and cultural resources of Mustang. At present, communities are well aware that they receive no fees for foreign visitors. Furthermore, most foreign visitors are accompanied by Katmandu-based tour companies which receive all the associated operational hiking fees. Therefore, very little revenue from conservation-tourism is captured by the local economy. The communities are becoming increasingly frustrated that the central government has not kept its promise to share tourism revenues, creating a strong disincentive for conservation. During the field research, the study team was informed that local people intend to block foreign tourists coming into the kingdom if the government does not fulfill its promise.

tion at the community level since the GEF pilot phase and through GEF-2. The analysis of new projects and strategies presented later in this chapter also demonstrates that socioeconomic incentives to catalyze biodiversity conservation are evolving into one of the standard activities for local community engagement in GEF-3 (see section 5.3).

All of the GEF pilot phase, GEF-1, and GEF-2 projects studied included elements of integrated conservation and development projects even if they did not use the term. There were several consistent assumptions underlying projects, notably that the actions of the community are a threat to biodiversity conservation because they create unsustain-

able extraction of flora and fauna, and that the provision of socioeconomic benefits linked to conservation activities will enable communities to reduce their dependence on destructive practices through substitution and/or enhancement, and thereby reduce pressure on biodiversity, resulting in a "win-win" outcome.

Two main local benefit–global environmental benefit approaches to develop win-win outcomes were observed in the sample:

- **alternative livelihoods/IGAs—**to introduce new IGAs to substitute for existing destructive livelihood practices affecting biodiversity and to compensate communities for opportunity costs of lost access through resource restrictions; and
- **sustainable use—**attempting to enhance the sustainability of existing resource use practices by communities or develop new conservation and development links to demonstrate the value-added of biodiversity conservation, which includes a wide range of activities from improvements in agricultural practices to more-biodiversity-benign practices, certification schemes for coffee, sustainable forestry, and hunting.

Enhancement approaches such as ecotourism were often simultaneously used to compensate and substitute for loss of access to resources inside PAs. There is thus an overlap between substitution and enhancement.

Out of 88 projects, 51 intended to develop alternative IGAs,[24] and 82 planned to promote opportunities for sustainable use ranging from ecotourism activities and nontimber forest products to hunting and improvements in agricultural methods in production landscapes.[25] Of the 51 projects with IGA components, 18 achieved some success in developing alternative IGAs,[26] 19 failed,[27] and 14 did not provide sufficient information. With regard to sustainable use, of 81 projects, 23 achieved success,[28] 34 failed,[29] and 24 provided no information on progress.

Forty-seven projects intended to implement both alternative IGA substitution and sustainable use approaches, based predominantly on ecotourism and, to a lesser extent, comanagement and regulated sustainable extraction of resources to enhance links with conservation. Both alternative IGA and sustainable use approaches were common across all OPs. There were no significant differences between the FSP/MSP modalities in terms of the delivery effectiveness of alternative livelihoods and sustainable use approaches. NGO-executed projects tended to be more successful than government-executed projects both in the delivery of alternative IGAs (7 out of 17 NGO projects compared to 10 out of 34 government projects) and sustainable use (10 out of 28 NGO projects versus 12 out of 50 government projects). The reasons for these differences are discussed below.

[24]BD-D-8, BD-D-9, BD-D-11, BD-D-12, BD-D-13, BD-D-16, BD-D-18, BD-D-22, BD-D-23, BD-D-26, BD-D-29, BD-D-32, BD-D-33, BD-D-34, BD-D-35, BD-D-37, BD-D-38, BD-D-41, BD-D-44, BD-D-45, BD-D-46, BD-D-47, BD-D-48, BD-D-49, BD-D-53, BD-D-56, BD-D-58, BD-D-59, BD-D-63, BD-D-64, BD-D-65, BD-D-66, BD-D-67, BD-D-77, BD-D-78, BD-D-84, BD-D-86; BD-F-06, BD-F-07, BD-F-09, BD-F-10, BD-F-11; BD-NF-01, BD-NF-04, BD-NF-05, BD-NF-08, BD-NF-11, BD-NF-12, BD-NF-13, BD-NF-14, BD-NF-15.

[25]All except BD-D-01, BD-D-12, BD-D-13, BD-D-46, BD-D-64, BD-D-78.

[26]BD-D-18, BD-D-26, BD-D-33, BD-D-45, BD-D-46, BD-D-47, BD-D-49, BD-D-53, BD-D-56, BD-D-59, BD-D-63, BD-D-64, BD-D-67; BD-F-06, BD-F-10; BD-NF-08, BD-NF-11, BD-NF-15.

[27]BD-D-16, BD-D-22, BD-D-23, BD-D-32, BD-D-35, BD-D-38, BD-D-41, BD-D-66, BD-D-77, BD-D-78, BD-D-84, BD-D-86; BD-F-03, BD-F-07, BD-F-11; BD-NF-02, BD-NF-05, BD-NF-12, BD-NF-13.

[28]BD-D-03, BD-D-07, BD-D-18, BD-D-21, BD-D-26, BD-D-39, BD-D-42, BD-D-50, BD-D-53, BD-D-59, BD-D-62, BD-D-63, BD-D-69, BD-D-83, BD-D-87, BD-D-88; BD-F-01, BD-F-03, BD-F-06, BD-F-10; BD-NF-11, BD-NF-12, BD-NF-13.

[29]BD-D-02, BD-D-08, BD-D-14, BD-D-16, BD-D-19, BD-D-22, BD-D-23, BD-D-29, BD-D-32, BD-D-36, BD-D-38, BD-D-41, BD-D-49, BD-D-54, BD-D-66, BD-D-67, BD-D-74, BD-D-84, BD-D-86; BD-F-02, BD-F-05, BD-F-07, BD-F-09, BD-F-11; BD-NF-01, BD-NF-02, BD-NF-03, BD-NF-04, BD-NF-05, BD-NF-06, BD-NF-08, BD-NF-09, BD-NF-10, BD-NF-15.

Alternative IGAs: Substitution or Addition?

Alternative IGAs developed by successful projects were focused on handicraft production (usually for tourist markets), woodlots/agroforestry (for fuelwood), and small-scale new or modified agricultural or marine products such as shade-grown coffee and seaweed production.[30] Successful initiatives were characterized by the following:

- flexible approaches that combined alternative IGAs with sustainable use methods, based on comanagement that simultaneously enhanced community links to biodiversity;
- community demand-driven IGAs that coordinated with existing livelihoods;
- savings and credit (microfinance) modalities that provided opportunities for sustainable self-financing after the end of the project;
- capacity building at the individual household level that built the necessary skills to sustain IGAs;
- forging of relationships with CBOs that championed IGAs and provided support after the end of the project; and
- socioeconomic and market assessments that discovered what IGAs were of interest to the communities and economically viable.[31]

The more successful projects with these elements tended to be those with an NGO as the executing agency or significant project stakeholder.[32] NGOs typically had a stronger local presence with more consistent participatory approaches to involve communities in the identification and design of alternative IGAs. The study found, for example, that some NGO-executed projects funded by the World Bank and UNDP set basic rules and parameters for efficient assessment of IGA proposals and addressed gender and vulnerable households.[33] NGOs tended to have more experience with IGAs. By partnering with community savings and credit activities, IGA opportunities became more accessible and provided greater financial flexibility and sustainability for households and, specifically, women. Successful IGAs tended to be based on assessments of environmental, socioeconomic, and market potential.[34]

The primary intended cause-and-effect relationship implicit in developing alternative IGAs in GEF biodiversity projects is that they will substitute for existing livelihood practices that are detrimental to biodiversity and/or compensate for loss of access to protected resources such as fuelwood. One objective of the case studies was to investigate the substitution-compensation relationship. The findings indicate that where IGAs were successfully implemented, they improved livelihood security among communities that were often actively looking for opportunities to diversify their livelihood activities and thus reduce their vulnerability to natural and socioeconomic shocks. Improved livelihood security contributed to better conservation attitudes and mitigation of resource conflicts. Improved communication between communities and PA managers and comanagement also influenced attitudes.

Performance of substitution/compensation was variable and context specific. Some projects such as those in Brazil (Biodiversity Fund) and the Philippines (Conservation of the Tubbahata Reefs National Marine Park) demonstrated significant success in identifying alternative IGAs and production methods that had clear synergies with existing livelihoods and led to local livelihood and global environmental benefits—closely approximating a win-win outcome.[35] In other contexts, such as Tanzania's Jozani Chwaka Bay National Park Development project, alternative IGAs only partially substituted for subsistence livelihood practices, and households continued to rely primarily on resources

[30]BD-D-46, BD-D-63; BD-F-10.

[31]BD-D-56, BD-D-62, BD-D-82, BD-D-83; BD-F-06, BD-F-10.

[32]BD-D-34, BD-D-56, BD-D-62, BD-D-63, BD-D-67, BD-D-83; BD-F-06, BD-F-10; BD-NF-15 (although performance was highly variable across sites).

[33]BD-D-56, BD-D-62, BD-D-83, BD-D-87; BD-F-06, BD-F-10.

[34]BD-D-53, BD-D-62, BD-D-63, BD-D-83, BD-D-87, BD-D-88; BD-F-01, BD-F-10. See Bovarnick and Gupta (2003).

[35]BD-D-18, BD-D-45, BD-D-53, BD-D-59, BD-D-62, BD-D-83; BD-F-06.

(fuelwood) from inside the proposed national park (see box 5.3). The adoption of the IGA was primarily an addition rather than an alternative. The reasons for this are complex and relate to local sociocultural preferences in resource use, time scales for livelihood changes (that is, the ultimate effect of an alternative may not be seen until long after a project has been completed), and the appropriateness of new IGA opportunities within existing community livelihoods. Existing community livelihoods affect the extent of substitution versus addition, as households seek to diversify their livelihood sources; "fit" is of course dependent on context, but also on project efforts to identify suitability through socioeconomic, conservation, and market assessments.

Box 5.3: Substitution and Enhancement in Jozani-Chwaka Bay Conservation Area, Zanzibar

The Jozani-Chwaka Bay National Park Development project was implemented by UNDP and executed by CARE-Tanzania. The project's objective was to ensure that the core conservation area (the proposed national park) is effective, productive, harmonized, and sustainable over the long term. The immediate goals were to ensure that the bay's biodiversity was protected and to enhance the livelihood security of the communities adjacent to the proposed park. The project also set out to test a hypothesis: that increased household savings and income would increase household livelihood security and reduce pressure on natural resources and lead to the sustainable conservation of biodiversity, in the context of strong and environmentally aware community and government institutions.

The project approach was based on developing alternative IGAs to substitute for existing destructive resource use and enhancing sustainable use of selected resources inside the proposed national park through comanagement, controlled extraction, and the sharing of tourism revenues with communities. The IGAs developed by the project were based on a sound understanding of the local communities gained through a social/livelihood assessment conducted during the project's preparation. Communities participated fully in the selection of the alternatives to instill ownership in both the process and products. The products selected were agroforestry, mushroom production (a high-value crop in demand by Zanzibar's tourist hotels), and handicraft production (specifically Ukili bags) to cater to Zanzibar's growing tourism industry and for export.

In and around Jozani-Chwaka Forest, the project has successfully encouraged local people to grow trees for fuelwood; however, households still primarily rely on fuelwood gathered from inside the National Park (Tanzania: Jozani-Chwaka Bay Biodiversity Conservation Project). ©Jyotsna Puri

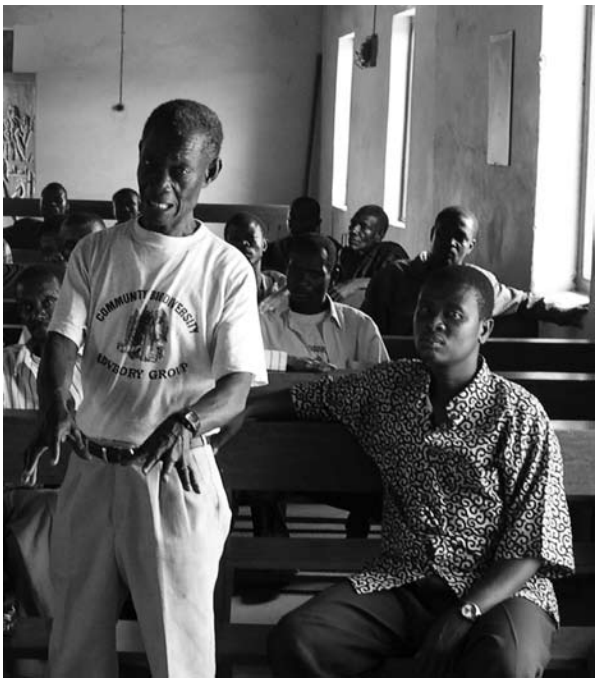
The communities organized themselves into cooperatives. The project provided skills training relevant to each alternative and set up savings/credit (microfinance) so that community groups could self-finance their IGAs and other short- to medium-term needs. The activities were very successful, and community groups made a profit by selling products locally as well as securing orders for handicrafts from South African and American importers. This success played a role in improving community attitudes and acceptance of the proposed national park. However, the results of a local benefits study survey showed that 58 percent of households still depended on multiple livelihood activities; hence, substitution was imperfect, and alternatives tended to supplement natural resources, which continued to be used for livelihood security. Moreover, 70 percent of household fuelwood was still being gathered from the national park.

The enhancement activities based on tourism revenue sharing and the legal establishment of the comanagement system of village conservation committees are in their early stages, but have provided resources for community development and controlled access to zones inside the national park. The survey results indicate that the impact of the enhancement strategies was beginning to be realized at the local level and, with alternative IGAs, provided a more cohesive approach to sustaining local and global benefits.

Projects' attempts to develop alternative IGAs often fell short of local development and environmental expectations for a variety of reasons:

- They had an incomplete understanding of communities in terms of what they are and whom within them to target,[36] what their priorities are, what constraints and opportunities are present, and thus how best to fit IGA interventions with local livelihood realities.
- They lacked an understanding of markets and financial sustainability of proposed IGAs.[37]
- They lacked project exit strategies, which provide support for IGAs and ensure adequate time frames to build sufficient community capacity for sustainability.[38]
- They were based on simplistic substitution assumptions such as development of handicrafts to substitute for traditional pastoral/coastal and marine livelihoods, or the introduction of exotic trees for agroforestry to substitute for the traditional use of favored fuelwood sources.[39]
- They made no association between alternative IGAs and conservation, meaning that some project activities resembled rural development activities and/or social funds. The potential for substitution and trade-offs was absent, and, regardless of the developmental sustainability of IGAs, the conservation outcome fell short of expectations. In these examples, the local benefits components were not linked to global environmental objectives and were therefore not effective.[40]

In Nepal, project managers offered support for development activities assuming that this would build trust and augment support for community conservation actions in the future. There is no evidence that such a trade-off is realistic, particularly if communities themselves make no link between the development benefits they receive and conservation actions. Other reasons for poor performance of IGAs included insufficient funding; short time scales; delayed disbursement; and failure of cofinancing,[41] which imposed constraints on socioeconomic, financial, and ecological links and sustainability.[42] An overarching challenge in most of the projects that implemented alternative IGAs exists in monitoring and evaluation.[43] Baselines and socioeconomic indicators were lacking, which made it difficult to deter-



A member of a community forestry conservation group in Ghana wears the project funded t-shirt. Project financing delays and the lack of proper designs for the community development trust fund meant that no alternative livelihood activities had been undertaken after many years of project implementation (Ghana Natural Resources Management). ©David Michael Todd

[36]Poor targeting left some project IGA initiatives open to "elite capture" of benefits. BD-D-19; BD-F-11; BD-NF-01, BD-NF-11, BD-NF-13, BD-NF-15.

[37]BD-F-02, BD-F-07, BD-F-11; BD-NF-05, BD-NF-08, BD-NF-12, BD-NF-15.

[38]BD-F-03, BD-F-07, BD-F-11; BD-NF-02, BD-NF-04, BD-NF-05, BD-NF-08, BD-NF-15.

[39]BD-F-01, BD-F-02, BD-F-07, BD-F-10; BD-NF-05, BD-NF-08.

[40]BD-D-66; BD-F-11; BD-NF-08, BD-NF-11, BD-NF-15.

[41]BD-D-32, BD-D-38, BD-D-41, BD-D-49, BD-D-71, BD-D-77, BD-D-86; BD-F-02, BD-F-03, BD-F-05; BD-NF-13.

[42]BD-NF-04, BD-NF-15.

[43]McShane and Wells (2004); and Whittingham, Campbell, and Townsley (2003) report similar findings. Examples of good monitoring practices were observed in the GEF-2 projects such as BD-D-56, BD-D-62, BD-D-63, BD-D-83; BD-F-06, BD-F-10; BD-NF-14.

mine the substitution/compensation and addition effects of alternative IGAs with any certitude in order to feed into the design of future projects. GEF-3 strategic priorities placed a strong emphasis on monitoring and results-based management, and the findings of this study confirm that this is an area where substantial improvement is possible.

Sustainable Use of Biological Diversity: Ecotourism

The majority of the projects studied were based in or around PAs, where the opportunities for sustainable use through resource extraction were limited by legal restrictions. (This was particularly the case around national parks, which often did not allow for any resource use and access and so curtailed other opportunities for community sustainable use.) Therefore, project designers often proposed ecotourism as a low-impact form of sustainable use and as the central intended activity to enhance livelihood and conservation benefits. This choice reflects the assumptions that (1) ecotourism has no negative impacts on biodiversity, and (2) it would be a viable enterprise in all the project areas. Some projects also expected ecotourism to act as an alternative IGA to substitute for lost access (opportunity costs) to resources inside PAs.

As a mechanism to generate incentives for community conservation, ecotourism was proposed by 69 projects,[44] of which 21 provided evidence of progress toward ecotourism outcomes.[45] The types of community ecotourism products developed included community lodges, trails and walks on community conserved areas, handicrafts to sell to tourists, marine-based activities such as reef watching (often adjacent to PAs), and cultural-based tourism attractions.

Projects generated livelihood improvements by providing income and employment at the individual household and community levels. Income was then used by households/communities for such purposes as education, health, and infrastructure improvements. Opportunities to acquire new skills and become more mobile in the job market were also available to communities in areas such as administration, basic bookkeeping, and security. The results of livelihood benefits were improvement in conservation attitudes and tangible changes in behavior such as reduced illegal activities inside of PAs and the creation of community conserved areas outside of PAs.[46]

There were also unintended or unexpected nonmonetary benefits. In the World Bank Lewa Wildlife Conservancy project, joint community–private sector security patrols protected wildlife for tourist viewing in community conserved areas, while simultaneously reducing cattle rustling in the Samburu and Meru Districts, as the security guards also acted as special police. Communities have come to associate conservation with improved security, which has in turn improved livelihood security by reducing cattle losses and social conflict among neighboring ethnic groups.[47] These nonmonetary improvements in livelihood were the most often cited reasons for community support of conservation areas in the Lewa project. This example demonstrates how nonmonetary benefits are, in certain contexts, a driver for conservation and sustainable land management, particularly in conflict/post-conflict conditions.[48]

The direct livelihood benefits of ecotourism were highly localized in terms of their spatial and socioeconomic distribution. In particular, socioeconomic and political barriers limited the participation of vulnerable groups—particularly the poor—in ecotourism. It was clear, especially in the Belize (Conservation and Sustainable Use of the Barrier Reef Complex), Kenya (Lewa Wildlife Conservancy), Pakistan (Mountain Areas Conservancy), and Philippines (Priority PAs) projects, that those who accessed the benefits from

[44]All except BD-D-01, BD-D-03, BD-D-12, BD-D-13, BD-D-19, BD-D-46, BD-D-53, BD-D-54, BD-D-64, BD-D-68, BD-D-69, BD-D-74, BD-D-78, BD-D-85, BD-D-87, BD-D-88; BD-NF-07, BD-NF-09.

[45]BD-D-07, BD-D-18, BD-D-21, BD-D-26, BD-D-35, BD-D-39, BD-D-42, BD-D-47, BD-D-50, BD-D-59, BD-D-63, BD-D-83, BD-D-86; BD-F-01, BD-F-03, BD-F-06, BD-F-08, BD-F-10; BD-NF-11, BD-NF-13, BD-NF-15.

[46]BD-D-18, BD-D-26, BD-D-45, BD-D-50, BD-D-63, BD-D-83; BD-F-01, BD-F-03, BD-F-06, BD-F-08, BD-F-10; BD-NF-11, BD-NF-13, BD-NF-15.

[47]BD-F-01.

[48]Haro, Doyo, and McPeak (2005)

ecotourism were members of the communities who were already relatively well placed in terms of socioeconomic and political resources.[49] Only where projects adopted a more concerted effort to distribute tourism benefits more equitably—for example, through a revenue-sharing mechanism backed by appropriate national enabling policies such as in Tanzania and Uganda—did they channel financial benefits to fund microprojects that benefited vulnerable groups such as the poor and women.

Project approaches to ecotourism development that achieved positive results were characterized by the following:

- They took advantage of a pre-existing tourism industry and internationally known attractions that had already put the country on the global tourist industry map. In countries such as Argentina, Belize, India, Indonesia, Kenya, the Philippines, Tanzania, and Uganda, the basic infrastructure already existed with lower commercial risks for international and national investors. Within this context, ecotourism developments were more attractive and able to offer a well-defined niche of alternative experience catering to both high-end and low-end (that is, backpackers) foreign tourists.
- They tapped local tourism markets to generate demand for ecotourism.[50] Internal markets have the potential to provide more stable financial flows and reduce vulnerability to the fickle nature of international tourism.
- They exploited an enabling tourism policy that addressed such areas as environmental investment, fee guidelines, and tourism revenue sharing.[51] But it can be difficult to develop mechanisms over short-term projects, as evidenced in the UNDP Upper Mustang and Pakistan Mountain Areas Conservancy projects; this again points to the need for long-term approaches.
- They included capacity assessment and building that provided communities with the needed IGA and managerial skills (for example, handicraft production, hospitality, basic facilities construction, management and maintenance, and financial management).[52]
- They featured partnerships between the private sector/landowners and communities.[53]
- They made assessments of market demand and financial returns, and developed marketing strategies. These activities allowed them to develop realistic ecotourism facilities and manage community expectations.[54]

The World Bank–implemented Bolivia Biodiversity Conservation, Brazil Biodiversity Fund, and Kenya Wildlife Conservancy projects, and UNDP's Philippines (Tubbataha) and Tanzania projects notably based their ecotourism developments on economic and financial assessments of the potential market. Indeed, in the Kenya project, communities were well aware of market fluctuations in the post-9/11 period. Expectations were largely self-managed within communities, which worked with private sector stakeholders to market their products more vigorously.

In contrast to the achievements noted above, 25 projects failed to develop effective ecotourism interventions;[55] a further 23 projects did not report on progress in this area. Difficulties were caused by:

- failure to assess the social, political, economic, financial, local, and national contexts to support ecotourism;[56] and

[49]This finding has also been reported in community-based/-driven project experiences emerging from the World Bank's Community-Driven Development initiatives. See Mansuri and Rao (2004).

[50]BD-D-07, BD-D-18, BD-D-21, BD-D-26, BD-D-39, BD-D-59; BD-F-05.

[51]BD-D-76; BD-F-10, BD-F-11; BD-NF-11, BD-NF-13. However, changes were, to some extent, underutilized in the sampled projects because such mechanisms often require complex cross-ministry negotiations, in-place local institutional mechanisms, and monitoring.

[52]BD-F-01, BD-F-06, BD-F-10.

[53]BD-D-50, BD-D-83; BD-F-01, BD-F-10; BD-NF-14.

[54]BD-F-01, BD-F-06, BD-F-08, BD-F-10.

[55]BD-D-02, BD-D-08, BD-D-14, BD-D-16, BD-D-22, BD-D-23, BD-D-32, BD-D-36, BD-D-38, BD-D-41, BD-D-49, BD-D-66, BD-D-67, BD-D-84; BD-F-02, BD-F-05, BD-F-09, BD-F-11; BD-NF-01, BD-NF-02, BD-NF-03, BD-NF-04, BD-NF-06, BD-NF-08, BD-NF-10.

[56]See Bovarnick and Gupta (2003). BD-F-02; BD-NF-02, BD-NF-03, BD-NF-12, BD-NF-13.

- inadequate local capacity and capacity building to undertake ecotourism.[57]

The market for ecotourism is limited—in many areas, it is perceived and marketed as a luxury "boutique" experience for which the numbers of foreign tourists able to participate

The black rhino is a global environmental asset and tourism-revenue generator. The rhino brings with it increased security that aims to stop poaching—which also reduces cattle rustling in nearby areas. So the Masai of Il'Ng'wesi associate conservation with increased security for their precious cattle, a critical nonmonetary benefit (Lewa Wildlife Conservancy). ©Lee Alexander Risby

are small. Barriers to accessing the ecotourism service industry are high for communities in terms of marketing, hospitality, training, and provisioning. Overcoming these barriers requires significant capacity building in local communities as well as sufficient revenues to maintain service standards. Few projects adequately recognized these challenges, resulting in many community ecotourism operations' failure or reliance on much lower returns than initially anticipated—which ultimately did not produce a strong conservation incentive.

For example, in Yemen, ecotourism was proposed as an incentive for community conservation in three very isolated areas (Hawf, Bura, and Socotra Island).[58] With poor access, little demonstrated international tourism interest, and strong sociopolitical disincentives against visiting, these projects largely failed in their efforts to develop ecotourism, despite the high aesthetic and ecological quality of the locations. The end result was community disillusionment, which, again, provides a poor incentive for conservation.[59]

Sustainable Use of Resources in and around PAs

Twenty-three projects proposed to improve the sustainable use of resources critical to the livelihood of communities, and 11 projects reported progress toward this objective.[60] Activities predominantly focused on improving existing agricultural techniques in areas adjacent to PAs in order to make them more sustainable and compatible with biodiversity conservation. The successful certification schemes of agricultural produce, such as coffee in El Salvador, Nicaragua, and Mexico, were good examples of projects that produced both local benefit and conservation outcomes.[61] Other approaches involved attempts to legislate and sustainably manage wildlife hunting for subsistence, trade, and sport[62] and to allow community access to and use of resources inside PAs (associated with comanagement and land-use zoning) such as water, reeds, fuelwood, honey, handicraft raw materials, and medicinal plants.[63]

Key outcomes for local-global benefits have been reduced levels of conflict over natural resources, creating more conducive local conditions for effective PA management and protection of globally important biodiversity, reducing illegal resource use, and improving land management and access for communities' income and nonmonetary livelihood benefits. Demonstrating the clear linkages between resource conservation and livelihood support, examples included access to medicinal plants for treating diseases and water supplies for household uses. Other nonmonetary

[57]BD-F-02, BD-F-03, BD-F-07, BD-F-11; BD-NF-02.

[58]BD-D-38; BD-F-02.

[59]BD-D-02, BD-D-14, BD-D-66; BD-F-02, BD-F-07, BD-F-09; BD-NF-12, BD-NF-13.

[60]BD-D-03, BD-D-26, BD-D-50, BD-D-51, BD-D-53, BD-D-56, BD-D-62, BD-D-69, BD-D-83; BD-NF-01, BD-NF-07.

[61]BD-D-53, BD-D-62, BD-D-88; BD-NF-05.

[62]BD-D-02, BD-D-35, BD-D-49, BD-D-54; BD-NF-13.

[63]BD-D-02, BD-D-03; BD-F-08, BD-F-09, BD-F-10, BD-F-11; BD-NF-07, BD-NF-09, BD-NF-11, BD-NF-15.

benefits, such as comanagement agreements within which sustainable use agreements are framed, reduced illegal activities and improved conservation.

Findings from several projects show that comanagement had a significant positive influence on community conservation behavior.[64] What has evolved in these projects is a reciprocal relationship based on trust and communication. In the World Bank's Uganda (Bwindi Impenetrable National Park) project, the re-establishment of regulated beekeeping inside the forests reduced the incidence of forest fires to zero. Previously, fires were either deliberately or accidentally started by honey-gatherers every year during the dry season. Now resource users are organized into groups and registered. They monitor their own off-take, as well as proxy indicators related to effort (time needed to collect resource) to track potential threats such as increasing scarcity of resources (see "Comanagement Approaches: Empowering Communities for Conservation," later in this section).

Project approaches with substantial achievement were characterized by the following:

- assessments of the ecological and social opportunities for resource extraction, including consideration of local and/or traditional resource use;[65]
- establishment of good communication and trust necessary to begin a process of access negotiation and sustainable use agreements;[66]
- setting of simple rules and regulations;[67]
- capacity building among local communities and government PA staff;[68]
- development of monitoring indicators, particularly the use of participatory monitoring and evaluation processes by which communities were actively involved in devising locally appropriate and nontechnical indicators;[69] and
- enabling policy and legislation that permitted sustainable use and provided a enabling context to allow engagement with communities.

Overall, promoting sustainable use inside of PAs has not been prevalent in the projects. Indeed, 81 projects[70] operated in government-sanctioned PAs that imposed access restrictions on some resources (usually fuelwood and bush meat) due to in-country legislation that prevents extraction of resources.[71] For example, in the World Bank–implemented Bolivia Biodiversity Conservation project, the concept of sustainably using natural resources was developed during the project design, but proposals for such activities did not go forward because the government lacked a comprehensive policy framework regulating the use of natural resources.[72] Other factors limiting achievements included slow institutional change and acceptance at the national and local PA management levels of the concept of community access and sustainable use of PAs. In particular, national parks tend only to allow tourism as a land use.

Twelve projects concentrated on production landscapes and sustainable use within agricultural and pastoral contexts.[73] These projects tended to develop a broader range of sustainable use activities and innovative approaches such as payments for environmental services.

Since most projects have tended to support the creation of national parks, the GEF has been limited in its ability to support sustainable use activities in practice and forge local-

[64]BD-D-45, BD-D-56, BD-D-62, BD-D-63, BD-D-68; BD-NF-01, BD-NF-11. See also Abbot and others (2001).

[65]BD-D-50, BD-D-51, BD-D-53, BD-D-56, BD-D-62; BD-F-06, BD-F-10.

[66]BD-F-07, BD-F-10; BD-NF-07, BD-NF-11.

[67]BD-NF-11.

[68]BD-F-03, BD-F-08, BD-F-10.

[69]BD-D-62; BD-F-04; BD-NF-11.

[70]All except BD-D-03, BD-D-10, BD-D-36, BD-D-53, BD-D-66, BD-D-83; BD-F-01.

[71]Furthermore, in practice, uncertainty and a precautionary approach play a significant role in the absence of appropriate ecological knowledge and monitoring systems to thwart any multiple uses.

[72]BD-F-08.

[73]BD-D-03, BD-D-10, BD-D-36, BD-D-53, BD-D-62, BD-D-83, BD-D-87, BD-D-88; BD-F-01; BD-NF-01, BD-NF-04, BD-NF-09.

global benefits linkages (see section 5.4). However, with the increasing emphasis on production landscapes outside of the PAs through GEF-3 and into GEF-4, opportunities for innovative approaches to sustainable use are on the rise (see section 5.3).

Community Involvement and Vulnerable Groups

The GEF Public Involvement Policy recognizes three forms of involvement: information dissemination, consultation, and stakeholder participation. These facilitate and enhance the environmental, social, and financial sustainability of GEF interventions and their flow of benefits. The policy also specifically emphasizes the need for projects to involve disadvantaged groups, indigenous communities, women, and poor households.[74]

Dissemination, consultation, and participation processes were the key means by which communities became involved in projects' design, implementation, and monitoring and evaluation activities.[75] Community involvement in project design and preparation was generally limited to information dissemination and consultation. This reflects the fact that the majority of projects are devised and driven by national and international actors, such as government departments and international and national NGOs, rather than by local communities.[76] Several of the sampled projects did include elements that involved communities actively as decision makers in implementation. However, the field and nonfield case studies found that community involvement during project design was often limited or nonexistent.[77] Twenty-six project documents referred to social assessment or other social analysis during their preparation; the remaining 62 project documents reviewed lacked adequate descriptions of communities and identification of key stakeholders, which is the first step in targeting public involvement activities. In many project documents, the "community" was characterized as a homogenous entity and passive recipient of project activities (see below).

Forms of Involvement Employed

All 88 projects studied intended to carry out information dissemination activities covering education and awareness raising that involved flows of information through publications and media broadcasts from the project to communities. In all, 73 reported achievements in this area.[78] Consultative involvement was planned in 79 projects and was often employed through workshops, meetings, and interview surveys to gain community inputs into planning exercises and livelihood activities; 64 projects reported achievements in this area.[79] Sixty-six projects intended to employ stakeholder participation to involve communities in decision making;[80] 47 of those reported achievements. Twenty-one projects did not consider either consultation or stakeholder participation.

NGO-executed projects were more effective than government projects in achieving stakeholder participation; 19 out of 24 NGO-executed projects reported success in this area, compared to 28 out of 42 government-executed projects. The effectiveness of NGO involvement was due to a combination of factors, including smaller project scales with a stronger local presence, focused capacity building among communities for participation in planning and management, and provision of livelihood incentives for participation and collaboration with local government and CBOs.[81]

[74]GEF (1996c), p. 4.

[75]See, for example, BD-D-62.

[76]The GEF mandate specifies country drivenness so any impetus to move toward community-driven development would have to come from this level.

[77]BD-F-01, BD-F-02, BD-F-03, BD-F-05, BD-F-07, BD-F-11; BD-NF-02, BD-NF-03, BD-NF-04, BD-NF-07, BD-NF-10, BD-NF-12.

[78]All except BD-D-11, BD-D-14, BD-D-23, BD-D-29, BD-D-54, BD-D-64, BD-D-66, BD-D-69, BD-D-84, BD-D-86; BD-F-02; BD-NF-02, BD-NF-03, BD-NF-05, BD-NF-10.

[79]All except BD-D-02,BD-D-14, BD-D-23, BD-D-29, BD-D-49, BD-D-54, BD-D-64, BD-D-76, BD-D-78, BD-D-84, BD-D-86; BD-F-07; BD-NF-02, BD-NF-03, BD-NF-04.

[80]All except BD-D-01, BD-D-07, BD-D-10, BD-D-11, BD-D-13, BD-D-27, BD-D-33, BD-D-35, BD-D-36, BD-D-38, BD-D-39, BD-D-51, BD-D-67, BD-D-69, BD-D-71, BD-D-74, BD-D-77, BD-D-78; BD-F-05; BD-NF-07, BD-NF-10, BD-NF-14.

[81]BD-D-22, BD-D-34, BD-D-37, BD-D-48, BD-D-53, BD-D-56, BD-D-62, BD-D-63, BD-D-68, BD-D-83, BD-D-87, BD-D-88; BD-F-01, BD-F-06, BD-F-10.

Stakeholder participation methods utilized by projects included participatory rural appraisal, participatory workshops/meetings, community mobilization through existing institutions or the creation of new ones, and direct involvement of CBOs. The study found that participation needed to have clear goals; these acted as an incentive for communities to become active in decision making. It is clear that the majority of communities do not participate to achieve externally defined environmental benefits, but to secure improved livelihoods. Where consultative/participatory methods have been linked to the attainment of project outcomes, such as developing and implementing sustainable use of resources and/or the delivery of IGAs, community enthusiasm has been more pronounced.[82] Furthermore, by institutionalizing participatory processes as an integral part of comanagement, project outcomes have been much more positive.[83] In contrast, when stakeholder participation processes were seen as a project requirement for cost-effective delivery and coupled with unskilled or unwilling government/NGO institutions, outcomes have been transient or even disempowering for communities.[84] In the case of the Kenya Tana River Reserve project, limited institutional capacity to examine and address local community issues adequately and facilitate genuine participatory exchanges, coupled with a general lack of buy-in by the Kenya Wildlife Service, resulted in a series of community participation exercises that were inconsistently executed and used disempowering rather than empowering methods.

Implementing stakeholder participation often presents projects with a set of complex challenges. First, executing agencies—particularly government and some international NGOs—often have a strong historical "fortress conservation" approach. Changing this attitude to participatory conservation requires sustained capacity building at the individual, institutional, and systemic levels.[85] Second, there is often limited capacity at the community level to mobilize, sustain, and ultimately "own" new participatory management responsibilities. The solution often requires support beyond the time frames of projects that GEF approaches can presently provide (see "Comanagement Approaches: Empowering Communities for Conservation?," later in this section).[86] Third, designing participatory conservation requires a mix of ecological and social skills from within government executing agencies (and IAs). However, only 40 out of 88 sampled projects either planned or demonstrated the consistent application of such skills (see section 5.4).

A prerequisite for consultative and participatory forms of involvement is a clear understanding of the composition of "the community." For example, the design of effective involvement approaches and local-global incentives structures requires a good understanding of local resource access and use, knowledge systems, formal and informal sociopolitical institutions, gender roles, ethnic relations, power structures, and intra- and inter-community conflicts. This in turn requires stakeholder analysis and/or social assessment. Of the 88 projects examined by the study, only 18 provided evidence that social assessment had been conducted in order to uncover relevant stakeholder characteristics and interests. The value-added of social assessment was demonstrated in that 15 of these 18 projects implemented stakeholder participation processes in which communities were actively involved.[87] For example, the UNDP-implemented Philippines (Tubbahata) project used a baseline social assessment to gather knowledge on the socioeconomic status, resource use, and culture of the nine communities in areas adjacent to the marine national park. The process provided inputs

[82]BD-D-46, BD-D-47, BD-D-49, BD-D-56, BD-D-57, BD-D-61, BD-D-62, BD-D-63; BD-F-06, BD-F-08, BD-F-10, BD-F-11.

[83]BD-D-46, BD-D-49, BD-D-68, BD-D-75, BD-D-81; BD-F-04, BD-F-08, BD-F-10, BD-F-11.

[84]BD-D-38, BD-D-59; BD-F-02, BD-F-03, BD-F-07, BD-F-11; BD-NF-02, BD-NF-04, BD-NF-06, BD-NF-09, BD-NF-15.

[85]BD-F-02, BD-F-03, BD-F-04, BD-F-07, BD-F-08, BD-F-09, BD-F-10; BD-NF-02, BD-NF-03, BD-NF-04, BD-NF-05, BD-NF-06, BD-NF-07, BD-NF-08, BD-NF-09, BD-NF-10, BD-NF-11, BD-NF-12, BD-NF-13, BD-NF-15. See also IIED (1994); and Barrow, Gichohi, and Infield (2000).

[86]BD-D-86; BD-F-07, BD-F-10, BD-F-11; BD-NF-05, BD-NF-15.

[87]BD-D-37, BD-D-42, BD-D-44, BD-D-50, BD-D-56, BD-D-58, BD-D-59, BD-D-65, BD-D-70; BD-F-04, BD-F-06, BD-F-08, BD-F-10; BD-NF-08, BD-NF-14.

for comanagement and IGAs during project preparation and helped the project maximize the effectiveness of a relatively short (three-year) implementation period, during which livelihood and conservation linkages were achieved. Similarly, examples demonstrating the value-added of social assessments were recorded in World Bank projects in Argentina, Bolivia, Brazil, Costa Rica, Ghana, Honduras, India, and Indonesia and in UNDP projects in Tanzania.[88]

Conversely, failure to "know" the community at the design stage often resulted in delayed implementation, as projects made up for lost ground through later extensive consultations.[89] While these are beneficial, they reduce the time available for working toward local-global linkages, such as comanagement and IGAs—which themselves require significant preparation and implementation time to build sustainability.

Outreach to Vulnerable Groups

The involvement of vulnerable groups—primarily the poor, indigenous peoples, and women—is a topic of much debate in the international conservation community. This is particularly true with regard to issues of PA governance, sustainable use, and benefit sharing within the context of poverty alleviation and rights-based approaches to conservation.[90] In its Public Involvement Policy, the GEF has placed specific emphasis on the involvement of vulnerable groups, where appropriate, in the design, implementation, and evaluation of projects.[91] Although the study found good examples of involvement and benefits for vulnerable groups in GEF projects,[92] the approach to this aspect within the biodiversity portfolio was found to be unsystematic. In all, 29 projects identified poor/low-income groups as project stakeholders and beneficiaries, and 59 did not; 45 identified women as project stakeholders and beneficiaries, and 42 did not. Forty-six projects were identified as being in areas with indigenous peoples; a majority of these (38) identified and targeted indigenous peoples as stakeholders and beneficiaries. The results for each group are discussed below and illustrated with examples of effective approaches, as well as challenges.[93]

The Poor

The majority of PAs are located in rural and isolated areas with low levels of development and high marginalization. Thus, the struggle against poverty is a major concern for communities living around PAs. The resources from PAs often act as a safety net for the poor, and it is the poor who therefore often have the most local knowledge about natural resource access and use.[94] This understanding is pertinent to the design and implementation of conservation projects. Socioeconomic studies show that the poor bear most of the direct local costs of any restriction of access caused by the creation of new PAs or enhancement of protection.[95] However, the poor and poverty issues were not addressed consistently across the sample of biodiversity projects. And in the majority of projects, the poor and issues related to poverty were not effectively incorporated.[96]

Twenty-seven projects referred to policy linkages to poverty reduction plans.[97] However, it was noted that not all

[88]BD-D-50, BD-D-58, BD-D-59, BD-D-83; BD-F-04, BD-F-06, BD-F-08, BD-F-10; BD-NF-04, BD-NF-14.

[89]BD-D-59, BD-D-64, BD-D-65, BD-D-66.

[90]For example, the United Nations Convention on Biological Diversity's Working Group on Protected Areas is debating issues of community involvement in the governance of PAs, indigenous peoples' rights, and poverty.

[91]OPS2 cited the importance of addressing socioeconomic issues and including vulnerable groups in ensuring the sustainability of GEF projects. See GEF (2002), pp. 105–6.

[92]For example, see BD-D-26, BD-D-45, BD-D-46, BD-D-58; BD-F-08, BD-F-11; BD-NF-01, BD-NF-04.

[93]UNDP and UNEP have no system for recording poverty, gender, or IP impacts.

[94]Egea (2003).

[95]Cernea and Schmidt-Soltau (2003), Brechin and others (2003), and Hatfield (2004).

[96]A review of World Bank agriculture, social, environment, transport, water supply and sanitation, and public sector management projects found that while "environment projects had relatively high ratings for poverty diagnosis and pro-poor strategy, [they] were weakest in their pro-poor design features when compared to other sectors" (Proctor 2002).

[97]BD-D-08, BD-D-09, BD-D-16, BD-D-19, BD-D-34, BD-D-36, BD-D-37, BD-D-38, BD-D-42, BD-D-44, BD-D-48, BD-D-50, BD-D-53, BD-D-58, BD-D-59, BD-D-62, BD-D-

of these projects then targeted the poor actively through project interventions. An exception was the UNEP-implemented Lake Baringo project, which made contributions to the Kenya Poverty Reduction Strategy Paper (PRSP) process. The project organized community, local, and district government meetings to formulate inputs into the Nakuru District PRSP. The environmental problems (for example, land degradation) facing farmers and pastoralists were flagged, and addressed as critical to economic recovery and wealth creation.[98] The project was able to demonstrate an unexpected policy input beyond its modest resources.[99]

Of the 29 projects targeting the poor,[100] 24 included activities that had a potential to benefit these stakeholders through measures to establish alternative IGAs/microfinance/savings and credit, provision of social services (for example, building of health clinics and schools), sustainable use, land rights, facilitation of vulnerable group participation in local environmental institutions, and conservation education and awareness activities[101] (see box 5.4). Of the 24 projects, 9 did not provide sufficient information for outcomes to be determined, while 15 projects[102] provided evidence of beneficial outcomes for poor stakeholders (three of these had not targeted the poor). Note, however, that the majority of this evidence was qualitative and not based on exhaustive quantification against social baselines. Of the 15 projects with positive impact—most of which were in OP3 forest

65, BD-D-83, BD-D-84, BD-D-87, BD-D-88; BD-F-02, BD-F-04, BD-F-06, BD-F-09, BD-F-10; BD-NF-01.

[98]See IMF (2005), chapter 4.

[99]Despite the beneficial input into the PRSP, however, the project had no substantive impact on poverty, and most of its demonstration activities were concentrated among the richer members of the communities.

[100]BD-D-08, BD-D-19, BD-D-29, BD-D-36, BD-D-37, BD-D-42, BD-D-45, BD-D-46, BD-D-47, BD-D-48, BD-D-50, BD-D-56, BD-D-58, BD-D-59, BD-D-62, BD-D-63, BD-D-65, BD-D-83, BD-D-84, BD-D-87, BD-D-88; BD-F-04, BD-F-07, BD-F-09, BD-F-10; BD-NF-01, BD-NF-08, BD-NF-09, BD-NF-11.

[101]All of the above except BD-D-08, BD-D-36, BD-D-48; BD-F-03; BD-BF-01.

[102]BD-D-42, BD-D-45, BD-D-46, BD-D-47, BD-D-56, BD-D-59, BD-D-62, BD-D-63, BD-D-83; BD-F-04, BD-F-06, BD-F-10; BD-NF-04, BD-NF-09, BD-NF-11.

Box 5.4: Poverty and Environmental Gains in Mexico and Guatemala

The GEF biodiversity program has a large portfolio in Latin American and Caribbean countries. Three World Bank–implemented MSPs have demonstrated poverty impacts alongside environmental gains. Two of these are in Mexico—El Triunfo Biosphere Reserve: Habitat Enhancement in Productive Landscapes and Oaxaca Sustainable Hillside Management; the third is in Guatemala—Support for the Management and Protection of Laguna del Tigre National Park.

The projects share several similar characteristics. For one thing, they are situated in the poorest areas of their respective countries and address deforestation and land degradation of watersheds caused by unsustainable land management practices. They placed a strong emphasis on community participation in their design, implementation, and monitoring; and reinforced participatory interventions with social analysis in order to get to know the community. Moreover, they looked to and strengthened local organizations to help them in project livelihood and conservation support and conflict resolution; also, they built sustainable networks to link local and national government agencies. Finally, they aimed to improve community agricultural practices through such means as agroforestry and certified coffee, whose socioeconomic and environmental incentives for households were clear.

Key outcomes of the projects included the following:

- reduction in deforestation and/or land conversion from forest to agriculture (El Triunfo and Laguna del Tigre), watershed protection (all three sites), carbon sequestration (Oaxaca), and reduction in forest fires (Laguna del Tigre);
- improved land and soil management practices and agroforestry, (Laguna del Tigre), certified coffee production (El Triunfo), and improved soil fertility and crop production (Oaxaca);
- improved socioeconomic conditions in terms of increased profits from small-holder farming (Oaxaca) and increased household income of 50–125 percent (El Triunfo);
- reduced conflict between communities and conservation authorities (Laguna del Tigre) and strengthening of CBOs such as farmers' cooperatives (El Triunfo and Laguna del Tigre); and
- improved awareness of the socioeconomic advantages of conservation (all three sites).

ecosystem projects—12 used social assessments/analyses in design and/or implementation stages and hence were able to identify and target vulnerable groups effectively. Community participation was at the core of 14 of these projects, which often worked with local NGOs/CBOs and indigenous groups,[103] which contributed to positive outcomes.

Some projects also made successful links between conservation and livelihood/poverty outcomes, as evidenced by reduction in deforestation, restoration of ecosystems, changes in human livelihoods to less environmentally threatening practices, stabilized or increasing wildlife numbers, and acceptance and establishment of PAs to ensure adequate protection of biodiversity. There were no notable differences in outcomes for the poor between MSP and FSPs and/or NGO- and government-implemented projects.

Several of the projects studied targeted the poor but failed to achieve significant outcomes in this respect. The reasons for this failure relate to lack of recognition and understanding of poverty-environment relationships and trade-offs, particularly concerning the design and implementation of alternative IGA components and involvement in comanagement. Implementation problems were also caused by insufficient budgeting, slow disbursement, lack of capacity at the local level, and insufficient attention to the long-term requirements of building participatory mechanisms to create inclusion (see box 5.5). Finally, there has been very limited monitoring or evaluation of poverty and environmental links in GEF biodiversity projects, which has constrained opportunities to learn from experience.

Gender Sensitivity

Gender relations play a key role in resource access, use, and management within PAs and in adjacent production landscapes. Gender roles and relations pattern activities: Gathering wildlife and plants for food and fodder, maintaining household gardens, processing fish, and collecting water and fuelwood are often women's roles.[104] In contrast, men are often involved in tasks such as hunting and offshore fishing. In many interventions, it is mainly the men who are consulted (as heads of households); therefore, the specific knowledge of biodiversity held by women is largely ignored. Improving the consideration of gender roles in biodiversity management is crucial to the design, implementation, and evaluation of projects. Where gender-specific roles are ignored, opportunities to devise targeting and involvement strategies are frequently missed.

The GEF Operational Strategy and Public Involvement Policy both stress the importance of involving women in the design and implementation of GEF projects. Study findings show that 45 projects out of 88 identified women as stakeholders and beneficiaries. The remainder did not specifically focus on women as relevant stakeholders. One of the reasons for this omission is the lack of social analysis during project preparation and the propensity of project designers to see the "community" as a largely undifferentiated group. Only 2 of the 45 projects that addressed gender in their design attempted to link with national policies and strategies for the promotion of gender equity across sectors such as agriculture, fisheries, and resource management.[105] Of the 45 projects, 39 included activities that had the potential to operationalize gender targeting in implementation, although specific budget allocations for mainstreaming into project activities were rare. One notable exception was the World Bank–implemented Honduras Biodiversity project, which budgeted approximately $300,000 for gender-related biodiversity conservation activities.

The scale and type of gender-focused activities varied from relatively passive conservation education and awareness activities to more proactive approaches such as microfinance/savings and credit related to IGAs. Twenty-five projects offered evidence of positive impacts on gender;[106]

[103]BD-D-56, BD-D-62, BD-D-63, BD-D-88; BD-F-04, BD-F-06, BD-F-10.

[104]For relevant literature, see Oakley and Momsen (2005); Agarwal (1997); and Leach, Joekes, and Green (1995).

[105]BD-D-19, BD-D-29.

[106]BD-D-03, BD-D-26, BD-D-42, BD-D-44, BD-D-45, BD-D-46, BD-D-48, BD-D-50, BD-D-53, BD-D-56, BD-D-59,

Box 5.5: Overlooking the Poor in Bangladesh

The World Bank–implemented Bangladesh Fourth Fisheries project is an attempt to improve livelihoods, reduce poverty, and conserve aquatic biodiversity. The project's objective is to conserve globally important wetlands and aquatic-related biodiversity in Bangladesh by mainstreaming biodiversity and aquatic ecosystem conservation within the inland and coastal fisheries sector. Central to the project approach is improving the access of poor people to aquatic resources for food and income and improving the capacity of local users to manage aquatic resources in a sustainable and equitable fashion; community-based institutions are key to project success. In 2003, the project conducted a beneficiary assessment to measure the impacts of its open water fisheries management component at five pilot sites on the communities and particularly the poor. The following outcomes were found:

- At one site, the community-based fisheries management committees sponsored by the project faced strong opposition from existing fishing cooperatives and failed to establish control of the waterbody. They therefore had little or no impact on the livelihoods of either professional (nonpoor) or subsistence (poor) fishermen and their households.
- Restrictions on fishing and stocking practices were implemented at four sites. While this resulted in some environmental benefits, it also placed substantial pressure on subsistence fishermen. These changes led to loss of fishing opportunities and income. Because of the project's lack of attention to provision of alternative livelihoods, fishermen were forced to sell assets, take informal loans (increasing their indebtedness), or reduce savings and food consumption. At one sanctuary site, alternatives were developed that did soften the blow of fishing restrictions.
- Production benefits at the five sites primarily went to the nonpoor, because they had control of the waterbodies. The poor, who were the project's key target beneficiaries, instead ending up largely bearing the costs of the project in terms of reduced fishing opportunities. At no site were overall positive impacts observed for the intended poor beneficiaries.

Reasons for these poor equity outcomes include the fact that the CBOs set up by the project are dominated by the richer community members, who have protected their own fishing interests while passing the restrictions on to the poor subsistence fishermen. Additionally, insufficient attention was given to alternative livelihoods, and the project had not effectively informed or prepared communities for its activities and their roles within these. Subsistence fishermen participated little in decision making during project preparation and had no sense of ownership. Finally, the project staff were young, inexperienced in community mobilization, and expected to challenge the authority and dominance of local elites within an unrealistic time frame. It is unlikely that production conservation targets will be met at any site.

11 did not provide sufficient information. (Note too that the majority of the evidence provided was qualitative and not based on exhaustive quantification.) Of the 25 projects that showed evidence of gender-sensitive benefits, 23 employed social assessment or analysis in their design and implementation stage, which could enable effective gender targeting in conservation interventions. Furthermore, 24 of the 25 projects employed stakeholder participation as their key involvement strategy for delivery of benefits.[107] Twenty of the 25 projects also achieved conservation benefits in terms of improving opportunities for sustainable use (for example, wetlands products, medicinal plants, water, and fuelwood) to demonstrate biodiversity value, forming community conservation areas adjacent to PAs, and improving conservation synergies with agricultural methods.[108] The most visible gender outcomes were gained through the successful integration of women into alternative IGAs, conservation education, and awareness programs.[109] For example, the World Bank's Ghana Coastal Wetlands project developed a Community Investment Support Fund, which had a positive impact on the capacity of local communities by improving the technical and organizational capacity of trade

BD-D-62, BD-D-63, BD-D-64, BD-D-68, BD-D-83, BD-D-87; BD-F-01, BD-F-06, BD-F-10, BD-F-11; BD-NF-01, BD-NF-04, BD-NF-11, BD-NF-13.

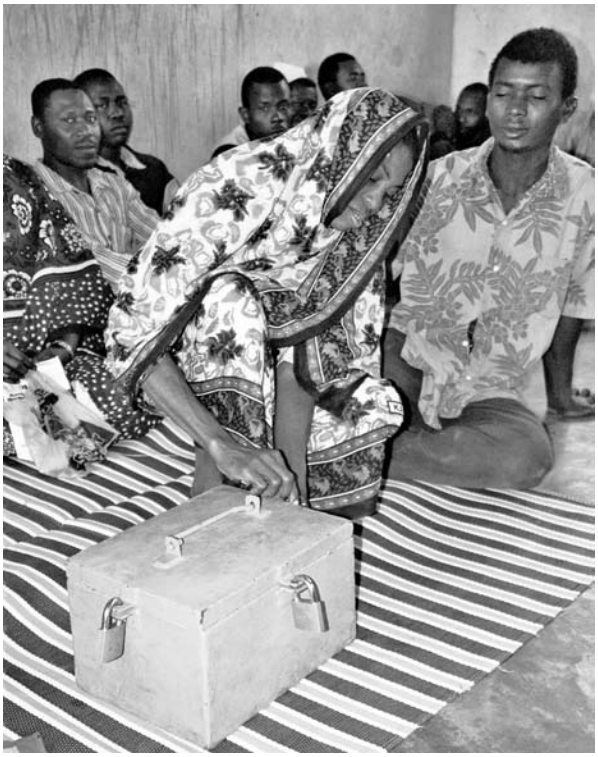
[107]All except BD-F-02 (a lack of participation by women was mostly associated with Bura and less with Hawf).

[108]BD-D-03, BD-D-26, BD-D-45, BD-D-46, BD-D-48, BD-D-50, BD-D-56, BD-D-59, BD-D-62, BD-D-63, BD-D-68, BD-D-83, BD-D-87; BD-F-01, BD-F-04, BD-F-06, BD-F-10; BD-NF-01, BD-NF-04, BD-NF-11.

[109]BD-D-26, BD-D-46, BD-D-50, BD-D-59, BD-D-63; BD-F-06, BD-F-10, BD-F-11; BD-NF-01, BD-NF-04.

associations that use wetlands sustainably. As the main beneficiaries of the fund, women have been particularly active (over 1,000 of the 1,700 individuals involved in the initiative were women) and have been empowered to take the lead in improving the sustainable use of wetlands.

The majority of projects reviewed focused on providing nonmonetary benefits to women, such as improving their conservation awareness and education, particularly with regard to key household concerns such as energy conservation (for example, fuelwood use) and environmental health (for example, water and sanitation). A few projects, including the World Bank Bwindi Impenetrable National Park project in Uganda, established mechanisms such as tourism revenue sharing and trust funds to provide gender-targeted social services such as health and education and to improve conservation attitudes. However, linkages to conservation were not always clear, and the lack of integration with relevant local government institutions made sustainability questionable.[110] It is clear that the provision of social services, whether gender targeted or not, is not an effective method to produce improvements in conservation. Linkages are weak at best and difficult for local communities to recognize and remember once the project is completed.



Savings and credit groups, like this one in Pete village, were successful in improving livelihood security for women and allowing them to invest in small-scale tourism-based revenue-generating activities such as ukili bag production and mushroom farming (Tanzania: Jozani-Chwaka Bay Biodiversity Conservation Project). ©Jyotsna Puri

Several projects made progress in improving the local gender balance in decision making with regard to comanagement/local government institutions:[111] long-standing sociocultural barriers to women's governance of resources are often mirrored in government institutions. The lack of effective government policy and mainstreaming combined with short-term project approaches do not provide sufficient time to build sustainable gender-sensitive approaches. The UNDP Pakistan Mountain Areas Conservancy project illustrates the difficulties of improving the role of women in sustainable resource management. Despite the project's long-term phased approach, it has faced tremendous sociocultural barriers to achieving gender mainstreaming in village conservation committees. These barriers have been partly overcome through adaptive social approaches such as the formation of women's committees or joint committees of men and women at the valley level where possible. Where such committees were not feasible, smaller women's groups have been formed. The capacity of these committees and groups has been built for natural resource management, focusing on the improved management of resources handled and controlled directly by women.

Seven projects targeted women's participation, but failed to achieve positive outcomes.[112] Key reasons for this failure were:

[110]BD-NF-08, BD-NF-11.

[111] See, for example, BD-F-10; BD-NF-04, BD-NF-13. However, the quality of women's participation in comanagement is very difficult to assess accurately based on current monitoring levels.

[112]BD-D-66; BD-F-07, BD-F-09; BD-NF-05, BD-NF-08, BD-NF-12, BD-NF-15.

- implementation of gender-focused approaches without setting in place necessary activities within the design and implementation of alternative IGA components, or comanagement and conservation education;
- insufficient budgeting and poor disbursement within community trust funds and microcredit operations;
- lack of capacity at the local level;
- intractable cultural barriers; and
- insufficient attention to building gender-sensitive participatory mechanisms into design and implementation.

UNDP's terminal evaluation of its South Pacific Biodiversity Conservation Project states:

> No provision was made in the Project Document for specific activities to address the differing perceptions and roles of men and women in the [project] or the differing impacts the [project] might have on men and women. This document did, however, give emphasis to this important subject by presenting it as one of four "Special Considerations" that were to be accommodated in implementation… This was not done.

Indigenous Peoples

IP involvement and impacts across relevant GEF biodiversity projects has recently been subject to much discussion both within IAs (see box 5.6) and externally among NGOs and IP groups.[113] The GEF and its IAs have been praised for their efforts to involve indigenous peoples and criticized for not doing enough to secure IP land rights and conserve their resources, or to involve them actively in project design and implementation.[114] The GEF Operational Strategy and Public Involvement Policy both stress that the involvement of indigenous peoples, where applicable, is of "central importance."[115]

Of the 88 projects included in the study, 46 projects were in areas where indigenous peoples are present and in which the projects should therefore identify them as stakeholders. Indeed, 38 of these 46 projects did in fact identify and target IPs as stakeholders/beneficiaries. The OP3 forest ecosystem projects, with a large cohort of projects in Latin America and the Caribbean and Asia, constituted a major concentration of IP issues, with 24 out of 26 projects identified as areas with indigenous populations.

Of the 38 projects that targeted IPs, 4 intended to link this to government policies and strategies related to promotion of IP interests.[116] There were some inconsistencies in formal project planning mechanisms for IP involvement. Only 4 World Bank projects out of 28 indicated that IP plans had been prepared.[117] However, the lack of a formal plan was not necessarily a serious impediment to the involvement of IPs, as some projects adopted location-specific IP strategies and/or were exclusively focused on IP/conservation issues; thus, the project in itself was "the plan." This finding concurs with the Bank's own review of IP projects in Latin America and the Caribbean (see box 5.6). Of the 38 projects, 29 included activities that attempted to operationalize their targeting of IP and involve them specifically during implementation; an additional 7 projects actively attempted to involve indigenous communities in project preparation (4 of these prepared IP plans).[118] One of the dangers of not involving indigenous communities in preparation is that the project is likely to "surprise" sensitive and isolated communities and give rise to confusion and unrealistic expectations, leading to a loss of trust and delays in implementation.[119] On the other hand, social reaction to the project depends on the specific context: in at least one case, "surprises" did lead to very beneficial outcomes for conservation and livelihoods (see box 5.7).

[113]Zarzar and others (2004).

[114]Griffiths (2005).

[115]GEF (1996c), p. 20.

[116]BD-D-42, BD-D-58; BD-F-08; BD-NF-15.

[117]BD-D-50, BD-D-58, BD-D-65; BD-F-08. Only World Bank projects are required to prepare IP plans; UNDP and UNEP projects have no such requirements.

[118]BD-D-44, BD-D-50, BD-D-58, BD-D-62, BD-D-63, BD-D-65; BD-F-08.

[119]Zarzar and others (2004).

Box 5.6: World Bank Thematic Review of IP Participation in GEF Latin American and Caribbean Biodiversity Program

The World Bank undertook a field and desk review to assess and learn from experiences in IP involvement in its GEF Latin America and Caribbean projects. The study examined 48 projects in all; these were a mix of completed, ongoing, and planned MSPs and FSPs. Of these projects:

- Approximately 40 percent addressed aspects of traditional knowledge and gender issues.
- Approximately 40 percent had high participation of IP, where involvement was defined in terms of comanagement; 33 percent had moderate IP participation in specific subprojects such as IGAs; and 30 percent had low participation with little active engagement of IPs. Comanagement forms were promoted to varying degrees by 60 percent of the projects.
- Eighty percent of the projects included sustainable livelihood activities. Of these, 40 percent had tried to introduce market-oriented activities; 28 percent had introduced innovative environmental services approaches; and 75 percent had attempted to introduce IGAs, which was challenging given remote locations and market isolation.
- Only 20 percent had IP plans, but 30 percent of projects had IPs as their primary stakeholders and thus did not require an IP plan. A further 23 percent had IP strategies. In total, then, about 75 percent of the projects included institutional/individual capacity building for IPs.
- Thirty percent of the projects addressed the complex issue of land tenure for IPs; this issue is critical in securing sustainable conservation.

Key Conclusions and Lessons

- **Communication.** Communication within projects is not clear, complete, or constant, which resulted in some conflicts and unrealistic expectations. What aspects of project interventions are communicated, and how, is critical in managing expectations, building trust, engaging in negotiation, and developing a common understanding during design and implementation. IP interpretations of conservation are rarely technical or global. *Lesson:* The communication/conflict management strategy that supports the project is important in managing expectations and reducing conflict. Partnerships between government agencies and local institutions close to IP can also improve communication.
- **Participation.** Participation is dependent on effective representation. Sometimes the projects assumed they had representation in the participation of community leaders, but this was not always the case. *Lesson:* Ensuring more representation is key to participation with IPs. Recognizing and harnessing IPs' own decision-making forums/institutions (informal and formal) instead of organizing and creating project-based institutions have proved to be more efficient and effective.
- **Time and timing.** IP community conceptions of time and timing are not the same as those of project designers. Most project time frames and levels of effort have been underestimated, affecting later project implementation, creating delays, and making objectives more difficult to achieve. There is an incompatibility between Bank procedures and IP process and time needed for reaching agreement. *Lesson:* Adaptation and flexibility are essential, and project cycles may need to be adjusted to incorporate the realities of IP decision making.
- **Baseline assessment and planning.** Assessment during project preparation and planning is a prerequisite for good project implementation. Many projects were overly ambitious or were based on simplistic assumptions regarding IP support for conservation. They did not always consider local networks and institutions and underestimated the IP political agenda. *Lesson:* Social and stakeholder baseline assessments are needed so objectives do not over- or underestimate requisite time frames.
- **Capacity building.** There was a positive correlation among strong social relationships, traditional institutions, and interest in conservation. Contributions through education to recover local knowledge and cultural/spiritual norms improved conservation. *Lesson:* Environmental education can be a vehicle to strengthen local cultural traditions for conservation.
- **Sustainable livelihoods.** Livelihood improvements through IGAs contributed to a sense of IP ownership of conservation objectives and improved food security. *Lesson:* The main area IP development priorities can be addressed and contribute to conservation is through livelihood security.

Of the 38 projects, 17 provided evidence of beneficial outcomes for and with indigenous peoples,[120] while 15 projects did not provide information. Again, the evidence provided was mainly qualitative, with very little consistent monitoring data available from project interventions. Differences were found between MSP and FSP modalities in terms of reported achievement of positive outcomes for IPs, with 8 of 13 MSPs reporting such outcomes compared to 9 of 25 FSPs. However, these differences reflect the significant number of FSPs that did not provide sufficient monitoring information.

Key outcomes included passing and implementing national legislation to secure IP land rights/tenure,[121] leading to improved management of resources in PA buffer zones; involving indigenous peoples in PA comanagement of local institutions,[122] which has reduced and/or averted resource conflicts and led to improved environmental management; building capacity of local IP institutions; helping indigenous communities preserve their knowledge and cultural systems relevant to conservation; IGAs/subprojects and improved agricultural production practices and augmented food security that led to decreased pressure on resources; and developing innovative incentives such as payments for environmental services in Costa Rica to conserve corridors in production landscapes between PAs.[123]

The main challenges to the involvement of IPs in the projects examined in this study coincided with those noted in box 5.6, namely:

- inconsistent approaches to achieving participation and institutionalizing it in comanagement approaches;
- inflexibility in the project cycle; and
- lack of and/or delays in the implementation of enabling policies, particularly relating to the often contentious issue of land tenure and rights.

According to the goals of OP2 and OP3, land rights and tenure reform relevant to the protection of PAs are activities that the GEF can consider funding.[124] But within the GEF system, there is a cautious approach as to what is "GEFable" with regard to IPs; this has limited the extent to which land tenure issues have been considered. In this regard, although land rights "is outside of GEF goals per se, the land tenure status of indigenous people is a critical indicator of their ability to engage in long-term sustainable conservation efforts."[125]

There is a need for longer time frames in IP projects with greater flexibility and adaptation, so IPs have the social as well as ecological space within which to move. Encouragingly, several of the projects reviewed in this study, such as in Bolivia, Brazil, India, and Panama, were either in the process of beginning second phases or had already commenced these.[126] The GEF-3 and GEF-4 focus on PA system support and mainstreaming, which also lends itself to longer term programmatic engagement with countries, is likely to improve involvement with IPs in relevant contexts.

Summary of Public Involvement Experience

GEF project experiences with community involvement are mixed. There is a predominance of dissemination/consultative approaches, but less genuinely empowering stakeholder participation from project concept through implementation. Formal social assessment has value-added in terms of "knowing" the community; gaining involvement of vulnerable groups (representation); and setting the stage for activities important to local-global incentive interventions, such as IGAs, comanagement, conservation education, and awareness. However, the majority of projects did not undertake such analyses, despite significant emphasis in GEF working papers and evaluations from the early 1990s on social and

[120]BD-D-42, BD-D-50, BD-D-53, BD-D-59, BD-D-62, BD-D-63, BD-D-68, BD-D-75, BD-D-83, BD-D-87; BD-F-01, BD-F-02, BD-F-11; BD-NF-07, BD-NF-09, BD-NF-13, BD-NF-15.

[121]BD-F-08; BD-NF-07, BD-NF-11, BD-NF-15.

[122]BD-D-42, BD-D-44, BD-D-58, BD-D-62, BD-D-63, BD-D-65, BD-D-68; BD-F-01, BD-F-08; BD-NF-07, BD-NF-11, BD-NF-15.

[123]BD-D-42, BD-D-44, BD-D-50, BD-D-62, BD-D-63; BD-F-08; BD-NF-07, BD-NF-15.

[124]See GEF OP2 (n.d.), para. 2.8; and GEF OP3 (n.d.), para. 3.8.

[125]Zarzar and others (2004), p. 6.

[126]BD-D-42, BD-D-59, BD-D-65, BD-D-83; BD-F-08.

Box 5.7: Reactive Design and Proactive Implementation

The UNDP-implemented Guyana Iwokrama Rainforest Program was a GEF pilot phase project completed in 1998. The project was primarily focused on developing the Iwokrama Reserve as a center for tropical forest research. However, a secondary goal was to assist Amerindians in devising approaches that would help improve their economic and social development through sustainable use of resources.

The project design involved consulting with communities during implementation, rather than actively designing the project with them. Therefore, during project design communities were involved in a "reactive way." Upon project implementation and in reaction to the project, the indigenous communities formed their own CBO, the Northern Rupununi District Development Board. The board provided 13 Amerindian communities adjacent to the Iwokrama forest with an institutional framework for the coordination of regional development and a forum for interaction with the project. The board empowered the Amerindian communities to engage proactively with the project. This was an unexpected outcome, as it would have been easy for indigenous groups to oppose the project. As a result of this engagement, the following achievements were recorded:

- The board played an active role in the initial development of legislation and policy for the Iwokrama Reserve. The resultant legislation preserved and respected the rights of the Amerindians to use resources and be involved in the reserve's management.
- The board was granted a seat on the Reserve Board of Trustees so indigenous people could take part in decision making and have their interests represented directly.
- Post-project in 2004, the reserve signed a memorandum of understanding with the board to "respect indigenous customs and rights; minimize negative social and cultural impacts of the Reserve; and work with [the board] to continue to identify income-generating activities."

A key impact of the project has been to build social capital and community interest in resource management, which has lead to successful zoning of the reserve with areas for sustainable use/extraction and protection; legislation to secure indigenous land rights; and an ethno-botanical research program with indigenous people to assist in preserving their knowledge.

ecological integration.[127] Practitioners both within government/NGO executing agencies and IAs with social science expertise are not being consistently used in project design or implementation and evaluation to assist in integrating local and global benefits. Finally, monitoring of stakeholder involvement is weak. Projects often set indicators and then do not report against them, or set no indicators at all; this makes it difficult to assess progress.[128]

Comanagement Approaches: Empowering Communities for Conservation?

Comanagement approaches to PA management involving local community and other stakeholders such as local government are stressed in the GEF Operational Strategy and operational programs as a means to achieve both conservation and livelihood benefits.

Of the 88 projects reviewed, 56 intended to develop comanagement approaches at individual PA locations or promote wider policy and practice synergies across systems (see "National Policy Formation to Enable Local Incentives for Conservation," above). Twenty-nine of these projects were effective at developing comanagement approaches, 22 failed to promote this, and 5 did not provide sufficient information to form any assessment. Differences among the effectiveness of project modalities and executing agencies were pronounced, with 14 of 20 MSP NGO projects successfully implementing comanagement, compared to 15 of 36 FSP government projects. These differences are examined below.

Projects supported comanagement approaches to improve PA management effectiveness in terms of:

[127] See GEF (1993b), pp. 1–3; GEF (1993a), pp. 49–51; and UNDP-UNEP-WB (1994), pp. 4–5, 38–39, 48–55, and 67–68.

[128] These findings are similar to those of previous World Bank studies. See World Bank (2002).

- resource conflict management and mitigation with surrounding stakeholders, management of resource threats through joint policing, and regulation of access and use (sustainable use); and
- improvement of communication and institutionalization of participatory management within the wider context of decentralization of government service provision and improved transparency and accountability.[129]

Comanagement activities and the role (and boundaries) of partnerships differed from project to project and were context driven. For example, in some locations, comanagement served as a conflict or threat management mechanism in terms of involving community in boundary (re)negotiation and policing. In others, it appeared to be strongly associated with efforts to secure sustainable resource use agreements. Institutional mechanisms were fundamental to comanagement. Projects chose between the following approaches, depending on the national and local context:

- developing new community institutions to address conservation and development concerns within the context of PA management—this approach has been useful when no appropriate local government institutions exist, or when the project has been piloting/testing comanagement to inform policy development; or
- using existing local government institutions and thus taking advantage of decentralization to exploit opportunities for local comanagement.

The main local-global linkages resulting from comanagement arrangements have been in the form of reducing illegal use of PA resources (for example, reducing poaching) and legalizing and developing access and use agreements for resources such as timber, water, medicinal plants, honey, and handicraft materials to provide communities with incentives for conservation. Comanagement has extended beyond PAs through the formation of community conserved areas in marine, forest, and semi-arid areas to improve resource management. Examples can be seen in Cameroon (Biodiversity Conservation and Management), Costa Rica (Ecomarkets), Indonesia (COREMAP), Kenya (Lewa), and Pakistan (Mountain Areas Conservancy). Successful approaches have typically been characterized by several factors:

- enabling policy processes that encourage comanagement and/or broader decentralization of government service provision as in Bolivia, Honduras, Indonesia, Peru, Tanzania, and Uganda[130] (see also "National Policy Formation to Enable Local Incentives for Conservation," above);
- social and ecological analysis and/or assessment to establish key characteristics of communities and examine the potential for comanagement, particularly in the development of pilot initiatives;[131]
- use of existing local community institutions to avoid duplication of roles, responsibilities, and "meeting fatigue";[132]
- local institutional capacity building to help government (for example, PA staff) and community institutions meet their responsibilities under comanagement agreements (skills focused on in this regard include communication, conflict management and resolution, social mobilization and facilitation methods such as participatory rural appraisal, and monitoring);[133]
- participation in design and/or implementation to achieve broad representation (to this end, consideration of power relations with communities is important);
- transparency of communication among stakeholders in order to build trust (high levels of social capital are required in order to negotiate and sustain comanagement agreements, rules, and protocols); and

[129]UNDP (2004a), and Borrini-Feyerabend and others (2004).

[130]BD-D-45, BD-D-58, BD-D-59, BD-D-68, BD-D-76; BD-F-04, BD-F-10; BD-NF-07, BD-NF-11.

[131]BD-D-18, BD-D-45, BD-D-46, BD-D-58, BD-D-68; BD-F-04, BD-F-06, BD-F-09, BD-F-10; BD-NF-04.

[132]BD-F-08, BD-F-10; BD-NF-01, BD-NF-04, BD-NF-07, BD-NF-11.

[133]BD-D-46, BD-D-76.

- long-term approaches to build sustainability, including formal comanagement agreements.[134]

Many of these aspects were more consistently present in NGO- than in government-executed projects. This mirrors results in other areas. NGOs (often working with CBOs) were more focused and had a stronger field presence with which to address key challenges, such as conflict and communication issues. Conversely, support from government departments for comanagement tended to be weaker, due to a lack of capacity or will to develop comanagement agreements or an outright reversal of agreements that ceded partial control to communities.[135]

Weaknesses exhibited in this area were similar to those mentioned in previous sections and included the following:

- absence or reversal of a policy framework needed to underpin the legitimacy of comanagement agreements[136] (see box 5.8); and
- lack of ecological and social assessment to establish fundamental knowledge about communities, existing institutional structures, and resource use and access.[137]

Approaches adopted often led to the creation of project-based institutions and a duplication of roles and responsibilities. For example, in the UNDP-implemented Conservation and Sustainable Use of the Belize Barrier Reef Complex Project, advisory committees were established to promote comanagement of coastal resources. In certain cases, as in Caye Caulker, the committees were developed in addition to existing, effective local institutions such as the local village council, thereby replicating some of its activities. However, in some project areas, it was noted that there existed highly organized and motivated communities in the coast, with a number of local institutions providing the basis for effective interface with external agencies. These potentials were not analyzed or mobilized in the project approach, meaning that engagement of local stakeholders was far less effective than could have been the case.[138]

Lastly, as with IGAs/ecotourism and sustainable use, the monitoring of comanagement approaches has been weak. Few projects developed workable indicators beyond the output level. Although implementation completion reports/terminal evaluations can be useful tools to improve comanagement, they were rarely found to include any substantive analysis on project performance in this area.

Whose Knowledge? Conservation Education and Awareness Raising

All of the biodiversity projects studied included activities focused on education and awareness raising to improve local ecological knowledge and influence positive changes in behavior. These activities often cut across other activities and were linked to local capacity building for environmental protection and promoting alternative livelihoods and sustainable use technologies and new practices.

Seventy-three of the 88 projects reported implementation of educational/awareness campaigns at the local level.[139] The targeting of education and awareness focused on rural communities often living adjacent to PAs, and to a significant extent on schoolchildren, who are perceived as particularly receptive to change (and hence more likely to adopt positive conservation behaviors in the future) and able to influence their family networks. Delivery of key messages has varied from the use of meetings/workshops, radio broadcasts, and distribution of leaflets to more nuanced and interactive approaches. The latter have included working with locally influential individuals such as government officials, schoolteachers,[140] and CBOs in order to increase the relevance and power of the message; and the use of village drama groups

[134]BD-D-76; BD-F-04, BD-F-08; BD-NF-13.

[135]SBD-D-49; BD-NF-02, BD-NF-03, BD-NF-06, BD-NF-09, BD-NF-10.

[136]BD-F-07; BD-NF-06, BD-NF-09.

[137]BD-D-19; BD-F-07, BD-F-09, BD-F-11; BD-NF-11, BD-NF-15.

[138]BD-F-03, BD-F-07.

[139]All projects except BD-D-11, BD-D-14, BD-D-23, BD-D-29, BD-D-54, BD-D-64, BD-D-66, BD-D-69, BD-D-84, BD-D-86; BD-F-02, BD-F-07; BD-NF-02, BD-NF-03, BD-NF-05.

[140]BD-F-01, BD-F-04, BD-F-06, BD-F-09, BD-F-10, BD-F-11.

Box 5.8: Unsustained Comanagement Partnerships in Congo

The World Bank–implemented Congo Wildlands project supported a successful comanagement partnership in Coukouati-Douli National Park (CDNP), executed by the World Conservation Union (IUCN). The CDNP is an area of extraordinary coastal and wetland biodiversity with populations of forest elephant and manatee. At project startup, the communities vastly distrusted the project's motives—they assumed the IUCN would curtail their access to CDNP resources and resettle them. Moreover, the communities had never been consulted with previously (the PA was gazetted in 1980 without any consultation). The IUCN spent the initial years of the project creating dialogue and building trust with the communities, and establishing an understanding of the local sociocultural context. Essentially, the project's first years were exercises in conflict management and mitigation. These were followed by mediation work and establishment of a local comanagement institution, Comite de Gestion des Resources Naturalles de Conkouatli (COGEREN). The project worked with the community to secure five institutional agreements for comanagement:

- a zoning plan, defining strict protection and multiple-use zones;
- a comanagement "charter" signed by the local government and Ministry of Forest Economy;
- official recognition of community comanagement institutions and formalized participation with local government;
- a full management plan for CDNP including special agreements on protection of manatees, marine turtles, and rattan; and
- a decree classifying the area as a national park.

The effort's initial outcomes were the development of a management institution to bring the CDNP under control, a conflict resolution process which allowed more effective conservation to take place, and development options for sustainable livelihoods.

When the project came to an end, the comanagement charter and COGEREN were sustained for a few years with continued support from the IUCN. However, with the appointment of a new park manager (and support from another international conservation NGO), a decision was made to take a more protectionist approach that did not respect the agreements made with COGEREN. Poaching by outsiders and the army (but not by communities) has increased. The sudden change in approach angered the communities, and new conflicts have arisen. This project illustrates the benefits of comanagement in terms of reducing conflicts and opening opportunities for community partnership in conservation. It also shows that without policy or legislation to back project-specific comanagement agreements, achievements can easily be undone, with negative impacts for communities and conservation.

and comic books. The content of conservation education and awareness has mainly been focused on scientific conceptions of biodiversity conservation; utilization of local and indigenous knowledge systems has been rare.

The reporting of education and awareness results has tended to be at the output level (for example, numbers of leaflets distributed or of broadcasts made), and only a few projects conducted attitude/knowledge baseline surveys against which they could measure the impact of conservation education (although there is a large amount of anecdotal evaluative information indicating impacts[141]). Of those projects that did conduct monitoring surveys,[142] it is clear that education and awareness-raising activities contributed to positive changes in attitudes toward conservation and the PA model of conservation. Furthermore, in a few cases—such as in Ghana (Natural Resource Management and Coastal Wetlands Management projects), China (Natural Reserves Management), Guatemala (Laguna del Tigre National Park), and the Philippines (Tubbataha)—awareness raising has led to community mobilization, which has in turn helped reduce environmentally destructive practices. In the Philippines Tubbataha Reef project, an information and education campaign conducted at local schools proved highly successful. Youth officers and members of the Cagayancillo Youth Council stated that "many of the Cagayancillo youth are better aware of the environmental issues, particularly in their community"[143] and credited the awareness campaigns

[141]BD-D-01, BD-D-02, BD-D-03, BD-D-21, BD-D-22, BD-D-26, BD-D-32, BD-D-33, BD-D-41, BD-D-48, BD-D-62, BD-D-68, BD-D-77.

[142]BD-D-25, BD-D-45, BD-D-47, BD-D-59;BD-F-01, BD-F-02, BD-F-03, BD-F-06, BD-F-09, BD-F-10, BD-F-11; BD-NF-04, BD-NF-06, BD-NF-08, BD-NF-11, BD-NF-15.

[143]BD-F-06.

as one of the important factors enabling the improvement of coral and fish conditions.

Project experiences show that positive outcomes of education/awareness activities are often associated with the following:

- formulation of a communication strategy;[144]
- implementation over a sustained period of time;[145]
- integration into government and/or community institutions' regular activities, such as including conservation education in the school curriculum and therefore making it more likely to continue after project completion;[146] and
- building relationships to other livelihood improvement measures such as IGAs and capacity building for comanagement, which allows people to put into practice new conservation knowledge to gain socioeconomic benefits (see box 5.9).

Deficiencies in education and awareness activities were caused by:

- insufficient integration between government agencies and NGOs to engender sustainability of activities;
- inadequate integration with other livelihood components such as alternative IGAs and comanagement;
- commencing education and awareness activities too late in the project cycle and therefore not giving sufficient time for messages to "sink in" and build sustainability;
- the absence of a clear communications strategy that builds strategic and consistent messages; and
- insufficient financing to carry out activities.[147]

[144]BD-D-58, BD-D-59, BD-D-68; BD-F-04.

[145]BD-F-03, BD-F-04, BD-F-08, BD-F-10.

[146]BD-F-04, BD-F-06.

[147]BD-D-38; BD-F-07; BD-NF-01, BD-NF-02, BD-NF-03, BD-NF-08, BD-NF-09.

Insufficient monitoring activities, baseline formulation, and evaluation of the outcomes of education and awareness were common in the projects studied. Attitude surveys to test the effectiveness of education and awareness activities were usually not employed; this led to missed opportunities for lesson learning.[148]

A poster to raise awareness of the destructiveness of dynamite fishing. (Indonesia, Coral Reef Rehabilitation and Management Project). ©COREMAP

The use and integration of local and traditional ecological knowledge into conservation education and awareness was proposed by 31 projects.[149] Many of these activities focused on documenting knowledge related to medicinal plants and cultural handicrafts in an attempt to link knowledge to health and income-generating benefits. Thirteen projects reported successes in safeguarding ethno-botanical knowledge (11 projects), traditional handicrafts (2 projects), and cultural heritage (1 project).[150] The UNDP Nepal Upper Mustang project has successfully worked with Amchi's School (the local healers on whose medicine the majority of the Upper Mustang population relies) to catalogue and establish monitoring of the extraction of medicinal plants. The project has also involved Buddhist monastery schools to emphasize conservation in science teachings as part of the monks' training.

Local knowledge is often framed in terms of particular resources such as medicinal plants, handicrafts, or wildlife. This rather narrow, ecologically driven conception ignores the role that sociopolitical forms of local knowledge can play

[148]*Biodiversity Program Study 2004* reached similar conclusions. See GEF (2004a), p. 15.

[149]Twelve of the 31 projects were based in Latin America and the Caribbean and involved indigenous peoples. BD-F-08 provides a very good example of the integration and appreciation of local indigenous knowledge in project design and implementation.

[150]BD-D-03, BD-D-26, BD-D-41, BD-D-42, BD-D-56, BD-D-63, BD-D-64, BD-D-67, BD-D-77; BD-F-08, BD-F-11; BD-NF-07, BD-NF-11.

Box 5.9: Improvements in Environmental Attitudes and Behavior in Indonesia

The World Bank's Coral Reef Rehabilitation and Management Project aimed to "protect, rehabilitate and achieve sustainable use of coral reefs" to enhance coastal community livelihoods. The project's first phase included a substantial ($3.9 million) public education and awareness component, designed to improve knowledge of the nature of coral reefs, foster public stewardship, and assist (along with comanagement approaches) in the reduction of destructive fishing practices. These activities were carried out at both national and local levels, and yielded significant positive changes in awareness and lesser—but still significant—changes in behavior:

- Seventy-one percent of the public surveyed were aware of the project's "Save Coral Reefs Now" campaign, up from 39 percent at the time of the baseline survey.
- In coastal communities where COREMAP was locally active, recognition of the project and its objectives increased from 3 percent to 64 percent.
- The number of local people attending conservation awareness meetings in pilot areas increased from 24 percent to 45 percent.
- Regarding behavior changes, 46 percent of fisherman who had high levels of exposure to COREMAP educational and awareness activities reported using reef-friendly fishing gear and practices compared to 39 percent of fishermen who had low exposure to the campaign.
- The government and communities have continued education and awareness activities during the "bridging period" between phases 1 and 2, indicating a level of sustainability for the campaign.

The campaign's success was due to good strategic preparation and planning in terms of stakeholder targeting, identification of a wide range of communication tools tailored to different stakeholders (for example, national TV programs, radio broadcasts, production of a popular song at the national level, and teacher kits and training at local scales), integration with government agencies and other components focusing on comanagement and enforcement at the local pilot sites, and flexibility in project implementation which enabled a longer time frame within which to execute the campaign. Finally, the project established a baseline and monitoring survey so that it could establish impact and learn as it designed phase 2.

in achieving and sustaining local-global benefits—knowledge that is frequently undervalued and underreported in the project context. For example, the World Bank's Lewa Wildlife Conservancy project was nontraditional in that the GEF financed a local (private sector) landowner who had intimate and long-term knowledge of the local social, economic, and cultural context. This knowledge was critical to the project, even though not explicitly recognized in the project design. The landowner was able to use social ties, networks, and informal partnerships to influence political leaders and local communities to commit over 200,000 acres of Northern Kenyan drylands habitat for community conserved areas.

The majority of projects in this focal area apparently did not recognize the importance of local/traditional knowledge. This relates to a paucity of social assessment/analysis during preparation, which prevented projects from building a clear understanding of knowledge systems and seeing opportunities for synergies between these and the external conservation concepts promoted by project interventions. A review of the Philippines Conservation of Priority PAs project illustrates the point:

> The project implementation record demonstrates that indigenous knowledge has been overlooked… the project seems to have been dominated by Western conservation science concepts as opposed to creating a fertile ground where the local and Western epistemology can meet and address a common concern and purpose.[151]

Similarly, the final evaluation of the Yemen Conservation and Sustainable Use of the Biodiversity of Socotra Archipelago project notes that "in its design and implementation, the project over-emphasized the collection of scientific data, largely concerning biodiversity, and paid insufficient attention to economic and social issues."[152]

[151]BD-NF-15, p. 32; and GEF (2001).

[152]UNDP final evaluation of BD-D-38, p. 16.

McShane and Wells similarly found in their review of non-GEF biodiversity projects that primacy is placed on technical and scientific knowledge as a basis in decision making, but that, in practice, the informal knowledge of local people is often a more significant influence on project success. They conclude that understanding local resource knowledge is often a project's scarcest decision-making "commodity."[153] The current study concludes that GEF biodiversity projects often underperform in their utilization of local knowledge for improved conservation, thereby missing a valuable link needed to achieve sustainable livelihood benefits and global environmental gains.

Negative Impacts: Hidden from View?

PAs and other conservation activities in developing countries that introduce and/or enforce legislation and policies to restrict local and indigenous community access to resources can lead to an increased incidence of resource conflict, livelihood insecurity, and poverty. In the current study, 76 out of 88 projects aimed to either enhance the protection of existing PAs or establish new ones, which involved restricted access to resources. Of those 76 projects, 66 did not discuss or assess the potential for negative social impacts and conflicts during their preparation phase. Ten projects did do so, but their discussion and analysis of potential negative impacts varied substantially.[154] For example, projects in Argentina, China, and India carried out social assessments or detailed social research to identify probable impacts, which fed into the design of mitigation strategies such as resettlement and/or alternative IGAs[155] (see box 5.10). In contrast, projects in Nepal (Upper Mustang) and Syria (Conservation of Biodiversity and Protected Areas Management) made a rudimentary acknowledgment of the potential for social impacts and conflict caused by resource access restrictions, with no accompanying social analysis to indicate the scope or characteristics of probable impacts or to identify the most appropriate mitigation activities.

Once under implementation, projects very rarely monitored or evaluated any negative impacts on the local population.[156] Of the 88 projects included in the study sample, 51 planned to develop alternative IGAs as a social mitigation measure, even though their design did not specify who was expected to lose out or in what way and by how much. Absence of clear information on causes, character, and prevalence of negative impacts stemming from the lack of evaluation of social impacts translates into a missed opportunity to learn from experience and promote more effective design of mitigation strategies.

The field studies showed that project activities do generate a range of negative social impacts. For example, restriction of access and use of biodiversity products have led to increased livelihood insecurity.[157] In an extreme case, (Kenya Tana River)[158] from the pilot phase, an aborted resettlement component caused by the cancellation of GEF funding led to serious intercommunity violence and increased livelihood insecurity after the project.[159] The exclusion or inadequate involvement of local communities in the design and implementation of projects has led to many problems, including lack of trust and conflict.[160]

Projects' lack of attention to managing expectations regarding the scale of local livelihood benefits also has often caused local disappointment.[161] For example, projects have in several cases been overly ambitious in claiming benefits to be delivered through alternative IGAs or sustainable use activities, par-

[153]McShane and Wells (2004), pp. 39–41.

[154]BD-D-09, BD-D-13, BD-D-47, BD-D-59, BD-D-70; BD-F-09, BD-F-11; BD-NF-08, BD-NF-11, BD-NF-14.

[155]BD-D-47, BD-D-59; BD-NF-02, BD-NF-14.

[156]Only 6 out of 57 evaluations reviewed made any reference to negative social impacts relating to project objectives and activities, and evaluators' comments frequently stressed the need for "assessment of negative impacts."

[157]BD-F-05, BD-F-09, BD-F-11.

[158]BD-NF-02.

[159]*Biodiversity Program Study 2004* suggests the GEF should develop clear policies, rules, and regulations of its own, particularly on issues such as resettlement, indigenous peoples, land tenure, and stakeholder participation. See GEF (2004a), p. 13.

[160]BD-F-01, BD-F-07, BD-F-09, BD-F-11; and BD-NF-01, BD-NF-08, BD-NF-17, BD-NF-18.

[161]BD-F-02, BD-F-05, BD-F-06, BD-F-07, BD-F-09, BD-F-11; BD-NF-08, BD-NF-09, BD-NF-11, BD-NF-17.

Box 5.10: Mitigating Negative Impact of National Parks in Argentina

The World Bank–implemented Argentina Biodiversity Conservation project proposed the creation of five new PAs of global importance: Los Venados, San Guillermo Reserve, El Copo, El Condorito, and Monte Leon National Parks. However, people were living in the three of the proposed PAs, and many others were living in the adjacent buffer zones. The government of Argentina and the World Bank proposed to move people from the core zones in order to reduce unsustainable resource practices. Many were concerned, though, that the negative social impacts would outweigh the benefits the project offered local people to move.

The project carried out a social assessment during its preparation to identify community stakeholders and understand their interests and priorities, learn about the expected impacts of the proposed resettlement, identify ways to find local support for PAs, and prepare mitigation strategies to address socioeconomic impacts of the PAs. The project was thus able to get a clear idea of the interests and concerns of key community stakeholders. For example, the project found that:

- People preferred not to move from the core zones, as they feared the market crisis in Argentina would prevent them from earning money in a new area.
- Landowners were inclined to sell land held in core areas and did not oppose creation of a PA.
- Sharecroppers inside PAs were willing to adopt alternative livelihoods in work related to resource management. Similarly, where restriction of access was unavoidable, the social assessment team, in conjunction with communities, identified alternative livelihoods (for example, replacing fuelwood use with gas for cooking).

The social assessment enabled the project to develop a mitigation plan and community participation strategy through the creation of consultative commissions for each park. The project has been successful in compensating people by offering changes in livelihood (for example, sharecroppers have become park staff), or purchasing land from landowners to reduce pressure on resources. The social assessment and mitigation plan have been largely successful in proactively addressing conflicts and developing a new institutional mechanism for public participation in parks management. Alternative livelihoods and tourism have been developed, and the impacts on livelihoods are likely to be beneficial.

ticularly tourism.[162] This optimism has led to inflated community expectations, which reduced interest in conservation when the initiatives failed or fell short of expectations.

In summary, based on field and nonfield case studies, the study concludes that the incidence of direct and indirect negative impacts caused by project activities is more widespread than is reported in project documents. Very few projects in the sample aimed to identify possible negative social impacts through analysis of issues, or to develop mitigation strategies based on a clear understanding of field conditions and targeting of strategies to meet the needs of the most affected community members. The delivery of alternative IGAs was aimed implicitly at reducing the social impacts of restricted access, but was rarely based on an understanding of the distribution, scale, and types of negative impacts (opportunity costs) they aimed to offset.

[162]BD-F-07, BD-F-09, BD-F-11; BD-NF-01, BD-NF-08, BD-NF-09, BD-NF-17.

The Bottom Line: Generation of Global Environmental Benefits

The global environmental objectives of GEF biodiversity projects are to reduce risks of global biodiversity loss, enhance the protection of ecosystems and the species they contain, and increase sustainability in the use of biodiversity components. The key issue the study has examined is the extent to which the generation of local benefits and the engagement of local communities affect the realization of global environmental benefits in biodiversity. This is a pertinent issue, as actions of local communities in exploiting resources are seen as a significant contributing factor to biodiversity loss. Consequently, it is essential to assess whether enhancing local benefits adds to degradation pressures, is neutral, or reduces such pressures.

The evidence from the case studies and the documentary materials examined in this study show that there were many cases where the generation of local benefits contributed to and helped sustain global environmental gains. However,

the findings also indicate that the effective generation of local benefits is highly context specific. The potential for direct replication in the sense often applied in the GEF context is limited.[163] Rather, principles for effective design and implementation can be discerned, as well as a number of approaches that have rarely proved effective. These are described below, categorized by the four ways (presented in chapter 2) in which improvements in local livelihoods can contribute to meeting the objectives of the GEF biodiversity program.

Changes in Consumption Patterns

Changed consumption patterns are critical to the attainment of global environmental benefits in many of the projects in the sample, as one of the pressures on ecosystems is the use of products for domestic consumption by local communities. Projects have primarily taken two approaches in an effort to bring about changes at the local level: (1) substitution of alternative IGAs for destructive resource use and to compensate for lost access, and (2) introduction of sustainable management practices to enhance resource use and demonstrate the value of conservation. In both approaches, the principal emphasis has been on the introduction of new production processes and, to a much lesser extent, on making existing patterns of consumption more sustainable.[164] The findings indicate that changes in consumption tended to be produced in projects that pursued both approaches as well as introduced forms of comanagement. Such projects tended to innovate by blurring the line between alternative/substitute and sustainable use/enhancement, therefore creating a push-pull incentive for changes in consumption.[165] The findings for alternative IGAs alone were mixed, with a few successes, some failures resulting from design and implementation problems, and much missing data due to weak monitoring of this aspect. Few projects specifically targeted consumption patterns (food security/supply) as a means to reduce pressures on the resources, through such measures as working with the community to promote alternative foodstuffs or identifying closed seasons for harvesting products.

Improvements to the Resource Base

Achieving improvements to the local natural resource base was the key objective of all the projects studied, and the evidence available suggests that this did occur at modest levels in projects that successfully implemented comanagement and a mix of socioeconomic incentives. Key global environmental benefits were seen in terms of reduction in illegal resource use inside PAs and encroachment; creation of community conserved areas outside of PAs across forest, marine, and semi-arid areas; and improvements in agricultural/pastoral land management in production landscapes.

In effective projects, the relationship between the protection of wildlife and the well-being of local communities has not been seen as potentially problematic but recognized as critical to protecting threatened ecological resources.[166] Where increased wildlife has, through protection, promoted local employment or income-generating opportunities, communities have been supportive of project activities and are likely to be willing to cooperate in their sustainability. In other examples, where local communities have not been adequately involved or provided with opportunities for alternatives or enhanced use, support for biodiversity conservation has been hard to achieve. Such trends are highly likely to endanger the sustainability of environmental gains, but have rarely been addressed by projects or explicitly recorded in project reporting.[167]

[163]It is difficult to provide an overall assessment of the extent to which the 88 projects contributed to global environmental gains as many projects lacked any ecological or social monitoring components.

[164]Note, however, that new forms of production also have the potential to alter existing practices and consumption patterns.

[165]BD-D-18, BD-D-45, BD-D-53, BD-D-56, BD-D-62, BD-D-59, BD-D-83, BD-D-87, BD-D-88; BD-F-06.

[166]BD-D-18, BD-D-45, BD-D-46, BD-D-47, BD-D-50, BD-D-53, BD-D-56, BD-D-62, BD-D-63, BD-D-59, BD-D-83, BD-D-87, BD-D-88; BD-F-01, BD-F-04, BD-F-06, BD-F-08, BD-F-10; BD-NF-01, BD-NF-14.

[167]BD-F-11; BD-NF-10, BD-NF-11.

Reduced Livelihood Vulnerability

The study discovered several examples of projects that have contributed to reduced vulnerability of communities to environmental events. Communities are quick to notice improvements, for example, in forest cover and to attribute to projects such benefits as improved reliability of local water supply or enhanced livelihood security from law enforcement in community conservation areas, leading to benefits in ecotourism and pastoral management; improved agricultural management practices; and increased incomes from conservation-related activities that allow for improved social conditions and community services.[168] Similarly, they understand that protection of coastal mangroves is not only critical for ecological reasons, but also because these act as a barrier to storms and tidal surges. The extensive loss of mangrove cover in many areas was cited by a number of communities in Belize as one factor behind the greater devastation caused by recent hurricanes—losses that the coastal zone policy introduced by the project had recognized as a key issue. The realization that conservation of resources can reduce vulnerability to natural disasters in turn creates a positive perception of the broader environmental goals of the project, since communities can link reductions in their own local vulnerability to the desired broader global objectives. Where such relationships can be established, communities identify the clear benefits that enhanced conservation creates and are eager protectors of the threatened resources.[169]

Few case studies explicitly demonstrated that GEF interventions have exacerbated vulnerability to social and natural disasters.[170] This is not necessarily the result of good practice or due diligence in design and implementation, but rather points to the absence of effective monitoring or evaluation data on such issues. Given that the GEF has supported many existing and new PAs, it is highly likely that conflicts between vulnerable sections of local communities, particularly the poor, have occurred. Inadequate reporting and monitoring of such negative factors prevent an accurate assessment of their scale. Such conflicts could be avoided or at least reduced by a consistent approach to increasing the overall resource base available to vulnerable sections of local communities such as the poor and women (and, where applicable, IPs). Such an approach has not yet emerged.

Overfishing and poor management have lead to small fish catches for professional fishermen in the Danube Delta (Romania, Danube Delta Biodiversity Project). ©Dirk Frans

Changes to the External Environment Including Policy and Institutional Improvements

Strengthening the external institutional environment is an area where the portfolio has had significant outcomes—particularly where project components associated with policy changes have been based on local-level pilot activities, concerning comanagement and associating GEF initiatives with

[168]BD-F-01, BD-F-09, BD-F-10; BD-NF-01, BD-NF-04, BD-NF-11.

[169]BD-F-03, BD-F-04, BD-F-10.

[170]BD-D-19, BD-D-44, BD-D-64, BD-D-84; BD-F-05; BD-NF-02, BD-NF-15.

existing programs of governance reform and decentralization. Environmental benefits have been obtained through (1) improved community relations, communication, and reduced conflict, as a result of comanagement, leading to greater local "ownership" of resources; and (2) broadened opportunities for sustainable use,[171] which demonstrate the benefits of conservation. Enabling policy has also given GEF interventions a basis for sustainability in the post-project period.

In many projects, sustainability in local-global linkages is unpredictable, partly due to the mismatch between the medium- to long-term nature of the problems that projects attempt to address and the short-term character of the project approach.[172] Activities such as alternative IGAs and ecotourism, which have almost become a project standard, entail complex social design and reception. Even where the situation is favorable, they often need longer time frames than GEF projects currently afford. In other contexts, a sustainable use approach based on enhancing the environmental sustainability of existing activities—including the role of traditional use and knowledge—is likely to be more suitable. Projects have not yet pursued such approaches on a major scale.

5.3 Looking Forward: GEF-3 AND GEF-4

This study looked at projects from the GEF pilot phase through GEF-2 (1991–2000). To provide a forward-looking perspective on assessing the local-global linkages in new project design, a small sample of GEF biodiversity projects that were approved by the GEF CEO between December 2001 and November 2004 was selected (see annex C, table C.3). These projects cover part of the GEF-3 replenishment period and the new biodiversity GEF-3 strategic priorities.

Four strategic priorities were based on the findings and recommendations of OPS2 and the recent focal area study:[173]

- catalyzing sustainability of PAs, particularly of PA systems;
- mainstreaming biodiversity in production landscapes and sectors outside of PAs;
- building capacity for the implementation of the Cartagena Protocol on Biosafety; and
- generating and disseminating best practices.

Within the strategic priorities for GEF-3 to address PAs and mainstream production landscapes and sectors, emphasis was placed on integrating socioeconomic and ecological processes; catalyzing community and IP initiatives; and strengthening sustainable use in areas outside of PAs, particularly in the agricultural, fishery, and forestry sectors.

The 13 biodiversity projects reviewed showed a more consistent consideration of local communities and local-global linkages in their designs than in the other GEF biodiversity projects studied. Seven of the 13 projects were wholly or partly production landscape projects that had a focus outside the traditional PA conservation model; the remaining six projects were focused on supporting PA systems. In these projects the inclusion of local communities and local benefits incentives was based on the belief that long-term resource use and biodiversity conservation have a better chance of success if genuine avenues are available for the participation of local stakeholders in the management of biodiversity resources.[174]

The important findings from these 13 projects were:

- All projects indicated that communities had been consulted during project design, and 12 intended to use participatory processes during implementation.

[171]BD-D-03, BD-D-07, BD-D-09, BD-D-18, BD-D-43, BD-D-45, BD-D-46, BD-D-47, BD-D-50, BD-D-58, BD-D-59; BD-F-03, BD-F-04, BD-F-06, BD-F-08, BD-F-09, BD-F-10; BD-NF-12, BD-NF-13, BD-NF-15.

[172]BD-F-01, BD-F-03, BD-F-04, BD-F-06, BD-F-10, BD-F-11; BD-NF-07, BD-NF-11, BD-NF-17.

[173]GEF (2002) and (2004a).

[174]BD-NP-03, BD-NP-05, BD-NP-08, BD-NP-09, BD-NP-10, BD-NP-11, BD-NP-12.

- All projects aimed to develop links between local and global benefits.
- Ten projects provided detailed descriptions of community stakeholders with some understanding of the diversity of intra- and inter-community contexts including gender and social equity.
- Twelve projects provided indications that social assessment/analyses of community stakeholders were undertaken during design stages.
- Nine projects intended to link poverty reduction with environmental conservation during implementation, including links with policy frameworks such as PRSPs.[175]
- All of the projects intended to provide a broad range of livelihood benefits as incentives for improvements in conservation. These benefits included building local capacities; creating enhanced opportunities for sustainable use through comanagement, land rights and tenure, alternative IGAs and tourism;[176] and mainstreaming in production landscapes.[177]
- Nine projects had developed socioeconomic monitoring indicators and/or baselines.
- Seven projects were related to previous and ongoing GEF initiatives, or were intended as part of a phased longer term approach.

Stakeholder consultation and social assessment were more common in the projects, and these were used to help identify community expectations and social issues that might affect project implementation.[178] Many of the assessments were undertaken at the beginning of the project to establish a baseline against which future progress could be measured.[179]

Overall, project documents remained weak in their treatment of possible negative impacts, although there is improvement compared with the pilot phase, GEF-1, and GEF-2 projects reviewed by this study. Several project documents mention the possibility of designing a resettlement plan in the case of any involuntary resettlement. While this precaution is important, it does not cover the breadth of negative impacts that may be implicit in projects—particularly those that focus on strengthening PA systems, which may impose restrictions of access to resources important for vulnerable communities. The most effective assessments of negative impacts noted possible challenges from the effect of short-term IGAs,[180] unequal distribution of benefits and costs to specific groups,[181] or gender disparities.[182] The World Bank–implemented Burkina Faso project also suggested localized monitoring of possible negative impacts so that adjustments could be made.[183]

GEF-3 project documents provide a basis for a more systematic emphasis on the integration of local and global benefits. The refinements in priorities proposed under the forthcoming GEF-4 replenishment period place explicit emphasis on integration with the Millennium Development Goals and key in-country policy frameworks such as PRSPs, and this will allow the GEF to address poverty-environment linkages more effectively and explicitly than in previous funding periods. The 13 project designs show that local benefits are being increasingly included in GEF project designs as a means to produce and sustain global environmental gains within PAs and outside them in production landscapes.

[175]BD-NP-02, BD-NP-03, BD-NP-04, BD-NP-08, BD-NP-09, BD-NP-10, BD-NP-11, BD-NP-12, BD-NP-13.

[176]BD-NP-01, BD-NP-04, BD-NP-06, BD-NP-07, BD-NP-08, BD-NP-10, BD-NP-11.

[177]BD-NP-02, BD-NP-04, BD-NP-05, BD-NP-10, BD-NP-13.

[178]BD-NP-11.

[179]BD-NP-02, BD-NP-05, BD-NP-10, BD-NP-13.

[180]BD-NP-10.

[181]BD-NP-12.

[182]BD-NP-13.

[183]BD-NP-02.

5.4 Main Factors Influencing Findings

This section discusses four main factors influencing the overall findings: the PA model, win-win solutions, integration into wider policy networks, and knowing and involving the community.

The PA Model

A key factor that has influenced the effectiveness of the biodiversity portfolio in generating local-global linkages has been the PA model, on which 76 of the 88 projects reviewed was based. Implemented projects have tended to support the stricter PA classifications, such as national parks, which has restricted the amount of innovation pursued with regard to local-global linkages. Substitution/compensation approaches commonly embodied in alternative IGAs and attempts to develop and enhance local conservation through ecotourism have been the most common across the sampled projects. However, the broader opportunities for enhancing existing livelihoods that depend on biodiversity through comanagement/sustainable use have been somewhat limited due to restrictions on access and use imposed by the PA model.

A perceived cause of biodiversity degradation is overexploitation of resources by people from surrounding localities: this includes overfishing, -hunting, and -grazing; extracting levels of biomass materials that exceed replacement rates; and encroaching on fragile habitats for farming, grazing, and settlement building. In most projects, however, no adequate assessment of social threats was made to demonstrate the veracity of these assumptions. Few projects appreciated and assessed the effectiveness and sustainability of existing, often long-standing, patterns of resource management utilized by local communities. However, the reliance on the PA model is changing over time with an expansion of and diversification into production landscapes outside of PAs. Changes adopted at the national level and in the GEF IAs reflect a stronger awareness of the links between local-level development and biodiversity conservation.

Win-Win Solutions

One central issue has emerged in explaining on-the-ground results, namely the extent to which it is possible to combine enhanced streams of local benefits with the maintenance and improvement of the integrity of fragile ecosystems and the reduction of degradation pressures. In other words, are there win-win solutions whereby both local people and the global environment benefit, and are they replicable?

The evidence from the field shows that it is occasionally possible to have this advantageous situation, where all goals can be attained and there is no trade-off between enhancing local benefits and sustaining biological diversity. However, the opportunities for such a favorable outcome are location and time specific, and are therefore not likely to be replicable. For example, opportunities for win-win situations are more attainable in production landscapes than in protected areas. For many PA projects, there are local costs imposed by restrictions in access and use, and a win-win solution is not an attainable goal. Rather, measures need to be taken to redress locally incurred losses so that these do not become an insurmountable barrier to global environmental objectives.

Decisions on strategies for sustainable management thus must not be made on the basis of overly optimistic assumptions. The key to understanding trade-offs is improved project preparation, with social, economic, financial, and ecological assessments/analyses providing the basis for the design of interventions to secure the best available compromise in support of global environmental gains.

Integration into Wider National Policy Frameworks

One consequence of the project approach adopted to implement all biodiversity conservation activities is that, while the projects influenced and reflected national policies on PA management, their limited temporal and spatial dimensions meant that their level of engagement with wider sustainable development policies was also limited. In particular, few projects had any link to sustainable development approaches such as national Agenda 21 processes and cross-sectoral policies in areas such as agriculture and water

management. This absence of links to wider policy processes has important consequences.

Chhuksang village and fields inside the Upper Mustang Restricted Area of Annapurna Conservation Area are an example of how growing human needs conflict with conservation objectives (Nepal, Upper Mustang Biodiversity Conservation Project). ©Lee Alexander Risby

First, the level of "ownership" and the priority accorded biodiversity protection within the wider political and policy community in many countries is lower than would be desired, as this goal is not seen as contributing to the overall framework of national priorities. Second, by not pursuing such linkages, opportunities are often missed where the range and sustainability of benefits that accrue from a project could have been expanded. Similarly, the benefits that do accrue may not be widely recognized, as they are not considered the concern of the project or the institutions responsible for the project area. Third, the absence of links raises concerns over the long-term sustainability of conservation approaches—particularly the viability of PAs. Two, often interlinked, reasons underlie this consequence: (1) the lack of wider ownership and political support means that governments are reluctant to budget for the costs of maintaining areas at a level where threats to biodiversity degradation can be countered, and (2) the failure to recognize the economic benefits that conservation based on sustainable management can generate means that potential revenue streams that could pay—at least in part—for the maintenance of conservation activities are not collected.

Knowing and Involving the Community

The study findings on biodiversity projects demonstrate the benefits of understanding and involving local communities from the outset in project development and implementation. Many GEF biodiversity projects operate in isolated rural locations with a high prevalence of poverty. In such situations, effective results can only be achieved with a detailed understanding of different community stakeholders (for example, the poor, women, IPs, migrants, and the rural elite) and their respective roles in natural resource management.

The study's close examination of a large portion of the portfolio shows that the necessary analysis and engagement of different groups in improved natural resource management has been inconsistently undertaken. Where engagement has been consistent and based on joint decision making, the understanding of local people about the consequences of certain types of unsustainable management practices for the resource base has improved.

Engagement will not happen automatically simply because local communities are consulted. The experiences identified in this study show that communities, which are often poor and highly dependent on the local resource base, will engage where there are incentives for them to do so. This includes securing access to resources on a sustainable basis: people do not necessarily need to get more, but want to preserve what they have. And it is at this juncture that the interests of local people and the international community are the same: the protection and enhancement of local environmental assets.

5.5 Missed Opportunities

There were a number of areas where the potential to enhance local benefits in ways that were compatible with or enhanced the attainment of global environmental goals could have been more fully integrated into projects in the GEF biodiversity portfolio. Limitations in concepts and approaches meant that opportunities to enhance local-global linkages were missed.

Many projects did not develop an effective understanding of the interrelationship between resource users and resource pressures due to a failure to undertake adequate—or, in some cases, any—analysis of the people whose behavior must change for environmental objectives to be attained. Such analysis includes assessment of social structures and dynamics; differentiation of the needs and interests within local communities; analysis of livelihoods and their relation to local resource uses; and understanding of local institutions, both in general and of those directly involved in resource management. Lacking this information, projects were not designed to address issues of biodiversity management in the specific context of community use and needs. The lack of socioeconomic and local resource management information also meant that changes in livelihoods resulting from a project could not be traced to data concerning biodiversity and habitats.

Closely related to the above, the projects have missed opportunities to focus on possibilities of achieving conservation objectives through generating incentives for the engagement of local communities. More effective integration of local benefits generation in the conception, design, and implementation of projects would have helped both the local communities and the conservation of resources. The fieldwork studies undertaken show that a high degree of community ownership over project design and implementation, coupled with effective engagement of local institutions, are major factors in promoting successful attainment of conservation objectives.

Since the poor and women are most dependent on natural resources, natural resource management is often inextricably linked with issues of gender and equity in local communities. The projects studied provide numerous examples of the exclusion of the local population from PAs, resulting in reduced livelihoods. This exclusion particularly affects low-income groups, which are most reliant on open-access resources since they own little or no productive land themselves. These households typically derive a substantial portion of their livelihood through household consumption and sale of forest, river, lake, sea, and grassland products such as fish, edible plants, fuelwood, bush meat, and fodder. The great majority of projects lacked any strategy or program to mainstream these groups into their conservation and development decisions and actions. Gender analysis, and gender-specific actions in particular, were absent in many projects; these issues are almost without exception marked as "not relevant" in project supervision reports that have this category. This finding appears to contradict gender policies of the IAs concerned.

Existing community institutions are an important resource that was not always fully utilized. Where there was engagement with local communities, the approach was often to organize new institutions along lines defined by outsiders. Sometimes, these replicated existing forms of organization understood by local people and were effective. However, forming new organizations often means long delays, considerable costs, and problems with sustainability once a project has been completed. Existing institutions may be problematic as project instruments; for example, where they are dominated by powerful interest groups and exclude key stakeholders such as minority livelihood groups and women. Such inequalities can sometimes be overcome through capacity building to improve inclusiveness and effectiveness. If this is not possible, new institutions may be needed, but the starting point should be to see what is already there.

It is also clear from the evidence examined that in almost all cases there was a relationship between attaining and sustain-

ing global biodiversity goals and the interests and behavior of local communities. Indeed, this is almost inevitable, since there would be no need to set up PAs or act to restrict local-level access, if local people did not relate to and in some way depend on the use of the ecological resources under threat.

Where there are concerns over the sustainability of existing resource uses, the overriding importance of global biodiversity goals may require actions to be taken to, where possible, modify them to a more sustainable form and offer appropriate compensation measures to mitigate any restrictions in access to resources that may result from the changes to management approaches.

When the use of resources by local communities, in existing or modified forms, is compatible with conservation goals, these uses should be integral to the overall management regime developed, based on secure and protected access rights of local communities as well as safeguards to prevent "outsiders" from encroaching on these rights or threatening resources.

Local people should be approached as key stakeholders in achieving a solution, rather than as a cause of the problem. Even if their actions are a significant cause of degradation, then the actions need to be altered on a sustainable basis, through the provision of incentives to change behavior. Such incentives must take into account the situations and needs of different subsections of the community. A more rigorous approach to participatory development needs to be introduced as an integral part of the identification, design, and operation of all projects in the biodiversity area.

It is clear that local people-resource relationships will continue to be a key issue that needs to be examined in the development of most biodiversity projects. Such examination should include the following assessments, all undertaken at an early stage in project scoping before key decisions on approach and organization have been reached:

- existing patterns of resource use, including their sustainability and effectiveness;
- social structure and livelihoods of communities in and around the project area, paying particular attention to the levels of dependence of different sections of the community on resources from the target areas;
- existing local institutions and their relationship to external agencies; and
- existing knowledge bases of different groups of local people on the characteristics of and observed changes to the target ecosystems.

The time and resource implications of such preparatory work need not be prohibitive. A system of screening for potential social impacts or issues could highlight those projects where these are likely to be major issues that require detailed analysis, as opposed to situations where these issues are smaller or minimal.

6. Climate Change

> Climate change has been always an issue of development, but as we look at the future and projections of the future, in terms of climate change, it is very clear that it will affect developing countries the most and will affect poor people within developing countries the most.[1]

This chapter presents the main findings of the sampled climate change projects. Section 6.1 provides a detailed overview of the sample. Section 6.2 presents the main findings, including elements promoting achievement of objectives and specific challenges. Section 6.3 presents climate change strategic priorities and new projects to assess the extent to which developments in the portfolio integrate local and global issues. Section 6.4 discusses several overall factors influencing the findings. Sections 6.5 and 6.6 present missed opportunities and key issues, respectively.

6.1 Climate Change Sample: Overview

The climate change projects reviewed by the study consisted of three distinct but related data sets:

- a purposive sample of completed projects and those under implementation (for more than one year) selected from the 2001 Project Implementation Review;
- a review of all completed climate change projects with implementation completion reports and terminal evaluations received by the GEF Evaluation Office as of July 30, 2004; and
- a sample of new climate change projects approved by the GEF Council and GEF CEO between December 7, 2001, and November 17, 2004.

Information on the specific projects comprising these three data sets appears in the three tables of annex D.

Purposive Sample

The GEF has allocated $1.63 billion to climate change projects and activities since its official establishment in October 1991. The bulk of the current climate change portfolio has been developed in recent years: of the focal area's 207 FSPs and MSPs, a total of 164 projects are still under implementation, while 43 projects have been completed to date.[2]

The study selected for review 30 projects that intended to provide local livelihood or other benefits for the poor and/or had an implicit linkage to the attainment of those benefits and global environmental goals; 17 of these projects were ongoing and 13 were closed as of July 2001.[3] Total planned financing for all 30 projects sampled was $566.2 million. The GEF planned to provide $132.9 million in grants, with an additional $433.3 million in cofinancing contributions made by the World Bank (International Development Association and International Bank for Reconstruction

[1] Vice President, Environmentally and Socially Sustainable Development, World Bank, TV interview and press briefing, "Climate Change beyond Kyoto" (November 2004).

[2] GEF (2004b); see this publication for an overall review of GEF climate change activities.

[3] The remaining projects in the portfolio did not have major, or any, local benefits components.

and Development), UNDP, bilateral donors, foundations, NGOs, and national governments. The Implementing Agencies provided documentation on some further examples with implementation and evaluative results relevant to the study objectives, which were outside of the original sample. The study also extracted some emerging lessons in design or implementation regarding the portfolio's ongoing 164 projects, and the 2004 Project Implementation Review process yielded information on local benefits for an 20 additional projects.

Of the 30 projects, 13 are GEF-2 (approved between 1999 and 2002), and 8 are GEF-1 (approved between 1995 and 1998); 9 are from the GEF pilot phase (approved between 1991 and 1994). At the time of the initial sample review in 2003, 13 projects had been completed. A subsequent verification review in April 2005 revealed 17 completed projects with evaluative data, which enabled further information to be considered for analysis (see annex D, table D.1).

The sample of projects by operational program area reflected the general portfolio distribution in 2001. The relatively large number of OP6 projects reflected the substantial investments made by the GEF in that area. Five short-term response measure (STRM) projects were also selected. These projects mostly addressed carbon sequestration through forest management, and would now be classified as OP12 (multifocal), since STRM has been discontinued as a climate change funding window. The low representation of OP7 projects reflects that program's predominantly technical aspects and lack of explicit local benefits. Although OP11 had a strong potential to provide local-global linkages in the transport sector, its programs and projects were very immature at the time of the study sample. Efforts were made to ensure both IA and regional balance in selecting the sample (see table 6.1). However, because UNEP projects in this area focus on global/research and enabling activities, they do not produce short-term local benefits or incentives and were therefore not included in the sample.

Table 6.1: Climate Change Project Sample Distribution by OP and IA

OP	World Bank	UNDP	Total
OP5	3	1	4
OP6	7	12	19
OP7	0	1	1
OP11	0	1	1
STRM	2	3	5
Total	12	18	30

More projects from Africa were sampled than from other regions, partly because of the strong representation of this continent in the STRM portfolio and OP6. An equal number of projects were selected from Asia and from Latin America and the Caribbean, with markedly fewer projects located in Europe and Central Asia or classified as global (see table 6.2).[4]

Table 6.2: Climate Change Project Sample Distribution by Region

Region	Number of Projects
Africa	12
Asia	8
Europe and Central Asia	1
Latin America and the Caribbean	8
Global	1
Total	30

The sample included medium- and full-sized climate change projects and a selection of projects executed by government and NGO agencies. More projects were FSPs and government implemented; these differences generally reflect the overall targeting, relevance of project type, and executing

[4]A significant number of ozone-reduction projects in the Europe and Central Asia region were excluded from the study. The district heating projects were not included because clear local-global benefit intentions were not evident in the project design.

modalities across the GEF climate change portfolio (see table 6.3).

Table 6.3: Climate Change Sample Distribution: Project Type and Executing Agency

Project Type	NGO Executing Agency	Government Executing Agency	Total
MSP	2	7	9
FSP	0	21	21
Total	2	28	30

Five of the 30 projects were purposively selected, in consultation with the IAs, for detailed field-based case studies; a further seven were selected for nonfield case studies (see appendix D, table D.1).

The type of projects sampled were predominantly those supporting renewable energy. Fifteen out of 19 OP6 projects mainly aimed to promote solar photovoltaic energy; the remainder focused on micro-hydroelectric and solar water heating. The majority of the OP6 projects were in rural locations; the heavy representation of rural renewable energy electrification is a reflection of the projects under implementation at the time the sample was selected and should not be taken as representative of more recent program approaches. In addition, five projects focused on carbon sequestration through the management of forest resources and fuelwood management. These interventions had cross-focal area benefits and demonstrate attempts at integration. However, their performance is now more applicable to the multifocal OP12 and land degradation portfolios, given the shift in climate change strategic priorities (see section 6.3); the reader should bear this in mind in reviewing section 6.2.

Supplementary Samples: Completed and New Projects

Two additional samples were made. First, a review of all completed climate change projects with implementation completion reports or terminal evaluations (as of July 30, 2004) was undertaken (see annex D, table D.2). This review collated and examined the key evaluative lessons and recommendations relating to integration of social/local livelihoods into project activities aimed at securing global environmental gains. In all, 31 climate change projects with implementation completion reports and terminal evaluations were reviewed, of which 7 were already included in the purposive sample. Second, 10 new projects were selected in order to look for changes in approaches toward the integration of local livelihood and global environmental issues (see annex D, table D.3). These projects were approved by the GEF Council and GEF CEO between December 7, 2001, and November 17, 2004, and thus partly cover the new climate change strategic priorities for GEF-3 and more recent guidance from the United Nations Framework Convention on Climate Change.

6.2 Looking Back: Local Benefits in Climate Change

This section discusses the outcomes of the projects in terms of the range and scale of local benefits and the linkages between these and global environmental goals. Where appropriate, project examples are provided, although no attempt is made to reproduce the richness contained in many of the individual field and nonfield case studies. Readers are encouraged to consult the individual case study documents and publicly available implementation completion reports and terminal evaluations for more specific detail on projects of interest.[5] Each case study has been given a unique code and is referenced accordingly throughout this chapter; see annex D for full project names and details.

The findings cover:

- overview of project financing for local benefits,
- enabling policy formulation and institutional capacity building for local incentives to mitigate greenhouse gas emissions (GHGs),
- socioeconomic benefits for climate change mitigation,
- negative impacts,

[5]Contact the GEF Evaluation Office for the nonfield case studies.

- linkages between local and global benefits, and
- global environmental benefits.

As with the previous chapter, given the complex interrelationships among and within findings, some issues are discussed from several perspectives.

Financing of Local-Global Linkages

The principle of agreed incremental costs stipulates that GEF financing is only available for the increment necessary to cover the costs of "global environmental benefits." The financing of incentives for local benefits is usually considered part of the baseline project funding and is classified as "national benefits," which are to be funded out of donor cofinancing and/or national government contributions.[6] To ascertain the amount of funding committed for generation of local benefits for global environmental gains, an analysis of the 30 projects' planned budgetary allocations was undertaken. Planned funding was assessed across two main categories: the stakeholder involvement process and support for local benefits generation.

Detailed financial data on stakeholder involvement and support for local benefits generation were not available for all projects. Ten projects provided no detailed financial data for either category and were excluded from further analysis.[7]

Furthermore, there were some inconsistencies in reporting across categories for the remaining 20 projects, which required interpretation.

The 20 projects for which satisfactory data were available for this purpose had total planned expenditures of $481.2 million, with GEF funding of $82.3 million and cofinancing of $398.9 million. In 15 projects for which GEF budgetary data were available, part of the intended GEF funding was channeled toward support for local benefits generation, in terms of financing for alternative energy sources (for example, solar PV, micro-hydro), physical infrastructure, local capacity building, and—to a much smaller degree—fostering local stakeholder involvement (see table 6.4).

Planned combined GEF funding and cofinancing of $422.5 million was allocated to support local benefits generation and $4.65 million for stakeholder involvement processes. Of these totals, $58.0 million and $3.5 million, respectively, were GEF funding contributions. GEF support for local benefits generation and stakeholders therefore totaled $61.5 million. For the 15 projects that provided data on planned GEF contributions to support local benefits generation, the majority of funding was concentrated in 9 projects with GEF financing of $1 million to $23 million. These projects also tended to be augmented by significant levels of cofinancing and/or blended with World Bank loans of between $1 million and $163 million, which supported the majority of local benefits generation.[8] The remaining

[6]The GEF Secretariat and IA staff confirmed that local benefits generation is not generally considered "GEFable."

[7]CC-D-02, CC-D-13, CC-D-20, CC-D_24, CC-D-26, CC-D_27, CC-D-28; CC-F-02; CC-NF-06, CC-NF-07.

[8]CC-D-05, CC-D-06, CC-D-07, CC-D-15, CC-D-16.

Table 6.4: Planned Funding for Local Benefits in Sampled Climate Change Projects

	Total Financing ($ million)			Stakeholder Involvement[a]			Support for Local Benefits Generation[b]		
	Total	GEF	Cofunding	Total	GEF	Cofunding	Total	GEF	Cofunding
Total ($ million)	481.2	82.3	398.9	4.65	3.5	1.15	422.5	58.0	364.5
% of subtotal					75.9	24.1		13.7	86.3
% of total and GEF financing				.97	4.29	.28	87.8	70.5	95.3
# of projects with funding data	20	20	20	9	9	9	15	15	14

a. Includes funding in support of the GEF Policy for Stakeholder Involvement, education and awareness, consultations, and stakeholder participation. Based on project appraisal document and ProDoc information.

b. Includes funding for alternative income-generating activities, physical infrastructure, and building local individual and institutional capacity. Based on project appraisal document and ProDoc information.

six projects had planned GEF contributions in support of local benefits generation of under $1 million, with amounts varying by project type and country context.

The data for stakeholder involvement were much more fragmented than for local benefits generation, due to deficiencies in documentation. Nine projects indicated planned GEF commitments of $3.5 million with cofinancing of $1.15 million. Planned GEF funding contributions again varied significantly depending on project type, context, and scale from $0.01 million to $1.3 million. Funding was directed at facilitating public outreach, awareness and education activities among local communities, and consultation processes to improve project effectiveness and efficiency in such other activities as productive uses.

The analysis indicates that there is a relatively flexible, context-driven interpretation of incremental cost and incentives/benefits. GEF funding does provide modest support for local benefits generation in pursuing global environmental gains in the climate change focal area.

Enabling Policy and Institutional Capacity Building for Local Benefits and Climate Change Mitigation

The development of appropriate policy, legislation, and institutional capacity to build markets and remove barriers to access at national and local scales was a dominant feature in 20 of the 30 projects sampled.[9] OP6 accounted for the majority of these, with 15 projects seeking to develop and/or change policy. Policy was mostly aimed at barrier removal, planning frameworks, and financial incentives to develop solar PV and other renewables such as micro-hydropower. Three out of four OP5[10] and two out of four STRM[11] projects also proposed to support changes in policy, such as in energy-efficient lighting and fuelwood/charcoal markets. Twelve projects realized achievements in creating conducive policy conditions for the adoption of alternative energy sources.[12]

Specifically, the findings indicated that policy changes favoring energy efficiency and renewable energy achieved the following:

- enhanced appreciation of the character and potential of alternative energy at the national level and understanding and development of new long-term strategies to promote adoption;
- measures for the promotion of alternative energy and efficiency such as changes in the tax system to favor alternative energy sources, reduced tariffs, and implementation of codes, standards, laws, and planning to develop and improve markets; and
- national support for awareness raising and education targeted at both consumers and potential private sector investors.

For example, in Fiji, Ghana, Tunisia, and Uganda, new pro-renewable energy policies—and, in Mexico, enabling policies—were created to encourage the development of markets for energy-efficient light bulbs;[13] these included tax and import duty incentives to private sector vendors and suppliers of solar PV equipment. The UNDP-implemented Uganda PV Pilot Project for Rural Electrification prepared a sustainable national program with the government to set a renewable energy agenda for areas that will not be served by the grid in the foreseeable future.[14] The World Bank's Sri Lanka Energy Services Delivery project encouraged both the national electric utility and the government to recognize and incorporate solar PV into rural electrification planning

[9]CC-D-01, CC-D-02, CC-D-05, CC-D-06, CC-D-07, CC-D-08, CC-D-16, CC-D-17, CC-D-19, CC-D-28; CC-F-01, CC-F-02, CC-F-03, CC-F-04, CC-F-05; CC-NF-02, CC-NF-03, CC-NF-04, CC-NF-05, CC-NF-06.

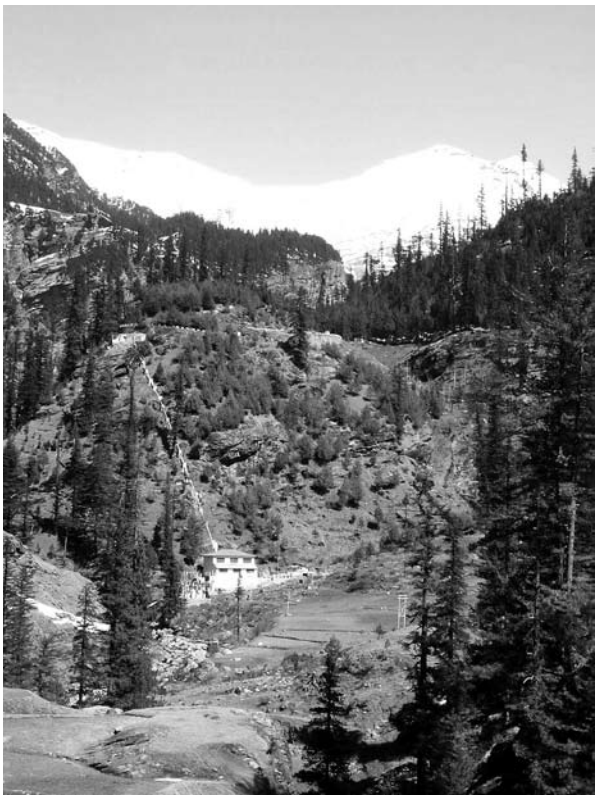
[10]CC-D-01, CC-D-02; CC-F-01.

[11]CC-F-05; CC-NF-07.

[12]CC-D-02, CC-D-05, CC-D-06, CC-D-08, CC-D-19; CC-F-02, CC-F-04, CC-F-05; CC-NF-02, CC-NF-03, CC-NF-04, CC-NF-05.

[13]CC-D-02, CC-D-08; CC-F-02; CC-NF-04, CC-NF-05.

[14]This project is a follow-on to the World Bank's Uganda: Energy for Rural Transformation project, which will develop additional regulations for renewable energy promotion under the 1999 Uganda Electricity Act.



The small hydel power station in Kullu District, Himachal Pradesh, significantly enhanced the Indian government's understanding of and commitment to small-scale hydropower schemes (India Hilly-Hydel Project). ©Juha Uitto

and to realize that promises made for future grid extensions were unrealistic.[15]

Conducive policy changes are critical in strengthening the local competitiveness of alternative energy sources compared with traditional fossil fuels. Where policy reforms have failed, local-global linkages are weakened. For example, the World Bank's Indonesia Solar Homes Systems project was unable to reduce government subsidization of kerosene and diesel, undermining the competitiveness of solar PV systems. In this project, a significant exogenous factor influencing government's reluctance to reduce subsidies on critical fossil fuels was the effect of the East Asia financial crisis. The project might have been more successful had it not been overwhelmed by market instability during its early years of implementation.

Climate change projects contributed to enhanced institutional capacities for energy or environmental management, or other skills. Creation of individual and institutional capacity (human capital) was noted in 20 of 30 projects at several levels:[16]

- **At the central level, with improved capabilities in line ministries.** For example, the UNDP-implemented Optimizing Development of Small Hydel Resources in Hilly Regions project significantly enhanced the understanding and commitment of India's Ministry of Nonconventional Energy Sources to small-scale hydropower schemes. The World Bank–implemented Senegal Sustainable and Participatory Energy Management project strengthened and changed the Forestry Department's role from protection of forests to technical assistance provision—a planning and management function for the community-based fuelwood market system. UNDP's Ghana Renewable Energy-Based Electricity project increased the government's understanding of the technical requirements, equipment options, and capital and operating costs for PV-based energy systems, both as stand-alone units and for rural power delivery in hybrid power systems.
- **At the regional level.** For example, the Palawan provincial government was the first in the Philippines to develop an energy master plan and to have an energy unit—measures now adopted by other provincial energy department offices.[17]
- **At the local level, through decentralized natural resource management and local government planning capacities.** In Pakistan, UNDP's Fuel Efficiency in Road Transport Sector project trained nearly 1,000 mechan-

[15]World Bank implementation completion report, 2003.

[16]CC-D-02, CC-D-03, CC-D-05, CC-D-06, CC-D-08, CC-D-13, CC-D-15, CC-D-25, CC-D-26; CC-F-01, CC-F-02, CC-F-03, CC-F-04, CC-F-05; CC-NF-01, CC-NF-02, CC-NF-03, CC-NF-05, CC-NF-06, CC-NF-07.

[17]CC-F-04.

ics and 400 workshop owners to carry out instrumented tune-ups on automobiles to reduce fuel consumption. This resulted in a higher demand for the technology and modest replication.

In the projects studied, private sector capacity building was mostly concentrated in OP6 and associated with renewable energy technologies. GEF assistance consisted of supporting acquisition of technical skills (for example, installation and servicing), setting standards for in-country production of key renewable energy parts (thereby reducing dependence on expensive imports), financing access to investment funds, and developing business models and marketing strategies. Several projects—such as those in Indonesia, Uganda, and Zimbabwe—sought to engage financial institutions, mainly private banks, to provide capital needed by entrepreneurs (and customers). (See also "Socioeconomic Incentive and Benefits for Adoption of Climate Change Mitigation Technologies," below.)

There were some notable successes as a result of capacity building—projects increased the awareness of private sector stakeholders of the potential for renewable technologies and, at least in part, removed barriers to their adoption. In Indonesia, the World Bank–implemented Solar Home Systems project built the capacity of two firms to manufacture balancer systems, which are an important component of solar PV home systems. During the project design there had been a critical shortage of balancer systems; this was rectified when the two firms were able to supply all local in-country needs and export regionally to Sri Lanka.

In the mid- to long term, building private sector capacity relies on the attainment of profitability and reinvestment. The majority of the sampled OP6 solar PV projects demonstrated short-term benefits from capacity building. Technical capacity was augmented for the duration of the project, but the lack of economic, financial, technical, and social analysis of supply and demand conditions meant that sustainability was uncertain. Many barriers remained, including technical and logistical problems associated with servicing a relatively dispersed network of household users in rural and/or peri-urban locations, which increases costs and reduces profitability; lack of viable financing options to support consumer demand; and high costs of solar PV systems, which limits the private sector market to the nonpoor, who are in the minority in many developing countries (this is discussed in the next subsection and section 6.4).

Projects were overly optimistic in their assumption that particular alternative energy technologies, such as solar PV, would be taken up by the private sector. Projects' potential to generate both local benefits and global environmental impacts was contingent upon the private sector being willing and able to undertake the marketing and maintenance of renewable energy systems. This not did happen, even where pilot activities were effective, such as in Ghana and Guatemala.[18]

The capacity of government and the private sector to work together has been promoted through public-private partnerships and private sector delivery mechanisms. The UNDP-implemented Bolivia Rural Electrification with Renewable Energy project drew on that country's public participation law to determine options for public-private financing for renewable energy through the development of standardized rules of association. Similarly, both the World Bank's Mali Household Energy and Senegal Sustainable and Participatory Energy Management projects adopted a public-private sector mechanism to improve efficiency and effectiveness of the fuelwood markets, with some success in generating local and global benefits. GEF projects have also exposed national authorities to local community cooperation in environmentally focused activities and have led to increased capacities to work at the local level.

Socioeconomic Incentive and Benefits for Adoption of Climate Change Mitigation Technologies

Socioeconomic benefits associated with energy efficiency, renewable energy, and carbon sequestration activities are a fundamental driver of sustainability. On an individual level, people will not switch from one carbon fuel or type of carbon-producing activity to a renewable energy or more efficient energy source unless there is a benefit for them.

[18]CC-F-02, CC-NF-01.

Solar lighting was used to provide security for cooperative fish farms in Palawan, Philippines (Palawan New and Renewable Energy and Livelihood Support). ©David Todd

Almost all (29) of the 30 projects reviewed recognized that people need financial and nonfinancial incentives or benefits. The array of benefits that projects produced was comprehensive:

- improved income and/or employment levels through productive uses, energy savings, or enterprise opportunities through market development;
- improved access to social services such as health centers and schools;
- improved access to potable water;
- increased access to knowledge and information through powering radios and TVs;
- improved household health by reducing indoor air pollution from candles and kerosene; and
- promotion of gender equality by reducing the time women spent on collecting fuelwood and water.

To date, the scale and replication potential of these benefits has been relatively limited in all but a few projects.

Income and Employment: Incentives for Changing Behavior

Twenty-nine of the 30 projects aimed to generate improvements in income and/or employment (financial capital) through energy savings and/or productive uses.[19] Of these 29 projects, 12 recorded income and/or employment benefits for local communities; in most cases, the benefits were modest and localized.[20] The World Bank–implemented Senegal Sustainable and Participatory Energy Management project had the most significant local benefits of this kind. It provided improved access to forest resources and livelihood activities such as honey production, livestock, vegetables, tree crops, and poultry production. The UNDP-implemented Sudan Rangeland Rehabilitation for Carbon Sequestration project included a credit program for livelihood activities such as handicrafts and hides and dairy production, which benefited many members of the target communities. In both projects, the benefits acted as incentives for improved forest and rangeland management and carbon sequestration. However, the broader range of options for local benefits generation and linkages to global environmental benefits in these projects reflects their primary emphasis on forest and sustainable land management. They are not typical of climate change projects supported by the focal area and would now be classified under the multifocal or sustainable land management (land degradation) focal areas.

[19]Only the World Bank–implemented Tehran Transport Emissions Reduction project (CC-D-01) did not intend to generate financial gains.

[20]CC-D-02, CC-D-15; CC-F-01, CC-F-02, CC-F-04, CC-F-05; CC-NF-01, CC-NF-02, CC-NF-04, CC-NF-05, CC-NF-06, CC-NF-07.

The energy-efficiency projects, such as the World Bank's Mexico High-Efficiency Lighting Pilot Project and UNDP's Pakistan Fuel Efficiency in Road Transport Sector project, enabled substantial income savings for households due to reductions in energy uses. These savings were a considerable incentive among consumers to support the technological changes the projects advocated. Both projects reported significant mitigation of carbon dioxide emissions. For renewable energy, switching from kerosene and candles to solar PV also provided income savings. In the UNDP-implemented Guatemala Renewable Energy-Based Small Enterprise Development project, households reported savings of 10 quetzals per week for kerosene and 15 quetzals for candles. This savings represented approximately a 40 percent reduction in household energy expenditures per week. Similar savings in household income were reported by the World Bank's Indonesia Solar Homes Systems project.

Solar PV supports a limited range of productive activities. In Northern Ghana, it was used by shop owners for lighting to extend the hours of business (Ghana, Renewable Energy-Based Electricity for Rural, Social and Economic Development Project). ©David Michael Todd

In peri-urban and rural areas, the case studies showed that the cost of solar PV units was too high for most people. Furthermore, the promotion of renewable energy for productive uses was limited, mainly because the available power output per unit is not sufficient to address small business needs, with the exception of lighting and some activities that require very little power. In OP6 projects in Ghana, Guatemala, Ghana, the Philippines, and Uganda, as well as in Mexico and Mauritania,[21] a limited range of productive activities was supported, often by extending the time available for existing activities and through improved efficiency, particularly in the agricultural sector. UNDP and the World Bank, in Mauritania and Mexico, respectively, adopted a realistic and targeted approach in terms of using renewable energy to pump water on farms for irrigation and household purposes.

However, in other cases studied, renewable energy—and particularly solar PV units—had insufficient energy output for most of the productive uses desired (such as agricultural processing) within local communities. This limited the attractiveness of renewable energy in rural locations, particularly when households needed to invest substantial financial resources to obtain the home systems and hence had a strong desire to use them in small businesses. In Ghana, Indonesia, and Uganda, shops and bars were able to refrigerate drinks and food or recharge car batteries with PV systems. Home-based income-generating activities such as beer brewing also contributed to household revenues. In the Philippines Palawan New and Renewable Energy project, the first-generation pilot projects for productive uses failed, but participating cooperatives tried to regroup and developed other very small activities by extending the hours for small home-based businesses such as matt weaving.

[21]CC-D-15, CC-D-28; CC-F-02, CC-F-04; CC-NF-01, CC-NF-04.

Solar PV was used in many projects to providing lighting in schools and health centers (Ghana, Renewable Energy-Based Electricty for Rural, Social and Economic Development Project). ©David Michael Todd

The final evaluation of the World Bank–implemented Sri Lanka Energy Services Delivery project recommended the integration of productive uses at all levels so that renewable energy—particularly in rural areas—could be more closely tied to economic development.

Health, Education, and Knowledge Benefits

Seven of the OP6 projects provided improvements in access to education and health care through the use of renewable energy for lighting in households, schools, and health centers; for refrigeration of pharmaceuticals; or to improve respiratory health through the reduction in indoor household smoke pollution caused by kerosene lanterns and candles.[22] Unfortunately, very little qualitative or quantitative information was collected by these projects to measure the effect of solar PV on health, education, and knowledge acquisition.

The World Bank's Indonesia Solar Homes Systems project was an exception. It conducted several socioeconomic assessments during its implementation to measure the impact of solar home systems on households. The studies found that, although children's after-school work effort increased in the first three months after installation of a solar PV system, it returned to the baseline level after six months. This finding indicates that the relationship between provision of solar PV lighting and improvements in education are complex and that incentives for study are influenced by a wider set of variables beyond access to lighting. In the same series of assessments, the project found that the impact of solar PV on general knowledge acquisition through TV and radio was significant. Solar PV households tended to watch TV (particularly news programs) for 1.5 hours longer than those not powered by solar PV.

The UNDP Guatemala Renewable Energy-Based Small Enterprise Development project was the only project that conducted a before and after survey to assess the impact of substitution of solar PV for kerosene and candles on indoor pollution–related health problems. Against the baseline, households reported a decreased incidence of red eyes by 20 percent, respiratory problems such as cough and flu by 9 percent, and skin irritations by 17 percent. Both the Indonesia and Guatemala projects demonstrated that there are household benefits and incentives that can contribute to demand for and development of renewable energy markets. However, the paucity of baseline data and monitoring for these types of benefits means that the projects—and therefore the market—are unable to recognize these benefits effectively and use them for promotion.

Building Social Capital: Light for Meetings and Social Activities

Twenty projects intended to build social capital, and 15 reported achievements across OP5, OP6, and STRM.[23] In the OP6 projects, the solar PV and micro-hydro technologies increased the access to and availability of electric lighting, enabling social activities and community meetings in the evenings. The Tunisia Solar Water Heating project installed heaters in public amenities such as swimming pools, saunas, and gymnasiums, increasing the use of these facilities by communities. The most significant improvements in social capital and building community involvement in climate change mitigation activities were in the STRM projects that undertook carbon sequestration activi-

[22]CC-D-05, CC-D-08, CC-D-28; CC-F-02, CC-F-04; CC-NF-02, CC-NF-05.

[23]CC-D-03, CC-D-05, CC-D-06, CC-D-13, CC-D-26; CC-F-01, CC-F-02, CC-F-4, CC-F-5; CC-NF-01, CC-NF-02, CC-NF-03, CC-NF-05, CC-NF-06, CC-NF-07.

ties, such as participatory land management and the formation of community-level resource management groups. In these projects, community involvement through active management of forest and rangeland resources was central to the project approach; while in the renewable energy projects, building social capital and involvement was an outcome of the installation of renewable energy.

Improvements in Natural Resource Management

The direct improvement of natural resource management is not the primary focus of the climate change focal area. However, five projects recorded improvements in natural resource management.[24] These were all projects that addressed improving energy efficiency and/or carbon sequestration in relation to fuelwood management. The Senegal, Sudan, and—to a lesser extent—Mali projects all improved forest and/or rangeland management, increasing carbon sequestration. Senegal and Mali also addressed market inefficiencies in fuelwood, which resulted in reduced deforestation. For example, as a result of the World Bank–implemented Senegal Sustainable and Participatory Energy Management project, community-managed forest resource systems now account for a large part of the country's fuelwood supply. This has generated considerable income and employment returns for communities; it has also surpassed project targets for net carbon sequestration (1.78 million tons sequestered versus a projected 510,000 tons). UNDP's Sudan Rangeland Rehabilitation for Carbon Sequestration project increased the area of rangeland under improved community management and led to benefits in terms of community access to water, development of tree crops and vegetable gardens, increased livestock numbers, and nontimber forest products. These benefits acted as strong incentives for continued carbon sequestration activities.

Negative Impacts

The extent of direct negative impacts on local communities from climate change projects appeared to be limited. However, this partly reflects the fact that the GEF project design is not tailored to analyze such negative effects. Two

Although the micro-hydel in Uttaranchal provides a single grain mill and a cluster of houses with electricity, its diversion of water tends to erode traditional rights of access and use in some cases (India, Hilly-Hydel Project). ©Juha Uitto

World Bank projects, Cape Verde Energy and Water Sector Reform and Development and Mongolia Improved Household Stoves, raised the potential for negative impacts related to loss of income from energy market changes. The UNDP-implemented India Hilly Hydel project's diversion of water to small hydro schemes eroded traditional rights of access to water and reduced availability of water resources for local residents. In other projects, such as UNDP's Guatemala project, negative impacts were associated with unfulfilled expectations regarding the ability of solar energy to meet community demands for productive uses. Such negative impacts were the exception and reflect specific local circumstances. In general, climate change projects do not cause negative local effects by changing the access of local people to resources. If the project does not succeed, the effect is likely a return to the status quo, whereby the target groups resort to their previous energy sources.

Negative impacts may derive indirectly from projects, such as loss of investments by local entrepreneurs or the discouraging effect of limited market viability of technologies on future market participation. Evidence from the field suggests that these impacts, which will have a direct influence on the future development of markets for renewable energy technologies, are more prevalent than immediate negative effects

[24]CC-D-03, CC-D-26; CC-F-05; CC-NF-03, CC-NF-07.

on the populations of project areas; such effects can only be fully determined through post-project studies and surveys.

Linkages between Local and Global Benefits in Climate Change

Within the climate change focal area, a key conceptual link between local benefits and the global environment is the connection between poverty eradication and sustainable development. Energy services are needed to support growth and equity. Three-quarters of the world's poor—about 900 million people—live in rural areas, and many GEF projects focus on provision of electricity in rural areas not served by grid connection, although the objective of the program is not rural electrification, but barrier removal for renewable rural energy.

The study reviewed 31 IA final evaluations of completed projects. The connection between local interests and needs and attaining global goals was addressed at varying levels in 25 of these projects. The approach toward local stakeholders varied in depth and specificity within project design and implementation. Eleven of the evaluations emphasized the importance of local participation within project implementation. Local participation was often framed as a prerequisite to aid adoption of climate change mitigation technologies. However, the nuances of local communities were often overlooked, particularly in terms of how social distinctions within communities may influence the reception of new technologies and the distribution of benefits. Project evaluators rarely assessed the project outcomes for communities or attempted to measure a broad range of livelihood benefits. Fourteen projects examined some aspect of social impact. These project reviews most often inferred local benefits from the attainment of environmental goals, rather than examining how improved livelihood opportunities may contribute to and provide improved incentives for global environmental gains. Therefore, there is little evaluative information available on the local incentives to adopt climate change mitigation technologies.

There are a number of possible linkages between local incentives and global environmental benefits, such as improvements in energy efficiency and improved land management associated with carbon sequestration (see box 6.1). Within climate change, three issues appear to present the strongest linkages: the ability to reach the poor, the extent of replication and market scale-up, and natural resource management.

Box 6.1: Potential for Local-Global Links in Climate Change

The following aspects were found to provide a potential for local-global linkages in climate change projects:

- Energy substitution/fuel switching.
- More efficient-energy production (for example, charcoal).
- Local participation in natural resource management and creation of linkages with other GEF focal areas to secure carbon sequestration and livelihood benefits.
- More efficient-energy use (for example, stoves/transport activities).
- Income-generating activities (for example, productive uses).
- Changes in consumption patterns.
- Changes in institutional and policy environments.

Poverty-Energy Links: Hitting or Missing the Target?

The study focused on projects that intended to promote local benefits. It considered the extent to which the presence or absence of a poverty orientation in GEF climate change projects influenced their results. Four patterns emerged from the analysis of design (poverty strategy, policy linkage, and low-income targeting), implementation approaches (mechanisms for poverty consideration), and impact (evaluation and case studies reporting impact on low-income target groups):

- Linkages were not planned or explored in 17 out of 30 projects, and their results with regard to local benefits were not clear.[25]

[25]CC-D-01, CC-D-03, CC-D-06, CC-D-08, CC-D-19, CC-D-20, CC-D-24, CC-D-25, CC-D-26, CC-D-27, CC-D-28; CC-F-01, CC-F-02, CC-F-03; CC-NF-04, CC-NF-05, CC-NF-06.

- Linkages were planned and explored in five projects with positive results.[26]
- Linkages were planned and explored in six projects, but the results were mostly unclear/unrecorded.[27]
- Linkages were not planned or explored, as in the Pakistan Fuel Efficiency in Road Transport Sector project, but had positive results.

The main factor that has influenced poverty-energy linkages is affordability. The technology promoted by the GEF was technically viable and effective in providing a reliable power supply for certain household uses, such as lighting, and has rudimentary potential to assist small business development by extending operating hours. Cost reduction of PV did not materialize, so the systems remained too expensive for the majority of the rural population. The benefits offered by the systems were not sufficiently large to overcome the poverty constraint, since (1) the PV units did not provide sufficient power for the locally desired productive activities that could make the energy more "self-financing"; (2) where there is some positive experience with innovative business models, many market-based dissemination mechanisms tended not to be sustainable due to lack of commercially viable business opportunities; and (3) the challenges in accessing investment capital and/or continued subsidies were underestimated (see box 6.2).

Projects attempted several strategies to address the affordability challenge. First, two-thirds of the projects reviewed aimed to enable policy changes to improve energy access and/or livelihood opportunities, and 12 contributed to progress at the national policy level (see above).[28] Such policy changes take time to materialize in terms of impact on the ground. Second, as a more immediate measure, projects may provide direct support for livelihood and income generation to increase the purchasing power of the target group. This has been difficult to implement effectively, and results are generally unsatisfactory. The creation of financial capital is the most underreported of the different types of results. Of the 29 projects with intended results in this area, 3 did not deliver financial gains to their beneficiaries,[29] and 14 were not able to demonstrate financial impact due to lack of adequate monitoring.[30]

Some GEF projects have explicitly recognized the link with poverty, as the following illustrates:

> Any project for implementation in poverty stricken rural areas of developing countries would require to focus on reduction of poverty through provision of better income earning opportunities to the people. Therefore, after the initiation of the project, it was repackaged so as to complement poverty reduction and rural livelihood objectives while achieving the objective of GHG emission reduction through promotion of bio-energy technology. After this strategic change, it has been possible to sell the project idea to the rural community more easily.[31]

The poor represent around 80 percent of the population in the developing world. Unless projects reach the poor, replication and scaling-up prospects are limited.

Replication and Scaling Up

The reviewed projects were often pilots undertaken to demonstrate the viability of renewable energy, develop delivery mechanisms, and build the institutional environment needed to support the systematic expansion of renewable energy; such projects were common during the earlier GEF programming periods. These demonstration activities were effective in terms of delivering hardware, but renewable energy had limited uptake in the market.

Although the GEF climate change portfolio has since moved away from the pilot project approach, the challenges of scale-up and replication still apply. The climate change pro-

[26]CC-F-01, CC-F-5; CC-NF-01, CC-NF-03, CC-NF-07.

[27]CC-D-05, CC-D-07, CC-D-13, CC-D-15, CC-D-16, CC-D-17.

[28]CC-D-02, CC-D-05, CC-D-06, CC-D-08, CC-D-19; CC-F-02, CC-F-03, CC-F-04, CC-F-05; CC-NF-02, CC-NF-03, CC-NF-05.

[29]CC-D-16, CC-D-20; CC-F-03.

[30]CC-D-06, CC-D-08, CC-D-17, CC-D-19, CC-D-20, CC-D-24, CC-D-25, CC-D-26, CC-D-27, CC-D-28; CC-F-01; CC-NF-04, CC-NF-05, CC-NF-06.

[31]UNDP, Terminal Evaluation, Biomass Energy for Rural India Project, 2004.

Box 6.2: Poverty: A Major Barrier to Creating Global Markets for Solar Home Systems

Solar PV projects have been a major component of the climate change portfolio. A UNDP/GEF report notes that "As of 2003, the GEF was supporting 17 [solar PV] projects world wide, of these 11 are being implemented in Africa… Poverty is the major barrier to the widespread adoption of Solar Home Systems. At current incomes, less than 3 percent of un-electrified rural Africa can afford the investment cost of a 'standard' solar PV" (Hankins 2004).

- **Reaching target groups.** Projects have not been effective in reaching the poor. UNDP's Palawan New and Renewable Energy project document stated that "The project will be beneficial to the poor. In particular the widespread application of renewable energy resulting from the project should have a positive impact on vulnerable groups." However, according to the project management office and documented in the field case study, "Only middle income and higher families could afford a system providing two light bulbs and a radio cassette player. Poorer people would have needed an even bigger subsidy than the 40 percent available from the Netherlands' assistance" (which was in addition to the GEF support). In the case of the Indonesia Solar Home Systems project, users apparently belonged to the middle and upper classes of the community.
- **Selecting the target area.** UNDP's terminal evaluation of its Peru PV Rural Electrification project concluded that "More efforts should have been dedicated to defining the parameters for selection of targeted localities for PV installation. The project was too ambitious to select localities in extreme geographical areas (the Peruvian Amazon region) where transportation is extremely difficult and where financial institutions do not exist."
- **Establishing a realistic schedule for cost recovery and repayment.** The field case study calculated that it would take about 39 years for the Ghana Renewable Energy-Based Electricity project to recover its costs. Long repayment periods mean that the end of the system's useful life is almost reached. As was noted about the Palawan project in the field case study, "This situation is not seen as a good risk by any lender, since repossession of an aging unit is not likely to defray the remaining costs."
- **Promoting productive uses.** The Philippines project was based on the principle that pilot projects of productive uses of solar PVs would lead to substantial rises in community income, thereby enabling the poor to afford solar home system units. However, the field case study noted that "The income generation projects have not been successful and they have certainly not led to any widespread economic empowerment of community members, which might enable a growth in willingness and ability to pay" for a solar home system. "Electric power outputs of ordinary solar PV are low. A solar PV cannot provide for cooking, heating or for productive purposes such as welding, grinding maize or charging car batteries commercially."
- **Adopting a supply orientation.** One of the key case study findings on the Indonesia Solar Home Systems project was that it "was overly focused on a 'single' stakeholder—the private sector or dealer. The supply side approach including the combining of dealer-financier roles overlooked the capacities of individual dealers to assume a financing role, willingness of commercial banks to finance the dealers and the opportunities to involve micro-finance organizations to offer financing at lower and more attractive rates to target the rural poor." The assumption that a supply-driven approach would lead to lower prices for solar home systems proved to be wrong, even though Indonesia produces the system components itself.

gram is based on a vision of generating impact by long-term removal of market barriers to the adoption of new technologies. This in turn, is dependent on positive results on the ground to replicate and serve as a model or expand at a scale that would reach global significance. The projects reviewed show that success depends on sufficiently broad results in terms of local benefits/socioeconomic incentives and other measures such as supportive institutional and policy frameworks. For example, the dynamics of the national charcoal market in Senegal was beyond the reach of the locally successful carbon sink projects.

The potential of the projects to generate significant levels of local benefits and global environmental impacts is also contingent upon the private sector's willingness and ability to take on the marketing and maintenance of renewable energy systems. Furthermore, through the scaling up of local natural capital benefits it may be possible to catalyze global environmental benefits. This was not a dominant strategy in the GEF climate change projects studied. Most projects aimed to influence the global environment indirectly through markets or policy changes, not through the creation of the local natural resource base, with the excep-

tion of forestation in the carbon sequestration projects. However, the climate change projects that did aim to produce natural capital gains were not particularly successful: 9 of 13 projects did not reach their related natural capital goals, regardless of whether they were focused on PV or hydropower, or energy efficiency.[32]

Integrated and Sustainable Land Management

In terms of linkages between people and the environment, parts of the climate change portfolio have attempted to make people less dependent on the local resource base (particularly biomass resources used for fuelwood) through the provision of more environmentally benign alternatives: namely, renewable energy. The STRM projects examined in the study focused, in part, on strengthening linkages between people and the environment through improvements to traditional patterns of land resource management, combined with the generation of alternative livelihood options to help people reduce pressures on the resources. The land management projects in Senegal and Sudan generated significant streams of a range of local benefits and global benefits by sustaining and enhancing carbon sequestration capabilities. This approach was found acceptance at the field level and may, with culturally appropriate adjustments, be possible to scale up, although this would now be programmed under the OP12 and/or sustainable land management focal area rather than climate change.

Among projects that focus on reversal of environmental degradation, certain factors facilitate local-global linkages:

- The projects were short-term response measures in which the impacts were expected to be more direct and immediate, with a flexible approach to the long-term removal of barriers to climate change mitigation and more self-containment than pilots.
- The projects were organized to initially achieve local development goals, which could be scaled up to contribute toward realizable global environment objectives. The projects contained components, such as credit for small enterprises and new types of crop or animal production, that were not directly related to climate change mitigation goals, but that made a major contribution toward generating community commitment to the projects' environmental goals.
- The clearest relationships between local and global benefits were found where a transparent and effective economic, policy, and institutional framework existed to support the land management and livelihood options in the projects, and not merely to support energy policy.
- The projects were part of larger initiatives, with additional funding for rural development. A larger financial budget allows for a multisectoral development approach, including opportunities for income generation.

Global Environmental Benefits

Global environmental benefits of climate change mitigation that accrued from the projects were modest. The overall impact of the sampled climate change projects was conditioned on the primary success of projects in removing market barriers to renewable energy and/or improvements in energy efficiency to mitigate GHG emissions. This did not materialize for the projects covered as a whole. The mitigation of climate change emissions is inherently long term and difficult to measure.[33] This is especially the case for results such as favorable policy and an institutional environment for the long-term development of renewable energy, energy efficiency, and human capital. Of the 17 completed projects examined as of April 2005, several originated in the early GEF phase and do not have targets or reliable data. Six did not meet their intended GHG reduction targets; four did. As illustrated in the GEF *Climate Change Program Study 2004*, a few successful projects may have a large impact. In this case, the World Bank–implemented Senegal Sustain-

[32]CC-D-01, CC-D-15, CC-D-20, CC-D-24; CC-F-01, CC-F-03, CC-F-04; CC-NF-01, CC-NF-03.

[33]GEF (2004b) provides a detailed review of the achievements of the portfolio with regard to the global environment. Difficulties in GHG measurement are covered in GEF (2004b) and (2004e).

able and Participatory Energy Management project had the highest reduction target, which it easily achieved and exceeded by over 1 million tons of carbon. Overall, reported results in terms of GHG reduction for the projects studied were below intended goals.

6.3 Looking Forward: New Strategies and Projects

This study looked at projects from the GEF pilot phase through GEF-2 (1991–2000). To provide a forward-looking perspective to assess how local-global linkages are incorporated into new project design, a small sample of climate change projects approved by the GEF Council and GEF CEO between December 2001 and November 2004 was selected (see annex D, table D-3). These projects cover part of the GEF-3 replenishment period and the new climate change GEF-3 strategic priorities. Six strategic priorities were based to a great extent on the findings and recommendations of OPS2 and the *Climate Change Program Study 2004*:

- market transformation for high-volume low-GHG products,
- increased access to local sources of financing,
- power sector policy frameworks supportive of renewable energy and energy efficiency,
- productive uses of renewable energy,
- global market aggregation and national innovation for emerging technologies, and
- modal shifts in urban transport and clean vehicle technologies.

The forthcoming GEF-4 climate change strategic priorities have refined and sharpened the GEF-3 priorities; emphasis has been given to integrating GEF climate change projects with the Millennium Development Goals by removing barriers to energy conservation and efficiency and promoting renewable energy for poor households.

Ten new projects were reviewed across OP5 and OP6. Following are the main findings:

- Six out of 10 projects included provisions for local community consultations and/or stakeholder participation in their design.[34] Nine intended to involve communities actively during implementation.
- Six projects conducted socioeconomic analyses (three of which disaggregated data by gender) during project preparation.[35]
- Seven projects explicitly recognized links between local benefits/incentives and global environmental gains.[36]
- Seven projects were linked to national poverty reduction policies within the context of improved energy provision.[37]
- All 10 projects intended to provide a range of socioeconomic benefits to communities. These were mostly focused on providing human (health benefits) capital and financial benefits/incentives through productive uses and lowering costs through energy efficiency.
- Four projects recognized the potential for negative impacts.[38]
- Eight projects intended to monitor socioeconomic impacts and develop appropriate indicators.[39] Four intended to involve local communities in monitoring activities.[40]

Those project documents that explicitly deal with local benefits have built on social analysis or assessments and raised possible negative impacts. While many of the projects had surveyed local communities, mainly to gauge willingness

[34]CC-NP-01, CC-NP-02, CC-NP-05, CC-NP-07, CC-NP-09, CC-NP-10.

[35]CC-NP-02, CC-NP-05, CC-NP-06, CC-NP-07, CC-NP-08, CC-NP-10.

[36]CC-NP-01, CC-NP-02, CC-NP-05, CC-NP-07, CC-NP-08, CC-NP-09, CC-NP-10.

[37]CC-NP-01, CC-NP-05, CC-NP-06, CC-NP-07, CC-NP-08, CC-NP-09, CC-NP-10.

[38]CC-NP-02, CC-NP-07, CC-NP-08, CC-NP-10.

[39]CC-NP-02, CC-NP-03, CC-NP-05, CC-NP-06, CC-NP-07, CC-NP-08, CC-NP-09, CC-NP-10.

[40]CC-NP-01, CC-NP-02, CC-NP-07, CC-NP-10.

or ability to pay, social analysis was also used to construct monitoring plans on the basis of social baselines and to help develop indicators for evaluation of project outputs. Projects provided more information than in earlier project documents on their approaches to consultation and participation. Several proposed detailed communication strategies and conducted substantial consultation exercises during preparation to promote community awareness and willingness to participate in implementation. However, an area of weakness was disaggregation of data on the communities in the project area; only three projects provided data by gender.

Overall, the newer projects are more explicit concerning the potential local benefits of renewable resources and energy efficiency. Most focus on providing services to poor households and communities, and address poverty issues. The projects have instituted monitoring and evaluation plans—with social indicators—to help assess project outcomes.

6.4 Main Factors Influencing Results

The climate change projects studied experienced implementation problems such as time overruns and delays due to institutional restructuring during implementation, and the projects' social components were particularly affected by such factors. The more successful strategies, as well as the key constraints, affecting the projects are discussed below.

Integration with Wider Development Processes

Effective projects managed to integrate themselves into broader development processes, namely power sector or energy reform, national renewable energy programs, and/or local development processes or programs.

Of the 30 projects studied, 14 linked their approach explicitly to poverty through policy development and government sectoral approaches (for example, the Poverty Reduction Strategy Paper process);[41] 17 recognized low-income groups as a primary beneficiary and stakeholder in project design and implementation; and 12 took specific actions to reach the poor.[42] To strengthen the enabling framework, the GEF has supported governments through training and capacity development in line agencies responsible for energy policies, as well as with the development of legislation intended to encourage the adoption of renewable energy technologies. Only three projects did not plan for specific capacity building.[43]

The lack of a favorable policy framework may dramatically affect project performance. Economic crises were a factor in the underperformance of such initiatives as the World Bank's Indonesia Solar Homes Systems and Argentina Renewable Energy projects. Policy effects are particularly acute for the renewable energy market. In Cape Verde, the exclusivity of the state electricity company in the market has constrained private interest in off-grid PV electric systems, because other actors cannot obtain long-term concessions. In some cases, the delay between the GEF project concept and actual implementation meant that the national electricity grid had reached the project area by the time the project began.[44]

Ensuring Community Participation

The GEF Public Involvement Policy sees local participation as necessary for mitigating climate change, regardless of whether local benefits are part of the project. The projects that were premised on the active participation of communities included local people acting as consumers, resource managers, and early adopters of new livelihood activities. The projects that were most effective in delivering local results, as well as environmental achievements, all contained a range of efforts that brought beneficiaries together, consulted with stakeholders, and engaged local people in determining their needs. For example, the achievements seen in the Senegal Sustainable and Participatory Energy Management and Sudan Rangeland Rehabilitation for

[41]CC-D-02, CC-D-03, CC-D-05, CC-D-07, CC-D-13, CC-D-15, CC-D-16, CC-D-17; CC-F-03, CC-F-05; CC-NF-01, CC-NF-03, CC-NF-06, CC-NF-07.

[42]CC-D-05, CC-D-07, CC-D-13, CC-D-15, CC-D-16, CC-D-17; CC-F-04, CC-F-05; CC-NF-01, CC-NF-02, CC-NF-03, CC-NF-07.

[43]CC-D-25, CC-D-27; CC-NF-04.

[44]CC-D-05, CC-D-07; CC-F-02, CC-F-03; CC-NF-02.

Carbon Sequestration projects are directly linked to active stakeholder participation among local communities.

In the majority of projects, community involvement was at a rather low level, with information dissemination and training exercises tending to dominate. Almost all (29) of the 30 projects planned to implement information dissemination,[45] of which 22 recorded achievements; 17 planned consultation exercises, of which 14 recorded achievements[46] and 3 did not provide any information; and 12 intended to involve communities actively in decision making through stakeholder participation,[47] of which 5 recorded achievements[48] and 7 did not provide any indication of results. Of the 12 projects that intended stakeholder participation, 7 were GEF-2 projects designed after the development of the GEF Public Involvement Policy. The occurrence of planned but not undertaken activities is greater for stakeholder participation than for the other two approaches.

Many of the OP6 projects contained training activities for community group development and technical training for installation and maintenance of home solar systems. In Ghana, the Philippines, and Uganda, the number of people involved was substantial. Other approaches, such as in Uganda and Zimbabwe, included strengthening NGO and broader civil society involvement in promoting renewable energy and extensive awareness programs.[49] Only the OP7 Brazil Biomass Integrated Gasification project did not plan for stakeholder involvement. However, its final evaluation indicates that some level of community involvement through awareness raising was in fact achieved by the project:

> The careful and thorough documentation and communication to stakeholders of project results is important… Some cane growers in São Paulo have gained confidence in trash utilization, and they are already adopting recommendations on trash recovery developed during the project.[50]

The Pakistan fuel efficiency project was one of the few projects to demonstrate clear evidence of replication; many private sector workshops adopted the computerized engine tune-up technology it promoted (Pakistan: Fuel Efficiency in the Road Transport Sector). ©Lee Alexander Risby

Consultative and stakeholder participation approaches tended to be more prevalent in the STRM projects which, by virtue of their focus on forestry and rangeland management for carbon sequestration, required more active involvement of communities.

Projects that were not effective in actively engaging local participation experienced difficulties in achieving their objectives. Only five projects included stakeholder participation with collaborative engagement in all project phases.[51] Seven projects envisaged stakeholder participation but did not implement it.[52] In UNDP's India Hilly Hydel project, the government and, to some extent, the private sector were actively involved in the project, but "non-involvement of the local population has been a major setback for the timely and effective implementation of the Project and has diluted

[45]Except CC-D-24.

[46]CC-D-03, CC-D-05, CC-D-08, CC-D-15, CC-D-26, CC-D-27, CC-D-28; CC-F-01, CC-F-02, CC-F-04, CC-F-05; CC-NF-01, CC-NF-03, CC-NF-07.

[47]CC-D-03, CC-D-05, CC-D-07, CC-D-13, CC-D-17, CC-D-26, CC-D-28; CC-F-03, CC-F-05; CC-NF-01, CC-NF-03, CC-NF-07.

[48]CC-D-13, CC-D-26; CC-F-05; CC-NF-03, CC-NF-07.

[49]CC-NF-05, CC-NF-06.

[50]UNDP Terminal Evaluation, Biomass Integrated Gasification Project, 1998.

[51]CC-D-13, CC-D-26; CC-F-05; CC-NF-03, CC-NF-07.

[52]CC-D-03, CC-D-05, CC-D-07, CC-D-16, CC-D-28; CC-F-03; CC-NF-01.

[its] actual and effective impact."[53] In the Philippines, the Palawan New and Renewable Energy project conducted market research among the communities before project implementation, and experts presented loan possibilities to community organizations. In interviews during the field study, community representatives stated that the project initiatives were not those they had requested as they were outside their experience and beyond their financial reach. The unmet expectations resulted in community frustration. The Specially Managed Project Review of the Mexico Renewable Energy for Agriculture project suggests that "a lesson for the portfolio [on vendor financing schemes] could have been figured out by careful stakeholder discussions."

Contributing to the limited participatory approaches undertaken was the failure to conduct adequate social assessment or analysis during project design stages in order to ascertain the level of participation required. Without such assessments, projects arrived at incomplete or inaccurate assumptions of community participation in implementation. For example, local participation was often framed only as consumption of climate change mitigation technologies, in which communities were viewed as essentially passive and willing receivers of new technologies. Only one project (Senegal Sustainable and Participatory Energy Management) undertook what can be considered a complete social assessment with a systematic investigation of demographic and socioeconomic factors, social organization, and needs. Several IA terminal evaluations reviewed noted the need to build community-level capacity to engage in climate change mitigation and move beyond broad awareness-raising campaigns to empowering local capacities for energy conservation in the context of community development.

In summary, project performance concerning local community involvement in the climate change projects studied was limited, because projects tended to plan for information dissemination and consultation, rather than active stakeholder participation; and, regardless of which approach was originally planned, it was often not effectively implemented. These deficiencies limited the mobilization of resources by local communities and their ability to become committed partners of the GEF project in environmental management.

[53]UNDP Terminal Evaluation, India Hilly Hydel Project, 2004.

Private Sector Capacity Enhancement

Given the market orientation of the climate change portfolio, cooperation with local private sector entrepreneurs forms a key part of strategies to promote replication and sustainability. The GEF projects have assisted in such capacity building as installation and servicing of solar PV systems, the development of business models for marketing products and services, and—rarely—the acquisition of technical production skills. Several projects sought to engage financial institutions, mainly private banks, to provide investment capital needed by the entrepreneurs and/or their customers.

The private sector was cited as a key stakeholder in the Indonesia Solar Home Systems project, which aimed at capacity building and facilitating participation by the private sector in advancing renewable energy commercialization. Similarly, the Uganda PV Pilot Project strengthened capacity of the private sector to provide PV-based electrification services on a commercial, demand-driven basis and the capacity of the public sector to promote, monitor, and provide a policy framework for the expanded use of PV systems. The approach has worked best where there was longer term GEF involvement, a policy framework for private sector development, and a relatively high market demand and purchasing power among the consumers; this was the case in Sri Lanka. Of its Indonesia Solar Homes Systems project, the World Bank noted in its implementation completion report that "with competitive arrangements and community-driven approaches, there is scope for institutional/community sales to contribute to the development of a sustainable PV market."

GEF financial support mechanisms notwithstanding, in most cases the energy services or products remained too expensive for the stated target groups. This has curbed continued interest of financial institutions and the private sector

The low-voltage output provided by many renewable energy projects was insufficient for heating or cooking, leaving rural households dependent on fuelwood, shown here stacked in front of a farmhouse in Kullu, Himachal Pradesh (India, Hilly-Hydel Projects). ©Juha Uitto

and has limited market growth. In northern Ghana, a small private sector market for solar PV projects existed prior to the GEF-funded intervention. The local entrepreneurs concentrated on specific niche markets, having assessed the domestic PV market as nonviable. However, the project targeted provision of home units through a government body, which was intended to be privatized at project end to continue supplying and maintaining systems. The field case study notes: "One of the objectives of the project was to demonstrate private sector participation but unfortunately the private sector has not been involved in any way in project implementation."[54]

The challenges in financial viability and limited private sector involvement could possibly have been mitigated or anticipated had market studies been stronger in the projects. Thirteen projects made use of socioeconomic analyses such as consumer, attitude, and market surveys that tried to gauge purchasing power and demand (though this was generally not done during the design of the projects, when such data would have been most useful).[55] Two issues emerge with regard to surveys: first, that the quality of and adherence to them varied significantly among those projects that used them; and second, that 16 projects did not undertake a consumer/willingness-to-pay survey, even though they had market development as their primary goal. Negative consequences resulted. For example, in Mexico, "lack of market research before project approval resulted in overlap of components with other programs and lack of feasibility of components (vendor financing scheme was proposed for Quintana Roo where there are no vendors).[56]

Optimizing Renewable Energy Alternatives and Productive Uses of Power

The projects reviewed aimed to develop sustainable demand for renewable energy services and products that embrace consumer preferences and purchasing power. Their effectiveness depends on how much fuel switching is caused in the first instance, and how much this develops into market penetration or expansion.

The energy substitution strategies of the GEF projects reviewed concentrated on a package of replacing kerosene, dry cell batteries, and candles in 17 out of 30 projects with mainly solar PV use. Nine aimed to replace fuelwood use (four were STRMs that focused on carbon sequestration);[57] and 11 looked to switch from fossil fuels (these potentially have the highest effect on gas emission).[58] The latter group included all the OP5, OP7, and OP11 projects as well as three OP6 projects.

Among poor households in most developing countries, cooking accounts for between 90 and 100 percent of energy consumption. Space heating is also important in colder climates. The remainder of the energy consumed is for lighting provided either by the cooking fire, kerosene lamps, candles, or electric torches.[59] Renewable energy technologies may find a market niche among higher income groups,

[54]CC-F-02.

[55]CC-D-02, CC-D-03, CC-D-07, CC-D-17, CC-D-25, CC-D-26, CC-D-28; CC-F-01, CC-F-02, CC-F-04; CC-NF-02, CC-NF-03, CC-NF-07.

[56]CC-D-15.

[57]CC-D-03, CC-D-20, CC-D-26; CC-F-03, CC-F-04, CC-F-05; CC-NF-01, CC-NF-03, CC-NF-07.

[58]CC-D-01, CC-D-02, CC-D-03, CC-D-20, CC-D-24, CC-D-25, CC-D-27, CC-D-28; CC-F-01; CC-NF-01, CC-NF-04.

[59]World Energy Council, www.worldenergy.org/wec-geis/edc/default.asp.

for whom better lighting is one of the first energy services sought; followed by water heating and refrigeration and cooling, for groups with even higher incomes.

Consequently, the provision of light may increase quality of life, but is marginal in providing energy savings and environmental gains through renewable technologies. The PV solar home systems did not deliver enough voltage for cooking, heating, or desired economically productive activities (such as handicrafts, cottage industries, higher output farming, and food processing) or required electric appliances that were not available to or affordable by the target populations. In such circumstances, the project outputs were often relatively modest in terms of the numbers of renewable energy units they intended to deliver. The use of fuelwood—or charcoal—for cooking and heating is a cause of deforestation and GHG emissions. But the challenges to reducing fuelwood use are very complex and depend on several factors in addition to the availability of substitution technologies (see box 6.3).

Box 6.3: Challenges to Strategies for Reduction of Fuelwood Use

- **Policy framework.** Reform of charcoal and fuelwood trade is strongly dependent on changes to the policy framework of the energy sector, with, at a minimum, liberalization of fuelwood trade and prices with the opportunity to maximize producer prices. The challenge in addressing traditional practices that are vested in power structures is that they are systemic, such as systems of quotas and urban charcoal traders. Such situations occurred in Senegal's Sustainable and Participatory Energy Management project and in Uganda's PV Pilot Project for Rural Electrification.
- **Urban energy use.** GEF renewable energy projects mainly address rural energy use. However, according to the Senegal project document, "76 percent of [all charcoal] is consumed in the principal urban areas." Although liquid propane gas has become an alternative cooking fuel for city households, the urban population—especially the poor—is still very dependent on charcoal, a situation that is worsening with increased urbanization.
- **Cultural impediments.** Even when the India Hilly Hydel project gave away electric stoves and heaters free of charge, people did not use them, because, as noted in the field case study report, "they said their electricity bill would be too high." The assumption of firewood substitution was flawed mainly because economics of household choice were overlooked.
- **Forest management and revenue.** Land tenure rights and the forest revenue system can also have a major impact on charcoal and fuelwood trade, depending on management under public ownership, community ownership, or private ownership. The annual turnover of the Senegalese charcoal trade was estimated to be around $60 million, of which less than 5 percent remained in rural areas. Decentralization of forest rights has not automatically led to ecologically sustainable forest management, in part due to capacity limitations and other policy constraints.
- **Level playing field.** Effective delivery of energy services is dependent on private sector capacities in production, distribution, and sales. Even with reforms to the enabling framework and sustainable production, significant bottlenecks and distortions are often observed in the transportation and distribution segment of the charcoal and fuelwood chain. This was the case in the Senegal, India Hilly Hydel, Mali Household Energy, and Palawan projects.
- **Gender concerns.** Projects have misjudged gender concerns in changing local fuelwood practice. The Renewable Energy-Based Electricity project in Quiche, Guatemala, intended, according to its project document, "to contribute in reducing [carbon dioxide] emissions from rural areas presently produced by kerosene, fuelwood and candles." However, renewable energy proved unable to substitute for fuelwood, which remained the staple energy source for cooking, even of those who obtained a solar home system. This was true too in the Palawan and India Hilly Hydel projects.
- **Energy efficiency.** Environmental gains can be sought by reducing consumption of current fuels (rather than switching to new energy sources) through the promotion and sale of efficient charcoal and fuelwood stoves. According to a technical assistance paper by the UNDP-World Bank Energy Sector Management Assistance Programme, "Any connection between woodland depletion and stove use is however, at best, tenuous. There are so many variables affecting woodfuel use in any particular area that pinning down the effect of a certain number of improved stoves is virtually impossible" (ESMAP 2001). The energy-efficiency component of the Senegal project was not successful; a sustainable production and distribution chain of stoves could not address demand.

Another strategy to increase the uptake of renewable energy is to increase the earnings of customers through productive uses of energy or institutional uses for which funds and willingness to pay may be higher. However, as already illustrated, this cannot be done well through small household–based renewable energy. Mini-grids using wind, solar, or micro-hydropower may be a way by which greater power capacity can be delivered to off-grid communities for a broader range of productive uses.

Promoting Local Natural Resource Management

Projects that approach climate change mitigation through the maintenance and enhancement of ecological carbon sequestration capabilities have potential for significant success, even in environments under great pressure and in difficult social and political contexts. Such projects have achieved global environmental benefits as defined in the GEF mandate while ensuring that local communities receive additional benefits that increase their involvement and long-term commitment to GEF projects and their longer term objectives. The management of threatened ecosystems through the active involvement of local communities led to the retention of carbon sequestration capabilities. The effective projects had the following replicable features:[60]

- Local resource users were involved in defining changes in land management regimes from the outset, based on the development of effective community organizations in which a broad range of stakeholders was represented.
- Projects contained components to develop alternative livelihood activities with a substantial focus on rural development; the GEF component was a relatively small part of a considerably larger project.
- Local people gained direct and material benefits from the changes to land management regimes and/or from other project activities that led to reduced pressures on the threatened ecosystems.
- The projects combined different strategies to reduce deforestation—including promoting energy efficiency in fuelwood use, empowering local villagers to gain control of charcoal markets (local communities are often more interested in improving sustainability of existing resource uses), and providing training in fire management and prevention.

There was evidence that elements of the improvements implemented by the projects were being copied by surrounding communities. Nevertheless, uncertainties remain concerning the ability to sustain and scale up local resource management on a national basis. The impact would depend on the areas covered and on how effective that coverage is. The Mali Household Energy project did not fully meet its natural capital goals (320,000 hectares of forest under controlled management versus a target of 720,000 hectares) because the average size of the village forest was smaller than initially assumed. The 2005 OP12 study pointed out that conservation farming or different types of integrated natural resource management require land use intensification with greater costs for end users, which the targeted poor usually cannot afford.[61] The experience from the above climate change projects shows that this can work, as in Senegal (even though such initiatives would not now be funded under this focal area), but that such local resource planning at the village level needs to be accompanied by governmental extension services or other support.[62]

Integrating Gender Concerns

In rural areas of developing countries, household energy use and acquisition are characteristically differentiated by gender. For example, gathering of fuelwood is usually undertaken by women, and many home-based income-generating activities are defined as women's work. Projects that intend to have outcomes at the household and community levels are therefore more likely to be effective if they incorporate gender-based roles.

[60]CC-F-05; CC-NF-03, CC-NF-07.

[61]GEF (2005a).

[62]CC-F-05; CC-NF-03, CC-NF-07.

Twelve projects of the 30 studied were seen to have some impact on gender-related energy use;[63] these were also the projects that produced the highest levels of local-global benefits linkages. The Senegal Sustainable and Particpatory Energy Management and Sudan Community-Based Rangeland Rehabilitation for Carbon projects contained effective components targeted to the specific needs and capabilities of women in the beneficiary communities. Accomplishments in the Sudan project could largely be attributed to women's active participation: women were specifically targeted (training programs for extension services had more than 58 percent participation by women) and enhancement of livelihood capitals took place through diversification, innovation, and provision of credit that primarily addressed women's needs.

Of the climate change projects reviewed, only one (Senegal) linked the project to policies on gender or women in development. Thirteen projects did not encompass gender differences at all; seven of these were OP6 projects addressing household energy, where women are usually the key stakeholders.[64] Only six projects had incorporated gender targeting practically into their design and implementation.[65]

In the World Bank–implemented Indonesia Solar Homes Systems project, provision of electricity actually increased women's workload. The project's social survey found that a solar home system

> extends women's productive household duties by 2.2 hours, but men's decrease by 1.2 hours. Furthermore, recreation time for both men and women increased by 1.2 hours for SHS [solar home system] users. Therefore, SHS generally allows women to do more domestic work and for men to take advantage of more recreation—for example, watching television.

A similar situation was noted by the Ghana solar PV field study. Whether this is regarded as a positive or negative development could only be determined by research beyond the scope of this study.

Improving Design, Monitoring, and Evaluation

The climate change projects reviewed rarely monitored issues related to local benefits and incentives. Fourteen projects intended to monitor for livelihood or socioeconomic outcomes, but only eight of these actually recorded such progress in their monitoring reports.[66] The Pakistan Fuel Efficiency in Road Transport Sector project monitored such results, although it did not originally intend to. Local benefits and incentives monitoring did not improve over time: of the projects that did not address such monitoring, six are from the pilot phase, five from GEF-1, and seven were approved from 1999 onwards.

The common challenges to monitoring, presented in box 6.4, were observed for the projects studied in-depth and echo those reported in GEF annual project implementation reviews. Since 2004, some agencies have, according to internal project implementation review reports, attempted to report progress on new indicators that include "change in consumption, fuel-use patterns and impacts on end users."

IA project evaluations similarly found that the coverage of local benefits, for projects that aimed to produce them, was weak. The study's review of 31 climate change evaluations found that:

- The evaluations rarely attempted to measure the range of livelihood benefits.
- Fewer than half of the projects examined some aspect of social impact.
- Fewer than half of the final evaluations made recommendations or noted lessons concerning local ownership of the project, sustainable use of resources, increased liveli-

[63]CC-D-03, CC-D-28; CC-F-01, CC-F-03, CC-F-04, CC-F-05; CC-NF-01, CC-NF-02, CC-NF-03, CC-NF-05, CC-NF-06, CC-NF-07.

[64]CC-D-06, CC-D-07, CC-D-08, CC-D-13, CC-D-15, CC-D-17; CC-NF-04.

[65]CC-D-03; CC-F-01, CC-F05; CC-NF-03, CC-NF-05, CC-NF-07.

[66]CC-D-02, CC-D-03, CC-D-13; CC-F-01, CC-F-04, CC-F-05; CC-NF-02, CC-NF-07.

Box 6.4: Weaknesses in Project Monitoring of Local Benefits

- **Lack of meaningful local benefits indicators.** UNDP's terminal evaluation of the Uganda PV for Rural Electrification project notes that "The project should formulate strategies to use indicators that can show changes in living standards, income and health as well as gender in order to track the progress and impact of the project." The World Bank's implementation completion report for the Indonesia Solar Home Systems project notes: "Although improvement in quality of life was mentioned as an outcome, it was not a performance indicator and the monitoring and evaluation system was not designed to collect data for this purpose."
- **Weak monitoring of local benefits issues.** The terminal evaluation of UNDP's Sudan Rangeland Rehabilitation for Carbon Sequestration project states: "Given the fact that carbon sequestration and biodiversity were explicitly mentioned as key outcomes of the project (that is, the end of project situation), the lack of timely and well-executed [monitoring and evaluation] activities, particularly with regard to the monitoring of carbon sequestration, represents a serious shortcoming of the project."
- **Focus on outputs, not outcomes.** The project performance assessment report for the World Bank's Mali Household Energy project affirms that "the project was more interested in monitoring outputs than outcomes, due to the greater emphasis placed on outputs. Physical targets were achieved by the project, but it is difficult to deduce if the project was successful in promoting rational use of energy resources or abating forest resource depletion in Mali."
- **Attribution of project achievements.** The project implementation reviews of the UNDP Philippines Palawan New and Renewable Energy and Livelihood Support project incorrectly attribute achievements to the project, for which it is only one contributory factor. The project's main direct intervention in terms of solar home system installation was intended to be the creation of a loss guarantee fund. However, by the time of scheduled project closure, this fund had still not been established. The connection to claimed installations in the May 2003 Project Implementation Review is therefore unclear.
- **Lack of incentives for monitoring and evaluation.** Project teams must, as noted in the Mali project performance assessment report, have "appropriate incentives…to design performance indicators that monitor outcomes. Only then can effective results be achieved. Unless outcome is emphasized during implementation, project teams become preoccupied with meeting output targets, and progress on outcome gets neglected."

hood opportunities, poverty reduction, or the achievement of local development goals.

- None of the evaluations recognized potential negative impacts.
- Only the report on India's Renewable Resources Development project discussed poverty within the monitoring and evaluating of the project's impacts.
- The effect of participatory activities was not adequately analyzed.

Systematic and incisive monitoring and evaluation can be important tools, both to improve project management and implementation and to generate lessons learned for similar activities elsewhere. The inadequate coverage of incentive aspects in GEF monitoring and evaluation represents a missed opportunity for gaining timely insight into the linkages between the local and global environment.

6.5 Missed Opportunities

Generation of local benefits and attainment of global environmental goals are intimately linked, and, in most of the cases studied, this relationship was recognized in the design of the projects. Several projects were not as effective as they could have been, because they did not develop effective and sustainable local development strategies that would lead to the widespread adoption of the technologies and thereby contribute toward global benefits. Detailed understanding of the social, economic, and institutional context of household and small enterprise energy use in the specific localities targeted is the key missed opportunity identified in the case studies; several others were linked to this. The principle missed opportunities identified in the case studies were as follows:

- **Assessing private sector viability.** A poor understanding of and limited approach to the development of private sector participation meant that the potential of the

private sector to generate sustainable systems for the production and dissemination of technological innovations was missed.

- **Integrating with wider development processes.** Several cases studies identified the poor links to wider rural development processes as a missed opportunity. A common tendency was to approach projects in isolation and not recognize or build on existing development dynamics. This oversight resulted in reduced effectiveness in promoting local support for new approaches to energy use or conservation.
- **Ensuring community participation.** The weak approach to community participation and empowerment found in most projects meant that the resources and commitment of the local communities, which were intended to be major change agents, were not effectively mobilized. This outcome was problematic in terms of local benefits and has a broader significance in terms of the engagement of local communities in wider environmental management processes.
- **Optimizing productive uses of power.** In several of the household-based renewable energy projects, such as those in Guatemala and Ghana, the PV systems that were installed generated inadequate voltages for many potential uses, including most types of productive activities as well as domestic uses such as pressing irons. The same was true of the small hydro schemes in India. This meant that many potential benefits did not accrue, and the intended beneficiaries lost interest in and a sense of commitment to the adoption of the project technologies.
- **Monitoring and evaluation.** The complete lack or poor quality of monitoring and evaluation systems in most projects makes effective analysis difficult of the potential of the approaches adopted to mitigate climate change. This reflects a weakness of institutional learning mechanisms, which in turn means that ineffective approaches continue to be applied.

6.6 Key Issues

The GEF climate change projects reviewed have produced results yielding local benefits by improving policy frameworks, developing human capacities, establishing infrastructure, and improving natural resource management. The incentive of financial capital focused on private sector actors has been less effective than expected, and the main approach explored by the study—the penetration of rural markets for solar PV systems—seemed unable to make a substantial contribution toward a global impact in the foreseeable future.

Positive elements in climate change with regard to local benefits linkages include the following:

- The achievements in promoting changes to the policy and regulatory environment to promote the adoption of renewable energy illustrate the importance of integration into broader development processes. The most effective projects studied tended to be those in which climate mitigation activities were part of a more inclusive project designed with local development goals in mind. Partnering and linkages to other project activities with explicit poverty reduction goals multiplied effectiveness, regardless of the project's nature.
- The study found several useful lessons regarding synergies among focal areas, for biodiversity and for OP12 on integrated resource management. Projects that aimed for mitigation through the maintenance of carbon sequestration capacities of fragile ecosystems were successful in terms of both local benefits and global environmental benefits. During the early GEF years, these projects were attached to the climate change portfolio, but they are now seen as mainly contributing to other areas of GEF endeavor. They were effective because their approach was viable and of interest to local communities and because they adopted successful approaches to community participation. Their effectiveness in turn increased the potential for active local participation, as the projects were seen to be generating direct and material benefits to these communities.

The overall effect of the projects studied on local benefits was limited and far less than had been specified in their designs. The following factors contributed to this lack of project effectiveness:

- The early climate change portfolio projects adhered to a set of underlying assumptions in their design. One such assumption was that a specific alternative renewable energy technology would be a viable substitute for the existing fuels used by households; a second held that renewable energy systems would be commercially attractive to low-income target groups and lead to broader market dissemination. Both assumptions turned out to be incorrect, and the projects based on them failed to elicit the desired changes in behavior.
- Projects have been negatively affected by the lack of social and economic assessment in their design and implementation. Such assessments provide an essential platform for projects that aim to change dimensions of people's behavior toward the environment.
- The cluster of solar PV projects absorbed a large GEF financial allocation over the years, but yielded only modest returns in terms of global benefits, local benefits, sustainability, and replication. Although the projects were staggered over time, their collective lackluster success raises the issue of whether the GEF assimilated early project findings to adapt and modify later projects. Factors that impeded such a response included the length of the GEF project cycle and an associated reluctance to withdraw projects from the pipeline, a tendency to replicate previously approved projects, responding to high expectations rather than reflect realism and risk project rejection, an internationally held belief that PV costs would come down, a lack of clear monitoring indicators, and a desire to respond to country-level demand for new approaches to rural energy for off-grid areas.

7. International Waters

> The poor typically suffer most from declining water quality and ecosystem productivity since they are most directly dependent upon these environmental assets for both their food supplies and livelihoods. Therefore, efforts to protect international waters and their biodiversity must be integrated with measures to alleviate poverty.[1]
>
> As much as we go out of our way to promote a bottom up approach with genuine community empowerment we face a continual struggle reconciling that with the more global interests in the project.[2]

This chapter presents the main findings concerning the international waters projects studied. Section 7.1 provides a detailed overview of the sample. Section 7.2 presents the main findings, including elements of success and challenges faced. Section 7.3 presents the international waters strategic priorities and new projects, to assess the extent to which new developments in the portfolio integrate local and global issues. Section 7.4 discusses main factors influencing the findings. Sections 7.5 and 7.6 present missed opportunities and key issues, respectively.

7.1 International Waters Sample: Overview

The international waters projects studied included three distinct but related data sets:

- purposive sample of completed projects and those under implementation (for more than one year), selected from the 2001 Project Implementation Review;
- a review of all completed international waters projects with implementation completion reports and terminal evaluations received by the GEF Evaluation Office as of July 30, 2004; and
- a sample of new international waters projects approved by the GEF Council and GEF CEO between December 7, 2001, and November 17, 2004.

Information on the specific projects comprising these three data sets appears in the three tables of annex E.

Purposive Sample

The GEF has allocated $691.59 million with intended cofinancing of $1.466 billion, giving a total possible investment of $2.16 billion distributed across 95 projects.[3] It is the world's largest program for the sustainable use and protection of transboundary waters. Not all of these projects contain objectives for local benefits generation or community engagement. Indeed, in many regional and global international waters projects that focus on improving intergovernmental cooperation, the direct consideration of local community involvement is not viable or relevant.

The study selected 14 international waters projects for detailed consideration. Total planned financing for these

[1] UNDP (n.d.).

[2] UNDP Chief Technical Advisor for the Implementation of the Strategic Action Program for the Pacific Small Island Developing States project, personal comment.

[3] See GEF (2004d) for an overall review of GEF international waters activities.

14 projects was $327 million. The GEF planned to provide $145.9 million in grants; this was complemented by $184.1 million in cofinancing contributions by the World Bank (International Development Association and International Bank for Reconstruction and Development), UNDP, UNEP, bilateral donors, foundations, NGOs, and national governments. All of the sampled projects were selected based on their stated intention to provide local livelihood benefits, with explicit or implicit linkages between the attainment of those benefits and global environmental goals.

Of the 14 projects, 7 are GEF-2 (approved between 1999 and 2002), 6 are GEF-1 (approved between 1995 and 1998), and 1 is from the GEF pilot phase (approved between 1991 and 1994). As of April 2005, nine of these projects had been completed (see annex E, table E.1).

The sample of projects selected attempted to maintain balance across both the GEF operational programs and the Implementing Agencies. However, OP9 projects overwhelmingly dominate the sample, reflecting the fact that the objectives and activities of these projects tend to include demonstration and pilot activities at local scales and may thus have a stronger focus on local-global linkages than the other OPs. Five of the OP9 projects were primarily concerned with the implementation of strategic action programs to address transboundary concerns[4] and thus had some on-the-ground pilots involving regional, national, and local stakeholders (see table 7.1).

Table 7.1: International Waters Project Sample Distribution by OP and IA

OP	World Bank	UNDP	UNEP	Multi-IA	Total
OP8	2	1	0	0	3
OP9	1	3	3	1	8
OP10	2	0	1	0	3
Total	5	4	4	1	14

More projects were sampled from Africa and Latin America and the Caribbean than from other regions, due to the strong representation of these regions across OP8 and OP9 (see table 7.2).

Table 7.2: International Waters Project Sample Distribution by Region

Region	Number of Projects
Africa	6
Asia	2
Europe and Central Asia	1
Latin America and the Caribbean	5
Global	0
Total	30

The sample of projects included only full-sized projects, since this focal area does not lend itself to smaller project modalities given the scale of interventions and concomitant costs and the longer time scales involved in implementation. National government agencies and/or intergovernmental bodies executed the projects; NGOs were sometimes involved in and around the local demonstration and/or pilot sites. Two of the 14 projects were purposively selected, in consultation with the IAs, for detailed field-based case studies; a further 3 were selected as nonfield case studies (see annex E, table E.1).

Although the projects selected contain local activities and interventions, their major emphasis is on transboundary waters issues that require national and intergovernment (regional) cooperation, as well as changes in policies and sectoral cooperation within and across national boundaries to produce global environmental benefits. The framework used by the majority of international waters projects to address global environmental concerns is the TDA-SAP:

> The main technical role of the TDA is to identify, quantify and set priorities for environmental concerns that are transboundary in nature; identify… root causes,…specific practices, sources and locations and human activity sectors from which environmental degradation arises… Consequently the TDA provides the factual basis for the…SAP. The SAP is a negotiated policy document endorsed at the highest level of all relevant sectors, that establishes clear priorities for action (for example, policy, legal,

[4]IW-D-07, IW-D-09; IW-F-01, IW-F-02; IW-NF-03.

institutional reforms, or investments) to resolve the priority problems identified in the TDA.[5]

Some of the projects selected had the potential to generate local-global linkages through indirect approaches. Such approaches have primarily involved building capacity for compliance with international conventions, developing regional agreements and national policies, and building national regulatory capacity to address transboundary environmental problems to manage and mitigate risks. Examples of these approaches include improving navigation in busy shipping lanes to prevent and reduce shipping accidents and oil spills, developing and enforcing regulations to prevent and reduce the discharge of bilge and ballast water, developing regulations and on-shore facilities to treat and recycle ship waste, and developing regulations and practices (including investments) to reduce urban sewage waste. Projects using these approaches generally assume that a broad array of environmental and social benefits will thereby accrue, including safeguarding and reducing risks to fisheries and the tourism industry and reducing human health risks.[6] These types of actions do not usually require community involvement. Furthermore, intended socioeconomic benefits are difficult to measure in practice.[7]

The transboundary focus does not overlook the distinct localized root causes of some of the threats to water resources—that is, the human activity sectors from which environmental degradation arises. Consequently, eight of the projects studied emphasized local demonstration/pilot remedial activities that attempt to link improvements in water and/or land management with strengthened local livelihoods.[8]

[5]GEF (2004d), p. 56.

[6]These broad social benefits have been stressed with regard to OP10 projects such as IW-D-13 and IW-D-14; OP8 projects such as IW-D-01, IW-D-02, and IW-D-03; and OP9 projects such as IW-F-02 and IW-NF-03.

[7]No projects in the sample explored the role of cost-benefit analysis to demonstrate the benefits of risk management to national and local government, and to use in public awareness and outreach materials with communities.

[8]IW-D-01, IW-D-04, IW-D-05, IW-D-09; IW-F-01, IW-F-02; IW-NF-01, IW-NF-03.

Supplementary Samples: Completed and New Projects

Two additional samples were made. First, a review of all completed international waters projects with implementation completion reports or terminal evaluations (as of July 30, 2004) was undertaken to collate and examine the key evaluative lessons and recommendations relating to integration of social/local livelihoods into project activities aimed at securing global environmental gains. In all, 24 international waters projects with implementation completion reports and terminal evaluations were reviewed, of which 6 were already included in the purposive sample (see annex E, table E.2). Second, four new projects were selected in order to look for progress on the integration of local livelihood and global environmental issues (see annex E, table E-3). These projects were approved by the GEF Council and GEF CEO between December 7, 2001, and November 17, 2004, and thus partly cover the new international waters strategic priorities for GEF-3 (see section 7.3).

7.2 Looking Back: Local Benefits in International Waters

This section discusses the outcomes of the different projects in terms of the range and scale of local benefits and the linkages made to contribute to global environmental goals. Where appropriate, project examples are provided, although no attempt is made to reproduce the richness contained in many of the individual field and nonfield case studies. Readers are encouraged to consult the individual case study documents and publicly available implementation completion reports and terminal evaluations for more specific detail on projects of interest.[9] Each case study has been given a unique code and is referenced accordingly throughout this chapter; see annex E for full project names and details.

The findings cover:

- an overview of project financing for local benefits,

[9]Contact the GEF Evaluation Office for the nonfield case studies.

- policy formulation and institutional capacity building to enable local incentives for remedial actions to improve international waters,
- socioeconomic benefits for international waters activities,
- negative impacts, and
- linkages between local and global environmental benefits.

As with the previous chapters, given the complex interrelationships among and within findings, some issues are discussed from several perspectives.

Financing of Local-Global Linkages

The principle of agreed incremental costs stipulates that GEF financing is only available for the increment necessary to cover the costs of "global environmental benefits." The financing of incentives for local benefits is usually considered part of the baseline project funding and is classified as "national benefits," which are to be funded out of donor cofinancing and/or national government contributions.[10] To ascertain the amount of funding committed for generation of local benefits for global environmental gains, an analysis of the 14 projects' planned budgetary allocations was undertaken. Planned funding was assessed across two main categories: the stakeholder involvement process and support for local benefits generation.

Detailed financial data on stakeholder involvement and support for local benefits generation were not available for all projects because of inconsistencies in project document reporting. Three projects provided no detailed financial data for either category and were excluded from further analysis.[11] The remaining 11 projects had total planned expenditures of $260.5 million, with GEF funding of $117.42 million and cofinancing of $143.1 million.

Planned combined GEF and cofinancing of $64.86 million was allocated to support local benefits generation and $48.71 million for stakeholder involvement processes, of which $25.33 million and $21.13 million were GEF funding contributions. GEF combined support for local benefits generation and stakeholder involvement was therefore approximately $46.46 million. In 10 projects for which GEF budgetary data were available, part of the intended GEF funding was channeled toward support for local benefits generation, in terms of financing for alternative income-generating activities, improved land and water resource management practices, physical infrastructure investments to demonstrate pollution control measures, and local capacity building for environmental management (see table 7.3). Contributions for stakeholder involvement processes are substantial: approximately $2 million per project. This amount reflects the strong planning emphasis on and commitment to stakeholder involvement processes implicit in this focal area.

[10]The GEF Secretariat and IA staff confirmed that local benefits generation is not generally considered "GEFable."

[11]IW-D-03, IW-D-05, IW-D-13.

Table 7.3: Planned Funding for Local Benefits in Sampled International Waters Projects

	Total Financing ($ million)			Stakeholder Involvement[a]			Support for Local Benefits Generation[b]		
	Total	GEF	Cofunding	Total	GEF	Cofunding	Total	GEF	Cofunding
Total ($ million)	260.5	117.42	143.1	48.71	21.13	27.58	64.86	25.33	39.53
% of subtotal					43.38	56.62		39.05	60.95
% of total and GEF financing				18.7	18.0	19.28	24.9	21.57	27.63
# of projects with funding data	11	11	11	10	10	9	10	10	10

a. Includes funding in support of the GEF Policy for Stakeholder Involvement, education and awareness, consultations, and stakeholder participation. Based on project appraisal document and ProDoc information.

b. Includes funding for alternative income-generating activities, physical infrastructure, and building local individual and institutional capacity. Based on project appraisal document and ProDoc information.

Of the 10 projects that provided data on planned GEF contributions to support local benefits generation, the majority of the funding was concentrated in 5 projects with GEF financing of $2.5 million to $8.5 million.[12] These projects tended to be augmented by significant levels of cofinancing for this purpose and/or blended with World Bank loans of between $14 million and $36 million, which supported the majority of local benefits generation activities.

Funding for stakeholder involvement processes was split fairly evenly between the GEF and cofinancing sources and was directed at facilitating public outreach, awareness and education activities, and consultation and decision-making processes to produce plans at national and regional levels and to support pilot and demonstration subprojects.

The analysis shows that there is a flexible, context-driven interpretation of incremental cost and incentives/benefits and that GEF funding does provide support for local benefits generation in pursuit of global environmental gains in the international waters focal area.

Supportive Policy Frameworks and Capacity Building: Linking the International, National, and Local

> Demonstration projects…will have a lasting impact only if they can be translated into public policies at a regional or municipal level.[13]

The development and harmonization of supportive policy and legislative frameworks and institutional capacity building is at the heart of the international waters portfolio approach for the improved management of transboundary resources. All 14 projects sampled paid attention to institutional capacity building at the regional and national levels, and many achievements were realized at national scales. Seven projects had activities devoted to forging linkages between policy, legislation, and institutional capacity building for local comanagement or strengthening existing institutional frameworks with a view to promoting long-term sustainability and replication.[14]

Supportive policy frameworks and associated capacity building to provide appropriate local socioeconomic and governance incentives for environmental management emerge as a key ingredient in helping projects achieve their objectives. The evidence from the sampled projects also illustrates that if local demonstration projects for remedial action and/or comanagement are not linked to policy and/or existing institutional frameworks, they are unlikely to be replicated or to produce environmental benefits on a broad scale.

The projects studied pursued a mix of capacity-building activities, including enhancing regional frameworks to facilitate implementation of community comanagement in the future; and facilitating institutional changes to support local-global linkages, simultaneously seeking to develop policies and demonstrate remedial management activities. These projects were attempting to create a dialogue between policy changes and on-the-ground implementation of remedial activities.

To date, the demonstration activities undertaken have primarily been small in scale; consequently, tangible environmental benefits have been localized. Some exceptions to this do exist, however, where regional and national policy and planning have led to significant local activities and global environmental benefits. Such initiatives include the community-based control and removal of the water hyacinth invasive species in Lake Victoria; and the replication of integrated coastal zone management (ICZM) in the East Asia Seas project, where local government and community planning and comanagement are improving waste management and fisheries, producing substantial financial benefits as well as new skills and training for local people.[15]

Comanagement approaches, which link people to resource management activities, were developed by four projects, two

[12] IW-D-05, IW-D-07, IW-D-09; IW-F-01; IW-NF-03.

[13] IW-F-01.

[14] IW-D-01, IW-D-04, IW-D-09, IW-D-12; IW-F-01; IW-NF-01, IW-NF-03.

[15] IW-NF-01 and IW-NF-03.

of which have shown significant results.[16] The UNDP's East Asia Seas project promoted comanagement and strategic planning involving local government, communities, and the private sector through ICZM policy at several local demonstration sites in Cambodia, China, Indonesia (Bali), the Philippines, and Vietnam. The project first identified 15 environmental investment opportunities (totaling over $600 million) for public-private partnerships, integrating social concerns into ICZM strategies through a combination of capacity building and research/valuation studies. The project design placed a strong emphasis on local participation in decision making (often with the involvement of NGOs and CBOs); this was carried through into implementation by linking with existing decentralized local government institutions. The approach has resulted in communities being more empowered to address environmental problems caused (at least in part) by their own actions and to work with other stakeholders such as the private sector.[17] In Da Nang, Vietnam, the project has worked closely with communes, in line with the Vietnamese government's decentralization policy, to develop community awareness; utilize traditional knowledge; and involve communities in planning, implementing, and monitoring environmental subprojects.

Fishermen at Ogal Beach Management Unit on Lake Victoria (Lake Victoria Environmental Management). ©Arati Belle

In the World Bank's Lake Victoria Environmental Management project, a subcomponent concentrated on harmonizing fisheries legislation across Kenya, Tanzania, and Uganda and promoting community comanagement of lake fisheries. This effort resulted in 511 beach management units being established to pilot community comanagement. The units' roles were enforcement (self-policing), identification, revenue collection (through fines and licensing), and protection of fish breeding areas. The project carried out capacity building to train the units in participatory planning, basic administration (bookkeeping and financial management), and roles and responsibilities. In all three countries, the units demonstrated that communities can be empowered to take responsibility for resource management with the potential to produce global environmental gains (for example, over 200 fish breeding areas were identified by communities and protected). The World Bank stocktaking report states:

[16]These four projects are Lake Victoria Environmental Management (IW-NF-01), Building Partnerships in Environmental Protection and Management of the Seas of East Asia (IW-NF-03), Implementation of Integrated Watershed Management Practices for the Pantanal and Upper Paraguay River Basin (IW-D-04), and Integrated Management of Land-Based Activities in the São Francisco Basin (IW-D-12). The first two of these have already begun implementing participatory comanagement models; the latter two are in the preliminary stages of planning and establishing such approaches.

[17]However, differences in public involvement have been observed across the countries in which the project operates. For example, in China, which has more centralized government institutions, consultation and awareness raising have been prevalent; while in countries such as Vietnam and the Philippines, more decentralized modes of governance have facilitated a rapid building of social capital and opportunities for empowerment.

> The Fisheries Act has been reviewed and a draft National Fisheries Policy for Uganda is under review and being discussed with stakeholders. Critical questions about guidelines for forming BMUs [beach management units], sustainability and legal status have been addressed and will soon be represented in a revised Fisheries Act. The gazettement of BMUs has progressed in preparation for their role in comanagement. This is an innovative approach for the region that recognizes and will support comanagement through BMUs, while ensuring financial sustainability through revenue collection and retention.[18]

The East Asia Seas and Lake Victoria projects demonstrate that empowerment and creation of local institutions that increase community access to social capital are dependent on formal legal recognition and ties to the apparatus of local and national governments. Empowering communities means that projects have to address the issue of governance of resources at both local and national scales to provide the conditions under which global environmental benefits can be produced. The UNDP intervention in Lake Tanganyika concentrated its efforts at the national and regional scales (while operating under very difficult conditions given the civil war in the Democratic Republic of Congo and Burundi).[19] The project completed a TDA-SAP process involving four countries and, importantly, facilitated the negotiations for and drafting of a convention for the sustainable management of Lake Tanganyika; this convention includes a provision for community comanagement and public participation (see box 7.1).

Many other projects have concentrated on developing and harmonizing policy and legislation with associated local capacity-building exercises at the local government and community levels (for example, demonstrating approaches), or have assisted government in implementing existing policy frameworks. Policy development is a dimension of substantial achievement for the projects studied in detail. For example, in Brazil, two UNEP-implemented projects—the São Francisco Basin and the Pantanal/Upper Paraguay River Basin projects—are helping the national and local governments implement an existing federal law that requires the establishment of basin committees to integrate different sectors and stakeholders (at the national, state, and local levels) to improve river basin management. The projects are building capacity to improve participation among stakeholders who previously remained isolated from each other and so foster joint decision making for increased environmental and economic stability. Because both projects are in the early stages of establishing comanagement approaches, global environmental improvements are only likely to be observable in the mid- to long term.

Thirteen projects included some activities aimed directly at improving capacity at the local level; these were mostly

Box 7.1: A Regional Framework for Community-Based Comanagement of Fisheries

A major outcome of the regional UNDP-implemented Pollution Control and Other Measures to Protect Biodiversity in Lake Tanganyika project was the Convention for the Sustainable Management of Lake Tanganyika, which was signed by Burundi, Democratic Republic of Congo, Tanzania, and Zambia in June 2003. The convention legally binds contracting states to the following actions:

- Promote broad participation in fisheries management, including the development of community-based management with due regard to local conditions (article 7[d]).
- Adopt and implement legal, administrative, and other appropriate measures to ensure that the public, and in particular those individuals and communities living within the lake basin, have a right to participate at the appropriate level in decision-making processes that affect the lake basin or their livelihoods, including participation in the procedure for assessing environmental impacts of projects or activities that are likely to result in adverse impacts; and are given an opportunity to make oral and written representation before a final decision is taken (article 17).
- Ensure that appeal or review procedures exist in respect of any decision by a public body to authorize an activity that is likely to give rise to an adverse impact (article 17).

[18]In IW-NF-01.

[19]IW-NF-02.

The Lake Victoria Environmental Management Project helped lakeside communities develop irrigated group farms. ©Arati Belle

aimed at raising awareness and carrying out education activities associated with pilot/demonstration sites.[20] For example, several of the pilot phase and GEF-1 projects concentrated on such education and awareness-raising activities in an effort to improve community knowledge of good practices and change attitudes toward the environment to assuage degradation. Even though the projects wanted to transmit relatively straightforward environmental messages to the communities, the most successful approaches used to convey them have been innovative and multilayered. For example, UNDP's East Asia Seas project has worked with and through regional newspaper journalists, religious groups, schools, and CBOs to reach a wide constituency. Similarly, the World Bank's Lake Victoria project in Tanzania used drama groups, songs, poetry, and competitive events to transmit key environmental messages; these approaches generated significant interest.

[20]That is, all of the sampled projects except IW-D-13.

Recent projects take more sophisticated approaches that combine education and awareness raising with technical assistance (for example, training in improved resource management practices for sustainable and alternative income-generating activities) to individuals, communities, and local institutions associated with demonstration projects. Eight projects included some activities to address waste and/or pollution in terms of clean-up campaigns, recycling, and risk management measures to avert pollution, particularly oil and chemical spills.[21]

The study found the following to be elements of success associated with policy and capacity building:

- Linking demonstration and pilot interventions to existing institutions and policies engenders greater potential for sustainability,[22] including links with ongoing decentralization and development assistance frameworks.[23]
- Involvement of NGOs/CBOs in demonstration and pilot activities improved the effectiveness of local community involvement in comanagement.[24]
- Building links between policy, comanagement, involvement, and financial incentives (for example, income-generating activities or demonstration of new or more effective resource use patterns).

Common challenges included the following:

- underestimating the time frames needed to build institutional capacities at national and local levels and to facility policy changes, particularly where there was a strong culture of centralization; and
- creating and building capacity of project-based institutions without making sufficient linkages to local and national government institutional structures.

[21]IW-D-01, IW-D-05, IW-D-09, IW-D-13, IW-D-14; IW-F-02; IW-NF-01, IW-NF-03.

[22]IW-D-04, IW-D-12; IW-F-01 (Bolivia only).

[23]IW-NF-03.

[24]IW-NF-03.

Socioeconomic Benefits and Incentives

Income and Employment

The main justification for augmenting income and employment is to provide incentives for improved environmental management of water resources, allied with strengthened social and human capital to enhance opportunities and skills. Five of the projects studied demonstrated positive results on incomes and/or employment (see box 7.2).[25] New livelihood opportunities created included improved efficiency in agricultural practices, tourism, handicrafts, agroforestry and mariculture; these also led to tangible improvements in resource management.

In the short term, projects are testing the development of various benefits to catalyze changes that can then be applied to other basin areas. Hence, with few exceptions, the scale of benefits is small. Furthermore, there are indirect income and employment benefits associated with risk management and preventive measures that international waters projects have developed on larger scales—such as oil pollution prevention and mitigation planning, and improvements in ship waste management and navigation—which protect local and regional fisheries and tourism (see box 7.3).

The following key elements for success can be discerned from project experiences with regard to income and employment incentives for global environmental gains:

- supportive policy and legislative framework for financial incentives,
- involvement of communities (and/or individuals) in the conceptualization of alternative income-generating activities and capacity building for new skills and knowledge,

[25] IW-D-01, IW-D-05; IW-F-01; IW-NF-01, IW-NF-03.

Box 7.2: Financial Incentives for the Generation of Environmental Benefits

The following approaches have provided financial incentives and benefits for improvements in production and/or changes in production patterns that are less environmentally destructive.

- **Soil conservation and improved water use.** UNEP's two SAP-related demonstration projects for the Bermejo River implemented soil conservation and water use measures to improve productivity of existing agricultural livelihoods and introduce new crops such as fruit trees that double as wind breaks. Most of the improvements have involved physical capital investments such as irrigation channels, dike and dam construction, and fencing of pastures. These in turn have resulted in improvements in the farm economy both for cash crops and subsistence farming and reduced soil erosion in pilot areas.
- **Improved post-harvest fisheries processing.** The improved processes introduced by the Lake Victoria Environmental Management project have reduced losses and improved incomes. Reduction in water hyacinth infestation has conserved fish breeding areas and enabled transport in and more constant access to fishing grounds; these have led to improved livelihood security. In wetland areas, pilot handicraft production has resulted in sales to both internal and external markets. Alternative fuelwood sources were developed through agroforestry and pilot tree nurseries.
- **Improved fisheries management and reefs.** At demonstration sites in Bali, Bataan, and Batangas (the Philippines), the East Asia Seas project has worked with local communities to reduce dynamite fishing and to develop coral farms; these latter improve reef conditions for ecotourism and for coral "export." Local fishermen are also diversifying their livelihoods by acting as tour guides. Other activities initiated by the project include mariculture and recycling of beach waste by local junk shop operators. A memorandum of understanding was signed between these operators and local government, resulting in higher income and employment and a reduction in the volume of waste.
- **Improved storage and use of slurry and manure. Rural Environmental Protection Program (Poland).** The World Bank's Rural Environment Protection Program has made physical capital investments in on-farm tanks and pads. Development of farm management plans to improve the use of manure and slurry as a substitute for chemical fertilizer has resulted in savings of $150–$200 per year for farmers and a reduction in runoff into the River Bug.

Box 7.3: Reduction of Navigation Risks and Maritime Pollution in the Red Sea

The initiative to develop and implement a SAP for the Red Sea and Gulf of Aden was a highly complex project involving all three GEF IAs and seven countries. Although many of its components were implemented poorly in Yemen (the site of the field case study), the component addressing reduction of navigation risks and maritime pollution was completed successfully. All planned objectives were realized, and actions resulted in a major change to the flow, organization, and management of shipping in the Red Sea and Gulf of Aden. Additionally, the rate of maritime accidents has decreased. Although the system's newness means that it is not yet possible to document statistically whether this has also reduced pollution levels, the successful execution of this component should result in long-term benefits through reduced navigation risks and the amelioration of pollution threats. In the judgment of the study team, a key factor in the success of this component has been the regular supervision and assistance exercised by the World Bank and the staff-time investment it made over several years for the purpose of its steady implementation.

It is not possible to quantify, or even estimate, the local incentives this component will generate, partially because the key effects will be through reduced risks, so "benefits" are reduced exposure to losses in resources and income, reduced health hazards, and so on. Also, these benefits are only really understandable over the long term: the nature of major incident risks is that they are infrequent but severe when they do happen. Finally, because major benefits are indirect, the reduced hazards to marine resources mean that the keystone livelihood activities for many coastal communities of fishing and related activities are more likely to be sustainable, because the resource base (coral reefs and off-shore fishing grounds) upon which they depend is less prone to degradation.

- local government involvement and ownership of capacity building to engender continuity in the post-project period,
- market analysis to ascertain viability of income-generating activities, and
- monitoring systems to provide a basis for adaptive management and lesson learning.

Successful projects have linked the building of skills and knowledge at the individual and community levels directly to existing and/or alternative livelihood opportunities. This approach often involves messages and techniques conveyed through workshops/seminars and extension services.[26] Extension services involving face-to-face individual and small group technology and skills transfer have proved to be effective in changing individual and community resource use patterns.

Challenges to outcomes include the following:

- lack of linkages between incentives and institutional and individual capacity building at the local and national levels, as a result of an overemphasis on financial incentives to the detriment of building ownership;
- lack of supportive policy frameworks; and
- poor development of project tools to provide cost-benefit analysis of the indirect financial benefits of project interventions such as risk management.

Infrastructure Improvements

The international waters focus on identification of key problems affecting transboundary resources (through TDAs) and subsequent development management actions through SAPs does not involve substantive GEF investments in large-scale physical infrastructure such as urban, agricultural, and/or industrial wastewater treatment, which could produce social and environmental benefits. Such activities are generally funded through baseline development financing. However, the projects' policy, legislative, and institutional capacity-building aspects are often aimed at creating conducive conditions for investments either by government or the private sector (for example, shipping lines and petrochemicals industry). In this way, GEF international waters projects can act as a catalyst for follow-on large-scale investments with substantive natural, financial, and human capital benefits for local populations.

[26]For example, the Lake Tanganyika project (IW-NF-02) provided training in administration, bookkeeping, and business management skills for 313 fishermen and beach management units, and the East Asia Seas project (IW-NF-03) provided training and extension services to individuals and communities in mariculture establishment and reforestation of mangroves.

In contrast, most direct investments in infrastructure in this focal area tend to be small-scale demonstration/pilot activities. Twelve projects in the sample were identified as providing physical infrastructure improvements, which are diverse in type and scale.[27] These projects have variously promoted activities with clear socioeconomic and environmental linkages to pure social investments in schools and health centers of high social development value but with minimal linkages to the achievement of global environmental objectives.

Investments have covered micro-irrigation systems, engineering works to contain erosion and flooding (for example, small dams, holding tanks, water troughs, and channeling),[28] small-scale community sanitary systems,[29] and manure and slurry tanks for farmers.[30] As described in box 7.4, infrastructural investments need to be embedded in a sustainable institutional environment if they are to generate long-term benefits.

Physical investments have worked best when they have been linked to the generation of socioeconomic benefits such as income and employment—and, in so doing, exhibited one or more of the following characteristics to instill sustainability and replication potential:

- link to local community institutions and/or local government,[31]
- link to national and local policy/legislation and institutional capacity building,[32]

[27]That is, all sampled projects except IW-F-02 and IW-NF-02.

[28]See particularly IW-F-01.

[29]IW-D-09.

[30]IW-D-05.

[31]IW-D-04 and IW-F-01 (Bolivia).

[32]IW-D-01 and IW-NF-03.

Box 7.4: Where There's Muck, There's Brass: Advisors, Farmers, and Finance in Poland

The World Bank–implemented Rural Environmental Protection Program in Poland has worked with over 900 farmers in the Bug River Basin to provide simple manure and slurry storage facilities to reduce nutrient runoff into the river. The project employed a network of *soltys* (local advisors) to raise awareness, deliver training programs, and provide technical assistance for the installation of manure pads and slurry holding tanks on a cost-sharing basis. The project secured 40 to 50 percent of the investment cost in cofinancing from farmers—$6.2 million by project end. By project completion in 2004, 672 medium-sized farms had installed improved manure pads and slurry storage. The *soltys* also helped farmers develop nutrient management and farm management plans to maximize the use of the manure and slurry to partially substitute for chemical-based fertilizers. This resulted in significant savings in artificial fertilizer costs for farmers.

Advisor training and support contributed greatly to building trust and ownership with the farmers, who are traditionally conservative and distrustful of outside intervention. Indeed, the advisors built so much trust that farmers said the soltys had become "part of their families." However, with the end of the project and no follow-on funding to support the network of advisors, the extension services were abruptly stopped. Many farmers lamented that "the soltys suddenly stopped visiting." Furthermore, there is little interest within the Polish government to continue extension services. Most farmers lack resources to invest in improved manure and slurry storage independently, and remain ignorant of alternative environmentally and financially improved practices; without extension, this situation will not change. The World Bank Implementation Completion Report concludes: "The project did not seem to have raised enough interest at the Ministry of Agriculture to continue its achievements in terms of promotion of the importance of extension services to farmers. The incentive for participants to sustain the project results is an economic gain. A more cost-effective operation of farms thanks to savings on fertilizer is the best example of an economic incentive."

Although the project demonstrates clear financial benefits from investments in physical infrastructure that produce global environmental benefits, these are not sufficient without equal attention to building supportive institutional structures. This example illustrates the shortcomings of a project-based approach to environmental problems, which actually call for a long-term approach more closely tied to the needs of government policies and strategies, as well as of private sector development.

- involve financial capital investment and thus instill ownership,[33] and
- provide socioeconomic incentives for beneficiaries.[34]

Health Benefits

Several projects have reported human health benefits by reducing water pollution (and pollution risks) and disease, improving the collection and treatment/storage of household waste, providing sanitation facilities such as toilets, removing invasive species that harbor disease vectors such as mosquitoes, providing health facilities and dispensaries, and reducing health risks through pollution contingency planning.[35] For example, the Pacific Small Island Developing States project is working in eight countries to improve the collection and treatment of sewage waste; in this project, local community health benefits are an important incentive for environmental management. Many of the Pacific SIDSs are affected by pollution of groundwater and coastal resources caused by poorly designed septic tanks and inadequate sanitation practices—a situation compounded by rapid demographic and social changes. The area has experienced an increasing incidence of waterborne diseases such as dysentery and diarrhea and damage to fringe reefs. The project is implementing several activities to address these problems; these include raising awareness so that communities understand the links between poor household sanitation, disease, and damage to global environmentally important coral reefs;[36] and piloting "composting dry toilets" to reduce pollution of groundwater. These latter toilets have been installed in Fiji, and communities have already recognized their benefits.

The Lake Victoria Environmental Management project took a direct approach to health issues by financing construction of community health centers and dispensaries. This type of investment has not been very effective, however, because of inadequate measures to link the new health dispensaries to development priorities of the relevant line ministries, resulting in inadequate or even no staffing and resource allocation. Furthermore, such investments were not linked to the objectives of improving land and water management practices and hence did not contribute to global environmental benefit generation.

Despite the fact that health benefits are one of the key incentives for local communities to support improved water management, a deficiency running through all projects is the lack of qualitative or quantitative monitoring of environment-health linkages. Little attention is given within projects to conducting cost-benefit analyses of SAP activities that could demonstrate the health and associated financial benefits of said interventions to national governments. The only exception was the UNDP East Asia Seas project, which conducted several socioeconomic analyses to provide policy makers with indications of the medium- to long-term benefits of water management. These analyses have proved to be a persuasive tool for action in China and the Philippines.

Strengthened Social Capital and Stakeholder Involvement

It is widely recognized that creating improved access to social capital through formal and informal institutions can empower communities (by improving accountability, transparency, and participation in formal local government institutions and informal CBOs) and can be critical in improving natural resource management. Social capital (networks, social bonds, and trust) functions both as a process that facilitates environmental action and as an outcome, in terms of strong and potentially sustainable institutions. Building social capital involves building ownership and trust among individuals, communities, and local institutions through participation that allows for joint decision making. This

[33]IW-D-05.

[34]IW-D-05 and IW-F-01.

[35]IW-D-01, IW-D-04, IW-D-09, IW-D-12, IW-D-13; IW-F-01 and IW-F-03; IW-NF-01 and IW-NF-03.

[36]A major problem within the Pacific SIDS communities is that they are unaware of the connection between septic tank leakage and diseases such as dysentery because they cannot see the pollution. The project has adopted innovative techniques such as putting red dye into the septic tanks: "People were really quite shocked when they saw a pink colour appearing in one of their wells" (PREP 2004).

by definition requires projects to have a good grasp of social contexts and processes. The risk is that, if communities and local government have not been involved, any remedial activities may be poorly suited to local contexts, or the modes of delivery may be deficient even in the presence of innovative and workable remedial solutions. These are important issues, as many international waters projects move through the SAP process to implementation, where local social and institutional capital will play a significant role.

Stakeholder involvement processes across the sample were strongest in terms of information dissemination processes, with 13 of 14 projects reporting achievements.[37] Eleven projects intended to undertake local community consultations, of which nine reported achievements.[38] Local stakeholder participation was intended by nine projects and achieved by seven.[39] Note that it is often inappropriate for international waters projects to carry out basin-wide consultations/stakeholder participation due to cost, time, and scale (logistical) restrictions; hence, many of the consultative exercises were targeted at pilot/demonstration site locations. Under these conditions, involvement processes have often been associated with remedial actions, income-generating activities, and comanagement activities within the context of SAP implementation. Five projects included in the sample involved implementation of SAPs or significant local involvement in their planning stages.

In some projects with local demonstration activities, the modalities used to select and implement subprojects have been top down and technocratic and have ignored local institutional frameworks that could provide for joint decision making and more socially sustainable solutions.[40] Local community involvement in design and implementation are often simplistically or incorrectly interpreted as benefits when they are actually processes that may lead to benefits or support local incentive structures. In several projects, stakeholder involvement fell short of expectations or was inconsistently implemented due to poor allocation of social science/community development skills. For example, the Red Sea SAP and Lake Tanganyika projects ignored or sidelined social issues (see box 7.5). Even in a project such as Lake Victoria, community development and social expertise were only drawn on after two years of implementation, although the project did eventually make significant gains in the area of comanagement.

The findings show that relatively few projects have matched their commitments to stakeholder involvement with a nuanced understanding of local social issues in a proactive manner or systematically drawn on social expertise in project design and implementation.[41]

The international waters projects studied in detail operated within social environments in which poverty is a major characteristic. Despite this, explicit linkages to poverty policies or strategies, or targeting of intended benefits to poverty, were generally not found in the projects.

Four projects did make explicit linkages between a SAP or other planning process and poverty reduction strategies, two targeted low-income/poor populations in demonstration/pilot activities, and three provided evidence of some beneficial outcomes for the poor.[42] Poverty frequently has a gender dimension, with women being particularly affected. The roles of males and females with respect to water use may differ substantially, so any change in the water regime may have a differential impact by gender. This appreciation was not reflected in the international waters projects studied, and only two projects specifically provided for gender-sensi-

[37]That is, all except IW-F-02.

[38]IW-D-01, IW-D-4, IW-D-05, IW-D-07, IW-D-09, IW-D-12; IW-F-01; IW-NF-01, IW-NF-03.

[39]IW-D-04, IW-D-05, IW-D09, IW-D-12; IW-F-01; IW-NF-01, IW-NF-03.

[40]IW-F-01; IW-NF-01.

[41]The international waters program study similarly noted a number of deficiencies with the TDA-SAP process and overall project design, implementation, and evaluation including lack of stakeholder analysis and participation, and lack of inclusion of social science expertise (GEF 2004d, pp. 61–64).

[42]IW-D-01, IW-D-05; IW-NF-01, IW-NF-03.

Box 7.5: The Red Sea SAP: Yemen Experience

The scale and extent of local involvement in the Red Sea SAP project was far less than could have been anticipated. The implications of this are that the SAP project is characterized by a range of missed opportunities and is less likely to attain its global environmental goals. A number of specific points qualify and support this overall conclusion:

- The many studies executed under the Red Sea SAP included little research on socioeconomic or resource management patterns, yet these are central to achieving the project's goals. In particular, there was no understanding of livelihood issues or opportunities that could be the basis for sustainable changes in the resource management practices that are at the heart of existing patterns of resource degradation.
- The paucity of socioeconomic approaches particularly applies to gender issues. Even though women are key resource managers and often have different perspectives than men, no attempt was made to consider this issue in the project's planning or implementation. Involving women in coastal/marine and forest environmental conservation and resource management activities could have provided the opportunity for a more balanced gender perspective.
- The SAP has provided minimal local participation and no link to existing community organizations (for example, fishing co-ops) which are essential for ensuring that potential changes to resource management practices are implemented on a scale sufficient to achieving project objectives. Close work with fishermen's cooperatives and coastal communities would have provided a basis for more effective resource management approaches. These could have included micro-grants and awareness programs for fishermen cooperatives to mitigate environmental degradation, introduce less damaging fishing gear, and help establish sustainable levels of catch in different areas and for different species.

Although an action plan had been prepared to reduce shark fishing in the Red Sea, local fishermen in Yemen were unaware of it (Yemen SAP for the Red Sea and Gulf of Aden). ©John Soussan

- The evidence from a wide range of institutional and local stakeholders in Yemen suggests a lack of ownership of key project outputs and a systematic failure to engage with and build on national policies and priorities or institutional capabilities, including initiatives taken by the government of Yemen such as banning trawlers and cooperation between the Ministry of Water and Environment and the Ministry of Fish Wealth.
- There are key concerns over the sustainability of many of the regional activities implemented under this SAP. The project placed a great emphasis on networks, but there is no evidence of capacities being sustained after project completion.

tive stakeholder targeting (both did provide some evidence of beneficial outcomes in this area as well).[43]

Given the prevailing pressures of poverty in many project areas, tangible incentives must be provided for people to adopt a new perspective that values a global environment at the expense of maximizing local gains. It is unrealistic to expect that impoverished communities will refrain from environmentally destructive practices merely because they have been made more aware of the broader impacts of their livelihood practices. Two of the projects studied utilized education and awareness as the central method for convincing communities to change their relevant livelihood practices with no supporting activities to generate socioeconomic incentives.[44]

In several cases, project education materials were published using technical/scientific or foreign languages that communities could not understand.[45] Communication strategies were rarely developed during project design phases, leaving approaches to be developed during implementation and

[43]IW-NF-01, IW-NF-03.

[44]IW-F-01; IW-NF-02.

[45]IW-NF-01.

resulting in poor targeting and reduced impact. There is a common failure to link education and awareness to local cultural communicative forms and knowledge systems regarding resource management, thereby missing opportunities to tailor capacity building to communities rather than the opposite.

OP8 and OP9 projects are required to document stakeholder involvement so that lessons can be learned. However, such project documentation and monitoring was commonly found to be weak, which places major constraints on the possibility of adaptive management and learning.[46]

Negative Impacts

The extent of negative social impacts arising from international waters project activities was limited. Seven of the projects studied were implementing activities that included the creation of protected areas or reserves, which restrict access to and use of resources.[47] This approach may result in loss of livelihood opportunities, particularly to the poorest members of communities, who are often most dependent on natural resource extraction but have few formal rights and limited access to institutional networks to maintain those rights. The Lake Victoria Environmental Management project promoted enforcement exercises to curtail "illegal" fishing in pilot sites, including the confiscation and/or breaking of boats. The project design and implementation made no provision for alternative livelihoods for these fishermen. Moreover, because the project did not monitor the socioeconomic effects of these actions, it is not possible to assess the issue or its impacts.

Exclusion of local communities from decision making is likely to have deleterious impacts on social and institutional capital, leading in the long term to unsustainable project outcomes. The consistent failure of international waters projects to collect detailed information on the extent to which communities do participate in decision making means that there is little basis upon which the potential sustainability of outcomes can be assessed.

Linkages between Local Benefits and Global Environmental Gains

The findings demonstrate several linkages between local livelihood incentives and the generation of global environmental gains.

- **Changes in livelihood strategies.** The development of pilot comanagement approaches has given communities a stake in managing resources for modifications and changes in livelihood strategies in order to provide greater sustainability and security. These have included community actions to protect, informally zone, and regulate access to key water resources; and to produce collective action to reduce waterborne invasive species and improve land-based livelihood systems, such as farming, that may affect water bodies. There is little current available evidence to show that international waters approaches are currently producing significant local-global linkages, however. (The single exception might be the basin-wide reduction of water hyacinth on Lake Victoria, which has undoubtedly produced global environmental benefits; see box 7.6.) The program's pilot and demonstration projects are still in their early stages, and replication is only likely to be observed over the mid- to long term, as project approaches become incorporated into local, national, and intergovernmental initiatives.[48]
- **Changes in national policies and linking to existing governmental reforms and/or institutions.** International waters project approaches are inherently geared toward catalyzing policy and legislative and planning framework developments and/or changes. There is evidence that regional conventions, intergovernmental cooperative agreements, and the replication of planning approaches such as ICZM have the potential to foster

[46]Indeed, this weakness has been noted consistently since the GEF pilot phase evaluation in 1994 through the OPS2 in 2002 (see UNDP-UNEP-WB 1994 and GEF 2002).

[47]IW-D-01, IW-D-01; IW-F-01, IW-F02; IW-NF-01, IW-NF-02, IW-NF-03.

[48]IW-D-04, IW-D-07, IW-D-09, IW-D-12; IW-F-01 and IW-F-02; IW-NF-01 and IW-NF-03.

Box 7.6: Reducing Invasive Species Produces Local and Global Benefits

The World Bank–implemented Lake Victoria Environmental Management project demonstrated very clear local-global linkages through community-based efforts which successfully controlled and reduced water hyacinth, an invasive species, on the lake. Prior to project start-up, water hyacinth was spreading rapidly throughout the lake, choking bays; preventing the transport of people and goods, and preventing fish landing—thus increasing livelihood vulnerability. The hyacinth also significantly reduced water quality, affected fish breeding, and provided mosquitoes (malaria vector) and water snails (bilharzias vector) with breeding places, thus reducing natural and human capital.

Water hyacinth encroachment on the Kenyan side of Lake Victoria. ©Arati Belle

The project investigated a number of solutions, such as the use of chemicals and manual clearing to control water hyacinth. However, these were not deemed to be appropriate or cost-effective environmental solutions. Bio-control research identified weevils, which are host-specific enemies of the water hyacinth, as a possible solution. After a period of controlled testing, the project worked closely with local institutions and communities to manage the rearing and release of weevils in badly affected areas. The communities were very enthusiastic partners in these activities, because the benefits from collaboration and action were clearly articulated in terms of securing the primary livelihood of fishing and improving environmental health. As noted in the World Bank's project stocktaking report: "The outcome [80–90 percent reduction in affected areas] is a biologically sustaining one, based primarily on a rearing and release program with major local community involvement… Community involvement in tackling the water hyacinth problem has been an important part of the successful outcome."

and support local-global incentives. Furthermore, the most significant achievements have been made through projects that have married national policy reforms to existing decentralization policies and institutions, thus engendering improved local involvement and empowerment in resource management.[49] In contrast, where projects have not adequately addressed policy or attempted to join with local government institutions, linkages have not materialized or have been weak.[50]

- **Improvements to the natural resource base and global environmental benefits.** In most cases, improvements to the natural resource base have occurred on a limited local scale; this is not unexpected, given the demonstration project approach used in many of these initiatives. Nine of the international waters projects studied

[49]IW-D-04 and IW-D-12; IW-F-01 (Bolivia); IW-NF-03.

[50]IW-D-05, IW-F-01 (Argentina), and IW-F-02.

reported gains in natural capital using a range of direct and indirect approaches (the latter type of approach does not use local community involvement).[51] For example, indirect natural capital benefits were secured through risk reduction measures and improved management of ship and on-shore waste. These gains related primarily to risk management activities such as oil pollution, contingency planning, and improvements in navigation aids in high-risk areas. The projects in which these efforts were undertaken include the World Bank's Western Indian Ocean Islands Oil Spill Contingency Planning project, and the UNDP-UNEP-World Bank Red Sea and Gulf of Aden project.

Evidence from other projects in this focal area indicates that individual and institutional capacity improvements and supportive policies are required alongside financial benefits to secure improvements in natural capital. Financial incentives are necessary, but not sufficient, to produce improvements in the natural resource base. There is no financial "magic bullet" to change human behavior at the local level.

7.3 Looking Forward: New Strategies and Projects

This section briefly considers the future character of the GEF international waters strategy and looks at some new projects that have been approved during GEF-3.

The international waters program set three main strategic priorities for the GEF-3 period:

- mobilizing resources for reforms and stress reduction measures through the TDA-SAP framework,
- expanding the global coverage of foundation capacity building for international waters, and
- developing innovative demonstration projects and pilots for reducing contaminants and addressing water scarcity issues.

[51]IW-D-01, IW-D-03, IW-D-13, IW-D-14; IW-F-01 and IW-F-02; IW-NF-01, IW-NF-02, IW-NF-03.

The forthcoming GEF-4 priorities have further sharpened and refined those based on the second international waters program study and OPS3 lessons. The international waters program has placed increased emphasis on forging synergies with World Summit on Sustainable Development targets and Millennium Development Goals to achieve environmental and health-related objectives. Within this context, it also intends to focus on cross-synergies with the biodiversity, land degradation, and climate change focal areas. Support will be given to international waters projects in least developed countries and SIDSs, as these nations are most vulnerable to conflicts and degradation of water resources.[52] Therefore, the strategies for GEF-4 have significant promise in the development of local-global linkages.

Four project designs from GEF-3 were examined to determine the extent to which they incorporate local community and social issues reflecting the ecosystem approach.[53] The results from this small set of projects were encouraging, in that local participation was emphasized as a necessary vehicle for project ownership and post-project sustainability, as was the attainment of specific livelihood outcomes and incentives for global environmental gains associated with demonstration projects. Three projects formulated public participation strategies, and the Niger River Basin project[54] placed particular emphasis on guaranteeing participation by the poor and women during implementation. However, social assessment (including stakeholder analysis) was only carried out by the World Bank–implemented Hai River Basin project;[55] social dimensions were not well analyzed in the other projects. Though efforts are being made to include a range of stakeholders, better disaggregation of the concept of "local communities" to allow a poverty and gender focus would help ensure that local benefits are appropriately identified and distributed and enable projects to give appropriate attention to their potential negative impacts and any nec-

[52]GEF (2005b).

[53]These projects, which were approved between January 2001 and November 2004, were IW-NP-01, IW-NP-02, IW-NP-03, and IW-NP-04 (see annex E, table E.3, for project details).

[54]IW-NP-02.

[55]IW-NP-04.

essary mitigation measures. Similarly, because social baselines are not identified, there is little scope to determine the achievement of local livelihood goals or prepare adequate monitoring and evaluation plans. This lack will pose a barrier to lesson learning, particularly with regard to outcomes of demonstration activities and their replication.

7.4 Main Factors Influencing Findings

Integration of Socioeconomic Factors

The integration of socioeconomic perspectives, particularly in the TDA-SAP framework that dominates the GEF approach to transboundary waters, has been variable.[56] For example, only 3 projects out of the 14 studied in detail undertook a social assessment or other social analysis during project preparation and implementation.[57] Only six projects recorded the involvement of social science specialists in the design and implementation of activities.[58] This relatively inconsistent application of social science tools and skills is caused by the strong emphasis given to scientific and technical aspects of planning as opposed to consistently developing interdisciplinary approaches that merge scientific and social science inputs. As observed in section 7.3, greater efforts are being made in the newer projects to provide for interdisciplinary planning and implementation: socioeconomic issues have received particular emphasis with the new TDA-SAP methodology.

Evidence from projects such as the World Bank–implemented Rural Environmental Protection Program in Poland, the Gulf of Aqaba Environmental Protection Plan, and the UNDP-implemented Pacific SIDSs projects shows that local participation in land and water resource planning has resulted in improved implementation of remedial measures and demonstration projects. Findings also demonstrate the need to link institutional frameworks and involvement at the local and national levels to tangible socioeconomic incentives (financial capital) that encourage sustainability in the post-project period.[59]

Two projects in the sample clearly demonstrated the value-added of an approach that integrates scientific and socioeconomic perspectives. The UNDP-implemented East Asia Seas project employed stakeholder analyses in demonstration sites in China, the Philippines, and Vietnam to identify problems and remedial measures with local government, the private sector, and affected communities. Similarly, the socioeconomic valuation of ICZM pilots in Xiamen, China, will feed into the policy-making process and thereby demonstrate the value of environmental planning and protection.[60] The World Bank's Rural Environment Protection Program in Poland used social assessment techniques as a tool for adaptive management and monitoring of the introduction of improved farming techniques to reduce nutrient runoff in over 900 farms in Bug River Basin. This approach resulted in significant financial savings for farmers and thus provided a key incentive for changes in farming practices; these in turn resulted in demonstrated global environmental gains.

Financial Incentives

Project experiences demonstrate that financial incentives are a crucial driver for improved environmental management among local communities, although they may not be sufficient on their own. The role of building social and human capital and supportive policy and governmental frameworks cannot be underestimated. Unless there is a framework to sustain capacity building and ensure continued incentives, replication of local-global linkages will be difficult, if not impossible.

Improvements in financial capital are also associated with projects that have addressed waste and pollution management and risk reduction, particularly in relation to oil pol-

[56]According to the recent international waters study, TDA-SAPs have failed to conduct stakeholder analyses and paid insufficient attention to the integration of social issues (GEF 2004d, pp. 66–68).

[57]IW-D-05, IW-D09; IW-NF-03.

[58]IW-D-01, IW-D-05, IW-D-09; IW-NF-01, IW-NF-02, IW-NF-03.

[59]IW-D-01, IW-D-05, IW-D-09.

[60]IW-NF-03.

Community-managed removal of water hyacinth from Lake Victoria has improved the prospects of local fishermen (Lake Victoria Environmental Management). ©Arati Belle

lution and improvements in navigation aids. There is no doubt that these activities serve to secure existing coastal livelihoods, particularly among SIDS communities. However, projects have not adequately estimated the economic value of these outcomes,[61] which overlooks an important opportunity to influence local and national government policy makers to provide financial and human resources to maintain pollution and risk management systems.

In most of the projects in the sample, it was difficult to assess impacts on financial capital (positive or negative) given the lack of monitoring data and social impact assessments.

Monitoring and Evaluation

The paucity of socioeconomic analysis of project performance makes it almost impossible to assess the effectiveness of different approaches with regard to their intention to change human behavior. Seven of the 14 projects studied intended to monitor socioeconomic outcomes,[62] but only 1 project actively measured local benefits and linkages during implementation. Monitoring was weak in the majority of projects. One exception was the Rural Environmental Protection Program in Poland, which monitored financial incentives and provided quantitative and qualitative evidence of impact, using social assessment at periodic points during implementation.

Monitoring was deficient in several ways. First, project designs did not consider that activities may lead to negative impacts and therefore did not collect information to allow these to be assessed and mitigated. Second, the lack of social and environmental baselines made it impossible for international waters projects to measure the positive and negative socioeconomic and environmental change caused by their activities. Third, even in the two projects that did carry out social analyses,[63] the resulting reports were almost exclusively geared toward recording benefits and implementation progress, with no assessment of negative impacts. Fourth, without disaggregation of the community in which a project is operating, there can be no appreciation of who is benefiting and who is being disempowered. For example, there is no information available to assess to what extent demonstration projects were coopted by the elite and to what extent projects benefited women, indigenous peoples, and the poor. Without appropriate and balanced information, the ability to learn

[61]IW-D-01, IW-D-13, IW-D-14; IW-F-02.

[62]IW-D-05, IW-D-09, IW-D-12, IW-D-13; IW-F-01; IW-NF-01, IW-NF-03. Although some references were made to local benefits in project evaluations, they tended not to be based on monitoring data or substantiated by qualitative or quantitative evidence.

[63]IW-D-05, IW-NF-03.

from past projects' strengths and weaknesses is severely constrained, making it more difficult to target future demonstration projects to better address poverty-environmental linkages relating to water resources. The international waters program study also raised concerns regarding the deficiencies in the monitoring and evaluation systems operating in this portfolio, noting:

> The current monitoring and evaluation [M&E] system seems like a patchwork quilt with indeterminate linkages between the pieces. Each of the pieces has a value to someone at a given time, but the overall combination does not add up to a coherent M&E system.[64]

7.5 Missed Opportunities

The experiences of the international waters projects indicate that addressing local causes of transboundary environmental degradation through a range of financial and nonfinancial incentives can in fact produce global environmental benefits. As the portfolio matures and projects move from TDA-SAP planning through to implementation, local activities will become all the more important. They will require a more nuanced and interdisciplinary approach, which in turn may require shifts in GEF approaches. The international waters project experiences reveal three major types of opportunity that have been missed in maximizing positive relationships between local communities and activities needed to secure global environmental gains:

- **Integration with mainstream in-country institutions and development frameworks.** The majority of the projects analyzed made insufficient efforts to link project goals and activities to government line ministries (for example, agriculture, industry and trade, local government, and planning), as well as to the district and municipal government institutions that are important to project sustainability and replication. Furthermore, many projects were not linked to country development frameworks or other relevant donor projects and initiatives, which reduced synergies and opportunities for achieving and sustaining global environmental benefits.[65]
- **Knowing the community—knowledge and involvement.** Local community knowledge and practices (for example, customary tenure, water rights, and resource access and use patterns) were integrated inconsistently into project design and implementation arrangements at the level of demonstration projects or policy. Projects were further hampered by a homogeneous view of local communities, and little attention was given to differentiating interests by gender, membership of vulnerable groups, or other locally relevant criteria.
- **Interdisciplinary perspectives in design, implementation, and monitoring and evaluation.** The projects studied were much stronger in terms of technical and scientific concepts, skills, and tools than in the consideration of socioeconomic aspects, which are also necessary for the achievement of transboundary environmental goals. The monitoring of socioeconomic changes, incentives, and attitudes was also weak, which inhibits evidence-based lesson learning across the portfolio.[66]

Evaluations of international waters projects were largely characterized by missing or vague consideration of local-global linkages and the role of local communities. Project designs seemed to assume that local stakeholders would be unquestioning supporters of interventions, if provided with sufficient information on their objectives. Alternative needs and interests were not examined, and livelihood benefits were largely inferred from the achievement of broader (and locally opaque) global goals. Few evaluations drew lessons or recommendations that focused on local ownership of projects, sustainable use of resources, increased livelihood

[64]GEF (2004d), p. 55.

[65]GEF international waters investments in the Black Sea have exhibited better integration/coordination and cooperation, as many of the countries involved have now entered into the European Union. These projects, however, were not included in the sample.

[66]See Brown, Tompkins, and Adger (2002).

benefits, or the relationship between poverty and securing global environmental benefits.[67]

7.6 Key Issues

Strategy

The GEF Operational Strategy sets the objective in the international waters focal area as "contributing as a catalyst in implementing a more comprehensive, ecosystem-based approach to management of transboundary water systems as a means to achieve global environmental benefits."[68] The GEF's primary role is thus as a catalyst moving governments toward closer partnerships at a regional level to implement remedial measures (that is, demonstration approaches that are tested at local levels). The "ecosystem-based approach" is defined as:

> a strategy for the integrated management of land, water and living resources that promotes conservation and sustainable use in an equitable way. It is based on the application of appropriate scientific methodologies focused on levels of biological organization, which encompass the essential processes, functions and interactions among organisms and their environment. It recognizes that humans, with their cultural diversity, are an integral component of ecosystems.[69]

Few of the international waters projects studied sufficiently recognized that humans and cultural diversity are an integral component of ecosystems. TDA-SAPs were often developed without the involvement of local communities, which derive their livelihoods from the land and water resources in question. Often, projects were insufficiently integrated with national and local institutions and development frameworks; they failed to monitor the human-natural resource nexus, which will constrain learning with regard to effective approaches. Since one of the justifications for the international waters strategy is the premise that many of the problems to be addressed are of human origin, stakeholders need to be involved at regional, national, and local levels in order to devise workable and sustainable solutions. This is not a welfare consideration, but a necessity in order to catalyze the intended improvements in the global environment. Some of the later projects in the portfolio, notably the São Francisco and Pantanal projects, did go to considerable lengths to incorporate these elements.

The GEF Operational Strategy and international waters OPs provide a flexible framework within which GEF projects and programs can be integrated with social issues, including those involving local and indigenous communities, gender, and poverty. However, both the strategy and the OPs offer insufficient direction regarding how such integration should be achieved in actual projects. The OPs mention two tools that can be used to create more integrative cohesion: social assessment and stakeholder analyses. To date, neither tool has been applied with consistency. If the international waters area is to develop a more nuanced and therefore effective understanding of transboundary water issues, practitioners must strive to include local community and social issues more systematically within the remit of the country-driven ecosystem approach and, most importantly, with an emphasis on World Summit on Sustainable Development targets and the Millennium Development Goals.

Structures of Intervention and Skills

The international waters focal area has expended most of its effort on technical and scientific issues, which require solutions based largely on natural science and/or engineering perspectives. This approach predominated in the sample of international waters projects studied, and only 6 of 14 projects studied in detail included social scientists on their teams.[70] Because the social scientists were sometimes recruited several years into implementation, they played no part in project design. In several cases, the study found that even when they were included in the team, the social scien-

[67]This conclusion is based on the study's analysis of 24 international waters evaluations, of which only 3 perceived local community ownership as relevant and necessary to long-term impacts and sustainability.

[68]GEF (1996b).

[69]UNCBD (n.d.).

[70]IW-D-01, IW-D-05, IW-D-09; IW-NF-01, IW-NF-02, IW-NF-03.

tists or community development specialists were unable to make significant inputs.[71]

As noted above, the international waters approach places a strong emphasis on "integration" and the "ecosystem approach." This premise presupposes the integration of natural science, socioeconomic, and political perspectives to identify and understand transboundary issues and prescribe appropriate solutions at the regional, national, and local scales. Such integration of perspectives has not yet been achieved in a systematic fashion.

One of the challenges facing the international waters projects as they move into SAP implementation through the GEF-4 period is how to broaden the range of available technical and managerial perspectives to enable the design of more interdisciplinary projects and programs that will more effectively meet the operational challenge of the ecosystem approach and provide local-global linkages.

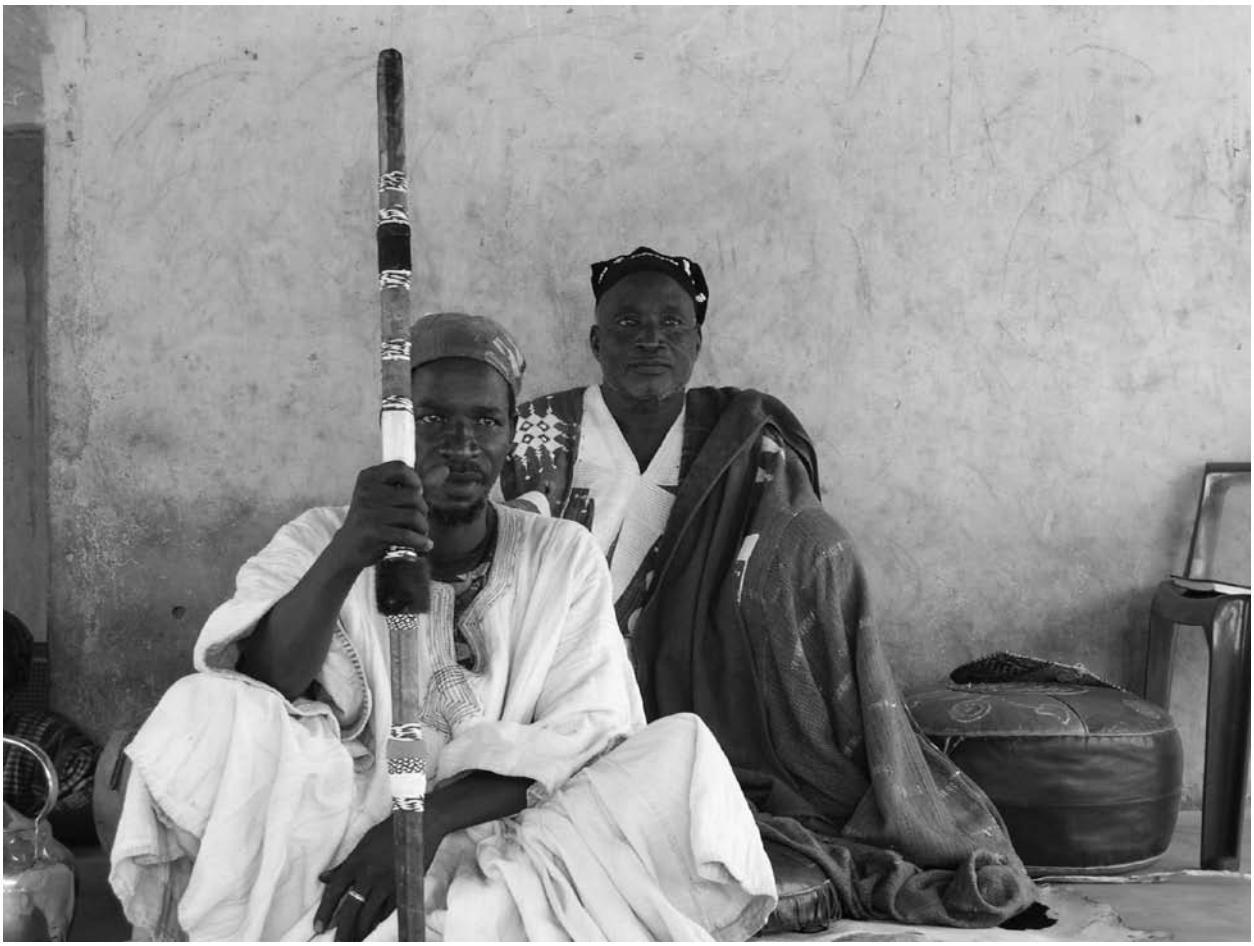
> We must ask whether it is realistic to believe that one can think globally and act locally—to what extent can we expect rural people, who have unmet basic needs and are beset by local dynamics that affect their environment, their productive systems, and their living conditions, to commit themselves to a process motivated by "global benefits" that will flow to humanity as a whole, or to other distant regions or social groups? The global aspect is something abstract, remote and far removed from people's daily concerns.[72]

The most consistent finding from the analysis of the international waters projects sampled is that enabling environments (policies and institutions) are critical to the formation of links between local and global benefits. Financial incentives for communities to modify consumption patterns and improve environmental management are necessary, but not sufficient, to generate sustainability and replication on the wider scale necessary for global environmental gains. At the local level, financial incentives need to be matched by social and human capital incentives, within a set policy framework, to produce environmental benefits. The projects that exhibited these more integrated approaches tended to stress and encourage local community participation in decision making, local and national government institutional involvement, and social analysis during implementation. By so doing, they produced improvements in natural capital and fostered links between livelihoods and improved environmental management.

[71]IW-F-01, IW-NF-01, and IW-NF-02.

[72]IW-F-01.

Annexes



Chief Pib-rana K.M. Banzua II of Binde in northern Ghana felt that solar-powered lighting in public places had increased social cohesion in his territory (Renewable Energy-Based Electricity in Ghana). ©David Todd

A. Local Costs and Benefits and the Sustainability of GEF-Assisted Projects: An Economics Overview

Introduction[1]

The Global Environment Facility (GEF) acts on behalf of the world as a whole to secure global benefits from actions in developing countries that would not otherwise generate those benefits, or which might not occur at all. GEF intervention essentially involves meeting part or all of the additional cost—the "incremental cost"—needed:

- to change an existing project or program design in such a way that it generates global benefits; or
- to initiate a globally beneficial project or program that would not otherwise take place at all, given the financial constraints and incentives facing the host country.

In the former case, a host country might have an investment which could be redesigned to generate the same or better local benefits and to generate global benefits. For example, a power station investment using, say, lignite, might be changed to one using more expensive imported natural gas, with consequent improvements to local air quality (local benefits) and reduced CO_2 emissions (global benefits).

In the latter case, a host nation might not invest at all in a project, say a protected area, but might be induced to do so if the GEF meets the cost of doing so.

This discussion focuses on:

- the conditions necessary for any GEF intervention to fulfill its remit of securing global benefits, and especially
- the interests of the local community within the nation hosting the project or program.

The essential messages are:

- a fairly well know one: that each party to the project (or program, henceforth just "project") must be "better off" with the project than without it, and
- a less known one: for the local community to be better off with the project, attention must be paid to the ways in which the project contributes to the asset base of the local community.

The Parties to a GEF Intervention and Their Incentives

The first rule that should guide any GEF intervention is that all parties to the project should be better off with the intervention than without it. "Better off" here simply means that the relevant parties should feel more content after the project than before. The fundamental justification for this rule is that if any party is made worse off by the intervention, it is likely to act in such a way that the success of the project will be jeopardized. Clear examples exist in the conservation policy area where protected areas might restrict access to local communities that previously used the area for various ecosystem services and products—so-called "evictions in Eden." Unless the local community is compensated in some way, restricted access will generate resentment, and this may result in what then becomes illegal activity, threatening the project objectives.

[1]This annex was written by Professor David Pearce.

The "better off" rule can be stated alternatively in terms of incentives. Each party must have an incentive to "sign up" to the project, which in turn means that the benefits of the project to them must exceed the costs of the project to them. The benefits and costs may not be readily translatable into money units—what matters is each party's judgment about benefits and costs. Table A.1 summarizes the incentives for each of the main parties.

Table A.1: The Incentive Structure of GEF Projects

Party	Benefits	Costs
The GEF (on behalf of the world community)	Global benefits from biodiversity conservation, greenhouse gas emissions reduction or sequestration, and so forth	Share of gross incremental cost of the project
The host nation	National benefits, for example, access to technology	Share of gross incremental cost of the project
The host local community	Local benefits, for example, ecosystem services, clean air, and so forth	Share of gross incremental cost of the project

Of particular relevance is the incentive structure facing the local community. Two views might be taken. First, an "equity" standpoint might elevate the interests of the local community to a very high status simply on grounds of *fairness* or *deservingness*. Second, as argued above, regardless of what is fair or right, if the local community loses from the intervention, the project will run increased risks of failure, over and above those normally associated with investments. This second point of view says that the interests of the local community should be elevated to high status because it is *efficient* to do so.

In one sense it does not matter which view is taken: the result is the same—the interests of the local community must be very high on the decision-making agenda. As we shall see shortly, however, there are further ramifications of focusing on the costs and benefits to the local community—if the net gains to the local community are not *sustainable*, project gains will be short lived and the intervention could still be deemed a failure. Hence the local community focus also forces attention to be paid to sustainability. We return to this issue shortly.

Incremental Costs

The GEF has had long-standing discussions of the meaning of "incremental cost." Table A.1 refers to "gross incremental costs." The gross incremental cost (GIC) is simply the additional cost of changing the project in question to one that is globally beneficial. In changing the project, or initiating a new one, the project is likely to generate local or domestic benefits over and above those that would have occurred had the GEF intervention not taken place. The net incremental cost (NIC) is therefore equal to the gross incremental cost minus these national/local benefits or incremental domestic benefits. There are no hard and fast rules for deciding whether the GEF pays the GIC or the NIC—in practice it will pay some sum between NIC and GIC. The international conventions for which the GEF acts as the implementing agency speak of "agreed" incremental costs. So one can imagine a bargaining process between the GEF and the host nation which determines how much of the GIC the GEF pays.

The incentive structures in table A.1 can now be restated in terms of incremental cost, as shown in table A.2. Let the share of GIC that each party pays be designated α so that α_{GEF} is the share paid by the GEF, α_{NAT} is the share paid by the host nation and α_{LOC} is the share paid by the local community. It is important to define cost correctly. For example, if the project imposes any costs on the local community such as restricted access to a protected area, then this is part of the true cost of the project and must be included.

Table A.2: The Incentive Structure of GEF Projects Restated

Party	Benefit-Cost Rule
The GEF (on behalf of the world community)	Global benefits > α_{GEF}.GIC
The host nation	National benefits > α_{NAT}.GIC
The host local community	Local benefits > α_{LOC}.GIC

Again, we stress that it may not be possible to measure benefits in the same units as costs. The relevant issue is how each party judges the comparison of benefits with its share of costs. National and local host country benefits may be

identical if the host nation speaks "on behalf" of local communities. However, as is well known, the implication of the incentive structure in table A.2 is that the perception of each agent as to benefits and costs must be determined. As far as the local community is concerned, then, its views must be ascertained rather than assumed.

The Local Benefits Focus

Since the GEF is a professionally expert body it can be safely assumed that it makes its own rigorous judgments on global benefits versus its share of incremental costs. Host nations may need guidance on some issues, but again may reasonably be assumed to conduct a comparison of benefits and costs to the nation. Issues become far more complex for the local community and this justifies even further raising the profile of determining their net gains. Several issues arise.

Discount Rates

Projects generate costs and benefits over time. No agent is indifferent to when the costs and benefits occur. By and large, net benefits now and in the near term are preferred to net benefits later in time. This is the phenomenon of "discounting." Formally, the rate at which agents "discount the future" is given by the "discount factor"—a weight attached to each period of time, and which weight declines the further into the future the costs and benefits occur. In turn, the discount factor is determined by time and by the "discount rate." The higher the discount rate—expressed as a percentage—the lower the weight attached to the future. High discount rates will therefore militate against projects where the payoff is distant or even, for very high discount rates, where the payoff is near to medium term.

Why do discount rates matter for GEF projects? The answer lies in the fact that, whatever discount rate GEF applies, or implies, for its interventions, the *actual* discount rates applicable to each party will differ. Thus, we might expect the GEF to adopt a "low" discount rate: it is acting on behalf of the world as a whole and it is taking a long-term view of costs and benefits, particularly for biodiversity conservation and global warming control, but also for some of its other implementing responsibilities as well. Figures like 2 to 3 percent seem appropriate. Host nations and communities will tend to be poor, and the evidence we have suggests, strongly, that the poorer people have "high" discount rates. Table A.3 summarizes the evidence.

Table A.3: Discount Rates in the Developing World: Recent Evidence

Study	Country	Discount Rate %	Comment
Poulos and Whittington[a]	Ethiopia Mozambique Uganda Bulgaria Ukraine Indonesia	28–49 15–46 158 38–45 206 45–57	Questionnaire on health states 2,5, and 10 years hence. Median rates, that is, rate at which 50% of respondents choose a program saving lives now.
Cuesta and Lutz[b]	Costa Rica	32–83	Questionnaire to farmers
Holden and Shiferaw[c]	Indonesia, Zambia, Ethiopia	28–147	

a. C. Poulos and D. Whittington, "Time Preferences for Life-Saving Programs: Evidence from Six Less Developed Countries," *Environmental Science and Technology* 31(8):1445–55.

b. M. Cuesta and E. Lutz, *An Empirical Measurement of Farmers Discount rates in Costa Rica* (Washington, DC: World Bank, 1997).

c. S.T. Holden and B. Shiferaw, "Poverty Market Imperfection and Time Preferences of Relevance to Environmental Policy," *Environment and Development Economics* 3:103–30.

Table A.3 suggests very high discount rates, with figures like 25 percent being quite typical. In terms of the incentive structure argument, then, it is vital to understand how local communities see benefits and costs in terms of *when* they occur. Interventions aimed at longer term benefits may not be consistent with the very much shorter term net benefits required by local communities. Put another way, GEF interventions must do one of two things:

- generate short-term local benefits, using the GEF share of GIC to finance the longer term gains, or
- change the short-term focus of the local community to a longer run focus.

To some extent, the former requirement might be met by the nature of the project without the GEF "overlay," that is,

one would expect the project to be serving the immediate development interests of the nation and thereby, hopefully, the local community. But it will remain important to ensure that the global component of the project does not change the profile of short-run benefits into longer run benefits, otherwise there may be a risk to the project and the GEF intervention. It is easy to see that interventions that have a low local benefits element and a large long-run global element, perhaps protected areas being an example again here, could fall foul of this requirement.

The second requirement is perhaps more interesting and relevant to project design since it very much forces the focus on the *sustainability* of projects and interventions. In general, the higher the discount rates of the local community the greater the risk to the sustainability of the intervention. Can discount rates be lowered? In some respects the forces driving high discount rates are not easy to influence, and change might only be expected over the long run. Others may be capable of being influenced. First, low incomes affect discount rates and, even with the project, incomes may increase only slowly. Second, life expectancy itself may affect discount rates and life expectancy cannot be changed dramatically by projects. Third and now recognized to be of increasing importance, the *asset base* of the poor affects the discount rate. The lower the asset base, the higher the discount rate. Assets here refer to all forms of asset—traditional manmade assets (machinery, housing), human capital (skills, health, and education), social capital (the cohesiveness of the community), and environmental (or "natural") capital. Failure to account for all assets leads to a potentially misleading picture of the capability of local communities to escape the various poverty traps that might otherwise engulf them. But assets only increase through investment, which in turn has to exceed the rate of depreciation of existing assets for there to be net additions to wealth. If the local community has a low asset base, its discount rates will be high and the incentive to invest in the future—that is, to expand the asset base—will be low, even if there are surpluses available to invest. Hence externally financed, or partly financed, projects become the means of expanding the asset base. One means of facilitating the local community's own investments is through access to credit—there tends to be a close correlation between poor access to credit and low assets. While facilitating such access is well known as a development measure, the greater challenge is to find ways of ensuring that the credit is channeled into investment rather than income.

In turn, since the GEF's concern is primarily with global benefits, the issue becomes one of a greater fusion of GEF's primary purpose with the development goals associated with projects. Put another way, if the final project does not offer promise for expanding the asset base of the local community, the global benefits will in any event be at risk.

The asset-based approach suggests that GEF interventions need to ensure a focus on expanding the wealth of the local community While measuring changes in likely project-induced income gains remains important, the sustainability of the project cannot be assured unless the project itself contributes to wealth (asset) formation. Wealth takes many forms; see table A.4. There is a debate as to whether all forms of wealth are substitutable, but this requires a more elaborate discussion than is possible here. The messages from this discussion are:

- It is important to understand how the local community sees the time-profile of benefits and costs—incompatible discount rates can threaten a project.
- It is important to see how the longer run focus required by considerations of sustainability might be induced by policy actions and investments.
- Sustainability requires that the asset base of the local community be assessed and that the contribution of the project in question to that asset base be determined.

Local Costs and Compensation

It was noted earlier than the incentive approach requires careful consideration of all the costs and benefits accruing to each agent. Focusing on local communities, this means that any losses that the communities may incur have to be accounted for, alongside the benefits they receive. Restricted access to conservation areas has been used as an example.

Table A.4: The Nature of Household Wealth

Asset	Household level	Community level	National level+
Physical	• Housing • Tools • Animals • Machines • Cash	• Schools • Hospitals • Markets • Infrastructure • Access to credit/insurance	• Markets • Major infrastructure • Credit/insurance
Human	• Household labor • Education • Skills • Health status	• Pooled labor	• Labor markets
Environmental	• Land • Soil fertility • Woodlots	• Common land • Fisheries • Forests • Water • Sanitation • Air quality • Local watersheds	• Rivers, seas, lakes • Large watersheds • Global climate
Social	• Family • Trust	• Community • Trust • Security • Governance • Participation	• Intercommunity links • Trust • Political freedoms and rights

Methodologies to measure these costs are readily available. For example, the nature of the income—market and non-market—that communities obtain from protected areas, and especially forests, is now well documented. Methodologies include "product counts"—that is, surveys of what is taken from the forest and its market value, and stated preference surveys. The essential points are:

- In this example, the forest (or, more strictly, the household's access to the forest) is an example of household wealth or assets.
- The forest assets generate an income flow, albeit one that may not wholly show up in market values.
- Restriction of access to the forest is formally equivalent to reducing household wealth.

Once this is accepted, the nature of required compensation for such losses becomes clearer. First, if no compensation at all is provided, the household is not only worse off in current income terms, its capacity to generate future income is also impaired because it has lost an asset. It is this asset loss that indicates the "true" cost borne by the household because assets define the capacity of the household to generate future income.

Second, if the household is worse off it has every incentive to seek ways of compensating itself for the loss of the asset. This may take many forms, for example, illegal access to the protected area, diversion of effort to other activities that harm the environment away from the protected area, sale of other assets that themselves contribute to the possibility of generating income, and so on. What cannot be assumed is that the loss will simply be perceived as a loss, and tolerated as such. Just as important, the benefits generated by the project may not themselves compensate for the loss of the forest asset. Even if the benefits exceed the cost to the household, the household may view the loss of the environmental asset (access to the forest) as being extremely important.

Summary

The central messages of this are:

- GEF interventions involve costs and benefits to each of the parties involved in such interventions.
- Unless each party is better off because of the project, that is, secures benefits greater than costs, the intervention will risk failure. This will be particularly true of those closest to the project, that is, the host community. If they do not secure (perceived) benefits greater than costs, they have every incentive to make up the difference through actions which may render the project nonviable, or of short-term worth only.
- The net benefits to the GEF and to the host nation are reasonably assured, but much more focus is needed to ensure that the local community is a net gainer.
- That effort must take account of the real possibility that the local community will not perceive the time-profile of benefits and costs in the same way as the GEF or even the host nation as a whole. Discount rates matter.
- Where there is an incompatibility of discount rates—with local communities probably having far higher discount rates than those used for national and global benefits—attention needs to be paid to ways in which the resulting "short-termism" can be reduced. Credit access conditional on proceeds being used for investment—that is, asset creation—becomes one such mechanism.
- The example of access to credit underlines the fact that GEF projects cannot be independent of the conditions needed for development at the level of the local community. The latter are likely to be preconditions of securing global benefits.
- Local communities must be net gainers for projects to be viable and sustainable.
- Where local communities lose, for example, because of restrictions on access to protected or conserved areas, their losses must be seen as asset losses.
- It is wealth, or assets, that determine the capacity for future income generation and hence for improvement in the level of well-being of the local community. The focus needs to shift away (to some extent) from income and toward wealth.
- Wealth takes on many forms, ranging from farm implements, to credit access, to the cohesiveness of the community, to environmental assets.
- Hence where a GEF project has identifiable losses to the asset base of the community, attention has to be paid to establishing a compensatory asset such that the asset base is at least no worse than before the project, and ideally better.
- This requirement may shift the focus more to the development features of the project: for example, establishing access to credit, or schooling, replacement fuels for lost fuelwood, better water supplies to compensate for lost natural sources, and so on.
- While the debate over the extent to which GEF projects can be divorced from development goals is a long-standing one, it is widely acknowledged that complete separation is neither possible nor desirable.
- The argument in this paper is that the need to focus on community and household assets shifts the pendulum a little further to the development role of GEF projects.
- Put another way, global benefits are at risk if local net benefits, in the form of net asset creation, are not secure.

B. Study Participants

Evaluation Team

David Michael Todd—Senior Evaluation Officer (Task Manager)
Lee Alexander Risby—Evaluation Officer
Jarle Harstad—Lead Evaluation Officer
Siv Tokle—Senior Evaluation Officer (co-reader)
Aaron Zazueta—Senior Evaluation Officer
John Soussan—Consultant (Stockholm Environment Institute)
David Pearce—Consultant (London University)
Rebecca Frischkorn—Consultant Research Assistant (American University)

GEF Secretariat and IA Participants

Gonzalo Castro—GEFSEC Team Leader Biodiversity Program
Mario Ramos—GEFSEC Biodiversity Program Manager
Olaf Lundstol—Senior Climate Change Specialist UNDP Regional Office (Bangkok)
Miguel Perez-Torralba—Monitoring and Evaluation Specialist UNDP GEF
Jyotsna Puri—Consultant Evaluation Specialist UNDP GEF
Juha Uitto—Senior Evaluation Specialist UNDP Evaluation Office
Kanta Kumari-Rigaud—World Bank Senior Environmental Specialist
Kathy Mackinnon—World Bank Lead Biodiversity Specialist
Sam Wedderburn—World Bank Senior Operations Officer

Advisory Panel

Michael Cernea—Department of Anthropology, George Washington University
Jon Hutton—Director of UNEP World Conservation Monitoring Center (formerly Regional Director for Africa Programs of Fauna and Flora International)
Julia Carabias— Scientific and Technical Advisory Panel Chairperson
Christoper Whaley— Scientific and Technical Advisory Panel Coordinator
Esther Camac—Indigenous Peoples Representative
Clemencia Vela—NGO Representative
Eric Bjornebye—Government of Norway
Ole Overaas—Government of Norway
Eva Tobisson—Government of Sweden
Amalia Garcia-Tharn—Government of Sweden
Britt-Marie Hartvig—Government of Sweden
Valerie Young—Canadian International Development Agency
Ellen Hagerman—Canadian International Development Agency

National Case Study Teams

Argentina and Bolivia (International Waters)

Aaron Zazueta (GEFEO)
Christoper van Dam (National Consultant)
Miguel Castro-Arze (National Consultant)

Belize (Biodiversity)

John Soussan (SEI)

Kanta Kumari (GEFSEC now World Bank)
Kathy Mackinnon (World Bank)
Stacey Noel (National Consultant)
Rachael Graham (National Consultant)

Bolivia (Biodiversity)

Miguel Castro-Arze (National Consultant)

Ghana (Biodiversity)

David M. Todd (GEFEO)
Sam Wedderburn (World Bank)
Paul Sarfo-Mensah (National Consultant)
Ernestina Fredua Antoh (National Consultant)
Akwasi Owusu-Bi (National Consultant)

Ghana (Climate Change)

David M. Todd (GEFEO)
Sam Wedderburn (World Bank)
Stephen Nkansa Buabeng (National Consultant)
Ernestina Fredua Antoh (National Consultant)

India (Climate Change)

Juha Uitto (UNDP)
Dirk R Frans (SEI)
Nilufar Matin (SEI)
V. Ratna Reddy (SEI)

Indonesia (Biodiversity)

Andres Liebenthal (World Bank Operations Evaluation Department)

Kenya (Biodiversity)

Lee Alexander Risby (GEFEO)
Jyotsna Puri (UNDP)
Robert Malpas (National Consultant)
Robert Craig (National Consultant)
Elizabeth Kamau (National Consultant)

Nepal (Biodiversity)

Lee Alexander Risby (GEFEO)
Mario Ramos (GEFSEC)
Jyotsna Puri (UNDP)
Santosh Rayamajhi (National Consultant)
Kanta Singh (National Consultant)

Pakistan (Climate Change)

Lee Alexander Risby (GEFEO)
Jyotsna Puri (UNDP)

Philippines (Biodiversity)

David M. Todd (GEFEO)
Enrique A. Nuñez, Jr. (National Consultant)

Philippines (Climate Change)

David M. Todd (GEFEO)
Olav Lundstol (UNDP)
Sam Wedderburn (World Bank)
Enrique A. Nuñez, Jr. (National Consultant)

Romania (Biodiversity)

Michael Cernea (Advisory Panel Member)
Gonzalo Castro (GEFSEC)
Mirela Apostol (National Consultant)
Alexandra Clemett (SEI)
Nicoleta Damian (National Consultant)
Dirk R Frans (SEI)
Veronica Mitroi (National Consultant)
Emil Pîslaru (National Consultant)
Cosima Rughiniş (National Consultant)

Senegal (Climate Change)

Siv Tokle (GEFEO)
Miguel Perez-Torralba (UNDP)
Abdoulaye Sene (National Consultant)
Ndickou Fatou Diaw (National Consultant)
Ibrahima Dieng (National Consultant)

Tanzania (Biodiversity)

Lee Alexander Risby (GEFEO)
Jyotsna Puri (UNDP)
George Jambiya (National Consultant)

Yemen (International Waters)

John Soussan (SEI)
Michael Cernea (Advisory Panel Member)
Khalid I Al-Hariri (National Consultant)

Yemen (Biodiversity)

John Soussan (SEI)
Michael Cernea (Advisory Panel Member)
Khalid I Al-Hariri (National Consultant)

Consultations

The study team undertook a number of informal and formal internal and external consultations during the study to gain additional insights and input into field case studies, including from other studies.

GEF Secretariat

Yasemin Biro—Environmental Specialist
Chona Cruz—Former Senior Social Scientist (Now World Bank)
Al Duda—Lead Environmental Specialist
Len Good—CEO
Andrea Kutter—Natural Resource Specialist
Walter Lusigi—Senior Environmental Specialist
Ramesh Ramankutty—Head, Operations and Business Strategy

United Nations Development Programme

Clarissa Arida—Project Officer (Philippines)
Benoit Bihamiriza—Project Manager (Tanzania)
Darshani De Silva—Project Officer (Sri Lanka)
John Hough—Principle Technical Adviser (Biodiversity)
Shaun Finnetty—Project Officer (Belize)
Gertrude Laytuu—Project Officer (Tanzania)
Alexandra Kakekaho—Program Officer (Uganda)
Abdul Qadir—Program Officer (Pakistan)
Asenaca Ravuvu—Project Officer (Fiji)
Alan Rodgers—Regional Coordinator (East Africa)
Nina Saalisma—Project Officer (Guatemala)
Lisa Simrique-Singh—Assistant Resident Representative (Nepal)
Vijaya Singh—Project Officer (Nepal)
Godfrey Turyahikayo—Project Manager (Uganda)

United Nations Environment Programme

Sheila Aggrawal-Khan—Assistant Director (GEF)
Segbedzi Norgbey—Director Evaluation and Oversight Office

World Bank

Gabriella Arcos—Operations Officer (Ecuador)
Koffi Ekouvei—Energy Economist (Mali)
Anil Cabraal—Lead Energy Specialist (Indonesia)
Steve Gorman—Lead Environmental Specialist
Kristine Ivarsdotter—Senior Social Development Specialist (Kenya)
Ian Johnson—Vice President ESSD
Steen Jorgensen—Sector Director Social Development
Richard Kaguamba—Natural Resources Specialist (Kenya)
Asmeen Khan—Senior Rural Development Specialist (Indonesia)
Raider Kvam—Senior Social Scientist
Andres Liebenthal—Lead Evaluation Officer (Indonesia)
Ernst Lutz—Senior Economist (Kenya/Tanzania/Uganda)
Patience Mensah—Senior Agricultural Economist (Ghana)
William Magrath—Lead Natural Resource Economist (Lao)
Fanny Missfeldt-Ringius—Energy Specialist (Tunisia)
Keith Oblitas—Lead Operations Officer (Philippines)
Felicity Proctor—Rural Development Adviser
Robert Ragland-Davis—Senior Forestry Specialist (Argentina)
Claudia Sobrevila—Senior Environmental Specialist
Warren van Wicklin III—Consultant Quality Assurance Group
Alonso Zarzar-Casis—Senior Social Scientist

IUCN

Alejandro Imbach—IUCN Asia Program Coordinator
Nancy MacPherson—IUCN Senior Adviser Performance Management
Stewart Maginnis—IUCN Head Forest Conservation
Edmund Barrow—IUCN East Africa Regional Office
Eldad Tukahirwa—IUCN East Africa Regional Office

Grazia Borrini-Feyerabend—IUCN CEESP
Taghi Farvar—IUCN CEESP Chairperson

Other Individuals

Tom Blomley—Royal Danish Embassy (Tanzania)
Dan Brockington—Institute of Development Policy and Management, Manchester University
Jock Campbell—Exeter University
Marcus Colchester—Forest Peoples Program
Leif Christofferson—Consultant Environmental Expert (OPS2 Team Leader)
Phil Franks—CARE International Integrated Conservation and Development Coordinator
Joanna Elliot—Department for International Development (UK)
David Howlett—Department for International Development (UK)
Sam Kanyambiwa—World Wildlife Fund East Africa Regional Director
Emma Hooper—Consultant Social Scientist to OPS2
Michel Pimbert—International Institute of Environment and Development
Dilys Roe—International Institute of Environment and Development
Kai Schmidt-Soltau—GTZ conservation consultant
Michael Wells—Independent consultant/evaluator
Karen Zwick—Social Scientist (Tanzania)

Field Case Study Workshops

Argentina and Bolivia (International Waters) August 2003/ November 2003
Belize (Biodiversity) October 2003/April 2004
Bolivia (Biodiversity) November 2003
Ghana (Biodiversity) October 2003/April 2004
Ghana (Climate Change) October 2003/April 2004
India (Climate Change) July 2004/September 2004
Indonesia (Biodiversity) August 2004
Kenya (Biodiversity) October 2003/January 2004
Nepal (Biodiversity) May 2004/August 2004
Pakistan (Climate Change) May 2004
Philippines (Biodiversity) June 2004
Philippines (Climate Change) June 2004
Romania (Biodiversity) July 2004/September 2004
Senegal (Climate Change) April 2004
Tanzania (Biodiversity) October 2003/January 2004
Yemen (Biodiversity) June 2004
Yemen (International Waters) June 2004/August 2004

Regional and International Workshops/Conferences

World Parks Congress (South Africa) September 2003
East Africa Regional Meetings (Nairobi and Dar es Salaam) September 2003
World Conservation Congress (Thailand) November 2004

C. Biodiversity Projects

Table C.1: Biodiversity and OP12 Projects Reviewed by the Study

ID	Project	OP	Country/ Region	Start-up/ Project Size	Status (as of April 2005)	IA	GEF Financing/ Total Project Cost
Desk Studies							
BD-D-01	Lop Nur Nature Sanctuary	OP1	China	1999/MSP	Completed	UNEP	0.75/1.5M
BD-D-02	Arid and Semi-Arid Ecosystem Conservation in the Caucasus	OP1	Georgia	2000/MSP	Completed	UNDP	0.75/0.87M
BD-D-03	People Land Management and Environmental Change	OP1	Global	1998/FSP	Completed	UNDP	6.17/10.92
BD-D-07	Strengthening of National Capacity and Grassroots In-situ Conservation for Sustainable Biodiversity Protection	OP1	Lebanon	1996/FSP	Ongoing	UNDP	2.50/3.26M
BD-D-08	Biodiversity Conservation and Sustainable Livelihood Options in the Grasslands of Eastern Mongolia	OP1	Mongolia	1998/FSP	Ongoing	UNDP	5.16/11.99M
BD-D-09	Protected Areas Management	OP1	Morocco	2000/FSP	Ongoing	WB	10.5/15.7M
BD-D-10	Conservation Planning for Biodiversity in the Thicket Biome	OP1	South Africa	2000/MSP	Ongoing	WB	0.75/5.37M
BD-D-11	Sustainable Protected Area Development in Namaqualand	OP1	South Africa	2000/MSP	Ongoing	WB	0.75/0.86M
BD-D-12	Conservation and Management of Habitats and Species, and Sustainable Community Use of Biodiversity in Dinder National Park	OP1	Sudan	1999/MSP	Ongoing	UNDP	0.48/1.85M
BD-D-13	Conservation of Biodiversity and Protected Areas Management	OP1	Syria	2000/MSP	Ongoing	WB	0.75/1.43M
BD-D-14	Establishment of the Nurata-Kyzylkum Biosphere Reserve as a Model for Biodiversity Conservation	OP1	Uzbekistan	2000/MSP	Ongoing	UNDP	0.75/1.40M
BD-D-16	Biodiversity Conservation in Southeast Zimbabwe	OP1	Zimbabwe	1999/FSP	Canceled	WB	5/75M
BD-D-18	Consolidation and Implementation of the Patagonia Coastal Zone Management Program for Biodiversity Conservation	OP2	Argentina	1999/FSP	Ongoing	UNDP	5.2/10.31M

ID	Project	OP	Country/ Region	Start-up/ Project Size	Status (as of April 2005)	IA	GEF Financing/ Total Project Cost
BD-D-19	Aquatic Biodiversity Conservation	OP2	Bangladesh	1999/FSP	Ongoing	WB	5/60.8M
BD-D-21	Kopacki Rit Wetlands Management	OP2	Croatia	1999/MSP	Completed	WB	0.75/1.8M
BD-D-22	Biodiversity Conservation and Management in the Coastal Zone	OP2	Dominican Republic	1993/FSP	Completed	UNDP	3M
BD-D-23	Integrated Coastal Management	OP2	Georgia	1999/FSP	Ongoing	WB	1.3/8.2M
BD-D-26	Conservation of the Dana and Azaq Protected Areas	OP2	Jordan	1993/FSP	Completed	UNDP	6.3M
BD-D-27	Restoration of Round Island	OP2	Mauritius	1999/MSP	Ongoing	WB	0.75/1.40M
BD-D-29	Coastal and Marine Biodiversity Management	OP2	Mozambique	2000/FSP	Ongoing	WB	4.10/9.2M
BD-D-32	Samoa Marine Biodiversity Protection and Management	OP2	Samoa	2000/MSP	Completed	WB	0.90/1.58M
BD-D-33	Biodiversity Conservation and Marine Pollution Abatement	OP2	Seychelles	1993/FSP	Completed	WB	1.8/2M
BD-D-34	Conservation of Biodiversity through Integrated Collaborative Management in Rekawa, Ussangoda, and Kalametiya Coastal Ecosystems	OP2	Sri Lanka	2000/MSP	Ongoing	UNDP	0.75/1.90M
BD-D-35	35. Conservation of Biodiversity in the Eastern Wetlands	OP2	Uruguay	1992/FSP	Completed	UNDP	3M
BD-D-36	Conservation and Sustainable Use of Biodiversity in the Llanos Eco-Region	OP2	Venezuela	1999/MSP	Completed	WB	0.94/2.43M
BD-D-37	Hon Mun Marine Protected Area Pilot Project	OP2	Vietnam	2000/MSP	Ongoing	WB	1/2.14M
BD-D-38	Conservation and Sustainable Use of the Biodiversity of Socotra Archipelago	OP2	Yemen	1997/FSP	Completed	UNDP	4.95/12.98M
BD-D-39	Forest Biodiversity Protection	OP3	Belarus	1993/FSP	Completed	WB	1/1.25M
BD-D-41	Bhutan Integrated Management of Jigme Dorji National Park	OP3	Bhutan	1997/FSP	Completed	UNDP	1.5/2.53M
BD-D-42	Biodiversity Conservation	OP3	Bolivia	1995/FSP	Completed	WB	4.54/8.4M
BD-D-44	Biodiversity and PA Management	OP3	Cambodia	1999/FSP	Ongoing	WB	2.75/4.91M
BD-D-45	Biodiversity Conservation and Management	OP3	Cameroon	1995/FSP	Completed	WB	6/12M
BD-D-46	Highly Decentralized Approach to the Protection and Utilization of Biological Diversity in the Bangassou Dense Forest	OP3	Central African Republic	1999/FSP	Ongoing	UNDP	2.5/3.5M
BD-D-47	Nature Reserves Management	OP3	China	1995/FSP	Completed	WB	17.5/23.6M
BD-D-48	Sustainable Use of Biodiversity in the Serrania del Baudo	OP3	Colombia	1999/MSP	Completed	WB	0.75/2.96M
BD-D-49	Wildlands Protection	OP3	Congo	1992/FSP	Completed	WB	10/13.8M
BD-D-50	Eco-Markets	OP3	Costa Rica	2000/FSP	Ongoing	WB	8.0/48.9M

ID	Project	OP	Country/ Region	Start-up/ Project Size	Status (as of April 2005)	IA	GEF Financing/ Total Project Cost
BD-D-51	Biodiversity Protection	OP3	Czech Republic	1994/FSP	Completed	WB	2/2.75M
BD-D-53	Coffee and Biodiversity	OP3	El Salvador	1999/MSP	Ongoing	WB	0.75/3.83M
BD-D-54	Conservation of Biodiversity through Effective Management of Wildlife Trade	OP3	Gabon	1994/FSP	Completed	UNDP	1M
BD-D-56	Support for the Management and Protection of Laguna del Tigre National Park and Biotopo Peten	OP3	Guatemala	1999/MSP	Completed	WB	0.75/1.6M
BD-D-58	Biodiversity	OP3	Honduras	1998/FSP	Ongoing	WB	7/20.6M
BD-D-59	India Eco-Development	OP3	India	1996/FSP	Completed	WB	20.0/74.0M
BD-D-62	El Triunfo Biosphere Reserve: Habitat Enhancement in Productive Landscapes	OP3	Mexico	1999/MSP	Completed	WB	0.75/2.12M
BD-D-63	Landscape-Scale Conservation of Endangered Tiger and Rhinoceros Populations in and around the Chitwan National Park	OP3	Nepal	2000/MSP	Ongoing	UNDP	0.75/1.73M
BD-D-64	Biodiversity Conservation in the Darien Region	OP3	Panama	1994/FSP	Completed	UNDP	0.75/3.08M
BD-D-65	Atlantic Mesoamerican Biological Corridor	OP3	Panama	1998/FSP	Ongoing	WB	8.4/12.8M
BD-D-66	Biodiversity Conservation and Resource Management	OP3	Papua New Guinea	1993/FSP	Completed	UNDP	5/6.8M
BD-D-67	Vilcabamba Participatory Conservation and Sustainable Development with Indigenous Communities	OP3	Peru	1999/MSP	Ongoing	WB	0.73/1.42M
BD-D-68	Collaborative Management for the Conservation and Sustainable Development of the Tumbes Noroeste Biosphere Reserve	OP3	Peru	1999/MSP	Completed	WB	0.75/1.17M
BD-D-69	Forest Biodiversity Protection	OP3	Poland	1992/FSP	Completed	WB	4.5/6.2M
BD-D-70	Biodiversity Conservation Management	OP3	Romania	2000/FSP	Ongoing	WB	5.5/8.8M
BD-D-71	Biodiversity Protection	OP3	Slovakia	1993/FSP	Completed	WB	2.3/3.2M
BD-D-74	Kibale Forest Wild Coffee	OP3	Uganda	1999/MSP	Completed	WB	0.75/4.15M
BD-D-76	Institutional Capacity Building for Protected Areas Management and Sustainable Use	OP3	Uganda	1999/FSP	Completed	WB	2/20.35M
BD-D-77	Trust Fund for Environmental Conservation	OP4	Bhutan	1992/FSP	Completed	WB	1.07/2.26M
BD-D-78	Conservation of Biodiversity at Mount Myohyang	OP4	DPR Korea	1999/MSP	Ongoing	UNDP	0.75/1.65M
BD-D-83	National Biodiversity/Brazilian Biodiversity Fund	STRM	Brazil	1995/FSP	Completed	WB	10.0/20.00M

ID	Project	OP	Country/ Region	Start-up/ Project Size	Status (as of April 2005)	IA	GEF Financing/ Total Project Cost
BD-D-84	Trans-Frontier Conservation Areas Pilot and Institutional Strengthening	STRM	Mozambique	1997/FSP	Completed	WB	5.0/8.10M
BD-D-86	South Pacific Biodiversity Conservation	STRM	Asia	1993/FSP	Completed	UNDP	30.0/45.0M
BD-D-87	Oaxaca Sustainable Hillside Management	STRM	Mexico	2001/MSP	Ongoing	WB	0.75/1.5M
BD-D-88	Renewable Energy and Forest Conservation: Sustainable Harvest and Processing of Coffee and Allspice	OP12	Nicaragua	2001/MSP	Ongoing	WB	0.75/2.16M
Field Case Studies							
BD-F-01	Lewa Wildlife Conservancy	OP1	Kenya	2000/MSP	Completed	WB	0.75/3.2M
BD-F-02	Protected Areas Management	OP1	Yemen	2000/MSP	Ongoing	WB	0.75/1.44M
BD-F-03	Conservation and Sustainable Use of the Barrier Reef Complex	OP2	Belize	1999/FSP	Completed	UNDP	5.3/7.37M
BD-F-04	Coral Reef Rehabilitation and Management	OP2	Indonesia	1998/FSP	Completed	WB	4.10/12.8M
BD-F-05	Danube Delta Biodiversity	OP2	Romania	1994/FSP	Completed	WB	4.5/4.5M
BD-F-06	Conservation of the Tubbahata Reefs National Marine Park and World Heritage Site	OP2	Philippines	2000/MSP	Ongoing	UNDP	0.75/1.75M
BD-F-07	Creating a Co-Managed PA System in Belize: A Plan for Joint Stewardship between Government and Community	OP3	Belize	1999/MSP	Completed	UNDP	0.75/0.98M
BD-F-08	Sustaining the Protected Area System	OP3	Bolivia	2000/FSP	Ongoing	WB	15.0/46.64M
BD-F-09	Natural Resource Management	OP3	Ghana	1998/FSP	Completed	WB	8.9/25.7M
BD-F-10	Jozani Chwaka Bay National Park Development	OP3	Tanzania	1999/MSP	Completed	UNDP	0.75/1.60M
BD-F-11	Upper Mustang Biodiversity Conservation	OP4	Nepal	2000/MSP	Ongoing	UNDP	0.73/2.03M
Nonfield Case Studies							
BD-NF-01	Lake Baringo Community-Based Integrated Land and Water Management	OP1	Kenya	1999/MSP	Completed	UNEP	0.75/1.04M
BD-NF-02	Tana River National Primate Reserve	OP1	Kenya	1997/FSP	Completed	WB	6.2/7.14M
BD-NF-03	El Kala National Park and Wetlands Management	OP1	Algeria	1994/FSP	Completed	WB	11.68M
BD-NF-04	Coastal Wetlands Management	OP2	Ghana	1993/FSP	Completed	WB	7.2/8.2M
BD-NF-05	Community Conservation and Compatible Enterprise Development on Pohnpei	OP2	Micronesia	2000/MSP	Ongoing	UNDP	0.74/2.2M
BD-NF-06	Biodiversity Protection	OP3	Ecuador	1994/FSP	Completed	WB	7.2/8.8M
BD-NF-07	Program for Sustainable Forestry (Iwokrama Rain Forest)	OP3	Guyana	1993/FSP	Completed	UNDP	3/4.78M

ID	Project	OP	Country/ Region	Start-up/ Project Size	Status (as of April 2005)	IA	GEF Financing/ Total Project Cost
BD-NF-08	Kerinci Seblat Integrated Conservation and Development	OP3	Indonesia	1996/FSP	Completed	WB	15/46.00M
BD-NF-09	Wildlife and PA Conservation	OP3	Lao	1995/FSP	Completed	WB	5/5.2M
BD-NF-10	Development of Wildlife Conservation and Protected Area Management	OP3	Sri Lanka	1992/FSP	Completed	UNDP	4.1M
BD-NF-11	Bwindi Impenetrable National Park and Mgahinga Gorilla National Park Conservation	OP3	Uganda	1995/FSP	Completed	WB	4.4/6.70M
BD-NF-12	Biodiversity Conservation	OP4	Nepal	1993/FSP	Completed	UNDP	10.6/18.3M
BD-NF-13	Pakistan Mountain Areas Conservancy	OP4	Pakistan	1999/FSP	Ongoing	UNDP	10.6/18.8M
BD-NF-14	Biodiversity Conservation	STRM	Argentina	1999/FSP	Ongoing	WB	10.4/21.90M
BD-NF-15	Conservation of Priority Protected Areas	STRM	Philippines	1994/FSP	Completed	WB	20/22.90M

ECA: Europe and Central Asia; LAC: Latin America and the Caribbean; WB: World Bank.

Table C.2: Completed Project Implementation Completion Report/Project Performance Assessment Report/Terminal Evaluation Sample

ID	Project	Country/Region	Project Size	Year of Evaluation	IA
	Institutional Support for the Protection of East African Biodiversity	Africa	FSP	1996	UNDP
	Patagonian Coastal Management Plan	Argentina	FSP	1997	UNDP
	Biodiversity	Mongolia	FSP	1997	UNDP
	Mantaining Biodivesity in Pakistan with Rural Community Development	Pakistan	FSP	1997	UNDP
	Biodiversity Data Management Capacitation in Developing Countries and Networking Biodiversity Information	Global	FSP	1998	UNEP
BD-D-22	Conservation and Management of Biodiversity in the Coastal Zone of the Dominican Republic	Dominican Republic	FSP	1998	UNDP
BD-D-39	Forest Biodiversity Protection	Belarus	FSP	1998	WB
BD-D-69	Forest Biodiversity Protection	Poland	FSP	1998	WB
BD-D-33	Biodiversity Conservation and Abatement of Marine Pollution	Seychelles	FSP	1998	WB
	Transcarphatian Biodiversity Protection Grant	ECA	FSP	1998	WB
BD-D-77	Trust Fund for Environmental Conservation	Bhutan	FSP	1998	WB
	Restoration of Highly Degraded and Threatened Native Forest	LAC	FSP	1999	UNDP
	Biodiversity in the Bio Pacific	LAC	FSP	1999	UNDP
BD-NF-12	Biodiversity Conservation in Nepal	Nepal	FSP	1999	UNDP
BD-D-54	Conservation of Biodiversity through Effective Management of Wildlife Trade	Gabon	FSP	1999	UNDP
BD-D-51	Biodiversity Protection	Czech Republic	FSP	1999	WB
BD-D-71	Biodiversity Protection	Slovak Republic	FSP	1999	WB
BD-NF-10	Development of Wildlife Conservation and Protected Management	Sri Lanka	FSP	1999	UNDP

ID	Project	Country/Region	Project Size	Year of Evaluation	IA
BD-F-05	Danube Delta Biodiversity	Romania	FSP	2000	WB
	Conservation of Biodiversity and Sustainable Development in the La Amistad-Pacific Region and Osa	Costa Rica	FSP	2000	UNDP
	Trust Fund for the National Protected Areas of Peru	Peru	FSP	2000	WB
	Lake Malawi/Nyasa Biodiversity Conservation	Malawi	FSP	2000	WB
BD-D-49	Wildlands Protection and Management	Congo	FSP	2000	WB
BD-NF-03	El Kala National Park and Wetland	Algeria	FSP	2000	WB
BD-F-08	Biodiversity Conservation	Bolivia	FSP	2000/02	WB
	Biodiversity Collections	Indonesia	FSP	2002	WB
BD-NF-09	Forest Management and Conservation	Lao	FSP	2002/03	WB
BD-D-064	Conservation of Biodiversity in Darien through Community Sustainable Development	Panama	FSP	2002	UNDP
BD-D-86	South Pacific Biodiversity Conservation	Asia	FSP	2002	UNDP
BD-NF-11	Bwindi Impenetrable National Park and Mgahinga Gorilla National Park Conservation	Uganda	FSP	2002	WB
BD-D-74	Kibale Forest Wild Coffee	Uganda	MSP	2002	WB
	NGO-Government Partnerships for Sustainable Biodiversity Action	Africa	FSP	2003	UNDP
BD-F-03	Community Co-Managed Park System	Belize	MSP	2003	UNDP
BD-D-03	People, Land Management and Environmental Change	Global	FSP	2003	UNEP
BD-D-47	Nature Reserves Management	China	FSP	2003	WB
BD-NF-02	Tana River Primate National Reserve Conservation	Kenya	FSP	2003	WB
	Biodiversity Restoration	Mauritius	MSP	2003	WB
	Management of Avian Ecosystems	Seychelles	FSP	2003	WB
	Red Sea Coastal and Marine Management	Egypt	FSP	2003	WB
	Island Biodiversity and Participatory Conservation	Comoros	FSP	2004	UNDP
BD-D-41	Integrated Management of Jigme Dorji National Park	Bhutan	FSP	2004	UNDP
	Conservation of Biodiversity in the Talamanca Caribe Biological Corridor	Costa Rica	FSP	2004	UNDP
	Dynamic Farmer-Based Approach to the Conservation of Plant Genetic Resources	Ethiopia	FSP	2004	UNDP
BD-D-02	Conservation of Arid and Semi-Arid Ecosystems in the Caucasus	Georgia	MSP	2004	UNDP
	Northern Belize Biological Corridors	Belize	MSP	2004	WB
	Wetland Priorities for Conservation Action	Ecuador	MSP	2004	WB
BD-NF-08	Kerinci Seblat Integrated Conservation and Development	Indonesia	FSP	2004	WB
BD-D-62	El Triunfo Biosphere Reserve: Habitat Enhancement in Productive Landscapes	Mexico	MSP	2004	WB
BD-D-56	Management and Protection of Laguna del Tigre National Park	Guatemala	MSP	2004	WB
	Monitoring System for the Galapagos Islands	Ecuador	MSP	2004	WB
BD-F-09	Natural Resources Management	Ghana	FSP	2004	WB
BD-D-45	Biodiversity Conservation and Management	Cameroon	FSP	2004	WB
	Environment Program Support II	Madagascar	FSP	2004	WB/ UNDP

ID	Project	Country/Region	Project Size	Year of Evaluation	IA
	Biodiversity Conservation Management	Russia	FSP	2004	WB
BD-D-84	Transfrontier Conservation Areas Pilot and Institutional Strengthening	Mozambique	FSP	2004	WB
	Protected Areas	Mexico	FSP	2004	WB

ECA: Europe and Central Asia; LAC: Latin America and the Caribbean; WB: World Bank.

Table C.3: New Project Sample

ID	Project	OP	Country/ Region	Work Program	Status (as of April 2005)	IA	GEF Financing/ Total Cost of Project
BD-NP-01	Conservation and Sustainable Use of Globally Significant Biodiversity in the Tassili and Ahaggar National Parks	OP1	Algeria	2002/FSP	Ongoing	UNDP	3.721/6.271M
BD-NP-02	Sahel Integrated Lowland Ecosystem Management, Phase I	OP1	Burkina Faso	2002/FSP	Ongoing	WB	4.84/25.36M
BD-NP-03	Biodiversity Conservation and Protected Area Management	OP1	Syria	2003/FSP	Ongoing	UNDP	3.406/6.92M
BD-NP-04	Securing the Environment for Economic Development	OP1	Zambia	2003/FSP	Ongoing	WB	4.24/15.24M
BD-NP-05	Biodiversity Management in the Coastal Area of China's South Sea	OP2	China	2002/FSP	Ongoing	WB	3.515/46.925M
BD-NP-06	Komodo National Park Collaborative Management Initiative	OP2	Indonesia	2001/FSP	Ongoing	WB	5.375/16.975M
BD-NP-07	Conservation of Iranian Wetlands	OP2	Iran	2003/FSP	Ongoing	UNDP	3.287/13.607M
BD-NP-08	Protection and Management of Pakistan Wetlands	OP2	Pakistan	2003/FSP	Ongoing	UNDP	3.33/12.122M
BD-NP-09	Promoting Integrated Ecosystem and Natural Resource Management	OP3	Honduras	2003/FSP	Ongoing	UNDP	4.519/43.88M
BD-NP-10	Third Environment Programme	OP3	Madagascar	2003/FSP	Ongoing	UNDP/ WB	13.5/148.85M
BD-NP-11	Participatory Management of Protected Areas	OP3	Peru	2002/FSP	Ongoing	WB	15.9/31.05M
BD-NP-12	Integrated Ecosystem Management in Indigenous Communities	OP3	LAC	2004/FSP	Ongoing	WB	9.7/49.585M
BD-NP-13	Forest Sector Development Project	OP3	Vietnam	2003/FSP	Ongoing	WB	9.2/74.79M

ECA: Europe and Central Asia; LAC: Latin America and the Caribbean; WB: World Bank.

D. Climate Change Projects

Table D.1: Climate Change Projects Reviewed by the Study

ID	Project	OP	Country/Region	Start-up/ Project Size	Status (as of April 2005)	IA	GEF Financing/ Total Cost of Project
			Desk Studies				
CC-D-01	Tehran Transport Emissions Reduction	OP5	Iran	1993/FSP	Completed	WB	2/4M
CC-D-02	High Efficiency Lighting Pilot Project	OP5	Mexico	1994/FSP	Completed	WB	10/23M
CC-D-03	Improved Household Stoves in Mongolian Urban Centers	OP5	Mongolia	2000/MSP	Ongoing	WB	0.75/1.57M
CC-D-05	Renewable Energy in Rural Markets	OP6	Argentina	1999/FSP	Ongoing	WB	13.5/225M
CC-D-06	Rural Electrification with Renewable Energy Using the Popular Participation Law	OP6	Bolivia	1999/FSP	Ongoing	UNDP	4.2/8.5M
CC-D-07	Energy and Water Sector Reform and Development	OP6	Cape Verde	1999/FSP	Ongoing	WB	4.7/64.7M
CC-D-08	Promoting Sustainability of Renewable Energy Technologies and Rural Renewable Energy Service Companies	OP6	Fiji	2000/MSP	Ongoing	UNDP	0.75/1.4M
CC-D-13	Off-Grid Renewable Energy Electrification Pilot Demonstration	OP6	Lao	1999/MSP	Ongoing	WB	0.75/1.55M
CC-D-15	Renewable Energy for Agriculture	OP6	Mexico	2000/FSP	Ongoing	WB	8.7/26.2M
CC-D-16	Photovoltaic-Based Rural Electrification in Peru	OP6	Peru	1999/FSP	Ongoing	UNDP	3.93/9.18M
CC-D-17	Renewable Energy Systems in the Peruvian Amazon Region	OP6	Peru	2000/MSP	Ongoing	UNDP	0.75/2.67M
CC-D-19	Barrier Removal to Secure Photovoltaic Market Penetration in Semi-Urban Sudan	OP6	Sudan	1998/MSP	Ongoing	UNDP	0.75/1.71M
CC-D-20	Electricity, Fuel and Fertilizer from Municipal and Industrial Organic Waste: Demonstration Biogas Plant for Africa	OP6	Tanzania	1994/FSP	Completed	UNDP	2.5/2.58M
CC-D-24	Biomass Integrated Gasification	OP7	Brazil	1992/FSP	Completed	UNDP	7.7/7.7M

ID	Project	OP	Country/Region	Start-up/ Project Size	Status (as of April 2005)	IA	GEF Financing/ Total Cost of Project
CC-D-25	Introduction of Viable Electric and Hybrid-Electric Bus Technology	OP11	Egypt	2000/MSP	Ongoing	UNDP	0.75/1.7M
CC-D-26	Alternatives to Slash and Burn	STRM	Global	1993/FSP	Completed	UNDP	3/6M
CC-D-27	Mini-Hydropower Project	STRM	Macedonia	2000/MSP	Ongoing	WB	0.75/3.29M
CC-D-28	Decentralized Wind Electric Power for Social and Economic Development	STRM	Mauritania	1994/FSP	Completed	UNDP	2/2.07M
Field Case Studies							
CC-F-01	Fuel Efficiency in Road Transport Sector	OP5	Pakistan	1997/FSP	Completed	UNDP	7/17.35M
CC-F-02	Renewable Energy-Based Electricity for Rural, Social and Economic Development in Ghana	OP6	Ghana	1998/FSP	Completed	UNDP	2.47/3.13M
CC-F-03	Optimizing Development of Small Hydel Resources in the Hilly Regions	OP6	India	1993/FSP	Completed	UNDP	7.5/14.6M
CC-F-04	Palawan New and Renewable Energy and Livelihood Support	OP6	Philippines	2000/MSP	Ongoing	UNDP	0.75/1.5M
CC-F-05	Sustainable and Participatory Energy Management	STRM	Senegal	1997/FSP	Completed	WB	4.7/19.97M
Nonfield Case Studies							
CC-NF-01	Renewable Energy-Based Small Enterprise Development in the Quiche Region	OP6	Guatemala	1999/MSP	Completed	UNDP	0.4/0.78M
CC-NF-02	Solar-Home Systems	OP6	Indonesia	1996/FSP	Completed	WB	24.3/44M
CC-NF-03	Household Energy	OP6	Mali	1995/FSP	Completed	WB	2.5/11.2M
CC-NF-04	Solar Water Heating	OP6	Tunisia	1995/FSP	Completed	WB	4/20.9M
CC-NF-05	Uganda Photovoltaic Pilot Project for Rural Electrification	OP6	Uganda	1995/FSP	Completed	UNDP	1.8/3.6M
CC-NF-06	Photovoltaic Project for Household and Community Use	OP6	Zimbabwe	1992/FSP	Completed	UNDP	7/7M
CC-NF-07	Community-Based Rangeland Rehabilitation for Carbon Sequestration and Biodiversity	STRM	Sudan	1994/FSP	Completed	UNDP	5/1.5M

ECA: Europe and Central Asia; LAC: Latin America and the Caribbean; WB: World Bank.

Table D.2: Completed Project Implementation Completion Report/Terminal Evaluation Sample

ID	Project	Country/Region	Project Size	Year of Evaluation	IA
CC-NF-06	Photovoltaic Project for Household and Community Use	Zimbabwe	FSP	1997	UNDP
	Building Capacity in Sub-Saharan Africa to Respond to the UNFCCC	Africa	FSP	1998	UNDP
	Country Cases Studies on Climate Change Impacts and Adaptation Assessments	Global	FSP	1998	UNEP
CC-D-01	Tehran Transport Emissions Reduction	Iran	FSP	1998	WB
	Participatory Management of Forest and Village Reforest	Benin	FSP	1998	UNDP
	Study of Least-Cost Greenhouse Gas Abatement Strategy	Global	FSP	1999	UNDP
	Training Program to Support the Implementation of the UNFCCC - Phase II	Global	FSP	1999	UNDP
	Ozone Depleting Substances	Hungary	FSP	1999	WB
	Enabling Belize to Prepare Its First National Communication in Response to Its Commitments to the UNFCCC	Belize	FSP	2000	UNDP
	A Demand Side Demonstration Project	Jamaica	FSP	2000	WB
	Leyte-Luzon Geothermal	Philippines	FSP	2000	WB
	Greenhouse Gas Reduction	Russia	FSP	2000	WB
	Promotion of Electricity Energy Efficiency Project	Thailand	FSP	2000	WB
	Control of Greenhouse Gas Emissions through Energy Efficient Building Technology in West Africa	Africa	FSP	2002	UNDP
	Kyjov Waste Heat Utilization	Czech Republic	FSP	2002	WB
	Renewable Resources Development (Alternate Energy)	India	FSP	2002	WB
CC-NF-03	Household Energy	Mali	FSP	2002	WB
CC-NF-07	Community-Based Rangeland Rehabilitation for Carbon Sequestration and Biodiversity	Sudan	FSP	2002	UNDP
	Ozone Depleting Substances	Poland	FSP	2002	WB
	Ozone Depleting Substances	Belarus	FSP	2002	WB
CC-NF-02	Solar Home Systems	Indonesia	FSP	2002	WB
	Ghana Renewable Energy	Ghana	FSP	2003	UNDP
CC-NF-01	Renewable Energy-Based Small Enterprise Development in the Quiche Region	Guatemala	MSP	2003	UNDP
	Creation and Strengthening of Capacity for Sustainable Renewable Energy Development in Central America	LAC	FSP	2003	UNDP
CC-NF-05	Uganda Photovoltaic Pilot Project for Rural Electrification	Uganda	FSP	2003	UNDP
	Fuel Cell Market Options and Strategies	Global	FSP	2003	UNEP
	Redirecting Commercial Investment Decisions to Cleaner Technology	Global	FSP	2003	UNEP
	Caribbean Planning for Adaptation to Climate Change	LAC	FSP	2003	WB
	Energy Services Delivery	Sri Lanka	FSP	2003	WB
	Klaipeda Geothermal Demonstration	Lithuania	FSP	2004	WB
	Efficient Lighting	Poland	FSP	2004	WB
	Concentrating Solar Power for Africa (ESKOM)	South Africa	FSP	2004	WB
	Efficient Street Lighting	Argentina	FSP	2004	WB
	Biomass Power Generation: Sugar Cane Bagasse and Trash	Brazil	FSP	2004	UNDP

ID	Project	Country/Region	Project Size	Year of Evaluation	IA
	Producing Energy Efficient Refrigerators without Making Use of Ozone Depleting Substances	Cuba	FSP	2004	UNDP
	Sichuan Gas Development and Conservation	China	FSP	2004	WB

ECA: Europe and Central Asia; LAC: Latin America and the Caribbean; WB: World Bank.

Table D.3: New Project Sample

ID	Project	OP	Country/Region	Work Program	Status (as of April 2005)	IA	GEF Financing/ Total Cost of Project
CC-NP-01	Energy Efficiency	OP5	Uruguay	2003	Ongoing	WB	7.2/81.3M
CC-NP-02	Rural Electrification and Transmission	OP6	Cambodia	2001	Ongoing	WB	6.8/16.5M
CC-NP-03	National Off-Grid Electrification Programme Based on Renewable Energy Sources - Phase I	OP6	Costa Rica	2004	Ongoing	UNDP	2.5/19.1M
CC-NP-04	Promoting the Use of Renewable Energy Resources for Local Energy Supply	OP6	Georgia	2002	Ongoing	UNDP	4.7/13.4M
CC-NP-05	Household Energy and Universal Rural Access Project	OP6	Mali	2002	Ongoing	WB	5.6/16.4M
CC-NP-06	Energy Reform and Access	OP6	Mozambique	2001	Ongoing	WB	3.1/10.1M
CC-NP-07	Off-Grid Rural Electrification for Development	OP6	Nicaragua	2002	Ongoing	WB/ UNDP	8.4/35.6M
CC-NP-08	Electricity Services for Rural Areas	OP6	Senegal	2001	Ongoing	WB	5/120.5M
CC-NP-09	Transformation of the Rural Photovoltaic Market	OP6	Tanzania	2003	Ongoing	UNDP	2.5/7.3M
CC-NP-10	Rural Energy II	OP6	Vietnam	2004	Ongoing	WB	5.2/279M

ECA: Europe and Central Asia; LAC: Latin America and the Caribbean; WB: World Bank.

E. International Waters Projects

Table E.1: International Waters Projects Reviewed by the Study

ID	Project	OP	Country/ Region	Start-up/ Project Size	Status (as of April 2005)	IA	GEF Financing/ Total Cost of Project
Desk Studies							
IW-D-01	Gulf of Aqaba Environmental Action Plan	OP8	Jordan	1997/FSP	Completed	WB	3.5/12.67M
IW-D-03	Water Pollution Control and Biodiversity Conservation in the Gulf of Guinea Large Marine Ecosystem	OP8	Africa	1994/FSP	Completed	UNDP	6M/6M
IW-D-04	Implementation of Integrated Watershed Management Practices for the Pantanal and Upper Paraguay River Basin	OP9	Brazil	1999/FSP	Ongoing	UNEP	6.6M/16.4M
IW-D-05	Rural Environmental Protection Program	OP9	Poland	2000/FSP	Completed	WB	3M/14.4M
IW-D-07	Strategic Action Program for the Binational Basin of the Bermejo River	OP9	LAC	1996/FSP	Completed	UNEP	3.22M/5.96M
IW-D-09	Implementation of the Strategic Action Program for the Pacific Small Island States	OP9	Asia	2000/FSP	Ongoing	UNDP	12.2M/20.3M
IW-D-12	Integrated Management of Land-Based Activities in the São Francisco Basin	OP10	Brazil	1999/FSP	Ongoing	UNEP	4.7M/22.1M
IW-D-13	Regional Ship Waste Management	OP10	LAC	1995/FSP	Completed	WB	12.5/50.5M
IW-D-14	Western Indian Ocean Islands Oil Spill Contingency Planning Project	OP10	Africa	1998/FSP	Completed	WB	3.5M/4.9M
Field Case Studies							
IW-F-01	Implementation of a Strategic Action Program for the Binational Basin of the Bermejo River	OP9	LAC	2000/FSP	Ongoing	UNEP	11.4/19.7M
IW-F-02	Implementation of the Strategic Action Program for the Red Sea and Gulf of Aden	OP9	Asia	1999/FSP	Completed	UNDP/ UNEP/ WB	19M/44.99M

ID	Project	OP	Country/ Region	Start-up/ Project Size	Status (as of April 2005)	IA	GEF Financing/ Total Cost of Project
Nonfield Case Studies							
IW-NF-01	Lake Victoria Environmental Management	OP8	Africa	1995/FSP	Completed	WB	35M/79.4M
IW-NF-02	Pollution Control and Other Measures to Protect Biodiversity in Lake Tanganyika	OP9	Africa	1995/FSP	Completed	UNDP	10M/10M
IW-NF-03	Building Partnerships for Environmental Management in the Seas of East Asia	OP9	Asia	1999/FSP	Ongoing	UNDP	16.2M/28.54M

LAC: Latin America and the Caribbean; WB: World Bank.

Table E.2: Completed Project Implementation Completion Report/Terminal Evaluation Sample

ID	Project	Country/Region	Project Size	Year of Evaluation	IA
	Ship Waste Disposal	China	FSP	1997	WB
	Environmental Management and Protection of the Black Sea	ECA	FSP	1997	UNDP
	Program for Prevention and Management of Marine Pollution in East Asian Seas	Asia	FSP	1998	UNDP
	The Wider Caribbean Initiative on Ship Generated Waste	LAC	FSP	1999	WB
IW-D-03	Water Pollution Control and Biodiversity Conservation in the Gulf of Guinea Large Marine Ecosystem	Africa	FSP	1999	UNDP
	Developing the Danube River Basin Pollution Reduction Program	ECA	FSP	1999	UNDP
IW-NF-02	Pollution Control and Other Measures to Protect Biodiversity in Lake Tanganyika	Africa	FSP	1999	UNDP
	Planning and Management of Heavily Contaminated Bays and Coastal Areas	LAC	FSP	1999	UNDP
	Oil Pollution Management	Algeria	FSP	2000	WB
	Oil Pollution Management	Morocco	FSP	2000	WB
	Oil Pollution Management	Tunisia	FSP	2000	WB
IW-D-07	Strategic Action Program for the Binational Basin of the Bermejo River	LAC	FSP	2000	UNEP
	Coastal Management of Biodiversity Coast Zone	Cuba	FSP	2000	UNDP
	Building Environmental Citizenship to Support Transboundary Pollution Reduction in the Danube: A Pilot Project in Hungary and Slovenia	ECA	FSP	2002	UNDP
	Developing the Implementation of the Black Sea Strategic Plan	ECA	FSP	2002	UNDP
	Protection of Marine Ecosystems of the Red Sea Coast	Yemen	FSP	2002	UNDP
	Caspian Environment Program	ECA	FSP	2003	UNDP
	Addressing Transboundary Environmental Issues in the Caspian Environment Program - Strengthened Institutional, Legal, Regulatory and Economic Frameworks for SAP Implementation	ECA	FSP	2003	UNEP
	Water and Environmental Management in the Aral Sea Basin	ECA	FSP	2004	WB
IW-D-01	Gulf of Aqaba Strategic Action Program	Jordan	FSP	2004	WB
IW-D-13	Regional Ship Waste Management	LAC	FSP	2004	WB

ID	Project	Country/Region	Project Size	Year of Evaluation	IA
IW-NF-01	Lake Victoria Environmental Management Project	Africa	FSP	2004	WB
	Preparation of a Strategic Action Program and Transboundary Diagnostic Analysis for the Tumen River Area, Its Coastal Regions, and Related Northeast Asian Environs	Asia	FSP	2004	UNDP
	International Waters Distance Learning	Global	FSP	2004	UNDP

ECA: Europe and Central Asia; LAC: Latin America and the Caribbean; WB: World Bank.

Table E.3: New Project Sample

ID	Project	OP	Country/ Region	Work Program	Status (as of April 2005)	IA	GEF Financing/ Total Cost of Project
IW-NP-01	Nile Transboundary Environmental Action	OP9	Africa	2002	Ongoing	UNDP/WB	8/43M
IW-NP-02	Reversing Land and Water Degradation Trends in the Niger River Basin	OP9	Africa	2002	Ongoing	WB	13/42.6M
IW-NP-03	Towards a Convention and Action Program for the Protection of the Caspian Sea Environment (Phase II)	OP9	ECA	2004	Ongoing	UNDP/WB	6/31.6M
IW-NP-04	Hai River Basin Integrated Water Resources Management	OP9	China	2003	Ongoing	WB	17/33.3M

ECA: Europe and Central Asia; WB: World Bank.

F. Management Response

[Note: This Management Response, prepared by the GEF Secretariat and Implementing Agencies, addresses Part I: Study Nature and Conclusions.]

I. Introduction

1. The document, "The Role of Local Benefits in Global Environmental Programs," is an important analytical review of the interrelationships between local and global environmental benefits in the GEF portfolio. It also identifies opportunities for the GEF to further articulate and improve its projects to better address the relationships between global environment and sustainable development, and their linkages to poverty reduction.

2. The review is particularly timely considering increased acknowledgment of the link between global environmental protection, sustainable development, and human welfare, and the negative impacts, particularly on the poor, of not addressing global environmental challenges as recognized in the Millennium Development Goals and the Plan of Implementation of the World Summit on Sustainable Development.

II. Findings

Strong Linkages between Local and Global Benefits

3. We fully agree with the finding that local and global benefits are strongly interlinked in many areas where the GEF is active. Based on this understanding, the Programming Document for GEF-4 reflects considerable strategic thinking to move toward integrated natural resources management as well as to strengthen the environment and development link. The Programming Document highlights the importance of working with countries to ensure that global environmental perspectives are taken into account in their sustainable development policies and programs, including national poverty reduction strategies. Moreover, the development of the strategic priorities within GEF focal areas for GEF-3 and their continued refinement for GEF-4 represent a shift toward a strategic, programmatic and project-level inclusion of both development and environmental objectives with emphasis on local communities.

4. In addition, the GEF has also made a tangible attempt to proactively address the links between development/poverty alleviation objectives and efforts to maintain or increase global environmental goods and services through the establishment of new operational programs, such as OP12 (integrated ecosystem management), OP13 (agriculture biodiversity), and OP15 (sustainable land management).

Considerable Achievements in Developing Local Incentives to Ensure Environmental Gains

5. The study recognizes the considerable achievements within some of the GEF projects in addressing local benefits to ensure global environmental gains. The key successful tools and approaches that were identified were: use of social assessment during project design and implementation, market and affordability assessment, role of committed and skilled internal and external project stakeholders, monitoring of local-global

linkages, and local participation in project design and implementation. The good practices on global-local linkages that were identified through this study are useful for drawing lessons and for potential replication in future strategy development and projects.

Challenges to Achievement of Local-Global Linkages

6. The study finds that the majority of GEF projects did not fully operationalize their intent to link local and global benefits in project design or implementation. This is an important finding. We expect to learn from the success and failure of our earlier projects and to operationalize the recommendations made by the study.

7. To strengthen its learning capacity, the GEF is currently reviewing its monitoring tools and approaches, as well as developing a knowledge management system to improve the learning from our projects. It is important to note, however, that the large proportion of projects that were analyzed for this study were implemented and designed during the GEF pilot phase or soon after, when GEF had less experience addressing both local and global benefits and stand-alone GEF projects were common.

8. As the study notes, new projects that were approved during the GEF-3 programming period demonstrate a stronger and consistent approach to the integration of local incentives and social issues into global environmental projects and programs across all focal areas. This approach has been further strengthened in the GEF-4 Programming Document.

Constraints on Win-Win Outcomes

9. Finding a win-win solution for both local communities and the environment has been a challenge for all donors and partners, including the GEF. During the last decade, approaches such as integrated conservation and development projects, which were widely proposed as win-win solutions, proved ineffective in many parts of the world. Successful approaches and good practices were often highly context and site specific, and replication of these approaches has proven difficult.

10. Environment and development practitioners have become increasingly aware of the trade-offs among the different levels of intervention. GEF projects that were recently developed and implemented are using more sophisticated approaches to address this issue, while identifying appropriate compensatory and incentive approaches.

III. Recommendations

11. The study identifies four main recommendations. We find that the recommendations are useful starting points for the GEF to develop practical operational guidance.

Recommendation 1. Where local benefits are an essential means to achieve and sustain global benefits, the GEF portfolio should integrate them more strongly into its programming.

12. We agree with this recommendation. As noted above, the GEF has substantially strengthened its ability to address global-local linkages in our programming through its GEF-3 and GEF-4 Programming Documents, and strategic priority setting.

Recommendation 2. Integration of local benefits should be carried forward more systematically into all stages of the project cycle.

13. We agree with this recommendation, particularly in those instances where local benefits are essential means to achieve and sustain global benefits. For the past years, we have made initial efforts in incorporating approaches and tools within the project cycle to strengthen the global-local benefit linkages. For example, stakeholder identification and development of public participation strategies are required in appropriate stages of the project cycle. Social assessment and social experts are utilized during project preparation, implementation, and the monitoring and evaluation period. We will review and strengthen these approaches through the ongoing review of the GEF project cycle and appraisal criteria, while making sure that these remain simple and do not make the project review process more complex.

Recommendation 3. GEF activities should include processes for dealing with trade-offs between global and local benefits in situations where win-win results do not materialize.

14. We agree with the study that the assumption that projects involving the GEF would always result in "win-win" gains in both development and global environmental management is not realistic. Some of the projects require an assessment of the potential for win-win gains or trade-off outcomes between global environmental and local livelihood benefits. The issue is discussed as part of the project design and sustainability analysis for each project at appropriate stages of the project cycle. During the last decade, the Implementing Agencies have also strengthened their safeguard and related policies to monitor issues of local costs and benefits derived from projects. Moreover, the introduction of the logical framework during project preparation has helped clarify assumptions and risks associated with projects while identifying additional project activities to reduce the risks, when necessary.

Recommendation 4. To strengthen the generation of linkages between local and global benefits, the GEF should ensure adequate involvement of expertise on social and institutional issues at all levels of the portfolio.

15. As the findings of the study indicate, the involvement of expertise on social and institutional issues may have been incoherent during the early days of GEF programming. Today, it is a regular practice at every stage of the project cycle to involve appropriate expertise and tools related to social and institutional issues by all Implementing Agencies. Stakeholder consultation, participatory rural assessments, and social assessments are widely used in GEF projects by structuring multidisciplinary project teams that include social scientists. In fact, the study's own data show that 80 percent of the most recently approved projects have involved social assessment, while it was only 39 percent in the study's overall sample. The ongoing review of the GEF project cycle and appraisal criteria will assess the relevance of having these tools and approaches as operational requirements for future projects.

IV. Conclusions

16. The study provides useful insights into the complex interactions that exist between local and global benefits in GEF projects. Some of the findings and recommendations have already been integrated in GEF programming on GEF-3, while the Programming Paper for GEF-4 incorporates specific steps toward furthering the integration between environment and development, and, consequently, between global and local benefits.

G. References

Abbot, J.I.O., D.H.L. Thomas, A.A. Gardner, S.E. Neba, and M.W. Khen. 2001. "Understanding the Links between Conservation and Development in the Bamenda Highlands, Cameroon." *World Development* 29(7):1115–36.

Agarwal, B. 1997. "Gender, Environment and Poverty Interlinks: Regional Variations and Temporal Shifts in Rural India, 1971–1991." *World Development* 25(1):23–52.

Barrow, E.G.C., H. Gichohi, and M. Infield. 2000. *Rhetoric or Reality?: A Review of Community Conservation Policy and Practice in East Africa.* London: International Institute for Environment and Development.

Borrini-Feyerabend, G., M. Pimbert, M.T. Farvar, A. Kothari, and Y. Renard. 2004. *Sharing Power: Learning by Doing in Co-Management of Natural Resources throughout the World.* London: International Institute for Environment and Development and IUCN.

Bovarnick, A., and A. Gupta. 2003. *Local Business for Global Biodiversity Conservation: Improving the Design of Small Business Development Strategies in Biodiversity Projects.* New York: United Nations Development Programme.

Brechin, R., P.R. Wilshusen, C. Fortwangler, and P.C. West, eds. 2003. *Contested Nature: Promoting International Biodiversity and Social Justice in the 21st Century.* New York: State University of New York Press.

Brown, K., E.L. Tompkins, and W.N. Adger. 2002. *Making Waves: Integrating Coastal Conservation and Development.* London: Earthscan.

Cernea, M., and K. Schmidt-Soltau. 2003. "The End of Forcible Displacements: Making Conservation and Impoverishment Incompatible." *Policy Matters* 12:42 – 51.

Egea, A.N. 2003. *Natural Protected Areas and Social Marginalization in Mexico.* CEESP Occasional Papers Issue 1. Tehran: IUCN.

Energy Sector Management Assistance Programme (ESMAP). 2001. *Sustainable Woodfuel Supplies from the Dry Tropical Woodlands.* ESMAP Technical Paper 13. Washington, DC: World Bank.

Global Environment Facility (GEF). n.d. "Operational Program Number 2: Coastal, Marine, and Freshwater Ecosystems." OP2. http://thegef.org/Operational_Policies/Operational_Programs/OP_2_English.pdf.

———. n.d. "Operational Program Number 3: Forest Ecosystems." OP3. http://thegef.org/Operational_Policies/Operational_Programs/OP_3_English.pdf.

———. 1993a. *Economics of Biodiversity Conservation.* Working Paper 2. Washington, DC: GEF Secretariat.

———. 1993b. *Social Challenge of Biodiversity Conservation.* Working Paper 3. Washington, DC: GEF Secretariat.

———. 1994. "Incremental Costs and Financing Policy Issues." GEF/C.2/6. Working document presented at GEF Council Meeting November 1994. Washington, DC.

———. 1996a. "Incremental Costs." GEF/C.7/Inf. 5. Information document presented at GEF Council Meeting April 1996. Washington, DC.

———. 1996b. *Operational Strategy of the Global Environmental Facility.* Washington, DC: GEF Secretariat.

———. 1996c. *Public Involvement Policy.* Washington, DC: GEF Secretariat.

———. 1997. "Finance for GEF Projects That Have Incremental Domestic Benefits." GEF/C.10/Inf.6. Information document presented at GEF Council Meeting November 1997.

———. 2001. "Report of the STAP Selective Review of Philippines: Conservation of Priority Protected Areas Project." GEF/C.18/Inf.10. Information document presented at GEF Council Meeting November 2001. Washington, DC.

———. 2002. *The First Decade of the GEF: Second Overall Performance Study.* OPS2. Washington, DC.

———. 2003a. "The Nature and Role of Local Benefits in GEF Program Areas: Inception Report." Washington, DC.

———. 2003b. The Nature and Role of Local Benefits in GEF Program Areas: Methodology. Washington, DC.

———. 2004a. *Biodiversity Program Study 2004*. Washington DC.

———. 2004b. *Climate Change Program Study 2004.* Washington, DC.

———. 2004c. "Instrument for the Establishment of the Restructured Global Environment Facility." Washington, DC: GEF Secretariat.

———. 2004d. *International Waters Program Study 2004.* Washington, DC.

———. 2004e. "Reporting on Performance Targets to Be Achieved by Fall 2004." GEF/C.24/3/Add.1. Working document presented at GEF Council Meeting November 2004. Washington, DC.

———. 2005a. *Integrated Ecosystem Management (OP12) Study.* Washington, DC.

———. 2005b. "Revised Programming Document for GEF-4." Draft document. Washington, DC

Griffiths, T. 2005. *Indigenous Peoples and the Global Environment Facility (GEF): Indigenous Peoples' Experiences of GEF-Funded Biodiversity Conservation - A Critical Study.* Morten-in-Marsh, UK: Forest Peoples Program.

Hankins, M. 2004. *Solar-Voltaic Power in Africa.* New York: United Nations Development Programme-Global Environment Facility.

Haro, G.O., G.J. Doyo, and J.G. McPeak. 2005. "Linkages between Community, Environmental and Conflict Management: Experiences from Northern Kenya." *World Development* 33(2):285–99.

Hatfield, R. 2004. "The Economic Value of the Mountain Gorilla Forests: Benefits, Costs and Their Distribution amongst Stakeholders." Paper given at Yale School of Forestry. April 2004.

International Institute for Environment and Development (IIED). 1994. *Whose Eden? An Overview of Community Approaches to Wildlife Management.* London.

International Monetary Fund (IMF). 2005. *Kenya: Poverty Reduction Strategy Paper.* IMF Country Report 05/11. www.imf.org/external/pubs/ft/scr/2005/cr0511.pdf.

Leach, M., S. Joekes, and C. Green. 1995. "Editorial: Gender Relations and Environmental Change." *IDS Bulletin* 26(1):1–8.

Mansuri, G., and V. Rao. 2004. "Community-Based and -Driven Development: A Critical Review." *World Bank Research Observer* 19(1):1–39.

McShane, T., and M. Wells. 2004. *Getting Biodiversity Projects to Work.* New York: Colombia University Press.

Oakley, E., and J.H. Momsen. 2005. "Gender and Agrobiodiversity: A Case Study from Bangladesh." *Geographical Journal* 171(3):195–208.

Pacific Regional Environment Programme (PREP). 2004. "International Waters Project: Fighting the Region's Invisible Killer." www.sprep.org.ws/article/news_print.asp?id=204.

Proctor, F. 2002. "Enhancing Poverty Diagnosis: Strategy and Design for Poverty Reduction in Rural Areas." Agricultural and Rural Department working paper. Washington, DC: World Bank.

Rietbergen-McCracken, J., and D. Narayan. 1997. *Participatory Tools and Techniques: A Resource Kit for Participation and Social Assessment.* Washington, DC: World Bank.

United Nations Convention on Biological Diversity (UNCBD). n.d. www.biodiv.org/Programmes/cross-cutting/ecosystem/principles.asp.

———. 1992. www.biodiv.org/convention/articles.asp.

———. UNCBD 2000. "COP 5: Fifth Ordinary Meeting of the Conference of the Parties to the Convention on Biological Diversity Nairobi, Kenya." www.biodiv.org/decisions/default.aspx?m=cop-05.

———. 2003. "CBD Guidelines for Biodiversity and Tourism Development (Decision VII/14)." www.biodiv.org/programmes/socio-eco/tourism/guidelines.asp.

———. 2004. "COP 7: Seventh Ordinary Meeting of the Conference of the Parties to the Convention on Biological Diversity Kuala Lumpur, Malaysia." www.biodiv.org/decisions/default.asp.

UNCBD COP - www.biodiv.org/convention/cops.asp#

United Nations Convention to Combat Desertification (UNCCD). 1994. www.gm-unccd.org/English/DOCS/convention.htm.

United Nations Development Programme (UNDP). n.d. Home page. www.undp.org/water/wwf3/activities.htm.

———. 2003. "Report of the Third Independent Evaluation of the Global Environment Facility Small Grants Program 1999–2002." GEF/C.22/Inf.17. Information document presented at GEF Council Meeting November 2003. Washington, DC.

———. 2004a. "Are There Governance-Poverty Linkages? A Study of UNDP Governance Programs, Their Contribution to Democratic Governance and Possible Links to Poverty Reduction." New York: UNDP Evaluation Office.

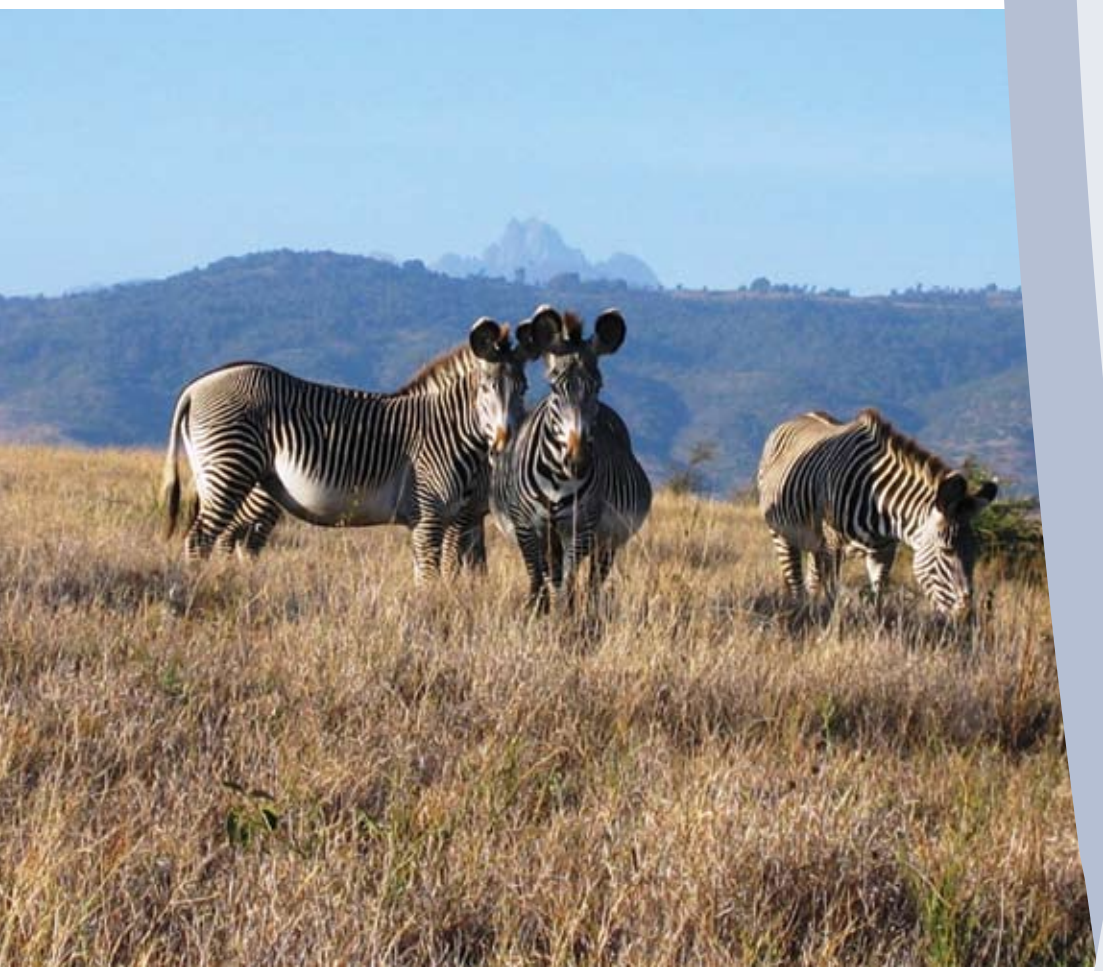
United Nations Development Programme, United Nations Environment Programme, and World Bank (UNDP-UNEP-WB). 1994. *Global Environment Facility: Independent Evaluation of the Pilot Phase.* Washington, DC: World Bank.

United Nations Framework Convention on Climate Change (UNFCCC). 1994. http://unfccc.int/essential_background/convention/items/2627.php.

Whittingham, E., J. Campbell, and P. Townsley. 2003. *Poverty and Reefs. Volume 1: Global Overview.* London: Department for International Development.

World Bank. 2002. *Participatory Conservation Principles for Practitioners.* Washington, DC.

Zarzar, A., and others. 2004. "Thematic Review of Indigenous Peoples Participation in the Conservation of Biodiversity in the Latin American and Caribbean Global Environment Facility Program." Internal document. LAC-GEF and QAT.



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