USAID's Enduring Legacy in Natural Forests:

Livelihoods, Landscapes, and Governance

Volume Two:

Study Report

This is Volume Two: Study Report, of a three-part publication, which also includes Volume One: Study Summary and Volume Three: Focus Country Profiles. This trilogy highlights USAID's efforts to improve community benefits from natural forest management through the promotion of Livelihoods, Landscapes, and Governance.

Chemonics International Inc. produced this study.

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Lead Author:
Robert Clausen

Contributing Authors:
David Gibson
Thomas Hammett
Damas Nduwumwami
Lucretio Rebugio
James Seyler

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EXECUTIVE SUMMARY

For more than 25 years the United States Agency for International Development (USAID) has provided vital leadership to international forestry efforts. Through substantial investments, USAID has led forest conservation efforts that have improved landscapes, livelihoods, and governance worldwide.

This study captures and highlights the major results of USAID's efforts in natural forest management. The study is in three parts: Volume One-Study Summary; this volume-Study Report; and Volume Three-Focus Country Profiles. The accompanying bibliographic database and other materials chronicle the history of USAID forestry programs and are designed to assist the agency in formulating and evaluating policy and programmatic recommendations for future natural forest management programming.

The study is based on information derived from two principal sources of data: an extensive review of global literature from USAID-supported projects, and 10 focus-country studies. These studies were based on country visits that consisted of site visits and structured interviews with government officials, USAID staff, project staff, and project beneficiaries. A core group of senior natural resource management specialists conducted the study, guided by the Forestry Team at USAID, and supported by an independent Advisory Group.

Lessons Learned

Forests have value that is directly tied to public health, environmental services, and sustainable livelihoods, but this is not always obvious. Most value cannot be easily quantified by classic economic evaluation practices. Fortunately, governments, research institutions, and NGOs now support efforts to reduce the forest values " leakage" and improve the ability of various value chains to reflect real costs.

Donor investments require more time (10-20 years) than most projects. Unless they are liquidated, forests rarely produce high short-term profits or match local interest rates. Thus, investing in forests should be viewed as a conservative business opportunity by donors, community shareholders, and outside investors. When properly managed, forests provide a steady stream of goods and highly valuable services. Compared to other investments, forest investment risks are less severe, long-term equity is safer, benefits accrue to a broader range of stakeholders, and dividends are paid over the period of investment in the form of sustainable goods and services.

In many developing countries, sustainable and profitable utilization of forests is contingent on increasing local organizational and enterprise management capacity through policies that stem corruption and favor transparent and collaborative participation of local communities. Such management structures and systems take years to mature, particularly in forests that were recently under strict central government control.

Broad Recommendations

Sustainable forest management offers the possibility of improving rural livelihoods while simultaneously protecting the environment and conserving areas of high biodiversity. Yet, despite USAID's enormous success as a leader in forestry investment over the past 25 years, forestry is still marginalized in the overall development scheme. Within USAID, forestry often finds itself caught between agriculture and biodiversity conservation interests and, most often, part of neither. The critical role of forestry within both agriculture systems and broader landscape management objectives needs redefining and reemphasizing.

The best approach to designing and implementing meaningful community forestry activities is on a project-by-project, site-by-site, or enterprise-by-enterprise basis. To effectively capture these fundamental elements, USAID should continue to employ a landscape approach to program planning, design, and monitoring.

The flow of people and forest resources across borders impacts individual countries profoundly. Transboundary programs should be developed both at the mission and regional office levels and assessments should be done to determine the extent to which market forces and policies transcend national boundaries and jeopardize project success.

USAID forestry resource assistance should focus on field-level activities involving communities, local government, and the private sector. USAID forestry activities should build upon local organizational capacity and traditions but should also recognize that the aspirations and capacity of forest communities to undertake forest product processing and marketing activities vary widely. In addition, assumptions regarding value-added products and processing must be based on market and enterprise realities. Strategies should include sharing processing capacity with local industry, joint ventures, and long-term purchase contracts.

Links between forestry and democracy and governance issues are crucial and clear. Forest resource exploitation is often a driving force behind conflict, but properly managed forests can contribute to the resolution or prevention of conflict conditions. With few exceptions, these links are undervalued and underutilized. Knowledge sharing and field-level implementation of joint activities between forestry and democracy and governance programs should be encouraged. Conflict assessments should carefully consider the role of forestry in mitigation and prevention.

Forestry programs should be designed and implemented according to more realistic time frames. Among international forestry program donors, USAID's resource commitments are relatively short term. Budget constraints and political realities mean most forestry programs receive no more than an initial four- or five-year commitment, often requiring multiple project renewals or the continuation of funding by other donors once USAID funding ends. To ensure continuity and success, USAID should carefully consider its entry and exit points when undertaking forest management projects.

USAID's internal capacity to design and manage forestry-related products could be increased by hiring more professionals with forestry and resource management backgrounds. Professionals in forest resource economics, policy and management, soil and watershed conservation, and forestry education and outreach are needed.

USAID has provided outstanding leadership in forest resources management over the past 25 years and has pioneered some of the most innovative and broadly replicated community-based natural forest management initiatives across the globe. Poverty alleviation strategists, food security analysts, and democracy proponents should consider community-based natural forest management an essential tool in the development practitioner's tool box.

OVERVIEW

The United States Agency for International Development (USAID) has provided vital leadership to international forestry efforts for more than 25 years. USAID's commitment has spanned the globe and has been at the forefront of international efforts to improve the contributions and conservation of forest resources. From the 1970s energy crisis to current rural livelihood improvement programs, USAID's interventions have evolved in response. Indeed, USAID has been on the leading edge of efforts to increase fuelwood self sufficiency, protect watersheds, promote community forestry and forest enterprises, and to conserve biodiversity. Regardless of the program emphasis, a consistent element of USAID strategies has been the anchoring role of natural forests in buffering growing economic needs with shifting environmental imperatives.

A. Purpose of the Study

As the inextricable relationship of communities and forests have become better understood and documented, the importance of stemming the loss of valuable experience and information has become evident. Given shifts in staffing and programming, USAID began to suffer an unavoidable erosion in the valuable knowledge and hard-earned lessons in the management of natural forests. Effective planning today and for the future necessitates a comprehensive look at the past. In recognition of this need and to better serve its missions overseas, the USAID Forestry Team commissioned this retrospective study in an effort to capture the "lessons learned."

The purpose of this study is to capture and highlight the major results of USAID's history in supporting community benefits from natural forest management. This study, the accompanying bibliographic database, and other materials are designed to assist the agency in formulating and evaluating policy and programmatic recommendations for future natural forest management programming.

The report is based on information derived from two principal sources of data; an extensive review of documentation and ten focus-country studies, which included site visits and structured interviews with government officials, USAID staff, USAID partners, project staff, and project beneficiaries.

B. The History of USAID Engagement in Forestry

The management of natural forests has been an integral part of USAID's overall development strategy since approximately 1980. Prior to that time most USAID forestry activities were focused on two main forestry objectives:

1. The production of woodfuel (in response to the global energy crisis of the early 1970s, and projections of critical wood shortages following Erik Eckholm's World Watch Institute report in 1975); and

2. Tree planting (plantations, woodlots, on-farm tree planting) as a vehicle to improve the conservation, management, and productivity of key watersheds.

In the case of watershed management, forestry was a vehicle to move activities toward the larger goal of increasing agricultural productivity by buffering surface water runoff and soil erosion while providing diversified goods for household consumption and possible income. Watershed

* Due to constraints of the terms of this study there are some themes which were not covered, but deserve mentioning. These include: mangroves, an analysis of the timber industry giants, macro-economic policies, and poverty reduction strategies.

projects were not viewed or classified as "forestry projects" per se, but they did employ a number of forestry technologies within the context of soil and water management.

While neither woodfuel nor watershed projects were expressly designed to affect the management of natural forests, their level of productivity and proximity to natural forests largely determined their impact on those resources. Unfortunately, in most cases, the relationship between the woodfuel and watershed projects and the natural forests was not closely monitored.

Nevertheless, these USAID projects produced a wealth of lessons about tree productivity (e.g., site requirements, silviculture, propagation, and growth and yield) and their value to farming systems, soil conservation, and water management. The important linkages between vegetation management and irrigation, now taken for granted but still not always applied, were already well established in the early 1980's. The projects provided valuable insight into the complex relationships between communities, land-use systems, and ecology. Experience also indicated that, as shapers of the dominant landscapes, communities had to be active participants in decisions regarding forest resource use and management, as their actions have the most significant and immediate impact of the integrity of the resources there. Though these projects were not focused on natural forest management per se, they have, to a significant degree, provided information that became the foundation for the development of community forestry.

Community forestry has been a driving force in the management of both natural and man-made forests since the 1970s. At approximately the same time community tree planting began to evolve - with its emphasis on woodlots, windbreaks, and shelterbelts - practitioners recognized the need to look beyond farmscapes and consider community-based natural forest management (CBNFM) within existing forests. Development programs in India and Pakistan were among the first to employ the term CBNFM. With deforestation rates accelerating throughout the tropics and most national forestry agencies unable to effectively manage the national forest estates, community forestry became a strategy of choice for many countries. USAID has been an active proponent of community forestry and CBNFM for most of the last 20 years.

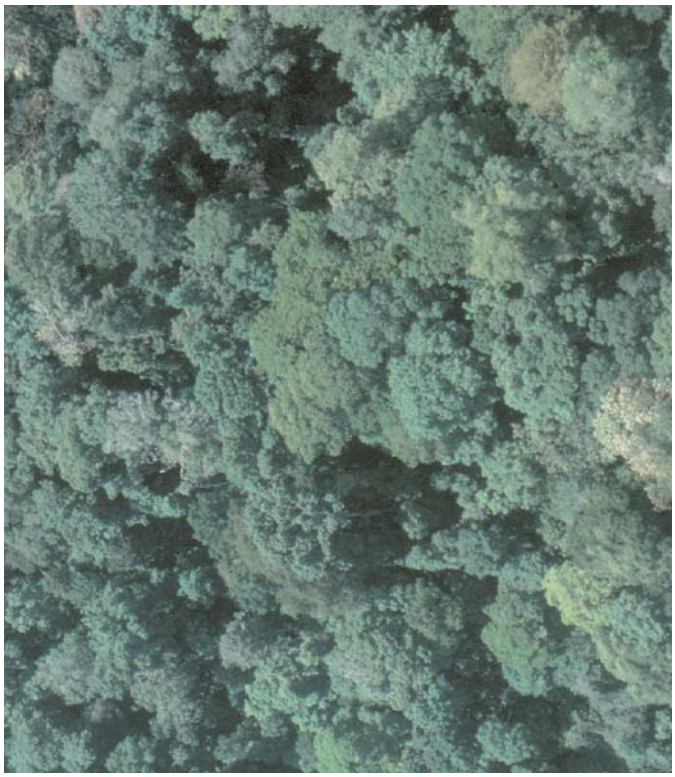
The biodiversity conservation movement also gained prominence in the late 1980s, and it had a significant impact on the design of USAID programs related to natural forests. USAID moved biodiversity conservation to the forefront of its development agenda based on alarming reports that the world was losing species and unprotected habitats at unprecedented rates. As the richest terrestrial landforms for biodiversity, tropical forests received the highest priority for conservation.

Projects designed by USAID to conserve biodiversity in forest areas have widely employed technologies developed by the fuelwood, watershed, and CBFM initiatives in association with more traditional efforts in protected area management (protection and monitoring, research and inventory, ecotourism initiatives). Similarly, CBFM and watershed projects in natural forest areas are increasingly using inventory and monitoring techniques developed by biodiversity conservation projects and institutions to monitor natural forest productivity and health.

During the past decade the importance of forests as a vehicle to offset climate change has become widely recognized. Forests are the greatest terrestrial reservoirs of carbon. Their destruction means the loss of these valuable reservoirs and their ability to sequester carbon. Moreover, when these forests are cleared or degraded, a significant amount of carbon is released to the atmosphere (especially where forest clearing is followed by burning). To date, climate change has had a minimal impact on program planning at the USAID mission level. However, this may

change as the management of forests increasingly becomes the center of field-level climate change work as evidenced by the number of donor-funded, forest-based climate change programs in the focus countries.

The development agenda for many countries (including all of this assessment's focus countries) of the last decade has largely shifted to poverty reduction and food security through improving livelihoods (UN Millennium Declaration 2001). There has been an important evolution in understanding the nature of improved livelihoods. A common understanding has emerged that "livelihood" goes far beyond simple income generation and should account for the long-term aspects of sustainable development. Sustainable livelihoods, then, are best viewed as the cumulative benefits accruing to people from natural resources, physical assets, financial assets, health, education, social relationships, and cultural assets.



Richard Warner/Chemonics International

USAID works toward international development goals of reducing poverty and increasing food security. The promotion of sustainable livelihoods is one of the central long-term goals of USAID. Economic growth is driving the strategy to attain that goal, with agriculture leading the way in most developing nations. However, the relationship between natural forests, economic growth, and agriculture remains obscure for many development practitioners.

Perhaps even more confounding is the important role of forests in preventing or buffering armed conflicts. Yet the revenue from these same forests (and their associated mineral wealth) often plays a direct role in funding civil conflicts. This has been repeatedly demonstrated in regional conflicts in West Africa, the Congo Basin, and the Mayan forests of Central America, along with instability in the Malay-Indonesia archipelago, all of which have had historic and far-reaching consequences. Decentralizing forest resource management and empowering local communities to sustainably use and manage transparent conditions have become key to developing the rule of law and democratic systems, which are crucial to economic prosperity and ecological sustainability.

These dynamic and inextricable linkages between fragile forest landscapes and the societies that depend on their vast array of services have been made more tangible by advances in human and natural ecology. Advancements in survey methodologies, participatory development tools, and shared management knowledge have bolstered the role of forests in livelihoods, broader ecoregional landscapes, and allowed communities to assume more leadership in determining their own destinies.

C. Acknowledgements

The USAID Forestry Team's desire to thoughtfully review and harvest lessons learned from nearly 25 years of programming in forestry is remarkable. Ensuring that the literature base of the collective forestry experience is reviewed and key documents archived for a wider audience was equally impressive. The undertaking was long. It required shifts in thinking and schedules, and

often required a gentle hand on the rudder. Unwaveringly, the Forestry Team encouraged the consultants along a steady and rigorous path for which C.J. Rushin-Bell, Jean Brennan, Leroy Duvall, and Robin Mason deserve very special thanks. Their attention to detail during implementation and in reviewing drafts was impressive and appreciated. Tim Resch, Jon Anderson, and Mike McGahuey gave solid support to ensure their region's knowledge was captured, as did other members of the extended forestry community including Alex Moad and his team at the United States Forest Service.

USAID Missions were supportive of the activity and appreciative of the time taken to compile the results of their hard labors. They were pleased that their knowledge would help improve future forestry programming. They also gave their time freely and with enthusiasm. In each mission there were several key people and collaborating partners who found time in their busy schedules to accommodate the team and ensure that documents were available and experiences recorded. The team would like to make special note of those many individuals in the USAID missions who not only met with team members in the field, but followed up with additional correspondence and documentation.

The team would like to make special note of the following USAID Mission individuals who not only met with the team members in the field, but followed up with additional correspondence and documentation: Greg Booth, Uganda; Andy Karas, Rwanda; Peter Trenchard and Patrice Faye, Senegal; Susan Cantella, Guinea; Bijnan Acharya and George Like, Nepal; Jerry Bisson and Oliver Agoncillo, Philippines; Ketut Amadi, Indonesia; and Anne Dix, Claudia de Pastor and Glenda de Paiz, Guatemala. The team owes them a hearty thanks.

The team would also like to thank the following USAID partners and collaborators who provided either key field support and/or valuable input to the report preparation: Jackson Mutebi and Jones Kamugisha, Uganda; Ian Munanura and Anecto Kayitari, Rwanda; Audace Kabayanda and Gaspard Bikwemu, Burundi; Susan Nival and Ernie Guiang, Philippines; Tim Brown and Tony Suhartono, Indonesia; and Marianne Schmink, Janaki Alavalapati, Paula Williams, and Tom Catterson, United States.

The support and guidance of local counterparts and consultants were invaluable to the process of gathering country-specific information. Lucretio Rebugio from the Philippines, Laurel Heydir from Indonesia, Devendra Amatya from Nepal, Damas Nduwumwami from Burundi, and Joseph Bugembe from Uganda were especially helpful in obtaining information from stakeholders on past and current forestry activities in their respective countries. Their assistance with the questionnaires, country reports, and general awareness of key issues and contacts helped the consultants make the most efficient use of their time in country.

The Advisory Group provided important design support and several members provided thoughtful comment and guidance periodically throughout the core team's work. The University of Florida and the Forest Management Trust deserve special mention for their support organizing and fielding the Advisory Group and supporting development of the bibliographic database.

The hard work and dedication required to challenge skeptics and advance the sustainable management of the world's forests is not for the impatient or timid. USAID's legacy of forestry knowledge has been built one forest at a time. There are no templates, there are no cook books, and the results can be spectacular but may take generations to be realized. This report is dedicated to those field practitioners that have toiled tirelessly despite long odds to make forestry work, and without whom this work would have no meaning. Thank you.

METHODOLOGY

This study was designed to be participatory and inclusive at all levels. As such, a number of groups assisted in the development and monitoring of activities. A brief description of the groups involved in this study follows.

A. Project Structure

Several groups played important roles in the development of the methodology, fielding teams, and analyzing and documenting the team's findings.

Core Project Team

The core project team consisted of the team leader/institutional specialist, a natural resource economist/policy specialist, and two natural resource management specialists. The team received significant support from the USAID Economic Growth, Agriculture, and Trade Forestry Team and also received valuable input from these and other stakeholders during a December 2002 workshop to discuss initial findings and conclusions.

- Robert Clausen, forester, Chemonics International
- A.L. "Tom" Hammett, professor of forestry, Virginia State Technical University
- James Seyler, forester, Chemonics International
- David Gibson, land use planner, Chemonics International
- Jean Brennan, USAID Forestry Team

Field Team

Six specialists (rural sociologist, community development specialist/natural resource management expert, community based forest management specialist, environment and natural resource lawyer) working in the focus countries joined the core team for the country visits and to assist with country profiles (located in Volume Three).

- Lucrecio Rebuggio, professor of forestry, University of Los Banos, Philippines
- Damas Nduwumwami, forester, Burundi
- Laurel Heydir, environmental lawyer, Indonesia
- Henry Tschinkel, forester, Guatemala
- Devandra Amatya, forest sociologist, Nepal
- Chiekh Toure, forester, Senegal

Advisory Group

A team of eight specialists from the University of Florida, the Forest Management Trust, Virginia Tech, and the private sector, assisted during the development of the study's methodological approach and during implementation stages.

- Marianne Schmink, professor of anthropology, University of Florida
- Francis ('Jack') Putz, professor of botany, University of Florida
- Janaki Alavalapati, professor of forest economics, University of Florida
- Tom Ankersen, Forest Management Trust
- Dan Zarin, executive director, Forest Management Trust
- Kevin Veach, Forest Management Trust
- J. Kathy Parker, president, Heron Group
- Michael Jenkins, president, Forest Trends

Review Group

More than 60 people concerned with natural forest management issues were invited to participate in the review group through periodic updates and reviews of draft documents. The review group consisted mostly of USAID forestry personnel, private and non-government partners, and members of the extended forestry team including the U.S. Forest Service. Several meetings were held within USAID's extended forestry team and most review group members attended a workshop held in December 2002 to review initial findings and conclusions.

B. Activities

This "lessons learned" study consisted of three phases: a literature review and questionnaire development; site visits by core and field team members traveling to countries to collect more in-depth information); and the preparation, presentation, and dissemination of the study's results.

Country Profiles
Burundi
The Gambia
Guinea
Rwanda
Senegal
Uganda
Indonesia
Nepal
Philippines
Guatemala

Literature review. The literature review phase included two discreet activities. First, the Forest Management Trust created an annotated bibliography containing documents largely originating from USAID-sponsored activities. More than 1,000 documents were identified and 188 were thoroughly reviewed, annotated, and archived. They are contained on the final project CD-ROM. These were collected prior to and during the country visits.

The second activity involved devising a questionnaire to guide field research and improve the systematic collection and interchangeability of field information derived from the country studies. The questionnaire is included at the end of this report.

Country Visits. The project team visited 10 countries. Field work in these countries included project site visits and interviews with key stakeholders at the mission, host government agency, and in the participating communities. To the greatest extent possible, teams visited current and completed USAID-supported projects to interview stakeholders; collected and reviewed documents; and sought a sense of project effectiveness. Visiting team members relied on field consultants to make visits informative and efficient, as well as to provide follow-up assistance. These country visits lasted between 10 and 14 days.

Materials Preparation, Workshop, and Final Report. Three intermediate products stemming from initial conclusions were developed for the project in July 2002. They were originally intended for the World Summit on Sustainable Development (WSSD) conference held in Johannesburg in September 2002. The themes addressed included: forests as a vehicle for democratization, the role of forests in improving livelihoods, and forests as part of the landscape.

A draft final report was distributed widely for comment throughout USAID and to consultants and associates of USAID. Extensive comments were received from a wide range of sources, including USAID missions, USAID headquarters, former and current USAID-associated consultants and contractors, and NGOs. These comments have been fully incorporated in the final documents. The team attempted to limit its findings and resultant conclusions to the focus countries where site visits and questionnaires complemented available documentation. Nonetheless, the team's experiences in other countries and information derived from documentation from non-focus countries assisted the analytical process and are reflected in the conclusions.

C. Cross-Cutting Issues

During the course of this study there were a number of themes that were repeatedly raised and often drove interviews. Although these issues are addressed in greater detail in the "Findings and Conclusions" section in greater detail, a brief summary is presented here.

Technology and traditional systems. Advances in technology particularly in forest genetics and information systems have increased productivity and knowledge since the early 1970s. At the same time, it is only during the past 50 years that there has been a concerted effort to understand and appreciate traditional livelihood systems that have been sustained for centuries and even millennia. Technology and traditional systems are increasingly coming into contact with each other, with some suggesting that it is only a matter of time before most of the traditional systems (and their considerable knowledge base) are lost forever. Determining how these same technologies can be used to further develop and document those traditional systems rather than render them obsolete was a question that was revisited throughout the work.

Applying experiences from the "north." Questions invariably focused on replication possibilities. For example, in a historical context contemporary context, how are forestry issues and approaches in the United States, Canada, and other countries relevant to USAID focus countries and vice versa? When considering issues of decentralization (local government and community forestry), indigenous people's rights, the evolution of forest industries, and protected area systems, there is probably more relevance than many people believe or would admit. Indigenous groups usually refer to people that inhabited an area during a pre-colonial period (generally measured in centuries). However, given the history of population groups in the focus countries, indigenous groups for this report are defined as any population that has been residing in a region since the beginning of the 20th Century, which corresponds roughly with the global population boom.

Communities as equal partners and commercial agents. In all focus countries communities would be described as either beneficiaries, recipients, stakeholders, participants, or any combination of the above. There are many romantic notions about forest-based communities throughout the world. Alternately, forest communities are either viewed as marginalized poor people that have been pushed out of the mainstream or as extremely proud and uniquely gifted forest stewards keen on continuing tradition. These perceptions often lead to overestimating or underesti-

mating community capacity potential, ridiculing true participatory planning, and need to be tempered with hard-earned facts. Simple income and employment from forest activities, like owning shares in a community forest concession, are not necessarily what drives the interests of communities. Nor is it realistic to assume that all communities endowed with forests can or want to expand their markets or value-added processing. Communities are usually sensitive to these perceptions and adjust their level of engagement accordingly. Subjugating these stereotypes is therefore important to engaging communities in meaningful development.

Tori Paide/Chemonics International

Confrontation and consensus - winners and losers. Optimally, most people would prefer to establish "win-win" situations. However, when communities are confronted with decisions that require sacrifice, there are often "winners" and "losers." Certain communities, however, will place a higher value on consensus, even if this means that there is no apparent progress. Outsiders often strive for tangible and immediate benefits and fail to recognize the importance of decision-making in community-based forest management communities that might otherwise be considered "no-action" or a "lose-lose" situation in the short run. Within the increasing intent of making forests "pay for themselves" through income generation, development assistance professionals may be impatiently overlooking the broader values of negotiated consensus and its related effects on civil society.

Information collection and getting on with the work. An important consideration of this study was the level of information available to projects at the time of their design and how this information evolved during the life of the project. Relative to what we know today, many of the projects that have proven successful began with insufficient baseline information, while other less successful projects were the focus of numerous advance studies. Most of the case studies reviewed and reported on in this report recommend collecting more and better information before moving ahead too quickly with activities. But the record also shows that flexibility and opportunism can also be key features of successful programs. The threshold of information required to initiate an activity and the plasticity of implementation remain difficult parameters to assess.

Definition of Terms

Natural Forests

The study has adopted the definition used by the Food and Agriculture Organization of the United Nations (UN) for crown cover. Specifically, a forest is any land area that has a tree crown closure greater that 10 percent (with average height at least 7 meters). In relation to structure, "natural forests" include forests that are predominately, but not exclusively, populated by native species (some natural forests, degraded and intact, have been "enriched" with plantings of non-native commercial species). Whenever the dominant cover type consists largely of native species, it is still considered a natural forest.

Natural Forest Management

Within the context of this study, the term natural forest management is used in the broadest sense and includes any activity that is planned and implemented on a natural forest area. This could range from low-input strategies like strict preservation to the more extensive and intensive utilization management schemes (i.e., clear cuts). While forest classification systems are mentioned throughout this report (protected areas, classified forests, forest reserves, open access forests, etc.), their inclusion does not presuppose specific management actions (although within the forestry community, it is well known that certain management approaches are associated with certain classifications, depending on the prevailing forest legal code).

Sustainable (development or forest management)

Development that meets the needs of the present without compromising the ability of future generations to meet their own needs (taken from the UN).

Community-Based Forest Management (CBFM)

CBFM is a management strategy to empower communities to benefit from their forests.

Benefits

Within the context of the sustainable livelihood concept, benefits for this study refer to the range of benefits that could accrue to communities from natural forests (i.e., social - access to information, decision making; physical - access to materials; income; spiritual - access to sacred of religious sites, etc.).

Communities

For this study, the term communities is taken in a broad yet basic sense and includes any groups proximate to the natural forest (or part of the landscape that includes that forest).

Local Government

Any branch of government that is not based in the nation's capital. In all focus countries this implies several layers of government, from districts, provinces and states down to the smallest officially recognized administration unit. The unit is specified in the report as a subset of local government.

Findings and Conclusions

In this section we review the team's findings upon which conclusions and recommendations are constructed. We begin with an overview of the state of forest resources in the focus countries and proceed into a discussion of USAID's interventions in the different countries. This includes a discussion about the impact that USAID's projects have had on forest landscapes, community empowerment, sustainable livelihoods, environmental services, and institutional capacity building. We then outline the lessons learned from analyzing the country programs in depth.

A. The Impact of USAID Programs on Forested Landscapes

A1. Deforestation and Degradation in Focus Countries

Developing a baseline for each of the focus countries specific to the time of this study was difficult. Only three of the 10 target countries have available annual deforestation rates for the period of 1981 - 1990: Nepal (-1.0 percent), The Gambia (-0.8 percent), and the Philippines (-3.3 percent) (Church and Laarman 1996). For the rest of the countries, the base period is 1990 - 2000 (Table 1)

Focus Country	Land	Forest Area Km^2	% of area Km^2 (2000)	Annual total rate of loss (%)	Total Population (millions)	Pop. Density (per Km^2)	% Pop. Rural
Burundi	25,680	940	3.7	-9	6.56	255	91.3
Gambia	10,000	4,810	48.1	+1	1.27	127	68.2
Guinea	240,572	69,290	28.8	-0.5	7.36	30	68.0
Rwanda	24,660	3,070	12.4	-3.9	7.23	293	93.9
Senegal	190,252	62,050	32.6	-0.7	9.24	48	57.7
Uganda	190,964	41,900	21.9	-2	21.14	106	86.2
Indonesia	1,811570	1,049860	57.9	-1.2	209.25	115	60.8
Nepal	140,300	39,000	27.8	-1.8	23.40	163	88.4
Philippines	290,817	57,890	19.9	-1.4	74.45	250	42.3
Guatemala	100,843	28,500	28.3	-1.7	11.10	102	59.9

Table 1: Focus Country Forest Area and Population Information (Taken from FAO State of the World's Forests report 2003[1]). Regional deforestation rates (annual rate of loss) during the same period were: Africa, - 0.8 percent; Asia, -0.1 percent; North and Central America, -0.1 percent.

The highest deforestation rates of the 10 focus countries are in this region, specifically in Burundi and Rwanda. Burundi's reported 9 percent rate loss during the 1990s is by far the highest worldwide (the next highest country is Haiti at 5.7 percent). At this rate Burundi will lose all of its remaining natural forests in less than a decade (as well as its hydropower for the capital and surrounding areas, and a range of other services). Rwanda's 3.9 percent is also one of the highest globally. Neighboring Uganda is the third highest of the focus countries at 2 percent. Nepal and Guatemala have deforestation rates comparable to Uganda's.

1. Although this is the best available deforestation estimates on a country basis, it is worth noting that, "for tropical countries deforestation rates are very uncertain and could be in error by as much as plus or minus 50 percent" (Watson et al. 2000). Furthermore, in a recent study it is estimated that between 1990 and 1997 the actual net rate of change for the humid tropics is 23 percent lower than the generally accepted rate. The same study estimated that the annual deforestation rate for the three tropical continents is: Africa, -0.43 percent, Latin America, -0.38 percent, and Southeast Asia, -0.91 percent (Achard et al. 2002).

The West African countries have the lowest deforestation rates and have enjoyed relative stability and peace during the past decade (with exceptions along Guinea's border with Sierra Leone and Liberia and the Cassamance region of Senegal). Deforestation rates for The Gambia and the Philippines improved considerably during the 1990s (in fact The Gambia actually notes a net gain in forest cover during that period) as opposed to Nepal's deforestation rate which almost doubled. All three countries are known for their progressive and well-developed CBFM programs.

If an annual deforestation rate of 1.2 percent is used as the separating point between low and high deforestation rates, as suggested by Geist and Lambin, then 6 of the 10 focus countries fall into the category of high deforestation (Rwanda, Burundi, Uganda, Guatemala, Nepal, Philippines). During the time of this study, five of the six countries have either suffered from protracted and/or intense conflict from civil war (Rwanda, Burundi, Uganda, Guatemala, and Nepal). The Philippines also suffered from periodic civil strife in the 1980s (when the deforestation rate is reported at 3.3 percent) and Indonesia is still plagued by periodic civil unrest and has a deforestation rate of 1.2 percent. The three focus countries that have enjoyed relative peace and stability during this study period, Senegal, Gambia, and Guinea, all have low deforestation rates (with Gambia actually having a positive reforestation rate).

Target forests in USAID focus countries were better managed and the resources and biodiversity better conserved as a result of USAID support.

USAID support to natural forest management is divided into three levels of support:

1. Forests where USAID was the principle field-level donor;

2. Forests where USAID provided secondary field-level support (usually in association with another donor or agency that took the lead on field activities); and

3. Forests where USAID project work was replicated (but not funded by USAID) or where USAID technical assistance was applied in the field (policy and institutional development).

All three levels of engagement are recorded in hectares of forests. Information for the first level is the most reliable and most readily available as these forests areas were managed under direct USAID-funded projects. The number of forests in the second level is slightly more difficult to determine, as these projects may fall under a variety of funding mechanisms. Some of the work was financed through Food for Peace or commodity import schemes where imported food commodities are locally sold to generate cash, and thus the documentation is sometimes located in program or Food for Peace offices.

Relative to the deforestation listed in Table 1, the deforestation rates for all USAID target forests was less in all countries, with the exception of Indonesia. At the vast majority of the USAID Level 1 and Level 2 target forest sites, there was little or no deforestation. At some USAID target forests the area actually expanded since the time of USAID support. Table 2 shows country-specific information for USAID target forest area accompanies Table 2. This information is derived mostly from national and international USAID partners, through interviews with key informants and review of project reports.

Table 2: Forest areas that benefited from USAID support in focus countries.

Focus Country	Level 1 Impact (ha).	Level 2 Impact (ha.)	Level 3 Impact (ha.)
Burundi	3,800	104,000	0
Gambia	NA	NA	NA
Guinea	90,000	0	NA
Rwanda	114,000	0	0
Senegal	NA	NA	NA
Uganda	173,860	315,000	60,000
Indonesia	842,629	NA	100,000
Nepal	161,743	3,555,000	NA
Philippines	700,000	319,000	4,500,000
Guatemala	15,000	500,000	1,085,000
Total	1,954,352	1,448,000	5,745,000

Burundi: 1 - Bururi Forest Reserve (3,800 ha.); 2 - Kabira National Park (40,000 ha.), Ruvubu National Park (51,000 ha.), Ruzizi National Park (9,000ha), Southern Reserves (4,000 ha.). Much of Burundi's deforestation has come from the clearing/conversion of dry forest in eastern/southern regions and degradation/deforestation of the Kabira and Ruvubu national parks that have been used as bases for rebels for the past 10 years (timber cutting, charcoaling, cultivation, poaching, etc.). The military has also been responsible for deforesting areas near roadways (parcels handed over to individuals for dairy farming around the east side of Kabira National Park). Bururi Forest Reserve has also suffered from some of these same activities but remains intact.

The Gambia: No record on how far the CBFM project initiated in 1992 developed before the mission closed.

Guinea: 1- Nialama Forest Reserve (10,000 ha.), Souti-Yanfu FR (10,867 ha.), Bakoun Forest Reserve (29,507 ha.); Balanyan Souroeuma Forest Reserve (26,000 ha.), Sincery Oursa Forest Reserve (14,000 ha.), Sellykoro Forest Reserve (2,300 ha.); Work in Sellykoro is suspended due to insecurity on the Liberian border.

Rwanda: 1 - Nynugwe Forest Reserve (97,000 ha.), Volcano National Park (14,000 ha.). Both forests have suffered from limited degradation (as the forests were used by rebel groups and military during the civil war), but remain largely intact (Plumtre 2001, Kelpers 2001), while other forest reserves (Mukura and Gishwati - not sites of USAID assistance) have been virtually eliminated. Akagara National Park (savanna park) has been reduced by two-thirds for returnee resettlement following the civil war.

Senegal: Reports not available.

Uganda: 1 - Bwindi National Park (35,000 ha.), Mgahinga National Park (3,860 ha.), Kibale Forest National Park (35,000 ha.), Rwenzori National Park (100,000 ha.); 2 - Mt. Elgon National Park (50,000 ha.), Budonogo Forest Reserve (40,000 ha.), Bugungu Wildlife Reserve (39,000 ha.), Mabira Forest Reserve (30,000 ha.), Kalinzu Forest Reserve (58,00 ha.0), Kashoi-Katomi Forest Reserve (39,000 ha.),Kyuambura Wildlife Reserve (15,600 ha.) Semliki National Park (20,000 ha.), QE National Park (includes Maramagambo forest - 10,000 ha.), Masindi District open access forests (10,000 ha.), Echuya Forest Reserve (3,500 ha.); 3o Nakasongolo open access forests (60,000 ha.). Primary target forests are well conserved; Rwenzori has some degradation from rebel incursions. Mgahinga (CARE/DTC reports) and Kibale National Parks (WCS reports) have expanded (500 ha, 3,000 ha, respectively) during USAID assistance. Secondary support was provided mostly through PL-480 local currency for infrastructure and biological inventories, and through support to Peace Corps NRM volunteers in several areas (as well as in primary target forests). Masinidi (secondary support) and Nakasongolo (tertiary support) were provided through district environmental decentralization program (ACDI/VOCA EPED project reports). Masinidi open access forests have some deforestation from refugee settlement (DRC); Nakasongolo forests degraded from charcoaling.

Indonesia: 1 - Protected Areas -Gunung Palung National Park (90,000 ha.), Bukit Baya Bukit Raya National Park (181,000 ha.), Kutai National Parl (198,629 ha.), Lore Lindu (229,000 ha.), Bunaken (89,000 ha.); 55,000 ha of commercial forestry land where Reduced Impact Logging was applied. Significant deforestation in two of the target forests - Gunung Palung National Park has been deforested by 60 percent (and a field station destroyed by arsonists), Kutai National Park severely degraded as a result of El Nino fires of 1997 (more than half burned over); Lore Lindu National Park currently threatened with logging. Other parks well conserved. 3- 100,000 ha. - conservative estimate Reduced Impact Logging is being applied on other forests.

Nepal: 1 - Under intensive management and biomass production (areas officially handed over to local communities by September 2002). 2 - Management of the Shey Phoksundo National Park in Dolpa District (WWF/Government.). Moreover, casual observations suggest that there is more effective conservation (including an increase in forest area) in Dhading District (but no numbers). While forest conservation in the Terai is being achieved, it is not at the same level of Dhading. The NGOs responded similarly; there was no forest cover baseline data at the project level and all comments regarding reforestation/deforestation are anecdotal. They did note, however, that even anecdotal information is lacking in the Terai since many of the people are recent immigrants. The USAID Globally funded Terai Arc Landscape project implemented by WWF will help in this regard.

Philippines: 1 - CBFM sites. Most of these areas have been well managed/conserved (Borlangdon 2001); 2 - Represents CBFM work supported by other donors based on a USAID model - along with Ford Foundation sites, among the most successful CBFM in program; also support to protected areas program (Sierra Madre National Park - 319,000 ha.); 3 - 5 million hectares - total CBFM program benefited from policy, technical support, training and replication from USAID sites. Other CBFM sites (especially those funded by Asian Development Bank) have not been managed as well.

Guatemala: 1 - Community Forest Concessions projected based on 2001 numbers (conservative estimate) within the Maya Biosphere Reserve (MBR); 2 CBFM sites anticipated. 3 - Conservation of the MBR. Primary community forests well conserved (Tschinkel and Nittler 2001). MBR protected areas severely degraded along principle corridors from in-migration (from highland areas). MBR also is affected by illegal logging operations in select sites along the Mexican border (combination Guatemalan and Mexican loggers).

Of the USAID forest project sites, Indonesia is notable for having the most deforested or degraded. Much of these forests are located in the states of East and West Kalimantan. This is a region that has been affected by recurring conflict and violence during the past decade. Other USAID forest project sites that were degraded during this period are the Bururi Forest Reserve in Burundi and the Rwenzori Mountains National Park in Uganda. Both had project activities suspended as a result of security issues (Bururi in 1992 because of civil unrest; Rwenzori in 1997 because of rebel attacks from neighboring DRC).

In the focus countries, conflict is a key underlying factors contributing to deforestation.

The causes of deforestation are numerous and the focus of considerable debate. Commonly listed factors include agricultural expansion, roads and other construction, mining, logging, markets, economic growth, economic policies, and others (Contreras-Hermosilla 2000). No one factor takes place independently, and most studies point to a combination of factors as the key driving forces behind deforestation. Agricultural expansion is almost always near the top of most lists.

In a study examining the causes of deforestation on 108 sites located throughout the tropics, the authors concluded that conflict (wars, civil wars, and revolutions) is the most frequently cited underlying factor contributing to deforestation at exceptionally high rates (Geist and Lambin 2001). The report states that deforestation accelerates with the collapse of authority and during periods of insecure tenure, and as a direct result of the conflict itself (use of materials) including the use of forests for the establishment of military bases. Conflict-driven deforestation seems

to be more common in Africa and Asia than Latin America (Geist and Lambin 2001). Forest resources are also used in some regions to directly fund the purchase of arms, employ combatants, and sustain conflict (Thomson et al. 2003).

Discussions with some NGO Central African Regional Program for the Environment (CARPE) partners noted that the ongoing civil war and conflict in the Democratic Republic of Congo (DRC) may have slowed deforestation (and aided conservation) because logging companies have not been able to transport logs out of rebel held territory. However, these figures do not take into account timber exported eastward into neighboring countries for their export and domestic markets (see UN Report on resource exploitation in Eastern DRC 2002). There is little reliable information regarding overall forest degradation rates or deforestation rates from conversion in Eastern DRC. Although officially sanctioned logging pressure may be reported as being considerably less, deforestation rates of forest conversion and illegal logging may in fact be consistent with or higher than the rates in the neighboring countries of Burundi, Rwanda, and Uganda. In addition, even in areas where timber resources are not being exploited directly, other forest resources are being liquidated by displaced populations and opportunity seekers. The situation in the Eastern DRC could worsen when considering the deforestation rates of its neighbors to the east.

A2. Baseline Information and Monitoring

Almost all USAID-supported forestry projects in focus countries were initiated before good baseline information was available for effective monitoring. Most of the projects, however, worked to establish baselines during the life of the project.

Through the 1970s and 1980s, the majority of the non-protected area forestry projects developed at the request of host government agencies had significant gaps in baseline information (see reports: Indonesia - Citanduay I and II, Upland Conservation and Development; Philippines - RRFD; Nepal - Rapti; Southeast Asia - FFRED). Agricultural productivity, soil conservation and surface hydrology were primary data monitored in the watershed projects and biomass production in the fuelwood projects.

Protected area forest projects were initiated and/or supported by both host country governments and the international conservation community (often as a result of specific research findings - see reports from: Rwanda - Nyungwe Forest Reserve and Volcano National Park; Uganda - Bwindi Forest Reserve and Kibale National Park; Indonesia - Gunung Palung National Park, Kutai Natopmal Park; Philippines - Sierra Madre National Park; Guatemala - Mayan Biosphere Reserve; and Nepal - Shey Phoksundo National Park). As with the watershed and fuelwood projects, comprehensive baseline information for the protected area forests was also lacking. In the protected areas, the focus was usually on wildlife populations, less so on basic forest ecology and services. As the projects developed, however, efforts were usually made to expand the database by undertaking more comprehensive biodiversity assessments. Most CBFM projects established baselines in relation to productive enterprises (in most cases timber) through the development of forest management plans for timber production (a prerequisite in most CBFM countries for approval of long-term access/tenure). Developing a management plan that must be approved by government is the norm for the Philippines, Nepal, Indonesia, Guinea, Senegal, The Gambia, Uganda, and Guatemala.

USAID did not focus its resources on the establishment, maintenance, or rehabilitation of national forest inventory plots in any of the focus countries. Forest inventory plots are an effective means to define a baseline and monitor forest change. These permanent plots are used to monitor growth rates, disturbance effects, and changes in forest structure. They are often established at the structural level where forest degradation is taking place as a result of selective logging and associated damage, or at sites where there has been understory forest clearing and fires (Nepstad et al. 1999). The Smithsonian Tropical Research Institute has established permanent plots in a selection of representative tropical forests worldwide and most countries maintain permanent plots for forest monitoring (e.g., the U.S. Forest Service's Continuous Forest Inventory plots).

Inventory plots have been established in all 10 focus countries. However, the maintenance of these plots is linked to the prevailing economic conditions: when resources are scarce (as was the case for most of the 10 countries during the last 20 years), the plots are neglected. Donor agencies are assisting most focus countries with the rehabilitation of these plots (FAO, NORAD, Swiss).

Of the 10 focus countries, only Nepal (and to a lesser extent the Philippines) received USAID support for the development of a plot system. The original Nepalese forest survey was set up with a set of permanent plots using USAID funding in 1964. UK follow-up has helped the Nepalese Forestry Research Division monitor these plots. In addition to specific site assessments, the plots generate information used for the development of forest maps, tree breeding programs, management plans (including community forestry plans) and the Forestry Master Plan (interviews with Forestry Department personnel).

Historically, USAID research support to natural forest ecology, productivity, health, and services was insufficient. Since the mid 1980s, most USAID biophysical field research and inventory work that related to natural forests was linked to biodiversity conservation or timber extraction.

USAID inventory work has almost always been site specific. Biodiversity research and inventories have been focused on protected areas while timber inventories were conducted for multiple-use/open-access forests. Many of these multiple-use forest inventories also included biodiversity information as well as descriptions of general landscape features and environmental services these forests offer.

Much of USAID's biodiversity-related program focused on wildlife species (and to a lesser extent economically important plant species). International NGOs and universities often secured funding support from USAID and other donors to develop or reinforce multi-disciplinary field research stations. USAID provided support to forest research stations in Indonesia (Gunung Palung National Park), Uganda (Makerere University Biological Field Station and the Institute for Tropical Forest Conservation), and Rwanda (Karisoke Research Center and the Nyungwe Field Station at Uwinka). A considerable amount of research has been conducted at all of these field stations. It was, however, difficult to locate copies of the research reports in the missions.

USAID provided limited resources for the following forest management research topics in the focus countries: forest soils, forest hydrology, deforestation impacts on local climate, the role of forests in waste and nutrient cycling, carbon storage (global climate change), forest pathology, harvesting systems, and non-timber forest products. With a few noteworthy exceptions (Reduced

Impact Harvesting work in Africa and Asia) USAID support for applied forest management research, apart from ecology, is limited. Given the range of products and services that natural forests provide to communities, and USAID's focus on poverty reduction and food security, the forestry sector would be better positioned to articulate its contribution to the agency had it received more research funding.

Some USAID support is being channeled through the International Council for Research in Agroforestry, Center for International Forestry Research, and the International Tropical Timber Organization in association with national institutes for research on natural forest species, sustainable management, fire protection, conflict resolution and the effects of deforestation on soil erosion and fertility.

Technical mapping services (including community mapping exercises) provided by USAID have been effectively used in most focus countries to upgrade biophysical and socio-economic baseline information.

USAID has supported mapping activities to improve/develop baseline information and monitor biophysical change in host countries or regions. These mapping activities have ranged from small site-specific efforts to develop or improve existing project maps (social, biophysical, administrative, etc.) to regional efforts depicting macro-level land-use changes.

Maps are developed and shared with host country agencies, local governments, and other donors. USAID provides assistance to host country land management agencies (national park services, forest departments) through training and equipment procurement.

Establishing mapping services can have other benefits as well. For example, Consejo Nacional de Areas Protegidas (CONAP), Guatemala's protected area management authority receives USAID support for, among other activities, a mapping and data analysis department. The quality of the maps is highly regarded and as a result, demand from many sectors of Guatemalan society is outstripping production capacity. CONAP has sold maps to government agencies, NGOs, community organizations and the private sector. Although CONAP's mapping and geographic information systems (GIS) department was not originally set up to be a profit-making branch of this organization, it has become one. CONAP's management structure is now not only looking at ways to satisfy the growing demand for its products, but assessing how these proceeds can be best used to support the sustainability of the agency (at a time when government and donor funding for the agency is diminishing).

Other examples of projects that have had similar spin-off effects include the maps produced by the National Biomass Study of the Uganda Forest Department (funded by the Norwegian Forestry Society), and the Biodiversity Priority Setting Maps developed by Conservation International for Guatemala, Madagascar, and the Philippines under joint funding from USAID. In addition, the USAID mission in Guatemala, and the USAID Central America Program recently funded the development of a comprehensive GIS-based land-use information system for the Central America Protected Area System. The innovative system allows different management interventions, including natural forest management, to be better coordinated within a transboundary context. Maps produced by these initiatives can be found throughout the respective countries in offices of technicians and policy makers. These and other similar maps are not only valuable technical tools, but also contain a strong educational element by highlighting the importance of forests to local, national, and transboundary development.

USAID has also funded technical assistance from other U.S. Government institutions (National Aeronautics and Space Administration) that worked with host country agencies on national and regional mapping and spatial analysis. By mapping fire incidence over a period of years NASA helped the government of Madagascar develop a national fire management plan. Other examples include USAID-facilitated work from other U.S. Government agencies for mapping and GIS work in Indonesia and the Congo Basin.

At the community level, community mapping, if done correctly, has become a widely used tool for development work, especially for USAID projects in the Philippines and Indonesia where it is also viewed as an effective means to avoid conflict over land disputes (Balanan 1999). Community mapping relies on the perceptions and accounts of community members, their representatives, and other stakeholders. It is conducted in a participatory manner so that all stakeholders can agree to the final product, thus minimizing the potential for land disputes.

A3. Tree Production Associated with Natural Forests

Plantations, woodlots, and agroforestry systems used in association with natural forests on USAID projects in the focus countries have been an effective means to augment household goods, generate forest enterprises, and conserve natural forests.

The watershed management projects in Asia, including Nepal and the Philippines, employed tree-planting technologies (woodlots, agroforestry) as methods to stabilize soils while reducing the pressure on catchment forests. When carefully selected, tree species planted in woodlots for fuelwood and building materials and agroforestry systems can substitute for many of the products typically harvested from natural forests. Although watershed projects focused on farm-level activities, in many respects they paved the way for community based forest management. Nepal's Resource Conservation and Utilization project is one example where, not only did the project work toward agricultural and soil productivity, but it also initiated the development of management plans for more than 59,000 hectares of natural forest (Mackie 1986).

In East/Central Africa, USAID natural forest management projects extensively used plantations, woodlots, and agroforestry systems for rural consumption and as a buffer between the population and the natural forest. USAID projects in Rwanda (Parc du Volcans, Nyungwe Forest Reserve) and Burundi (Bururi Forest, Kabira National Park) are examples of the early initiatives that employed a mix of plantations, woodlots, and agroforestry. All of these initiatives began in the early-to-mid 1980s. This same strategy was later implemented by a number of other projects supported by USAID and other donors for priority forests in the same countries and in the region. These included projects in both Uganda (USAID support) and neighboring Democratic Republic of Congo. USAID projects in Guinea have also used woodlot plantings. For years this planting has been generating revenue that has been used by government agencies to assist with recurring management costs, and by public institutions, communities and individuals for income generation (For more specific information see Volume III-Focus Country Profiles).

During the 1980s the benefits of agroforestry became more widely recognized and these systems were sometimes incorporated into programs designed to conserve and manage natural forests while promoting on-farm productivity (projects sometimes referred to as Integrated Conservation and Development Projects). Over the past decade agroforestry research has looked more closely at the role of native tree species in productive farm systems (Tchoundjeu et al. 1999). Current agroforestry technologies are building on traditional agroforestry systems by tak-

ing seed from the natural forests and sowing it in different conditions. In this regard, agroforestry is contributing to both in-situ and ex-situ conservation of natural forest genetic diversity.

While tree planting alone cannot assure the conservation of natural forest, it does provide alternative sources of wood fiber and other products that may be taken from the natural areas. Interviews with key informants in some of the focus countries confirmed that these plantings contributed to the conservation of the natural forests. Table 3 provides a rough and conservative estimate of the amount of biomass produced in association with natural forest management projects in the focus countries as a result of USAID support.

Table 3. Estimates of tree-planting levels associated with natural forests and total biomass production.

Country	Plantations/ Woodlots (ha.)	Biomass (tons)	Agroforesty, Home gardens (ha.)	Biomass (tons)
Burundi	1,100	71,500	2,500	75,000
The Gambia	NA	NA	NA	NA
Guinea	220	14,300	300	9,000
Rwanda	30	1,950	14,000	420,000
Senegal	NA	NA	NA	NA
Uganda	2,000	130,000	45,000	1,350,000
Indonesia	42,800	2,782,000	NA	NA
Nepal	16,000	1,040,000	NA	NA
Philippines	1,500	97,500	3,500	105,000
Guatemala	12,000	780,000	NA	NA
Total	75,650	4,917,250	65,300	1,959,000

Notes on table 3: Figures are taken from projects listed below. Estimates of hectares are conservative and likely underestimated. Biomass for plantation/woodlots is calculated at 65 tons/ha. (conservative for the tropics) and 30 tons/ha for agroforestry/homegardens. The total is close to 6.9 million tons of biomass, which is roughly the equivalent of roughly 35,000 hectares of natural tropical forest (using the estimate of 200 tons per hectare as an average for dry and wet tropical forests combined).

Burundi - Bururi Forest Project (note- reserve and plantation/woodlot figures in 1992 final evaluation report are not correct) (Clausen, personal knowledge).

The Gambia - no information available.

Guinea - Community Forestry Accelerated Impact Project (Hagen 1985) and Guinea Natural Resources Project (Erdman 1996).

Rwanda - RRAM project -no documentation available at time of writing, however, project reports may be with SECID - conservative estimates on both plantations and agroforestry.

Senegal - no information available at time of writing, but reports are with SECID.

Uganda - DTC project (Metcalf 1996); Rwenzori Conservation and Development project, Kibale Forest project (estimates for both Kibale and Rwenzori).

Indonesia - Citanduy II only (Dwiprabowo 2003).

Nepal - RCUP (Mackie 1986), EFEA (project progress report).

Philippines - Rainfed Resource Conservation project only (Church and Laarman 1996).

Guatemala -Peace Corps and CARE (Nations1987).

B. Community Empowerment through Capacity Building and Forest Management

Since the mid 1970s, more than 60 countries have been working to bring about democratic reforms and to decentralize their governmental systems after years of heavily centralized autocratic control. This move toward decentralization has created the freedom to localize the decision-making process for issues of ownership and access to natural resources. In rural areas community forestry has often been in the forefront of decentralization and democratization.

More recently, forest management has begun to shift from a domain of national governments to a field much more aware and inclusive of communities and local governments. One reason involved the realization that central governments lacked the resources (human, material, financial) to effectively manage the forest estate (as well as other public lands) (Mackie 1986, Nguinguiri 1999, Edmonds 2002). This reality became apparent to many governments as they navigated their way through structural adjustment programs, which often dramatically reduced forest department staff and sometimes required the liquidation of public forest assets (Seymour and Dubash, 2000).

In contrast to the historical view that local people are the main threat to the forest and should be excluded to the greatest extent possible, community forestry plans included local populations as part of the forest management equation. Part of the reasoning for excluding local populations is derived from the belief that local people lack the knowledge and skills to effectively manage forest resources. While most of the focus countries are actively engaged in forest management strategies that stress the inclusion of local communities, interviews with key informants suggest that some forest agency officials still believe that local communities are more of a threat than an opportunity for viable management strategies. Misconceptions about rural people, especially groups that live in or around forests, reinforce the belief that traditional community forestry has little value (Lynch 1995).

The cultural diversity among the community groups associated with USAID forest management projects is considerable. Some groups see the forest as the lifeblood of their survival while others view it as little more than an obstacle to agricultural development or a threat to their security (as thieves, rebel groups, and terrorists increasingly use forest areas as safe havens or bases of operations). This diversity is reflected in their approaches to natural forest management as well as their present capacity to adapt traditional practices to more market driven enterprises.

Community access to both the forest management decision-making process and the resources is a precondition for sustainable community benefits from the forests. In decision-making, access is assured through information exchange, transparency, and effective local representation. Physical access to the resource is usually strengthened through secure tenure and other community-empowering instruments, like integrated management plans and solid community based organizations (Johnson and Cabarle 1993). Once these enabling conditions are established, communities are better prepared to ward off speculative outside interests and less likely to be overcome by conflict.

B1. The Decentralization of Government and Access to Forest Resources

Decentralizing forest management through local government and community structures is an effective vehicle for national decentralization initiatives that directly support democratization and good governance.

Government decentralization programs are underway or in the final planning stages in all focus countries (except Burundi, which is suffering from civil war). The West African countries of Senegal, Guinea, and the Gambia have been moving forward with decentralization for a number of years (albeit at different rates). Assessments of USAID's work in Guinea and the Gambia indicate that natural forest management is at the forefront of developing community-based organizations and honing the requisite tools for decentralization. This includes the development of locally applied by-laws that spell out the roles and responsibilities of all stakeholders (McGahuey 2002, and see Volume III for more information).

Community empowerment has enabled West African communities to prevent government officials or other influential people from harvesting forest products in a manner opposed to local and internal regulations. Communities have become more active in self-monitoring. Reports from some communities indicate they have sanctioned influential community members for unauthorized utilization of the forest. The decentralization and empowerment process has communities viewing themselves as stewards of their forests, which is a key factor in supporting livelihoods.

In Uganda, decentralization is being implemented in phases. After nearly 17 years of civil war and more 10 years of societal and institutional rehabilitation, Uganda embarked on a process of governmental decentralization in 1999. The initial phase assessed local government capacity at the district level (46 districts nationally) to determine which districts had the best capacity to begin decentralization during the three-year pilot period. Evaluators noted that districts already participating in the National Decentralization of Environmental Management Program (which began in the mid-1990s with USAID support) were ahead of most other districts in terms of capacity to plan, budget, implement, manage, and evaluate development programs (Clausen 2001). The process had already produced District Environmental Action Plans (DEAPS) as well as individual community level plans; both which addressed community benefits and management from natural forests. As a result, almost all of the districts that completed the environmental decentralization process became pilot districts for national government decentralization.

In districts with environmental management components in their national decentralization plans, decentralized forests are managed in a variety of ways, including as multiple-use zones (areas of limited community access), revenue sharing (funds generated from ecotourism and endowments flow back to the community), and emerging co-management strategies (where communities share management responsibilities in exchange for resources or a portion of the funds generated from the resources). Most of the Uganda forests are protected areas, which benefited from NGO support (CARE International, The International Center for Research in Agroforestry, WWF, and International Gorilla Conservation Program) that began in the 1980s with USAID funding. Interviews and reports indicate that after years of donor, NGO, and government support, communities have evolved from being passive recipients of assistance to actively taking charge of their own development needs (Mutebi, personal communication). The strategies to promote community benefits from these forests predate the national decentralization program, and

demonstrate that the collective experience of community mobilization around forest access helps communities and government better prepare for national decentralization initiatives that foster the democratization process.

In the Philippines, community forestry began in the late 1970s when the focus was on highland watershed forests. USAID was active in this initiative by providing support through the Rain fed Resource Development Program and subsequently through the Natural Resource Programs (NRMP I, 1991-1995, and NRMP II, 1995-2001). By working through community structures and building upon existing productive technologies, the projects helped pave the way for democratization and the decentralization of governance. Evaluations of community-based forest management in the Philippines noted that when the Philippine government began decentralizing government and officially promoting CBFM as a development strategy, provinces and communities that had been the recipients of USAID assistance during the 1980s were among the best prepared (Borlagdan 2001).

Nepal has been a pioneer in using people's access to resources as a mechanism for promoting civil society development, decentralization, good governance, and conflict prevention. Accelerating deforestation, the government's recognition that it was not capable of managing the national forest base, and the realization that forests would not be able to meet the demands of both urban and rural communities led Nepal to shift policies to encourage local people to form user groups that would take over forest management and reforestation responsibilities. The policy changes began in 1977 and have continued until recently (Edmonds 2002). Community forest user groups have been the focus of Nepal's Master Plan for the Forestry Sector since 1988. This development has led to the strengthening of traditional community systems by promoting a sense of ownership and collective responsibility of forest resources in regions where community forest boundaries were historically a common cause of conflict (New ERA 1997). The development of forest community user groups in Thailand was a pivotal factor in protecting villagers from having their resources taken away by outside groups. Through user groups the communities organized forest patrols and improved their negotiating status with government authorities. The development of the groups also reinforced civil society development (Ganjanapan 1998).

Programmatic synergy between forest management and decentralization initiatives can pave the way for democratization and development.

In the late 1990s, USAID/Philippines expanded its civil society program by developing the Governance of Local Development Project (GOLD). Understanding that grassroots governance issues are often linked to natural resource access and use, GOLD coordinated project work with NRMP II in select areas. Operational in nine provinces, GOLD's impressive record of empowering local government is best demonstrated in the province of Nueva Viscaya in Luzon, which is considered the leading province for local governance and CBFM development. This province is used as the national model for local governance and CBFM. The Government of the Philippines and CBFM associations regularly organize study tours to this province for their representatives and leaders. This happens so regularly that supporting these initiatives has become a management challenge for the officials of Nueva Viscaya. Similarly, Nueva Viscaya officials (the governor and his top assistants in particular) are regularly requested to provide presentations on the subject both nationally and internationally.

Since 1992, the top officials of Nueva Viscaya have moved the province rapidly toward decentralization through a grassroots democratic approach. Given Nueva Viscaya's status as one of the

most important watershed provinces in the Philippines, a provincial priority was the conservation of the watershed. Realizing the limitation of central and provincial government resources to conserve these areas, CBFM became one of the province's key development strategies. In a short period CBFM has helped protect the watersheds while at the same time providing a driving force for empowering local communities to take a more active role in, and responsibility for, the decision-making process that directly affected their resources. The provincial leaders (government and non-government alike) credit the GOLD project for much of this progress (personal communication with Governor Agbayani).

GOLD and NRMP II have had positive results on CBFM in the other provinces where they work. In this regard, USAID/Philippines is capitalizing on the important gains made by the synergy between the NRMP and GOLD projects, through the development of a new Ecogovernment program, designed to work with municipal governments through training and programmatic grants to manage their forest resources in a more productive and sustainable manner.

Tenure and access to forest resources can be granted through a range of instruments in most of the focus countries.

Experience has shown that clear land tenure and user rights for resources are extremely beneficial to successful forest management programs. Most USAID-supported community natural forest management programs are essentially co-management schemes, as one part of government (usually forest departments) retains ownership of the land but allows communities to manage the forest according to predetermined objectives and within the context of written agreements based on management plans. Despite the retention of state authority, tenure (through short to long-term concession or lease agreements) is handed over to communities. This development is a significant change from previous practices where public forests were managed at the national level with little or no involvement of the local communities (except perhaps through direct employment to a private-sector concession holder). The fact that the state retains ultimate authority also provides the avenue through which rent-seeking civil servants manipulate the process in some areas (Gauld 2000).

Among the focus countries, the Philippines has the most complex system of empowering communities to manage their resources. In all, seven tenurial instruments can be used to promote community forestry, and as of the year 2000 all instruments accounted for about 17 percent of the Philippines land area (Borlagdan 2001). Each instrument has its unique set of criteria and conditions, but the cumulative effect is to promote community strengthening through guaranteed access to forestland. Most of the instruments focus on the rights of indigenous peoples. The two instruments that account for most forest area are the Certificate of Ancestral Domain Claim and the Community Based Forest Management Agreement (CBFMA). USAID funding has been primarily targeted at areas that have used CBFM, Certificate of Stewardship Contract, and Certificate of Forest Stewardship Agreement as tenurial instruments. The requirements, responsibilities, rights of these instruments vary, but, they have all been effectively used to grant tenure. Refer to the Philippines country report, Mikelwait, Harker and Guiang 1999, and Borlangdan 2001, for additional information regarding the various tenure agreements.

Guinea and The Gambia are advanced in terms of granting long-term tenure for community based forest management. Multiple instruments are available in both countries to promote this initiative, but the most widely used provisions are contained in their respective revised national

forest policy and forest acts. The revised legislation has been tailored to regulate the process of getting community forest ownership and securing the corresponding ownership rights. It spells out the responsibilities of government and communities, including provisions for conflict resolutions and tax incentives. Issues addressed include revenue sharing from the proceeds of community forest products, co-management of select protected areas, and the reclassification of forests with local participation. Legislation in both countries also calls for retooling the forest departments by training personnel to become service providers rather than law enforcement agents. In the case of The Gambia, USAID helped develop community resource management agreements, which could lead to the issuance of long-term land leases of 99 years (Church 1996, Catterson 2001).

For Guinea some communities are also gaining access to forests and other resources through application of the Guinea Land Code by using local land contracts. Many communities are not even aware that land contracts exist and have yet to take advantage of this opportunity. USAID is assisting in that regard by funding local NGOs that use a range of communication tools (i.e., funding the production of informational comic books, musical and theater productions developed around this theme) to transmit the land contract message to communities. To date, this work has been effective around two USAID target classified forests (Souti Yanfou and Bakoun) (Winrock 2002).

Indonesia also has several legal instruments designed to promote decentralization and community based resource management (Campbell 2002). The implementation process has been difficult and often marked with violence (this includes sites receiving USAID support). Much of the conflict is between industry and communities over competing claims; however, local government frequently compounds the problem by playing one side off the other for its own gains. This conflict is especially true in some areas where local government leaders (Gubernur at the provincial level and Bupati at the next lower level) are competing for resource access or where there has been insufficient training and inadequate monitoring systems established (Masium 1999). Of all the focus countries, USAID field projects have been the most adversely affected in Indonesia. As indicated earlier, USAID target forests (especially protected areas) in Indonesia have been impacted by illegal logging, land conversion, and fires more than any other country in this study.

As a result, the national and international NGO community is working hard to broker agreements between industry, local governments and communities by stressing overlapping interests. Authorities are drawing some good examples from the USAID Coastal Resource Management Project, which is supporting local NGO Proyek-Pesisir in its landscape work to integrate

Secure Tenure and Forest Enterprises: The Ikalahan of the Philippines

Land security was a key issue in getting the Ikalahan to develop a diverse management model for their ancestral lands. Ikalahan representatives were able to get control of 15,000 hectares of ancestral land through the Certificate of Forest Stewardship Agreement one of the seven tenurial instruments used to promote community forestry. Prior to this transfer, the Ikalahan had little incentive to protect the land as they feared outsiders would take it away from them. Once tenure was secured, the Ikalahan moved forward with their management strategy by developing a set of local policies and by-laws to enhance watershed protection. They then set up subsistence utilization standards so that they could produce many of their own household goods, and adopted improved silvicultural practices to sustainably exploit the timber resources (mostly for furniture making). Among their most noteworthy achievements is the use of wild forest fruits for jams, jellies and butter, most of which is targeted for upscale markets in Manila (Rice 1996). The Ikalahan are actively looking at other forest products to diversify their operations. Some of the CBFM work of the Ikalahan in Nueva Viscaya Province is built upon support provided through the Rainfed Resource Development Program in the mid 1980s and more recently reinforced through the GOLD project.

upstream forest management and coastal zone management in the Balikpapan area of East Kalimantan. The Nature Conservancy is using a similar approach further north in Berau province of East Kalimantan. BSP-Kemala is also active in this regard (McCauley 1999).

The remaining focus countries (Senegal, Rwanda, Uganda, and Burundi) are behind the others in terms of field-level advances for secure tenure of forest resources. Of the four, Senegal is the most advanced. Senegal has put in place the enabling conditions for decentralization and is preparing select communities for the management authority and responsibilities. Although the enabling policy and legislation is in place, Senegal is still in the early stages of this process (local and regional forest departments are resistant to change) and is receiving assistance from USAID to move this forward.

The Uganda Forest Department is beginning to test community co-management schemes for a few of the smaller forest reserves and non-classified woodlands (both initiatives with limited USAID support). USAID is also assisting Uganda in exploring ways to more fully integrate communities and the private sector into management of some select game reserves, either through community, local government concessions, or long-term lease agreements that could include the private sector (Clausen et al. 1999).

While Uganda is in the initial phases of co-management work, it is a pioneer in developing multiple-use access zones for national parks and other protected areas. In the early 1990s Uganda began experimenting with this concept by opening up border zones in Bwindi Impenetrable National Park for select uses (honey collection, medicinal plant collection, and certain building materials) with USAID support. The program has developed well and has significantly helped relations between the Uganda Wildlife Authority and the local population (Metcalf 1996).

Prior to the early 1990s, both Rwanda and Burundi were among the forerunners in using development, education, and limited access to buffer zone plantations to enhance protected area forest conservation. Forest management and conservation projects in both countries (all key watersheds) began to engage neighboring communities through education programs, demonstration sites, agroforestry extension work, ecotourism development, and direct employment (guards, laborers, nursery workers, ecotourism guides, etc.). USAID funded many of these initiatives, but civil war in both countries halted these initiatives.

Rwandan officials are now debating whether to open some of these areas to limited access use. For example, approximately 10,000 hectares of plantation forest were established in the 1970s and 1980s to protect the 100,000 hectare Nyungwe Forest Reserve and provide economic opportunities for local communities. Many of the plantations have reached economic maturity. The Rwandan government (with Dutch support) is initiating a program to utilize the material through community based forestry operations (Boltz 2002).

Experience has shown that projects are more effective when project design carefully considers and integrates local context. This is especially true for land tenure and resource user rights, which have a crucial bearing on how communities view and manage their natural resources. In addition, projects that build on efforts at governance and decentralization often have a multiplying effect on both efforts and prove more efficient and effective.

B2. Forests and Conflict

All of the focus countries have suffered from serious internal or external conflict during the time frame of this study and the use of, or access to, forest resources has been part of each conflict.

Conflict over forest resources has been taking place for centuries in all parts of the world. One of the earliest recorded conflicts over forest resource use and access occurred in 1853 during the construction of India's railroad. Government claims of land for timber and rail construction led to years of violent conflict with local communities. As the government increased its claims on forest land, communities strived to better organize themselves to protect their resources. Some of these earlier confrontations eventually paved the way for community forestry in India, which has one of the longest histories of community based forest management (Guha 2001).

Within the context of current political and economic trends (democratization and globalization), conflicts over forest resources appear to be on the rise. Internal conflict, such as the violent clashes between indigenous Dayaks and in-migrating Madurese in Indonesia over land use systems and deforestation led to the deaths of thousands of men, women, and children. In other parts of Kalimantan, communities have come into conflict with logging concession companies over forest resource access rights.

Internal conflict over forest resource access has also affected the Philippines community forestry initiatives. Most of the conflicts are focused on disputes between community representatives and logging concession holders. Several times in the last 10 years the local populations have successfully moved illegal loggers out of their forest areas. Unfortunately, during the same period community representatives and leaders have been the targets of assassins hired by the logging industry. There have been reports that the rebel group Abu-Sayyaf has been using the mountains and forests of the southern islands as a place of refuge and a means of sustenance for years.

Nepal has also suffered from protracted civil strife. As long as the violence continues, security for all stakeholders (government and NGO workers, community forestry user groups, etc.) in community forest management will be a concern. With many districts unsafe for government or outsider travel, and numerous ranger posts, government offices, and infrastructure destroyed by the insurgents, many rural areas are dangerous. Meeting in groups, a key component of community forestry in Nepal is closely scrutinized and at times difficult as the government fears that forestry user group meetings may be used to recruit for the insurgency. Villagers fear working in the forests, as they may be abducted by the insurgents or mistaken for insurgents and shot at by the army. Those working with NGOs are forced to meet with stakeholders and conduct community forestry work using irregular patterns. Sustainable forest management through community forestry will be difficult to continue without assurance of uniform safety for villagers and government/nongovernment foresters.

Gambia has been struggling for years with problems caused by refugee groups from neighboring countries. Over the years, refugees from Sierra Leone and Liberia have moved into already densely populated areas of The Gambia. Refugees from Senegal's Cassamance province have been settling in the Gambia periodically for years. Cassamance is the location of a 20-year-old rebel independence movement, which at times has been very violent. The Cassamance possesses most of Senegal's timber resources, and reportedly holds oil deposits.

Communities Sustaining Activities Through Conflict Crisis: The Nyungwe Forest Reserve

In the mid-1980s, the Nyungwe forest reserve in Rwanda was the focus of four major bilateral forest management donor projects (French, Swiss, EU, and World Bank). The projects focused on plantation establishment, improved protection, inventory, logging, and to a lesser degree, agroforestry. In 1988, USAID awarded a modest grant for the Nyungwe Forest Conservation Project (ecotourism, conservation education, and research). Following the genocide, only the Nyungwe Forest Conservation Project continued to function because local community employees kept the project running despite the catastrophic situation. From the beginning, the Nyungwe project was dedicated to promoting community participation in project activities. Many of the same personnel are still working at Nyungwe today, nine years after the genocide and nine years after USAID stopped funding the project (the grantee, Wildlife Conservation Society, maintained support during that time) (Plumtre 2001).

Failed or rogue states are a major destabilizing force in their regions. They are centers of illicit resource extraction and rebel activity. Often, these resources are used for the purchase of arms to sustain the conflict.

In West Africa, Liberia is a regional threat to the stability of all its neighbors. Liberia's predatory behavior has been responsible for fueling the atrocities plaguing Sierra Leone for the past decade. Liberia's former President Charles Taylor clearly sought to destabilize the Government of Guinea, perhaps with the objective of capturing some of the country's valuable mineral resources, particularly diamonds and gold, which he used as conflict commodities in Sierra Leone. Liberia was reported to be taking timber from both Sierra Leone and Guinea (Thomson et al. 2003). Within Liberia, private logging concession holders have hired their own militia. The militia is paid from the revenue generated by logging, and often the private militia conflicts with local community members. There have been reports of this throughout Liberia (and not limited to border areas or areas where rebels or insurgents are active).

In July 2001, Guinea was estimated to harbor 150,000 to 200,000 refugees fleeing from warfare and unsettled conditions in the neighboring states of Liberia and Sierra Leone. These refugees have congregated mainly in southeastern Guinea, where major forested areas are still found. Insecurity from Liberia and Sierra Leone has closed part of the country's most productive forest and agricultural areas. Until recently, the communities around the southeastern forests of Kissidougou had been the beneficiaries of USAID assistance under the mission's natural resource management program. The program was designed to the develop community forest co-management strategies with the central government through the formation of community forestry committees to improve access to, and management of, natural forests. The program continues at a reduced level because of insurgents in the area.

In the Great Lakes region of East and Central Africa, conflict has been escalating during the past decade. In the most densely populated region of Africa, resource scarcity is a destabilizing factor, and this area has witnessed some of the most horrific conflicts in history. The genocide in Rwanda is commonly attributed to ethnic differences, but some believe that resource scarcity was the key underlying factor. Neighboring Burundi has similar resource shortages and is suffering from a protracted civil war. In both countries, forest areas are used by rebel groups both as cover and as means to sustain their activities. Forests in Burundi are being cut for timber and charcoal by rebel groups. Neighboring Eastern DRC is at this time the site of the most widespread and violent conflict globally. The number of victims thus far is disputed but staggering by any standards. Access to the region's significant natural resources is a well-documented reason for this situation (UN Report, October 2002).

B3. Community Diversity and Capacity: Indigenous Groups

Great cultural diversity exists among the communities associated with forests in the focus countries. These groups also possess a range of skills, some of which transfer readily to CBFM and others that need additional support. To effectively manage natural forest resources, communities must be prepared to take on the managerial and administrative responsibilities associated with this authority. Communities also frequently need assistance with technologies and to develop negotiating skills, especially if they are going to pursue enterprise development work (Magno, 2001).

Experience has shown that even when a policy environment favorable to CBFM is in place, the process does not always produce benefits if communities are not adequately prepared. In the case of Cameroon, the forest policy was revised in 1994, but communities were still struggling five years later because little work was done to get communities ready for the transfer of responsibilities (Ndibi 1999). CBFM is a process that requires a considerable amount of knowledge and time, and can place a considerable demand on civil society (Brown et al. 2002)

Despite this complexity and for the sake of analysis, most of the groups can be divided into one of two categories. The first includes indigenous communities that have historical continuity and strive to conserve their ethnic identity, land-use practices and cultural traditions. Indigenous communities generally have a higher level of homogeneity and have been together for a relatively long period of time. The second category consists of immigrant communities that are more recently formed (refugees, economic migrants). Both indigenous and immigrant communities are discussed in relation to skills necessary to effectively derive benefits from active participation in management systems.

Table 4 is provided below with the description of the forest groups to provide a sense of location. The list of groups provided does not include all the cultural groups located near USAID natural forest management projects in the focus countries.

Indigenous communities represent the majority of the people associated with USAID project sites. Within the indigenous communities, there are two distinctly different groups: Forest-based communities and mixed livelihood groups (although mostly agriculturists, this group includes pastoralists, fishermen, miners, and others). The indigenous mixed-livelihood group is the most widely represented at USAID projects.

Indigenous forest groups possess a unique cultural knowledge derived predominantly from the forest. USAID natural forest management projects fail to capture these elements during project design and implementation strategies.

Table 4. Forest groups by country, location, and USAID project.

Country	USAID Project	Location	Cultural Groups
Uganda	Bwindi National Park	SW Uganda	Batwa
Uganda	Mgahinga National Park	SW Uganda	Batwa
Rwanda	Volcano National Park	NW Uganda	Batwa
Rwanda	Nyungwe Forest Reserve	SW Rwanda	Batwa
Burundi	Bururi Forest Reserve	SW Burundi	Batwa
Indonesia	Gunung Palung	West Kalimantan	Dayak
Indonesia	Bukit Baya BktRaya	Central Kalimantan	Dayak
Indonesia	Kutai	East Kalimantan	Dayak
Indonesia	CBFM sites	East Kalimantan	Dayak

Forest-Based Communities. Indigenous communities around the world have been living in and near forests for thousands of years. They derive virtually everything they need (food, shelter, clothing, medicines) from the forest, including their spiritual guidance and cultural traditions. Many of these forest communities are threatened by competing land claims and conflicting livelihoods (farming, mining, logging, and government policies). Though their numbers are declining, forest-based communities still represent a sizable proportion of the local population, especially in relation to the larger forest blocks that are largely intact.

Within the USAID project sites, work is mostly conducted with indigenous mixed livelihood groups. The forest groups, however, possess a wealth of important forest knowledge and are usually the most affected by decisions regarding the management of their forests. They are also less likely to adapt their livelihoods when access to the forest is limited. Among the forest groups women often possess the same knowledge of the forest and its values as men (which is sometimes not the case with the mixed livelihood groups). This information is readily shared among group members as a way to assure the survival of their livelihood.

Although USAID has worked with a number of forest groups throughout the world, the two most widely distributed and proximate to USAID project sites relative to the focus countries are the Batwa of East/Central Africa and the Dayaks of Borneo. In Africa as many as 300,000 people live in forest-based indigenous communities located in Eastern Congo, Rwanda, Burundi, and Uganda (http://www.cwu.edu/~yaegerl/pygmypage.htm). Collectively, they are known as pygmies. The Batwa is one of the main groups of pygmies, in the areas near the East/Central African forests (Afromontane) of three focus countries (Uganda, Rwanda, and Burundi). In society, they make up the lowest caste of the indigenous peoples. Generally, they lack land, access to formal education, and employment. They also lack representation in government, especially at the national level.

Government policies developed to end their forest livelihoods and traditions pose a significant threat to the Batwa. Some of these policies have been actively supported by international forest conservation organizations that view Batwa traditions (hunting) as a serious threat to the forests. As opposed to forest groups in other focus countries (Philippines, Indonesia), no legal titles or access right have ever been granted to the Batwa by the East/Central African governments. In fact, it is against the law in Uganda, Rwanda, and Burundi to permanently reside in forest areas. In all three countries the Batwa were removed from the forest by the government, and they have had great difficulty adapting to a sedentary and agricultural lifestyle (Lewis and Knight, 1995).

While Batwa technical knowledge of the forest is strong, their organizational strengths are derived from their forest livelihoods (and not always applicable to agricultural systems) and their enterprise skills are weak. The only USAID project that

The Batwa and Gishwati Forest Reserve

Indigenous groups are often viewed by government agencies and conservation groups as a threat to natural forests. Ironically, perhaps the greatest example of destructive deforestation in Africa was sanctioned by the Rwandan government and financed by the World Bank in 1980s. It involved the Gishwati Forest Reserve (about 30,000 hectares), an important high-elevation forest that was chosen as the site for fuelwood plantations and cattle raising/dairy production. In just a few years more than half of the natural forest was clearcut to accommodate fuelwood plantations and imported European dairy cows, most of which were owned by the ruling clan that hailed from that region. The Batwa were chased from the Gishwati forest in the 1980s without compensation (Lewis and Knight 1995). Gishwati has since been used for refugee resettlements and was the source for much of the reconstruction economy's forest product needs. Today little natural forest remains.

specifically targeted the Batwa for development assistance was the CARE International Development through Conservation project in Uganda. Although not included in the original project paper, CARE initiated work with Batwa communities adjacent to the Bwindi Impenetrable National Park several years into implementation. In this case, special training and assistance was carried out to help the Batwa adjust to a sedentary agricultural lifestyle. Other indirect USAID support to the Batwa comes from employment with protected area agencies and projects. USAID projects in Uganda, Rwanda and Burundi have hired Batwa as trackers, monitors, guards, and field assistants.

Forest-based communities in Asia have been moved to remote locations by waves of migration due to overpopulation. Today, most Asian forest communities are located on the Malay peninsula, Borneo, the Andaman islands, the Philippines (Palawan island), and New Guinea. As with the Batwa, Asian forest communities are increasingly pressured to assimilate into general society. As a result, much of their traditional knowledge of the forest and its values is being lost.

In Indonesia, ambitious government translocation programs under former President Suharto were designed to remove millions of people from the overcrowded islands of Java and Bali to Sulawesi, Sumatra, Papua, and Borneo (the Indonesian states of Kalimantan). The Dayaks are perhaps the forest community most affected by the Indonesian government's resettlement policies. The Dayaks actually include over 30 related ethnic groups that are found throughout the island of Borneo (including the Malaysian provinces of Sabah and Sarawak).

The new non-Dayak settlers cleared the forests for fuel, construction wood, and to plant agricultural crops. Many migrants viewed forest resources as little more than a means of quick economic development (through rapid utilization and liquidation). The migrant's activities negatively affected the Dayaks' livelihood, and resettlement schemes led to anti-colonial (Javanese, Madurese) sentiments that have escalated into armed conflict. In 1999, the conflicts drew international attention when Dayaks clashed with migrants from Madura. More recent conflicts, on a smaller scale, have arisen as greater numbers of Dyaks are displaced by logging companies possessing conflicting concession rights.

Conflict between Dayak communities and the forest industry (competing claims), in-migrants and power struggles for resource access between different levels of local government have hampered efforts by the Indonesian government to promote the decentralization of forest management. Until recently USAID, forest management support in or near Dayak communities has been limited mostly to protected area projects. As with projects in East/Central Africa, USAID did not specifically target Dayak communities for special assistance. USAID field conservation efforts are evolving, however, and USAID is increasingly supporting international and local NGOs in an effort to broker agreements between conflicting ethnic groups, local government, and the private sector. Dayak have skills similar to the Batwa, in that they have exceptional knowledge of the forest and its values, yet need additional support in both organizational and enterprise skills. Although at a significant disadvantage to their coastal neighbors, the Dayak have had more experience with agriculture and forest enterprises than the Batwa, and have generally integrated to a greater degree with the rest of society.

USAID/Indonesia is working through a number of international and national NGOs, including Sistem Hutan Kerakyatan, Indonesia Environmental Forum, World Wildlife Federation, and The Nature Conservancy, to create the conditions through which constructive working relations and agreements can be developed between the Dayak and outside groups. Although some forest

companies and local government unit's are mostly concerned with liquidating the forest resource for short-term profits, others see their future inextricably linked to maintaining positive relations with communities. The NGOs are trying to work with the more progressive groups to move this process in a direction where all parties can benefit (see Volume Three, Indonesia country report).

The Batwa and the Dayaks are but two forest groups whose traditional lands have been the focus of USAID forest management support. Only recently has USAID begun to view the protection of their cultures and traditions as a logical part of a broader sustainable livelihoods development strategy. While both groups are making progress on their own (with some assistance from local and international NGOs) to preserve their culture by legal means and secure access to their ancestral forestlands, some believe that it is only a matter of decades before the forces of globalization assimilates these cultures into the global market economy (Alcorn 1991).

Mixed Livelihoods Groups. While the forest-based communities are the groups most directly affected by forest management policies and activities (in most cases negatively), it is the mixed livelihood groups (both indigenous and immigrant) that have had the greatest impact on the forests simply by virtue of their larger numbers relative to forest groups. They are also the groups that have benefited most from both constructive (sustainable forest management) and destructive (short-term gains from liquidation) forest practices.

The most promising community-based forest management systems are practiced by the mixed livelihood groups.

Table 5. Mixed livelihood groups by country, location and USAID project.

Country	USAID Project	Location	Ethnic Group
Philippines	NRM (CBFM)	North Luzon	Ifugao
Philippines	NRM (CBFM)	North Luzon	Bontoc
Philippines	NRM (CBFM)	North Luzon	Sagada
Philippines	NRM (CBFM)	North Luzon	Ikalahan
Philippines	NRM (CBFM)	Mindanao	Higaonon
Nepal	Terai Arc Landscape	Terai	Tharu
Nepal	NRM	Northern Mountains	Gurung and Sherpa
Uganda	Bwindi NP	SW Uganda	Bakiga
Uganda	Rwenzori NP	Western Uganda	Bakonjo
Uganda	Kibale NP	Western Uganda	Batoro
Rwanda/Burundi	Nyungwe FR, Volcano NP, Bururi FR	SW Rwanda, NW Rwanda, SW Burundi	Bahutu/Batutsi

Apart from the forest groups, the indigenous mixed livelihood groups examined in the focus countries generally practice the most sustainable forest management in relation to maximizing community benefits. This point is highlighted by recent evaluations of the Philippine community-based forest management experience that indicate that indigenous communities are more likely to be self-starters who do not require external factors to move CBFM along (Borlagdan 2001). Some of the groups noted in the Philippine study include the Ifugao, the Bontoc, the Sagada, the Ikalahan, and the Higaonon. All have strong social and organizational bonds and have practiced traditional forest management and agriculture for generations. These same groups also demonstrate a remarkable resiliency to external changes (market, political, climatic). Traditional forest management practiced by these groups is organized at the clan, family, or individual level. CBFM is working in these communities because it is built upon a solid traditional cultural base.

The Higaonon of Misamis Orientale Province, Mindanao, is an indigenous group that has used traditional systems to promote effective forest management. They are currently managing 20,500 hectares of ancestral land, and as much as 70 percent of this area is being preserved as old-growth forest where product extraction is kept to very low levels and carefully monitored (Borlagdan 2001). The Higaonon's strong community ties are a key reason that CBFM has enjoyed success in that area. The same factors also explain the Higaonon's ability to successfully ward off large-scale logging companies' access to their ancestral lands. The CBFM process for the Higaonon was facilitated by support under the USAID Natural Resource Management project.

While examples from the Philippines concentrate on relatively small groups (populations in tens of thousands) located in localized and mountainous geographic areas, the mixed livelihood groups in the African focus countries are much larger and their home ranges extend over several international borders. Given their large home range and regular contact with outside populations, these groups are accustomed to modifying livelihood strategies for local conditions by incorporating new ideas and technologies into their traditional systems. Despite the integration of modern systems, the indigenous mixed livelihood groups of East/Central Africa are frequently discussed in relation to their traditional livelihoods (those practiced prior to the European colonial period).

The Bahutu of Rwanda and Burundi and the Bakiga and Bakonjo of Uganda are often referred to in their traditional role of "agriculturists." Similarly, the Batutsi, the Banyakore, and the Batoro are often described as "pastoralists." USAID has funded more than 20 projects that address natural forest management (mostly protected areas) in East/Central Africa and many of the project papers frequently refer to these groups based on these general livelihood descriptions that are also used to explain past and current conflicts between groups (i.e., Tutsi and Hutu, Batoro and Bakonjo). While this classification is useful historical information, it is no longer a relevant means of classifying current livelihoods. All of the above groups have assimilated practices from each other as well as other groups, and their livelihood strategies, though largely based on agriculture, are mixed.

In all focus countries, indigenous communities generally have good organizational capabilities. Kinship and traditionally accepted behavior generally promote well-structured and efficient decision making and conflict resolution. For most groups, roles and responsibilities are clearly delineated by gender. Although commercially related forestry issues in most focus countries are generally viewed as a male responsibility, a number critical forestry resource practices (fuelwood collection, water collection, non-timber forest product collection) demonstrate the importance of women in forest management and underscore the organizational strengths of indigenous groups.

In the West African countries, women manage the finances of most mixed livelihood community forest management activities. This local policy has wide support throughout the communities. Men are quick to note that they support this system and feel that the resources are safer and will be better managed if controlled by women.

Nepalese women are not only responsible for managing community forestry funds, but are very much involved in the collective decision making process regarding management approaches. Women often organize themselves through the creation of community forest user groups. To reinforce the capacity and strength of these groups, Nepalese women have formed associations

to more effectively coordinate activities and communications among groups with similar interests. The user group associations also provide women with a stronger political and economic platform from which to promote their activities. More than 200 of the 1,700 user groups that USAID supports are women's groups. They are responsible for the management of more than 7,000 hectares of forest. Other women groups have been formed in the buffer zone areas of Shey Phoksundo National Park. In the mixed groups, women still represent a sizable percentage of the members, including more than 50 percent in the Dhading Resource Management project, and more than 33 percent in EFEA. These are all USAID-funded projects.

Women participation in Nepal's forestry user groups has also provided them access to positions of leadership and authority in local government, including village development and district development committees. Women in the EFEA project were responsible for the development and management of 50 community reading centers, which benefited more that 1,000 female non-formal education graduates.

Shea Nuts: A Vehicle of Targeted Development Assistance for Women

Vitellara paradoxa, the Shea butter tree, grows throughout Sahelian Africa, from Senegal to Ethiopia as well as in extensive areas throughout southern Africa. The tree is the source of the Shea nut, which has been commercially processed for its oils for domestic consumption and export. There are an estimated 500 million trees along this "Shea Belt" that are a potentially source of increased economic development. In addition to potential for exports, these trees are also used locally as a source for cooking oil, fruit pulp, soap production, fuelwood, timber, and even as waterproofing for house walls. In addition its bark, roots, and leaves are used in traditional medicines. Its multi-use nature makes it a central part of the lives of the populations along the Shea Belt. At the same time, the Shea butter tree is an integral part of the greater ecosystem because the tree only exists in natural stands.

In the past the Shea nut has provided extensive income to different countries in the Sahel. In Burkino Faso, for instance, the Shea nut was for a long time the third largest export product. Industrial processors sought to export the Shea nut as a low-cost substitute product mainly into the cocoa butter equivalent market. This market, however, has not proven to be profitable enough to accommodate the vast potential of these resources. Only about 35 percent of the nuts are actually gathered, and 85 percent of this is for local consumption. Recent changes in European Union regulations on the use of additives in chocolate production have opened the door to new markets for Shea nuts as a substitute for cocoa butter. A specific variety of Shea nut found only in Uganda and southern Sudan is particularly sought after by cosmetic corporations for its high olien content

Shea nut collection and processing is primarily dominated by women, and sector development would be directly beneficial to them. As part of a larger project to support Shea nut production in Uganda, surveys conducted by USAID found that the nuts provide substantial income to women, even with the small amount of processing that actually occurs. Money generated from Shea nuts was largely kept by women. In addition, cosmetics companies viewed the fact that Shea nuts were an industry dominated by women in remote places as an added marketing bonus. Thus, market linkages in the sustainable production of Shea throughout the Sahel could lead to economic development with a special focus on women while at the same time promote forest resource conservation.

B4. Community Diversity and Capacity: Forest Immigrants

In all focus countries it is usually recently settled groups that have immigrated from other areas that promote or engage in practices that convert natural forests at the most rapid rates.

Migrant groups are found in all focus countries. Most families migrate because of threats to their livelihoods (land scarcity, conflict, prolonged droughts, limited access to services, etc.) and organize themselves on an individual or community basis. In some cases, the national government organizes migration initiatives (Indonesia), which sometimes leads to a clash of cultures and violence.

In general, two groups of immigrant communities are directly involved with forest resources found in USAID target countries. The largest group includes economic migrants that move individually or collectively. The second group consists of refugees moving to avoid civil disorder or catastrophic environmental conditions (floods, earthquakes, volcanic eruptions, droughts, etc.).

Economic Migrants. Frequently, economic migrants are not thoroughly familiar with the customs and traditions of the area they are resettling. As outsiders, their own traditions and customs are usually less relevant to their new location. Forests, which are often valued by indigenous groups, can represent the best chance at establishing a livelihood for many migrant groups. For migrants, many of the local forest values are not well appreciated or may even be ignored. Migrants often clear forests for agricultural development (subsistence or commercial), industrial plantations (labor opportunities), or mining (labor).

In all focus countries numerous cases of both internal and external economic migration have settled in forest areas. For several generations, lowland farmers in the Philippines, Thailand (Roth et al. 1987), Indonesia (Dwiprabowo and Wulan 2003), and Nepal (Sowers et al. 1994) have moved into the higher, forested elevations in search of additional cropland. This has led to accelerated deforestation in many watersheds, with catastrophic consequences for the lowland areas (flooding). These patterns were largely responsible for USAID's initial support to upland watershed conservation and development projects in the 1970s and 1980s.

More recently, economic migrants from Uganda's northwestern districts have settled in forested protected areas in Masindi (site of USAID projects) and Hoima districts, threatening both the biodiversity and the local ecotourism enterprises that thrive there (Clausen et all. 1999). In West Africa, herders seeking dry season grazing areas sometimes bring their livestock into community forest areas. This seasonal pattern can lead to conflict between the herders and the local farming groups.

In some cases economic migrants relocate and bring with them sound forest management practices. Of the focus countries, Guatemala presents the best example of where both of these trends can be found in one location, the Mayan Biosphere Reserve in the Peten region. Prior to the1960s, the Peten was an area largely uninhabited, and at that time the government began to encourage its colonization. Population densities were low and the natural resource base was stable. During the past 30 years there has been a great deal of migration from the densely populated highlands to the Peten. Populations have nearly grown by a factor of ten (Pando 1997).

The contrast between land-use patterns in the recently settled parts of the Mayan Biosphere Reserve versus those of established communities is striking. Communities with tenure (in the

eastern sectors) are rapidly developing forest industries and managing the forests in what appears to be a more sustainable manner. Deforestation is minimal and forestry practices are well monitored (Tschinkel and Nittler 2000). These communities that have a history of forest utilization have organized themselves effectively. Some communities also benefit from returning Guatemalan refugees who have spent years in neighboring Mexico where they learned important forestry skills. This rapid development has taken place after a long and often brutal period of instability in the Peten that brought many other productive enterprise activities to a halt. USAID support is working to assist this process.

In the western zone, where the greatest number of protected areas (national parks) are located, the settlers are practicing extensive and destructive slash-and-burn agriculture. Protected areas are being settled and forests adjacent to all the main access routes are being liquidated at rapid rates. The irony of conservation in the Peten is that community-based forest management is having significant impacts on livelihoods and forest conservation in forest areas not officially conserved by the government (non-classified forest areas), while the protected area system in other parts of the Peten is being severely degraded.

Refugees. The plight of refugees is more extreme than that of the economic migrants. In many cases refugees live day to day concerned primarily with meeting nutritional needs and finding shelter and security. These pressures, combined with the knowledge that their settlement will likely be temporary, encourage a short-term outlook toward managing resources. Environmental degradation frequently accompanies the establishment of refugee camps (Deng Deng 1997).

In most cases, refugee groups are expecting to return to their homes within a short period of time. From the donor and humanitarian response agency perspective, these groups are usually the recipients of emergency assistance (food, medicine, temporary housing) rather than training and capacity-building support. Refugees are often provided food, but not the fuel (in most cases firewood) with which to cook it. They frequently lack protein and will look to game meat to supplement their diets. The response strategy is containment and repatriation rather than integration. Those groups that cannot be returned to their former homelands are often relocated, either as entire communities or households, and these groups need training and skills to adapt to the new environs. In the case of political refugees, "temporary" is often measured in years.

Refugee groups fleeing conflict and natural disasters (whether settled in a new area for a number of years or regularly moved back and forth) have affected forest resource management in all focus countries. In the Yucatan Peninsula (and the Mayan Biosphere Reserve), refugees from Mexico and Guatemala have repeatedly moved across their borders and into Belize during the past several decades (mainly in forest areas). In West Africa, civil wars in Sierra Leone and Liberia have led to refugee communities in forest areas of Guinea (site of USAID projects) and the Ivory Coast. The ongoing regional struggle in DRC and civil wars in Rwanda, Burundi, and Sudan have refugee groups scattered throughout East Central Africa.

In the city of Goma, regional capital for the North Kivu Province of the DRC (border town with Rwanda), refugee camps have also been established in protected areas (nearby Virunga National Park) following volcanic eruptions that destroyed almost half of the city and surrounding communities. In all of the examples listed above refugee groups settled in or near forests that are the sites of former or ongoing USAID projects. Discussions with field level personnel indicate that damage from refugee groups was minimal, but would have been significantly worse if USAID-funded conservation and development projects had not reinforced management of the protect-

ed areas. All pointed to the same transboundary landscapes in neighboring DRC, where deforestation and degradation was widespread (areas that received less international support for conservation and development work).

Relative to emergency relief, forest conservation is usually not a priority for refugee groups. For this reason sustainable natural forest management is more difficult to achieve in these communities. It is usually only in refugee situations that last for years that development agencies can reasonably hope to establish sound natural forest management (i.e., Bhutanese refugees in Nepal, Liberian refugees in Guinea). In these situations, materials and training in all skill sets are essential. While in-migrating groups sometimes bring with them well-honed skills that are readily adaptable (as in the example of returning Guatemalans that were trained in forest management while in Mexico), this development is the exception rather than the rule.

A recurring theme at almost all sites visited, whether indigenous or immigrant (and documented in project evaluations and progress reports) is the need for training in enterprise development and business skills. From a capacity standpoint, this is the set of skills that was repeatedly mentioned as the weakest link in communities' efforts to maximize natural forest management benefits. The skills most often mentioned include financial management, marketing, value-added processing, contract negotiations, and accounting.

C. Forest Values, Economics, and Opportunities for Sustainable Livelihoods

Efforts to redefine and alleviate rural poverty and promote the concept of "sustainable livelihoods" began in the early 1990s. The sustainable livelihoods concept recognizes that poverty reduction requires a consideration of the wealth accruing to people from cultural assets, health and education, and the condition of the natural resources base. Since nearly all rural economies in developing countries rely on goods and services derived from the forest, this shift from traditional thinking has been important in recasting the role of forest resources within an economic as well as environmental imperative.

Forests are the obvious source for countless products used in subsistence and commercial economies. Forests provide critical environmental services such as surface water retention upon which irrigation and potable water systems depend. They also mitigate global warming while maintaining microclimates. The role of forests in conserving soil and harboring most of the globe's terrestrial biodiversity is also well documented. But while emerging world economies would cease to exist without these ecological support systems, forests remain undervalued within virtually all production value chains and public policies.

Although forest-based economic enterprise activities have been practiced in all USAID focus countries for generations, USAID support to programs designed to enhance economic benefits from natural forests have been relatively modest compared to the resources made available for other enterprise sectors, especially agriculture. Timber, a single market commodity, and ecotourism, one market-based service, are usually the focus of USAID-supported, forest-based enterprise and are worth exploring independently. The team synthesized its findings under four potential sources of economic growth: timber, non-timber forest products, environmental services and ecotourism.

C1. Timber Resources

When USAID began to fund natural forest management activities in the late 1970s and early 1980s, the multiple-use concept of forest management was well advanced within public lands management and university training in the United States and gaining strength in many countries. This orientation within USAID professionals and implementing partners had a significant impact on development of USAID's natural forest management strategy. Essentially, USAID support followed one of two avenues: either small-scale community or social forest management in areas that were classified as multiple-use forests (almost always for timber), or improved protection and conservation of forests recognized as key biodiversity zones or watersheds. Some projects, including projects focused on watersheds and agriculture, incorporated elements from both strategies for select areas. In watershed projects, natural forest management and conservation work was one of any number of objectives designed to meet the overall goal of increasing agricultural productivity in the lower elevations.

Unexpected and positive consequences on livelihoods resulted from community forest enterprise activities that encouraged tree planting and natural forest conservation as vehicles to improve watershed management and biodiversity conservation.

The USAID forestry program in the Philippines came about through the realization that the highland forests, which are vital to agricultural productivity and environmental stability (flooding, erosion, etc.) in the heavily populated lowlands, were being destroyed through illegal logging and land conversion. The highland populations - historically groups most economically challenged and prone to food insecurity - also had less access to their own natural resources in some cases. In effect, outside logging interests were taking away their resources. Although timber was not the early focus of the USAID Philippines program, it eventually evolved in that direction as the need became more evident (Mickelwait et al 1999).

In USAID-supported East and Central African protected area projects, the objective was always to conserve these forests for their biodiversity and ecological service values. Not one of the projects encouraged or supported the extraction of timber from the natural forest and most activities actively discouraged commercial timber extraction. However, most of these forests included "buffer plantations" of varying scales that were established to protect the natural forest by planting fuelwood grown in plantations as substitutes for natural wood harvested in the forests. Establishment and management of these forest plantations also provided modest employment for local populations. Many of these projects also focused on agroforestry system and woodlot establishment at the village or household level (again to provide substitutes to natural forest products). As a result of the buffer plantations, agroforestry schemes, and woodlots, forest enterprise activities developed rapidly in most areas (Burundi Country Report, Boltz 2002).

Several factors contributed to the high costs of establishing timber-based community enterprises: underestimated investments in establishing enterprise capacity; high timber product transaction costs due to excessive bureaucracy and government rent-seeking habits; and the effects of illegal logging on timber market values.

Of the focus countries, USAID forest management programs in Guatemala, Nepal, Indonesia and the Philippines targeted timber as a means of improving income or employment. Latin America has seen several other projects seeking improved incomes from forestry in Honduras, Bolivia, and Peru (Pool et al 2002) and other income generation efforts have very recently start-

ed in Ecuador and Colombia (John Nittler, pers. com.) where forestry is seen as a possible alternative to illicit drug income.

USAID activities in Bolivia, Honduras, and Senegal are unique in that programs began by working directly with the forest industry before shifting focus to community development. All other USAID programs began with communities, and in some cases included the private sector at a later date (See Volume Three Country Reports for Senegal, Gambia, Guinea, Philippines, Nepal, Rwanda, and Guatemala).

For more than 15 years, a range of donors (including USAID) have provided support to the Philippines in an effort to establish community forestry. Recent evaluations of the programs indicate that, from a strict cost-benefit standpoint, costs to the communities for CBFM have exceeded benefits (Borlagdan 2001). Two main reasons are cited: administrative barriers and corruption, which increased transaction costs and reduced replicability; and underestimated costs associated with community capacity building. These same constraints to CBFM are also noted for Guatemala (Tschinkel and Nittler 2000) and Nepal (Center for Development Information and Evaluation 1996). Recommendations from the three cited reports point to institutional and policy reforms designed to shore up access to forests to access finance. The studies also identify the need for more realistic training programs that focus on enterprise development and marketing more than simply forest management. There is a strong implication that the most significant obstacles to community forestry programs are inadequate entrepreneurial capacity and the inability to attract venture partnerships and move down the forest products supply chain to add value to increase profits.

The Philippine report notes that, despite these constraints CBFM is economically viable in a number of communities including most of those that received assistance from the USAID Natural Resource Management Program and the Ford Foundation. This progress is mostly attributed to the investments these projects made preparing communities organizationally for the responsibilities associated with CBFM. CBFM was not economically viable or socially well-integrated in areas where the transfer of land title to communities was made without the important preparatory work. The CBFM initiatives supported by the Asian Development Bank were criticized by the recent evaluations in this regard (Mickelwait, 1999).

A March 2002 review of natural forest management programs in Latin America and the Caribbean cites the high costs of establishing CBFM initiatives is also listed as a major constraint in the. This study notes that "for NFM to be economically attractive to investors, costs must decrease and returns increase (Pool et al, 2002)." In the report, however, high costs are attributed to conversion technology and the low market prices for tropical timber, partially as a consequence of illegal logging.

The problem of tropical timbers being undervalued because of illegal logging is not unique to the Latin America and Caribbean region. This trend was noted in all USAID focus countries, particularly where illegal logging in a neighboring country (usually a failed state or unstable locale) is a main constraint to CBFM. The examples include timber cut in the DRC flowing into Uganda, Rwanda, and Burundi, timber from Liberia into Guinea, timber from Mexico into Guatemala. The reverse is true as well, where illegal logging in a target country discourages CBFM in a neighboring country (timber cut in Indonesia flowing into the Philippines and Malaysia, timber in Nepal going to India) (Thomson et al. Volume II, 2003).

Of the target countries, Indonesia stands apart with respect to the volume and value of its standing timber resources. However, government corruption, illegal logging and conflicts between indigenous community claims and disputed industrial concession holders over access rights have all contributed to the stymied development of CBFM in Indonesia. Current CBFM work is concentrating on the watershed values, environmental services and timber for communities, and reform for various branches of local government and the private sector as well. An important step in moving CBFM ahead is getting the private sector and communities to reach mutually beneficial agreements with support from fledgling local governments (Indonesia Country Profile). Interestingly, unlike agriculture programming and investments, which have historically emphasized production, markets, and enterprise skills building, attention to building forest enterprise capacity has occurred relatively late in the game in nearly all focus countries.

When community enterprise capacity is developed, access to the resource assured, and links to markets established, CBFM is not only economically viable but an effective strategy to conserve forest resources.

All USAID focus countries demonstrate the potential for productive relations between communities and the private sector. It is especially evident in the case of the Guatemala Mayan Biosphere Reserve project where USAID support to community based forest management work is recent yet promising. In the Peten Mayan Biosphere Reserve, USAID/Guatemala is building on lessons from previous conservation investments in Guatemala and other agency programs in the region, most notably the USAID BOLFOR project (1993 - 2000) in Bolivia. The region has benefited from BOLFOR's experience in sustainable forest management, with most of it centered on low population areas that are commercially harvested by forest industry. During the past several years BOLFOR has made considerable gains integrating communities into the overall operations.

Economic returns to communities practicing externally certified, low-impact harvesting in concessions in the northeastern Peten demonstrate that CBFM can be profitable. This development is in sharp contrast to the western and northern sections of the reserve where there are few concessions and several protected areas including national parks. Deforestation due to colonization, illegal activities, and wildfires continues at alarming rates in these areas.

Community concession holders have previous experience with forest enterprise activities; most have been historically involved with the collection and sale of chicle and xate (as discussed below). They have also been quick to develop working relations with local wood processors and links with international markets. Eight of the 12 communities receiving USAID support are also working through the certification process, which improves their organizational capacity to manage the forest. This training and guidance, combined with the secure access to the forest provided through legally recognized, long-term leases, has helped CBFM develop at a rapid pace in the Peten. In this case the transfer of well-stocked forest from industrial concessions to community enterprises has provided the equity necessary to jumpstart production activities. The communities' ability to generate jobs and timber sales has enabled them to make needed investments in harvesting and processing equipment to add value.

Results from this study's analysis, based on experiences in Guatemala and Bolivia, suggest that CBNFM activities should be careful not to encourage forest communities to internalize all management activities required to successfully manage forests and participate in complex forest product markets. There are examples within every focus country that strongly suggest that the inher-

ent limitations of remote and often poorly educated communities should be carefully considered. Focusing activities at enterprise level may be the most sustainable but may not include the entire "community" as was the case in Guatemala. In addition, outsourcing certain forest management and market functions may prove to be advantageous as has been the case of using third party certification. Building local capacity to not only manage forestry resources under certification, but also to professionally administer these complex and ever-evolving certification programs can reduce costs and increase access to small holders.

A number of hurdles remain for forestry communities in the Peten, but early indications demonstrate that CBFM is not only economically viable, but an effective strategy to conserve the Peten's remaining forest resources. A large part of its success can be attributed to how well this work has been socially and economically integrated into the communities. These results are similar to the findings for CBFM in:

- The Philippines (usually USAID and Ford Foundation sites, where donors were patient enough to prepare communities);
- Nepal, where CBFM was integrated into both the economic and social structures from the beginning (user groups and civil society development); and
- Guinea, where recently timber and non-timber harvesting are being conducted in forest reserves under specific agreements.

Finally, during field discussions in Guatemala, the Philippines, and Indonesia, representatives from wood-processing industries, wood dealers, and private forest land owners all expressed interest in developing more positive and productive working relations with local communities. These commercial interests also acknowledged that their economic viability is in many ways linked to communities engaged in CBFM. Most private sector representatives also expressed an interest in having NGOs or donors playing a more direct role in facilitating working agreements (Guatemala, Philippines, and Indonesia country profiles). The results of virtually all interviews conducted under this study with industry representatives included significant interest in the use of certification and eco-labeling as ways to maintain market credibility and improve compliance with local regulations.

USAID programming in relation to tropical timber harvesting has been conservative in most cases.

The high visibility of the issue of tropical deforestation in the popular press, as well as concerns raised from U.S. forestry interests, have had significant consequences on forestry programming and funding levels within USAID. Three pieces of legislation, now incorporated within USAID's staff guidance (the Automated Directory System (ADS) 201.3.3), directly affect the agency's involvement in the conservation of tropical forests. The requirements stipulated in Regulation 22CFR216 ("Reg 216") provide broad guidance for assessment and incorporation of all environmental impacts of all USAID activities and are conducted on a project-specific basis. Reg 216 lays out the process, scale, and requisite intensity for evaluating the impacts of particular activities.

In a separate piece of legislation, Amendment 118 to the Foreign Assistance Act prescribes that during the strategic planning process, USAID missions must consider the condition or threats to tropical forests and identify how those threats may or may not be addressed by the proposed

strategy. Section 522 of the Foreign Assistance Act (amended) provides prohibitions against entering into commercial forest activities within primary tropical forests unless it has been determined that:

> "(A) the procurement or use of logging equipment, unless an environmental assessment indicates that all timber harvesting operations involved will be conducted in an environmentally sound manner which minimizes forest destruction and that the proposed activity will produce positive economic benefits and sustainable forest management systems; and (B) actions which significantly degrade national parks or similar protected areas which contain tropical forests or introduce exotic plants or animals into such areas."

The necessity to conduct environmental impact assessments, prior to initiating logging activities at any scale requires a significant amount of time and resources. The cost of environmental impact assessments for logging activities is usually measured in hundreds of thousands of dollars and take a year or longer to complete. Hence, mission personnel are often hesitant to fund logging activities at any scale. Most USAID natural forest projects also require a management plan. Although their objectives are somewhat different, both management plans and environmental impact assessments address many of the same issues and options. Management plans also represent a significant but critical investment in time and money. As stated in a 2000 review of CBFM in Guatemala, "separating out Environmental Impact Assessments from forest management plans seems an unnecessary division when the additional EIA requirements could be incorporated into the forest management plan" (Tschinkel and Nittler 2000). National agencies often have additional environmental assessment and reporting requirements that add costly duplication.

C2. Non-Timber Forest Products (NTFPs)

The potential of non-timber forest products to contribute to economic and sustainable development is frequently overlooked, yet their important role in the livelihoods of communities is well documented at the household level. NTFPs cover a range of plant-based products that include: grasses, vines, and leaves used as mulch, to feed livestock, or crafted into brooms, rope, baskets or simple furniture; medicinal herbs and plant extracts and aromatics; fruits, nuts, and berries; and wax, resins, turpines, tannins, and latex or gums. NTFPs are also associated with the forested habitat as a source of game meat, honey, and mushrooms, and as a source of fuel. Fuel from natural forests represents more than 13 percent of the world's energy source, but may be as high as 90 percent or more in some developing countries. Forests also harbor and therefore supply the legal (and illegal) trade in flora and fauna. Although minerals are not often discussed in relation to NTFPs, they are found at a number of USAID natural forest management sites. In all focus countries it was repeatedly stated that, given their potential to enhance local livelihoods, NTFPs need to be more fully integrated into management strategies. It was also frequently mentioned that improved information systems could assist producers seeking more advantageous business arrangements, which could minimize their risk of being exploited by middlemen. Resource managers at all sites would also like to have more attention focused on valuation studies of the NTFPs.

Although NTFPs are rarely the main focus of USAID's natural forest management projects, they are frequently the basis for project implementation.

In the Peten region of Guatemala, NTFPs such as chicle and allspice have been extensively used by Mayans for centuries. This knowledge base is evident today as many communities in the Peten

The Unfulfilled Promise of Rattan

Rattan is a spiny climbing plant from the sub-family Calamoideae that has been harvested for generations to make, among other things, cane furniture. True rattans cover the "old world" tropics radiating from South-east Asia and the Malay Archipelago where more than 600 species within 13 genera have been identified. Rattan grows in a multitude of climates from equatorial rainforests to monsoon savannas and the foothills of the Himalayas. Though it can be cultivated, the majority of rattan sold on the world market is harvested in the wild and only a few plantations have been established in Sabah. Rattan is such a large industry it has become almost as valuable as the trees that it grows around, with much greater residual value.

Trade in rattan has burgeoned into a multimillion dollar industry. Trade in raw rattan worldwide was in excess of $50 million. Estimates of the overall global rattan trade are between $7-8 billion - approaching the same number as the total tropical hardwood trade. Rattan provides income at a number of levels, as producers and processors are often at the local level. Proceeds from raw rattan sales in parts of Borneo represent more than 75 percent of composite family income and it is estimated that in the Asia region alone more than two million people are employed harvesting, transforming and trading rattan.

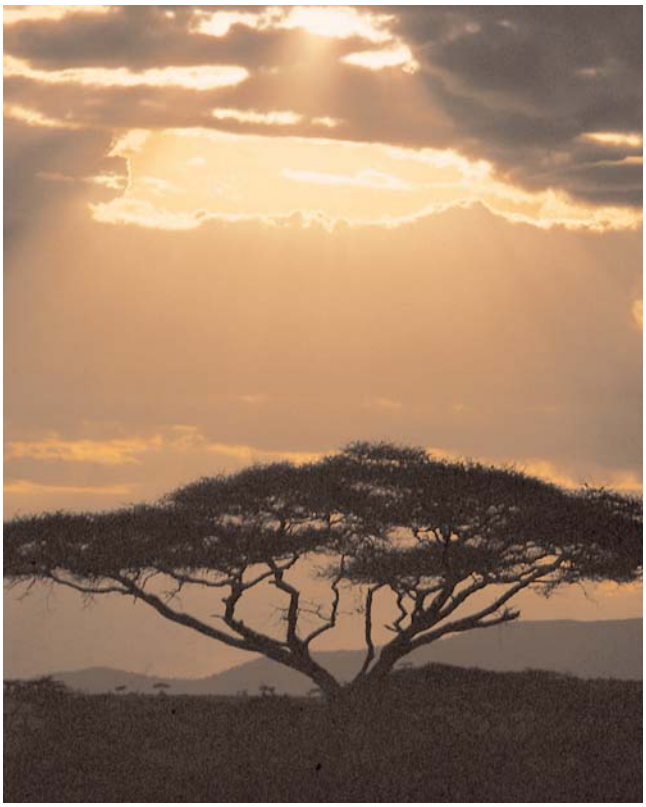
But yet there is limited replanting or active management to insure the continuity of supply; harvest from wild populations continues to be the norm, not the exception. Fledgling efforts in the Philippines, Indonesia, Africa, and Central America have had mixed results although recent and sustained commercial efforts in Malaysia are promising. The potential contribution to aggregate forest value is substantial nearly everywhere rattan grows but extended production cycles, forest conversion, and insecure land tenure all limit commercial investment and broader local interest.

rely on the forest as a source of many subsistence and commercial products. While current USAID support to those communities focuses on sustainable timber harvesting, attention has been given to NTFPs in the Peten including spices, ornamentals, gums, and most recently, sport hunting. Some of the financial management training for community forestry planning and operations has also assisted collectors of NTFPs. Reports and interviews indicate that a key reason for the rapid adoption and progress of the CBFM activity is the presence of community members with experience collecting and managing NTFPs. These communities are among the most advanced groups harvesting timber in the region.

USAID/Guinea began supporting forest management when key watersheds were threatened by conversion and wildfires set by herders, honey collectors, and bushmeat hunters. Important NTFPs in upland Guinea include wild fruits, cola nuts, bushmeat, and medicinal plants (especially chewsticks). In addition the forests contained valuable timber species (*Khaya sp.* and *Pterocarpus sp.*) and other products with potential economic market value including bamboo (Catterson et al 2001). The USAID CBFM projects in Guinea are extracting timber now, but the management framework is largely designed around the improved management of three watersheds (protection of services) for increased enterprise development from agriculture and NTFPs (Erdman 1996).

The market value of NTFPs frequently exceeds subsistence levels and can have a significant impact on local livelihoods.

Continuing with experiences from the Peten, for several generations local communities have been sustainably harvesting the natural gum chicle (*Manilkara zapota*), allspice berries (*Pimenta dioica*)



Thomas Fattori/Chemonics International

and the ornamental xate palm (*Chamaedorea elegans and C. oblongata*) collected for the floral industry. While timber is rapidly growing in relative importance, these three NTFPs alone provide a strong economic argument against converting the Peten forests to pastures for grazing or fields for agricultural commodity production. The viability of these products (plus other NTFPs and timber) will contribute greatly to the long-term conservation of the Maya Biosphere Reserve. Since NTFP management in the Peten is largely an individual activity, reliable data on extraction rates and revenue generation is not easy find (Tschinkel and Nittler 2000). However, one source notes that when taken together, the management of the three main NTFPs (chicle, allspice, and xate) employs about 7,000 people, and the total annual income generated from these NTFPs is about $47 million (UNDP Equator Initiative).

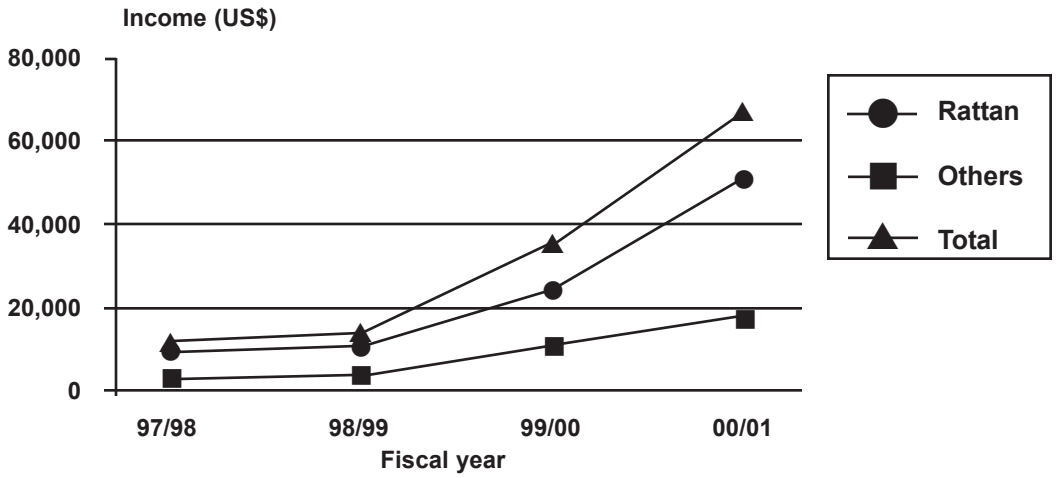
Of all the target countries, USAID Nepal has developed the most comprehensive and productive program in relation to NTFPs. NTFPs in Nepal are now widely recognized as important to local economic development and their management is vital to any forest management scheme. USAID recognized this early and helped foster inclusion of NTFPs in forestry education, forest research programs, and forest policy development. The Forest-Based Enterprise Development Project (Ban Udyam), funded under the Biodiversity Support Program, is one of the few USAID-supported activities in the focus countries that has effectively linked the importance of NTFPs with poverty reduction strategies in rural areas. This project is a leader in this field in Nepal, and it is being replicated in other parts of the country by other forestry sector donors. The Nepalese development community (government, donors, NGOs) has also recognized that the promotion and sustainable management of NTFPs can be effective in poverty reduction.

Enterprise development, especially through USAID's investments in the Environment and Forest Enterprise Activity (EFEA), are now a cornerstone of USAID Nepal's natural resource programs. With EFEA increases in NTFP production have been impressive and associated income generation has been a significant boost to the local economy. From July 1999 to July 2000 almost 12,500 metric tons of forest products were sold under EFEA, which represents a cash value of $3.62 million. NTFPs accounted for $3.52 million of this, or 97 percent of all revenue generated from forest products (3 percent came from timber) (New Era 2000).

As an example, Figure 1 demonstrates how much one medium-sized forestry user group can earn from rattan in one year. Rattan is providing the Sati Karnali Community Forest User Groups quick and reliable returns and has become the major source of income for the users. In addition to rattan, the Sati Karnali group uses thatch grass, honey, fencing materials, poles fodder, and

dead wood from the forest. The returns from rattan are especially significant because it demonstrates that traditional uses of forests can have market product value that is greater than timber.

Fig. 1: Income generation from rattan and other forest products in Sati Karnali Community Forest.



Extractive wildlife utilization (hunting and collection) can also provide long-term income generating opportunities when sustainably managed. This practice has been repeatedly demonstrated for woodlands and savannas in east, central and southern Africa for more than a decade (although not included as part of this study, a few references have been included in the database). Within the context of forests, wildlife utilization is considerably less developed than for savanna parks, however there is potential to responsibly expand this sector. An example taken from a non-target country is the Arabuko-Sokoke National Park of Kenya where BirdLife International has focused on the sustainable utilization of forest butterflies for export. Communities raise the pupae, which are then exported to markets in Europe. In 1994 (the first year of exports) earnings were about $16,000. By 2000 this number grew to approximately $104,000 and involved about 8 self-help groups that benefit 500 farmers (ASFM 2000). This appears to be a sustainable enterprise with great income generation potential that may be replicated elsewhere. USAID/Kenya, which is in the process of developing a forestry program, has been requested by the Kenya Wildlife Service and Birdlife International to provide support to project activities associated with Arabuko-Sokoke (Clausen et al 2001).

Wildlife Conservation Society has recently helped two communities establish turkey hunting concessions(http://www.lovettwilliams.com/camps_ocellated2.html), been conducting population research, and developing management systems for commercial and sport game hunting in the Peten of Guatemala. At least two community concessions have begun guided safaris to hunt wild turkey within community concessions USAID has been supporting. The project aims to expand income options for communities with limited non-timber options (Richard Mancilla, personal comment).

In the countries examined by this study, USAID has refrained from engaging in economic, environmental, or legal issues associated with mining activities being conducted in forest areas.

Forests, minerals, and economic development have been neglected but remain inextricably linked in most focus countries. Mineral deposits (gold, coltan, diamonds, sapphires, and others) buried

Prunus Africana: A Dwindling Opportunity

Prunus Africana popularly known as Pygeum is a large evergreen tree that grows in the Afromontane regions of Africa and Madagascar. Pygeum is an international priority for conservation and sustainable development because of fear of overexploitation. The bark of the Pygeum tree is a highly sought after commodity by pharmaceutical companies as it is a key ingredient in the manufacture of a drug used in treating prostrate cancer. Because nearly 60 percent of men over 50 in Europe and the United States suffer from prostate related diseases, there is a huge potential market for the sustained management of Pygeum. It is also popularly thought to combat male hair loss. Pygeum bark can sell for more than $60 a kilogram.

Annual trade in Pygeum is estimated at more than US$220 million a year. The bark is exported mainly to Europe and demand has been steadily growing. Increased demand has lead to the listing of Pygeum on the list of threatened species, and prompted international groups to call for its more sustainable management. The sustainable management and the development of value-added processing within established supply chains could lead to sustained rural livelihoods, future sources for the pharmaceutical product, and ecosystem improvements of montane areas in Africa.

under forest soils within USAID project sites represent a significant potential source of income and revenue for communities where they are mined. But while the immediate consequences of mining on local economies may be initially positive, the displacement, pollution, and influx of illegal activities and potential spread of disease (such as TB and HIV/AIDS) quickly overshadow any benefits. Unfortunately, usually only a small percentage of the minerals total value flows back to those groups and communities that help mine these resources; more often the real profits rest with the exporters and traders who are usually not from the area. Even worse, these commodities have been used to purchase arms and fuel conflict and instability in areas where they are found (Liberia, DRC, Indonesia, Cambodia, Sierra Leone) (Paulwels 2003).

Gold, sapphire, diamonds, and coltan (as well as other minerals) are mined in many protected areas in all USAID focus countries (and many others). Gold and coltan are mined in most of the USAID target forests located in Rwanda, Burundi, and Uganda (these minerals are also mined in neighboring DRC - some in and around CARPE priority landscape forests). Gold and diamonds are mined in forest areas of Guinea (near USAID project sites) as well as in Sierra Leone and Liberia. Sapphire and gold are mined in USAID forest sites in Madagascar as well. Petroleum exploration and extraction have been important influences in many forests in Asia and Latin America and current activities in Guatemala, Indonesia, and Uganda are occurring in forests areas receiving USAID support.

Mining operations are usually designed around simple technologies and inexpensive labor, which usually translates into severe ecological and social damage to the site being exploited. Miners, often from other ethnic groups or geographic areas, set up semi-permanent camps and use the natural forest for fuelwood and to poach bushmeat (see reports related to Nyungwe forest reserve Rwanda, Kabira National Park Burundi, Bwindi Impenetrable National Park Uganda, andaranan Special Reserve Madagascar). USAID has done little work in relation to mining and forest management. Most field examples contain a wealth of information that could be used to develop policy at the national and local levels. Studies and analysis could focus on appropriate mining technologies, markets, impacts on livelihoods, and conflict.

D. Environmental Services

Developed and emerging world economies alike would cease to exist without the ecological services and support systems tied directly to forests. All USAID project forests produce a wealth of services for local and sometimes regional communities. These forests provide access to water for drinking, cooking, sanitation, and irrigation. They also control erosion (from both water and wind), add to soil fertility and nutrient recycling, conserve genetic diversity (source for many pharmaceuticals), moderate climate change, and are sites of recreational, spiritual, and cultural significance.

Although many local communities are aware of the ecological service values associated with their forests, quantifying these values is challenging given current market-driven development practices. These services are not accurately captured in commercial markets, and are therefore often ignored or undervalued when activities are planned. Not including the value of forest services often leads to missed opportunities and unrealistic assumptions about the sustainability and vulnerability of livelihood systems. These services in many ways are the source of materials and energy needed to sustain and improve livelihoods.

Until recently, valuing ecological services has been mainly an undertaking for academics, and most of the work in this area has been theoretical and analytical (Dalton and Cobourn 2003). Increasingly, donor agencies and international NGOs (World Bank, The Nature Conservancy, WWF, The World Conservation Union, Forest Trends and others) have completed field studies that provide total value estimates for forest resources (on a local level) that can be replicated in other areas or used as a model for program planning and implementation. This information, though important for development planning, is rarely included in the GDP estimates and national budgets (Costanza, et.al., 1997).

Valuation studies that take into account local needs and behaviors toward forest environment should integrate a participatory diagnosis of local preferences, which will help avoid attractive speculations and generalizations that can easily be misinterpreted or even abused. Although detailed comprehensive presentations remain undesirable to decision makers, a cautious and responsible framing and interpretation of forest valuation studies is essential (Wunder and Shiel 2003).

USAID has done limited work in developing systems to actually apply the estimated value of environmental services provided by forests.

Within the target countries, only the USAID/Indonesia conducted economic valuations of forest resources under the NRM program. One activity focused on a participatory workshop that was conducted on the Togean Islands (Central Sulawesi) to determine the relative economic valuation of agricultural production, forestry, tourism, and traditional fisheries (Cannon 1999) and to review trade-offs between activities. The workshop helped to determine the impacts of agricultural production, logging, and tourism on the predominant livelihood, fishing. This valuation exercise recommended not logging or clearing areas for commercial agricultural production. Instead, tourism was proposed as compatible with the fishing livelihoods and the logging proposal was not pursued. In this sense, the valuation exercise was not only used for land management, but also as a way to reinforce community cohesion. Another USAID-funded study compared the economic results of various land-use practices in East Kalimantan, including customary forest management systems with forest conversion to oil palm plantations. The paper con-

cluded that because local people received a range of direct returns from the customary management system, most of them preferred this system to oil plantations (NRMP, Konsorsium Sistem Hutan Kerakyatan 2000).

USAID support to Costa Rica is the only program that included efforts to directly compensate owners of natural forests for the conservation of ecological services. The services considered (and valued) included carbon fixation, hydrology, biodiversity conservation, and aesthetics. This is also one of the only mission programs that has funded any activity related to valuing these services (Jantzi et al. 1997, Jantzi et al. 1999) and by most accounts, the project is a remarkable success that continues today, more than five years after the Costa Rican mission has closed its doors.

USAID/Madagascar's new forestry program design also includes provisions for factoring in the value of select forest services, including climate change. The current official U.S. government position on climate change and spending priorities has made this issue a lower priority for USAID. There is little ongoing USAID bilateral program-funded field work that involves forest management and climate change. The issue is still a major concern for many other nations.

Although USAID has not actively supported efforts to capture the values of environmental services associated with forests (for USAID's own internal planning), several projects that have worked with USAID have initiated field-level activities to calculate these values.

In the Philippines, the "watershed provinces" of Nueva Viscaya and Quirino (provinces that have received USAID support for democracy and governance and CBFM - see Philippine Country Profile) have taken it upon themselves to establish plans where downstream users would pay a fee that would be used to compensate the communities living in the provinces who are directly responsible for conserving the watershed forests upstream. Local officials are now negotiating the agreements with those from neighboring provinces and this system should be operational in the near future.

In the West African CBFM projects, user fees are being charged by community organizations for access to wells and other water points within community forests. In all three West African countries visited, user fees for grazing, planting of agricultural tree crops within the natural forests, and fuelwood collection have already been established. A percentage of the funds are set aside for forest protection and community development.

The examples above indicate that communities and local governments will make efforts to capture some of the values that result from improved conservation whether or not this is initiated by a donor activity. The potential to better quantify these values and increase returns to communities is great, especially if the donor and NGO community work with the communities and other stakeholders to better articulate the true value of the resource and potential for development benefits (ARD 2001). Up until now this work has been inadequate, given the potential benefits this offers in terms of both environmental conservation and efforts to improve local livelihoods and reward forest stewardship.

Ecotourism Services and Forest Benefits

Ecotourism is a large part of international tourism, the world's largest growth industry (Vieta, F 1999). By the end of the 1990s, Africa was the fastest growing region for international tourism in the global economy. International tourism dropped off in most parts of the world mainly

because of slumping economies and the terrorist attack on the United States on September 11, 2001. This year was the first that international tourism did not record positive growth since 1982. The only regions with positive growth for 2001 were Africa (3.8 percent) and East Asia, and the Pacific (5.5 percent). Tourism is slowly recovering from the low in 2001; most growth is anticipated in Europe, the Pacific, and Africa (WTO 2002).

Forest-based ecotourism associated with USAID projects has generated revenue, increased incomes, and promoted local development. Once established, it has demonstrated a strong ability to aid in the area's recovery from civil strife and instability after order has been restored.

In East/Central Africa ecotourism development has been an important part of all USAID natural resource management programs. Much of it was targeted at the wildlife safaris within savanna and woodland parks of Kenya, Tanzania, and Uganda. A significant investment was also made in the forest areas of Uganda, Rwanda, and Burundi, most developed around primate viewing (e.g., gorillas in Uganda and Rwanda, chimpanzees in Uganda, various species of monkeys in both countries). All of these forest area programs included the development of trails for nature walks, while some have volcano climbing (Uganda and Rwanda), and one features glacier climbing (Rwenzori Mountains National Park).

Prior to the Rwanda genocide in 1994, tourism in that country was growing rapidly. Much of this was a direct result of USAID support to forest conservation initiatives, and tourism receipts eventually become one of the main sources of foreign exchange (Chew 1990). Tourist receipts for gorilla viewing alone amounted to $1 million annually in permit sales. It was estimated that an additional $3 million entered Rwanda annually for services associated with gorilla tourism (Erdman 1993). Although tourism receipts dropped dramatically during the years following the genocide and civil war, they have begun to pick up once again. Similarly, in 1987 tourism was developed in the Nyungwe Forest Reserve with USAID support. At that time tourists visiting Nyungwe numbered in the hundreds. Within one year that number grew to more than 3,000 visitors. That number continued to grow until 1994. Visitors have been returning to Nyungwe in increasing numbers during the past several years.

In the case of Bwindi Impenetrable National Park in Uganda, in early 1991 there were no revenues from tourism despite the fact that there were a number of resident unhabituated gorilla families (and neighboring Rwanda and Congo were benefiting from gorilla tourism). Later that year, the park began a program of gorilla habituation with USAID support. It took less than three years for the park to become the most visited tourist destination in Uganda. In 1993 more than 1,300 tourists came to Bwindi and by 1998 the number had grown to about 3,500. The number of tourists was deemed by primatologists to be correct for sustainable viewing, and the high cost made this small number of actual tourists an extremely lucrative revenue stream. In 1999 eight tourists were kidnapped and murdered by Interahamwe rebels (Rwandans who organized the genocide). Tourist numbers declined sharply after that tragedy, but by 2000, more than 4,000 tourists visited Bwindi and income from gorilla viewing tourist permits alone rose to US $700,000. Revenues generated at Bwindi comprise the majority of revenues that accrue to the Uganda Wildlife Authority (UWA). As some UWA personnel noted, "Bwindi is carrying the other nine parks" in terms of revenue and covering operational costs. In a relatively short period of time, Bwindi replaced Uganda's other national parks (that were among Africa's most famous in the 1960s) as the number one destination because of an internationally known endangered species, the mountain gorilla.

Additional benefits accrue to community service providers for gorilla visits. Buhoma is the site for gorilla tourism at Bwindi. It is an isolated community on the border of the DRC where there was little economic activity prior to gorilla tourism. In 1993, with assistance from the U.S. Peace Corps, the Buhoma Community Campground Development Association (BCCDA) was formed to provide tourist services and community development. From 1993 through 2000 the group took in more $140,000. The group has also been provided with a percentage of park entrance fees. Funds were used to construct 13 school classrooms, 6 health clinics and rehabilitate 3 feeder roads. A review of development activities around Bwindi noted that the BCCDA was particularly successful in community tourism enterprise development. (Hoke 2000). USAID support for conservation work in this region dating back to the late 1980s and continuing throughout the 1990s is credited with helping to create the conditions necessary for this development and growth.

Following many years of civil war, Guatemala's recent stability is leading to additional interest in the tourism sector. In the mid 1990's community based ecotourism was being suggested for support to the USAID mission based on site development and potential drawn from six case studies in Mexico, Belize, and Guatemala (Beavers 1995). This recommendation was later expanded in a planning document to design the mission's Environment/Natural Resource strategic objective for the period 1999-2005 (MacFarland 1999). Tourist numbers to the Peten have grown considerably during the past several years. Tikal National Park, the historical center of the Mayan civilization, draws a steady stream of international visitors.

Ecotourism often provides unexpected secondary benefits.

Ecotourism is sometimes criticized because of the perception that it benefits relatively few number of community members. What critics frequently overlook is that in time many relatively small ecotourism programs eventually expand and impact a greater percentage of the populations (Sproule 1996). In forested areas the predominance of small hotels and customized "unique" tour packages tends to increase service: guest ratios, purchase foodstuffs and dry-good locally having a multiplier well beyond typical safari operations and beach destinations (Odum 1998). This can happen rapidly, as in the cases of the primate viewing programs in Rwanda (Virunga Volcanoes, Nyungwe Forest Reserve) and Uganda (Bwindi National Park, Kibale National Park). In addition to the primate viewing programs, this development has been demonstrated in all of the sites listed in this section. Moreover, the development of these programs is often accompanied by an increased interest in the area from outside investors, national leaders, and members of the international community (CDIE, 1996).

The educational value of ecotourism is frequently overlooked. An established program that draws a steady stream of local, regional, and international visitors who learn about that site, its overall importance becomes more widely recognized. As an example, in the late 1970s gorilla tourism was just being tested in Eastern DRC. At that same time the Rwandan government had plans to convert the forests of Volcano Park (home of the mountain gorillas) into agricultural commodity production zones. By establishing gorilla tourism in Volcano Park the value of conserving the forest and its unique biodiversity became apparent to local communities and political leaders alike. These efforts conserved the park and established a system to profit from sustainable biodiversity use.. Ecotourism development has had a similar effect on most other USAID projects

Most ongoing ecotourism programs suffer from a lack of diversified activities.

An objective of most tourism programs is to keep the visitors in the target area for as many days as possible. The longer they stay, the more money they spend, and presumably, the more money flows to the local communities. All ecotourism programs visited in the focus countries cited the need to diversify the attractions so that visitors would stay longer at a particular site. For the Uganda and Rwanda programs, diversification includes improving other attractions that complement primate visitation (nature hikes, birding, backpacking, linking with other area attractions, etc.). For Guatemalans it means some of the same complementary activities as well as developing some of the other Mayan sites in the area.

E. Enabling Institutional Elements

Experiences from USAID forestry field projects in the 1970s and 1980s led to changes in weaknesses in national level forestry policies and legislation.

In the 1970s and 1980s USAID forestry programs were largely productivity-oriented field-based operations. During the 1980s, the importance of social and political dimensions in forestry began to gain greater attention and application. Increasingly it became clear that project success required a keen understanding of local policies and regulations (formal and informal) and regular coordination and communication among key stakeholders. With more community oriented approaches to forest management, became clear that national level policies and laws often did not adequately reflect the realities in the field in terms of community resource management patterns.

A 1996 assessment of USAID support for forest stewardship (Church and Laarman 1996), which examined forestry projects from 1970s and 1980s in six countries, noted that results from the field led all projects and missions (with the exception of Gambia) to become more directly involved with policy and legislative reform. The same study notes that in both Nepal and the Philippines, USAID's projects helped contribute to the development of forestry master plans. The USAID/Philippines Rainfed Resource Development Project was especially effective in this regard. In Nepal experiences gained from the Rapti Area Development Project and Resource Conservation and Utilization Project allowed USAID to move community forest management and forest private enterprise development to the forefront of the policy and legislative reform process (Chew 1990).

Most of the other focus countries showed similar patterns of field-level experience influencing policy reform. USAID watershed projects in Indonesia helped shape policy with regard to the development of national level watershed planning, and the establishment of district level reforestation and soil conservation services throughout the country (Ketut, personal communication, Cituanduy I and II projects, Upland Agriculture and Conservation Project). USAID-supported biodiversity conservation initiatives associated with protected areas in East/Central Africa have also led to policy reform geared toward increasing community benefits from natural resources and promoting co-management strategies (In Rwanda, Chew 1990, Uganda through the Action Program for the Environment).

In the 1990s, good progress was made in relation to national forest policy reform, decentralization, and CBFM.

Today, the focus countries have either completed or are in the process of completing the policies and laws that support the decentralization of natural resource management, including forest

management. In the absence of policies and laws that explicitly address forestry issues, some countries have taken advantage of reform related to land use, tenure, and local government as a way to bring about more sustainable forest resource use through more definition for resource access rights.

Both the Philippines and Indonesia have received considerable USAID support for policy reform. Much of the work originally defined by the objectives in the project papers for the NRM programs in both countries is complete. In the case of the Philippines, perhaps USAID's greatest policy achievement came in 1996 when the government passed Executive Order (EO) 263. It declares CBFM as "the national strategy for managing forest resources in the Philippines." EO 263 was drafted by Department of Natural Resources and the USAID technical assistance team (Bisson et al 1997). Although the policy has been signed by the president and adopted, the Sustainable Forest Management Act, which contains provisions to facilitate the CBFM process, has yet to be ratified by Congress. The act is lacks support from some within government and the private sector, and has been blocked in Congress. This opposition to the act has been a major setback for CBFM and it has derailed the process in some regions. Elsewhere, communities are moving ahead with CBFM regardless of the Act's status.

Although Indonesia's national level forest policy and legislation are largely in place, other sector policies targeting economic growth are providing incentives for unsustainable forest resource use (MacFarland 1999). Harmonizing macro-level policy is a priority for the donors and forestry ministry officials. At the local government level authority is being decentralized (which has happened rapidly and often without proper preparation), and confusion and conflict between the various levels of local government occurs often. Communities are caught between several layers of government (which are sometimes in opposition to each other) and the forest industry. Regardless of the achievements at the national level from USAID's program support, it is clear that more work needs to be undertaken in the field in relation to local policy formulation (Yaeger et al 2001). For these reasons, attention is now turning toward local-level policies, laws and regulations to facilitate the decentralization process.

Although not the primary donor in Nepalese forestry, USAID has made two significant contributions: the development of a national forestry master plan (as indicated above) and perhaps more importantly, the drafting and passage of the Forest Act of 1993, which gives user groups legal status to sell and distribute forest products and effectively decentralizes forest management (Church and Laarman 1996).

Both Guinea and The Gambia have essentially completed their forest policy work. They have developed an effective political and legislative framework that is responsive to local government, communities, and private sector investment. They have accomplished this work by using field-level experiences to lead policy reform. Even Senegal, historically a highly centralized nation, is moving forward with a forest management decentralization program by integrating field experience into the national level dialogue. USAID was not a lead donor in any of these three countries for policy reform; however, experience from USAID field projects drawn from community experiences with natural resource management have been effectively channeled into the policy dialogue and development process in all countries, to varying degrees (See Volume Three, Guinea, The Gambia, and Senegal Country Profiles).

USAID policy support in the East and Central African countries focused more on environmental policy development and forest policy as it relates to protected areas. In Rwanda prior to the

1990-1994 civil war, USAID effectively provided technical assistance to Rwanda for the preparation and implementation of a National Environmental Action Plan (NEAP) (DeLucco 1995). Field-level assistance from USAID grantees in the Virunga National Park and Nyungwe Forest Reserve also led to policy changes regarding community conservation and ecotourism development associated with forests. In Uganda USAID was a principle supporter of the NEAP process, which has led to policy reform for forests and protected areas. USAID support to project activities in Bwindi and Mgahinga have also led to the development of cutting-edge national park policies that allow for extractive utilization of select forest products in well-defined zones.

Despite these promising developments, countries that have experienced significant and prolonged civil wars are the least advanced in relation to forest policy and legal reform. Of the focus countries this includes Uganda, Rwanda, Burundi, and Guatemala.

Rwanda and Guatemala are in similar stages of policy development. Both are recovering from violent civil wars that ended less than 10 years ago, and both countries are in the early stages of their decentralization programs. At the local level, Guatemala is advancing by promoting community forest concessions using existing legislation. In Rwanda, virtually all of the remaining forest resources are in protected areas. Although the central government is planning to move ahead with decentralizing government (and the management of natural resources), the status of the forest estate is not likely to change. Access to these protected areas by communities will likely increase, but the natural forests will remain part of the national domain. Burundi has been in a violent civil war since 1993. Although decentralization is discussed, the reality is that nothing will happen until there is peace and stability.

In the absence of a sound forest policy framework, field activities can still make considerable progress in terms of achieving objectives at the local level and influencing subsequent policy development.

Few would dispute the statement that sound forest policy can help establish the conditions favoring optimal use of a critical natural resource for the greatest number of beneficiaries. There are, however, numerous examples from USAID natural forest management projects where activities have progressed very well in the absence of a supportive/responsive political framework. In fact, most of the field work conducted under early USAID projects took place in countries where forest policy was still tied to the view that forests are resources of the state to be managed by the state. Innovative projects that enjoyed good local relations with communities and their leaders could take calculated risks in an effort to test new approaches and techniques. These same projects were often in the forefront of meaningful development, which in turn gave them an opportunity to directly influence the policy reform debate. Guatemala's forestry program was undertaken without the benefit of a solid policy framework and the Bolivia program began with an obsolete framework that was eventually replaced with an updated forest code. Conversely, progress in the field has helped shepherd policy reform in both countries. Community forestry in the Philippines and Nepal made considerable advances before comprehensive policy reforms could catch up to ground-level activities.

The advancement of community forestry as a viable method for sustainable forest management in the late 1980s forced managers and policy makers to rethink the role of communities in relation to protected areas. This thinking in large part came from the realization that establishing efficient protection systems alone to conserve these critical sites would not be sufficient to guarantee their future. Within a relatively short time, protected area management agencies (national park services, wildlife services, forest departments, etc.) began to consider local communities as part

of the overall management equation. Community conservation and education specialists were added to the staff. The formation of user or advisory groups and associations, and participation in forest enterprise initiatives (buffer plantation exploitation, ecotourism work, etc.) improved communications and increased opportunities for enterprise development. All of the USAID-supported protected area management projects in East/Central Africa focus countries enjoyed some level of success because they were moving beyond the official boundaries established by policy at that time (either knowingly or unknowingly) by testing new approaches and methods.

E1. Government Administration and Management Agencies

Historically natural forest management in the focus countries has been the responsibility of government departments or agencies whose prime objective was to manage the forests for timber or critical environmental services (most notably watershed function). With the acceptance of the multiple-use management concepts and the advent of community forestry and biodiversity conservation, all focus country forestry agencies have undergone at least some institutional reform or restructuring at one time or another. A few implemented reforms smoothly with minimal disturbance at the ground level. Unfortunately, most have involved political infighting and a resistance to change.

Focus country forestry institutions with a long and significant history of timber exploitation were less likely to undertake significant reform.

Of the focus countries, forest agency reform has made the least progress in the Philippines and Indonesia. Philippine forestry is addressed in the Department of Environment and Natural Resources (DENR). Forestry is the largest program within DENR, and it has been the recipient of generous donor support (including USAID), especially for CBFM. DENR has been the lead agency in CBFM since its inception.

To accommodate CBFM, DENR developed a stated policy of transforming itself from a regulatory agency into a service-providing (demand-driven) institution. Despite extensive training programs and technical assistance to prepare the DENR for this change, progress has been slow, and it will not likely change any time soon given the current structure of the organization. As a result, communities, local governments, donors, and the private sector see DENR as much as an obstacle as a catalyst to CBFM and sustainable forestry in general (Gauld 2000). While DENR's CBFM team is effective in providing services and guidance to communities, DENR's overall structure is excessively bureaucratic, overstaffed, and highly centralized. Failures in Philippine CBFM can be directly traced to DENR more than any other group or organizations, government or nongovernmental. This will be difficult to change without significant institutional reform and restructuring. Management for forest protected areas is also retained in the DENR.

In Indonesia, the Ministry of Forestry in a difficult situation regarding reform, CBFM and protected area management because of policies within the military and ministries responsible for commerce, trade and economic development. USAID (and other donors through the Consultative Group for Indonesia) has worked closely with the Ministry of Forestry on institutional reform issues and currently supports the ministry's official stand, which opposes a government bailout for forest industry debt restructuring (measured in billions of U.S. dollars - see country profile). Unfortunately, the Indonesian military is extensively involved in the forest industry, and they are pressuring the government to restructure the debt. Protected forest areas are managed within this ministry and illegal logging in multiple-use forests and protected areas is commonplace. Collectively, the donors exert a significant amount of influence on Indonesia's

leaders, which could translate into forestry sector reforms. It is also noteworthy that Indonesia and the Philippines were ranked as first and second most corrupt countries in Southeast Asia for 2001 by Transparency International.

Generally, placing the most important forests (as measured by their watershed function, level of biodiversity, and CBFM potential) in an institution apart from the main forestry agency has led to better conservation of those forests and more rapid and meaningful institutional reform.

Largely as a result of uncontrolled illegal logging or forest conversion, some focus country forest agencies have had these important forest areas taken from their management structure and handed over to agencies with a more rigorous conservation mandate and usually better surveillance capabilities. This occurred in Guatemala, Rwanda, Burundi, and Uganda. In all cases, the conservation of these important forest areas improved as a result of being moved from the Forest Department to another agency as measured by the decline in illegal activities and deforestation. Other USAID countries where this occurred include Madagascar, Kenya, Tanzania, Cameroon, Ecuador, and Honduras, among others. In some cases the removal of key forest areas from forest departments was part of the process of creating an entirely new protected area organization. USAID supported the creation of new land management agencies were created in Guatemala, Burundi, and Madagascar. In the cases of Uganda, Kenya, and Rwanda, forest areas were added to existing protected area management agencies that had until that time only managed savanna game parks. USAID was directly involved with the changes in Uganda and Rwanda through project (lobbying officials, drafting proposals for government review) and non-project assistance (in Uganda grant conditionalities were to upgrade the conservation status of key forest reserves under the APE program).

In Indonesia and the Philippines protected areas have remained in the same agency and are among the most threatened of any focus country. National parks in Kalimantan are regularly logged despite media campaigns and pressure from the international community. Although much of the Philippines is already deforested, pressure is mounting in the more remote forest areas like Sierra Madre National Park in Luzon. Conservation efforts in this landscape have thus far been effective as measured by an overall reduction in illegal activities, but there have been recent reports of illegal logging taking place in close proximity to the park (personal communication with Artemio Antolin, Conservation International)

Agency reform has progressed more favorably in the rest of the focus countries, though issues remain. Despite an established policy framework (and in the case of Uganda, a strong decentralization of government program) forestry departments in both Senegal and Uganda have been slow to decentralize and devolve management responsibilities to local government and communities. Guinea, The Gambia, Guatemala, and Nepal have all made good progress in restructuring and retooling agencies responsible for promoting community benefits from natural forests. USAID support to the Nepalese forestry sector through long-term educational opportunities and technical assistance to the national forestry institute are in part responsible for progress in Nepal's community forestry program (Church 1995). Agency roles and responsibilities have also progressively evolved in relation to the management of the Mayan Biosphere Reserve in Guatemala (MacFarland 1999).

E2. Implementing Partners

The effectiveness of NGOs as project implementers and development partners varies considerably from country to country and among projects within countries.

The growth and influence of both international and national NGOs over the past several decades has been remarkable (in all sectors), in part due to donor support. Within the natural resource sector, USAID has provided grants to both international and national NGOs for natural forest management work in all focus countries. Most of the international NGOs that are recipients of USAID support either stress the conservation side of NRM or focus on the social and livelihood aspects of the program's target human populations. Regardless of orientation, most NGOs do try to incorporate elements and strategies that best address both objectives. Frequently, NGOs have worked together on a specific activity to complement each other.

Two examples taken from the focus countries represent the range of NGO effectiveness in natural forest management activities. In Nepal, the effectiveness of the NGOs in promoting CBFM has been viewed as one of, if not the main reason for the success of community forestry in that country. In the 1995 Center for Development Information and Evaluation case study of forestry in Nepal, the author wrote, "Once policy is set, the most efficient method of extending community forestry practices is through the use of NGOs. NGOs are effective ways for extending government community forestry programs. NGOs can provide the continuous support necessary to get the community forestry model firmly rooted in a community's pattern of resource utilization (Church 1995: 8)." The same report went on to note that, "USAID support to the community forestry program, particularly through NGO project implementation, has influenced the greater participation of women and disadvantaged groups in community decision-making about natural resource management (Church 1995: 8)." An earlier review of NGO effectiveness in Nepal noted that the main reason for their success is that they are better focused than other organizations and committed for the long term (Sowers 1994). The same report stressed the importance of donors staying with communities long enough to ensure capacity development and increase the chances for meaningful results. In this regard the author recommends a minimum of 10 years to assist this process.

A contrasting view on the efficaciousness of NGO interventions is taken from Guatemala (and elsewhere in Central America). In a USAID-funded retrospective assessment of what has worked and what has not in watershed management in Central America (Guatemala in particular) the author concluded that the NGOs' inability (or unwillingness) to address community needs on a watershed or landscape level rendered a great deal of their efforts ineffective (Tschinkel 2001).

In the focus countries, feedback on performance in promoting community benefits from natural forest management usually fell somewhere in between these two views, perhaps slightly on the more positive side. Many of the points made in both assessments were heard in all countries. One positive comment often heard focused on a NGO's "staying power" within a particular country regardless of donor funding cycles. As would be expected, the international and national conservation NGOs tended to be more effective in countries where forested protected areas are a large part of USAID's program (East/Central Africa, to a lesser degree, Indonesia). The more traditional development NGOs, were usually in the forefront of CBFM activities in the focus countries (Philippines, Nepal, West African countries). There are a considerable number of exceptions to this broad generalization, and both conservation and development NGOs frequently teamed together for a number of projects.

Generally contractors have continually worked in the areas of forest policy and institutional reform, forest economics, and forest enterprise development. As with NGOs, their level of effectiveness varies considerably between countries and projects.

While not as "explosive" in terms of numbers as NGOs, contractors have been deeply involved in USAID natural forest management activities during the period under review. In some regards, the number of contractors currently involved with USAID natural forest management programs actually contrasts with NGOs. During the 1970s, 1980s, and the early 1990s the number of contractors working for USAID in this area was considerably larger than the number active today. Much of this can be attributed to two factors: first, the advent of the macro indefinite quantity contract process which groups potential bidders into a handful of consortia (in an effort to streamline the process and more efficiently deliver services); and second, USAID funding priorities have shifted somewhat away from programs involved with natural forest management.

In the focus countries, contractors are generally viewed as a means of providing rapid and effective technical assistance in the fields of policy, legislation, economics, and enterprise development. As natural forest management programs address a range of issues and disciplines, contractors are often able to quickly procure the needed services from a broad pool of expertise. Contractors are also frequently called upon to conduct project or program evaluations for USAID natural forest management activities. Whereas NGOs and other USAID partners are often assessed for effectiveness as a group (as noted in the two critiques presented in the preceding section), this type of collective evaluation rarely happens for contractors involved in natural forest management. Contractor effectiveness is mostly evaluated on a contract-to-contract basis. It is also worth noting that increasingly, contractors and NGOs have been teaming up to implement USAID natural forest management programs (many have teamed up within the context of the IQC consortia process noted above). This institutional arrangement has become more common since the early to mid 1990s.

Criticism of contractors heard in the field focused on three areas: first, the high costs for services; second, the tendency to move out of a country once donor funding ends; and conversely, the third criticism that some contractors stay too long on the same project. The "high cost for service issue" was raised in almost all cases when a contractor failed to provide a satisfactory product or service. It should also be noted that costs were rarely mentioned when the mission and the host agency were pleased with level of effort and final product provided by the contractor.

The second issue that contractors do not remain in country once the project ends was raised mostly by host country agency representatives or national experts that had worked with or for a company at one time or another. It was perceived as a loss of valuable human capital. It was more often mentioned in a positive context as a regret that a particular company that performed well "closed up shop" when project funding ended. The third criticism of staying too long was made in relation to companies that managed to win a series of successive contracts performed well for a number of years, but the implication in that criticism is that the contractors appeared to "run out of new ideas" or innovative approaches at certain stages of program implementation.

E3. Donor Coordination

Although far from perfect, forestry donor coordination and communications in the focus countries has progressively increased and improved since the late 1970s.

At the field level, during the 1970s and 1980s many donors worked in relative isolation in the natural forest management sector, each following their own programs and mission objectives. To

provide a partial sense of trends at that time, in addition to USAID, the Swiss (Intercooperation Swiss) were active in Rwanda (as well as Madagascar and Peru), the British and Norwegians (ODA/DfID, NORAD) in Uganda; the French (Caisse Centrale de France) in Rwanda, Burundi, Senegal; and Germans (GTZ) in all West African countries and Indonesia. Add the World Bank, the European Community, and the United Nations to most of these countries, the need for close and regular collaboration on forestry issues quickly becomes apparent. Of course communications and a certain level of coordination did take place through the initiative of specific individuals and occasionally through the official auspices of the host government forestry agency.

Of the focus countries, nowhere is the importance of donor collaboration more important than in Indonesia. The Consultative Group for Indonesia (CGI) has been able to bring focus to the dramatic and desperate situation of Indonesia's forestry sector. Even with the impressive list of members, many within CGI are very frustrated at the lack of tangible response to their recommendations by the government. Nevertheless, at this point it appears that the CGI is the most promising and powerful means of influencing government to change policies and practices.

Other countries are also improving coordination through various mechanisms. In Uganda, although DfID has taken the lead on reforming and restructuring the Uganda Forest Department (in the process of becoming demand-driven service institution with parastatal status), USAID and other donors are members of an oversight advisory committee that serves to coordinate donor interventions. In the Mayan Biosphere Reserve, USAID is collaborating with an NGO that is organizing forest enterprise communities. While informal meetings and contacts will continue to provide much of the necessary information exchange, the more formal arrangements noted above will enhance the chances for sustaining forest management practices that optimize community benefits.

Forestry donor coordination in Nepal is also well developed and among the best of the focus countries. Government, donors, and other forestry sector stakeholders have developed a forestry forum that meets on an annual basis to discuss issues and problems facing the sector. The forum includes a "Forestry Sector Coordination Committee" that is chaired by the secretary of the Ministry of Forests and Soil Conservation. The forum also contains a number of issue-specific working groups.

E4. Peace Corps

Peace Corps forestry and natural resource management programs have greatly benefited USAID field-level activities.

Peace Corps has (or had) active forestry programs in all focus countries, with the exception of Indonesia. The level of collaboration between Peace Corps and USAID varied from country to country, in large part based on the willingness of in-country Peace Corps directors to coordinate activities with USAID. When both agencies are working on the same forest management programs or projects, USAID has been able to provide Peace Corps volunteers and their colleagues with support and technical assistance that may have otherwise been unavailable. Similarly, the fact that Peace Corps volunteers operate almost entirely at the field level makes them valuable sources of project support and guidance for USAID-financed activities. A separate, in-depth assessment of Peace Corps' role on USAID NRM projects should be conducted to provide clear guidelines both agencies on how collaboration can be strengthened.

Lessons Learned

1 For over a decade democracy, governance, decentralization and, more recently, poverty reduction and economic growth have been driving the overall development agenda for USAID and most other donors and host countries. As a result, forestry research funding is increasingly channeled towards the economic and social pillars (in relation to natural forest management). Long-term forest monitoring of productivity, health, and services provided to communities in the focus countries is work that USAID and other donors have been more hesitant to support.

With the exception of Indonesia, limited USAID support for forestry research is a reflection, in part, of the inadequate attention that these issues still receive in all of the focus countries. The direct links between healthy and productive forests and sustainable livelihoods are better understood today than they were in 1980. Each forest presents its own unique set of opportunities and constraints for development, and the quickest way to understand this dynamic is by establishing effective, yet affordable, monitoring systems that can capture these elements. Feedback obtained from the analysis of the information provided by these systems can then be used to establish more productive management approaches.

2 Maps and other products developed from the rapid advances in remote sensing, GIS, and related technologies not only serve critical planning and management needs but can also be effective educational and enterprise tools. Project activities in several focus countries demonstrate that remote sensing, GIS, and other information systems can have positive unanticipated spin-off affects. This usually occurs when the information and products are managed in an open and transparent fashion, and products are made available to the general public (as has been done in Uganda and Guatemala). Programs that strive to retain the maximum amount of information for their own purposes (by centralizing information storage and by making access difficult) minimize their ability to capitalize on other opportunities.

3 On-farm agroforestry, communal woodlots, and buffer zone plantations have decreased community pressure on natural forests and led to improved farm productivity and small-scale forest enterprises (private nurseries, sale of poles and fuelwood). Projects that employed strategies that were well adapted to the prevailing landscape and relied on a combination of applied research (rapidly field testing species to conditions), demonstration, on-farm trials and education, had a high chance of success. When employed as part of an overall natural forest conservation strategy, these activities are key reasons why USAID target forests were conserved.

4 Strengthening the relationship between government decentralization efforts and community management of forest resources can greatly enhance both initiatives. This relationship holds the potential to significantly foster community organization strengths, which in turn promotes transparency and the ability to effectively engage in resource-related enterprise activities. Through these and other efforts, decentralization is strengthened and community empowerment enhanced.

5 The relationship between environment and democratization programs at the mission level is generally not exploited. The cases of the Philippines and Nepal are exceptional relative to other missions. During interviews with other missions it was apparent that programs from the different offices had little knowledge about field-level activities and the potential to collaborate. At this time, there are more missed opportunities than synergy between these two related programs in most of the focus countries.

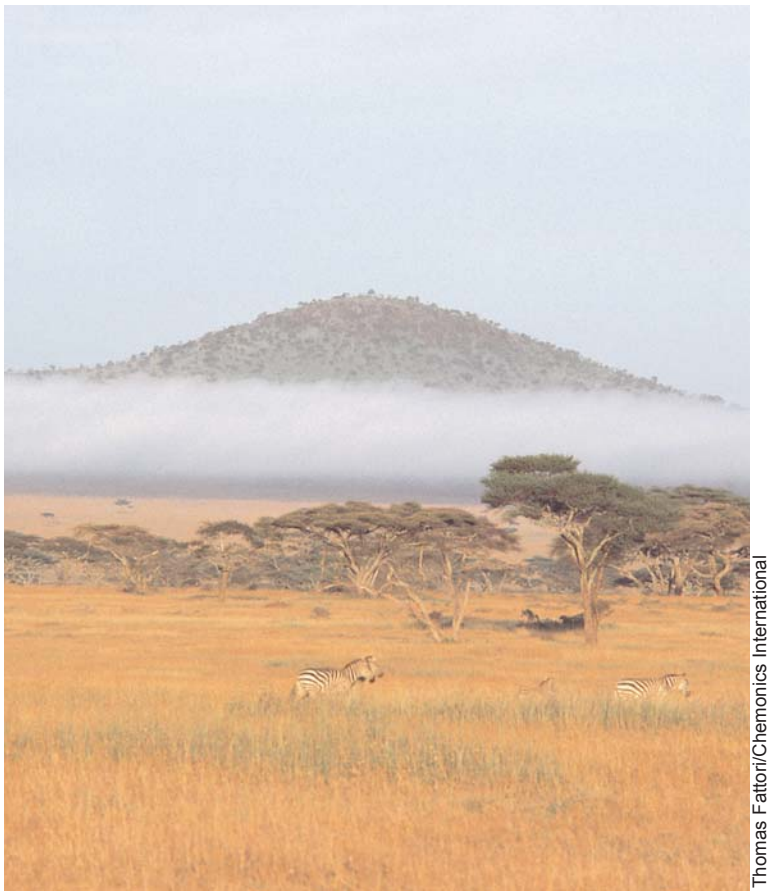
6 Most focus countries have multiple avenues for access to land and tenure arrangements for the decentralization of forest management (i.e., forest acts, land acts, ancestral acts, local government acts). This is a fundamental factor in maximizing community benefits. However, even when these land tenure instruments are employed, communities that have not been adequately prepared for these responsibilities are much more likely to struggle in their efforts to effectively manage and benefit from the resources. Furthermore, land transfers to local communities can often lead to violent conflict if the process is not transparent and well prepared.

7 Given global trends, land-use practices that focus on forests will continue to be at the crossroads of resource scarcity and conflict. With the exception of the Philippines, all focus countries have transboundary forest resources. Environmental degradation and resource liquidation that often accompany failed or failing states is not only a threat to the national population but its neighbors as well. The use or control of forest resources is directly related to past and ongoing conflicts in all focus countries. The nature and extent of environmental damage as a result of ongoing conflict will have a great impact on the chances of avoiding conflict at a future date. In most cases, when communities are empowered to manage their own forests, the likelihood of conflict decreases. Also, and perhaps equally important, when communities are responsible for the conservation and management of their forests, it is much more difficult for rebel groups or other assailants to use those areas to perpetuate conflict and instability or to harvest the forest resources to support their fight.

8 Most USAID natural forest management programs do not adequately address ethnic and community diversity issues in relation to development constraints and opportunities. This is especially true in relation to forest groups whose culture and livelihoods differ greatly from the rest of society and are usually assigned lower caste status. If current patterns continue, the cultures of forest-based communities will be assimilated into general society and important traditional knowledge will be lost. Little is being done at the local or international level to prevent this from happening, although advocacy groups have become more vocal recently in bringing attention to this crisis. Conservation groups will have to justify or modify the effect their policies are having on forest groups. The impact of USAID development programs suffers when social landscape elements are not adequately incorporated into design work.

9 Immigrant groups are weak in these areas as well. Both the organizational and technical skills inherent to the indigenous communities can increase their chances to take on forest management responsibilities when their limitations are well understood. Traditional organization skills may not be the most appropriate, however, when applied to market-driven forest enterprise activities. Rather than promoting the most qualified, many communities may opt to encourage those who have lesser skills but more immediate needs.

Immigrant and indigenous groups usually need more intensive training and time to prepare them for CBFM and similar productive enterprises. The fact that forest groups lack a broad range of skills to compete in general society means that donor programs need to focus on training programs over long time periods. If assessed in a proper framework, inclusion of forest groups in project implementation could benefit all parties. The process of empowering these communities takes years. When NGOs, donors, and government agencies demonstrate patience and support, communities evolve from being passive recipients of assistance to actively taking charge of their own development needs.



Thomas Fattori/Chemonics International

10 CBFM activities in timber resource management have not consistently engaged market forces to improve livelihoods. Relative to other economic sectors, such as agriculture, USAID forestry activities have not benefited from similar levels of support to promote linkages between communities, markets, and the private sector in most of the target countries. USAID could increase the value and viability of community benefits from timber enterprise activities by focusing on the common commercial forestry interests of communities, local governments and the private sector, and by increasing community-level business skills. While USAID has been actively working with communities and government (directly or through contractors and NGOs), the private forestry sector is frequently left out of the equation.

11 Costs to CBFM can only be effectively reduced when all stakeholders are actively engaged in the process. The three principle reasons for costs exceeding benefits are time and resources to develop community capacity, high transaction costs (and rents) from government, and illegal logging. While no one program will completely eliminate all of these constraints, bringing stakeholders together under formal and informal arrangements will help reduce transaction costs and illegal logging, while at the same time assisting communities to become better prepared for administering enterprise activities. NGOs and donors have an important facilitating role to play, which should include facilitating access to knowledge of markets.

12 In addition to substantial contributions at the household level, NTFPs represent a significant and largely untapped base for economic enterprise development. The potential is mainly focused on the "renewable" resources as they include a wide range of products, many of which can adapt rapidly to changing market conditions. Relative to other economic growth sectors (including timber), USAID has funded less work on values, market potential, and enterprise requirements of NTFPs. USAID has done minimal work on technologies and marketing systems that produce more efficient, equitable, and less damaging methods of exploiting mineral resources.

13 Apart from Indonesia, USAID has done little to foster a broader understanding of the vital role environmental services play in relation to sustainable economic growth. Emerging market livelihoods are ultimately dependent on maintaining the environmental services that are inextricably linked to healthy forest ecosystems. Leaving these values out of project- and program-level planning distorts the costs and benefits related to development work.

14 As population pressures increase and the demand for forest resources continues to grow, communities close to forest resources will increasingly demand compensation for conserving the resource. In some focus countries, communities and their representatives have taken it upon themselves to make adjustments in this regard. As civil societies take hold, these types of activities will be more commonplace where USAID is working with forest resources. Understanding and supporting this process proactively will help provide income and revenue to communities in a more efficient manner. This will also increase the chances of sustaining the resource for conservation and development objectives.

15 USAID project support for ecotourism associated with forest areas has not only been successful in generating income at the local level and revenue for development projects, but these programs have enjoyed remarkable political stability and have demonstrated a viability well beyond the life of donor assistance. Moreover, ecotourism has been an effective conservation education tool. However, most missions view ecotourism development as a "target of opportunity" related to biodiversity conservation, as opposed to being a potentially important part of their environmental conservation and economic growth program.

16 Sound forest policy and legislation are developed when field experiences drive the policy/legislative reform process. The focus countries with the policies best adapted to community needs developed them in a participatory manner (with all stakeholders), based on the results of field experience. Forest policy reform is a dynamic process that merits continuous attention with varying degrees of assistance at different times.

17 The chances of strengthening, replicating, and promoting successful CBFM initiatives may be severely limited if institutional reform in government does not follow findings from field-level developments and policy changes. Forestry agencies in all focus countries have adopted policies that call for de-emphasizing their policing and protection responsibilities while strengthening their ability to deliver services. This has been a difficult transformation for forestry agencies in most countries. The countries that have made the most progress are ones that have institutionally separated protected area forests and CBFM/community forestry from the traditional production and policing forestry programs.

18 Although donors do not always agree on practices and approaches, together they can be much more effective advocates for progressive voices in government and the private sector. Furthermore, given the current economic and political situation, donors will get more value from their investments if they work more closely with each other.

RECOMMENDATIONS

1 Actively promote methods and tools to integrate forestry into poverty reduction and food security strategies.

The role of forestry within agriculture systems and broader landscape management needs redefining and reemphasizing now. Despite enormous and largely successful investments that are a direct result of USAID's leadership, forestry still finds itself, to a great degree, on the "outside looking in." There are few, if any, investment options or risk management strategies that provide better immediate economic returns while providing proven and essential building blocks for sustainable development. Paradoxically, however, forestry within USAID still finds itself between agriculture and biodiversity conservation interests and, most often, part of neither.

In addition, USAID's Bureau of Economic Growth and Trade should share with policy makers and other professionals throughout the agency the existing literature and database on forest values and sustainable livelihoods and develop educational tools. These would be valuable tools for mission ENR personnel that would help them more fully integrate their programs with other Strategic Objectives. The same tools can also be given to host government agencies to assist in their efforts to appropriately include forestry in their national developmental agendas.

2 Program and project design should focus on site-specific solutions while working within the dominant landscape to enhance the chance for sustainable development

If there is one "take-home message" from this study and the exhaustive document review it would be that there is no one formula that can be applied worldwide to effectively promote community benefits from natural forests. To the contrary, the cultural and biophysical diversity contained in just the focus countries alone demonstrates that the best approach to designing and implementing meaningful activities is on a project-by-project, site-by-site, or enterprise-by-enterprise basis.

Les Valeurs des Forets Déjà Vu ?

A six-member panel was appointed by USAID in February 1984 to assess USAID's International Development Forestry Program. The panel included Robert L. Youngs, Frank H. Wadsworth, Norman E. Johnson, Hans M.Gregersen, Samuel H. Butterfield and 1970 Nobel Laureate Norman E. Brolaug. Their first conclusion was: "Forestry integrated with agriculture and village industry is a key to sustainable economic and social development." They went on to recommend that USAID:

- Intensify its forestry assistance;
- Use forestry assistance to improve the sustainable productivity of land;, and
- Integrate forestry with agriculture and broader rural development.

These recommendations are still valid today.

The early investment required to develop a good working knowledge of the main elements (biophysical, social, economic, and institutional) of a particular area will pay dividends later on through efficient and effective project development. This also facilitates the process of matching the best available technologies and approaches to the prevailing conditions. To effectively capture these fundamental elements, a landscape approach at the appropriate scale for program planning, design, and monitoring is recommended.

A list of illustrative landscape elements to be considered and monitored for program design, implementation, and evaluation are listed below. The program design team composition should at the very least contain one expert for each element grouping (NRM specialist, development anthropologist, resource economist, project development specialist). Other recommended spe-

Illustrative Landscape Elements:

Biophysical. They could include landforms, drainage pattern, soil series, forests, wetland systems, or others. Most landscapes contain more than one of these features.

Social. Social elements include ethnicity, structure (kingdoms, clans), occupations, migration patterns, resource use, or one group's relation to another. Elements that form the social landscape can also be based on heterogeneity and diversity.

Resource Value. Links the biophysical and social by expanding on livelihood. The concept of Total Economic Valuation (TEV) should be used to get the most complete estimate of value for the resources in question. In addition to the direct and indirect uses, TEV includes the option value (future use of a resource), and the non-use value (valuing the resource simply because it exists).

Enabling conditions. Enabling conditions can be international (treaties, agreements, and conventions), national, and local (policies, legislation, institutions). Conflict or the potential for conflict is part of the enabling condition analysis. Enabling conditions also include considerations of previous investments and ongoing activities/projects.

cialists include a governance person and/or civil society specialist, and likely an agriculture systems specialist. This work should be conducted in a participatory manner with good representation from all stakeholders.

Step 1. Select the target landscape resource(s) to better managed (done in consultation with host government and local stakeholders (i.e., watershed, protected area, open access forest, wetland and associated forests, mangroves and estuaries, etc.)

Step 2. Select the landscape scale(s). There likely will be several smaller landscapes within the target landscape area.

Step 3. Within each landscape (at all levels), begin an initial zoning process (production areas, conservation areas, preservation areas, special use areas, historical/educational areas, culturally significant areas, etc.).

Step 4. Gather baseline data (ongoing during entire process).

Step 5. Complete zoning and begin design of appropriate development activities.

3 Transboundary programs should be developed both at the mission and regional office levels.

Forestry issues in Southeast Asia, the Congo Basin, West Africa, and the Maya Region highlight the fact that transboundary issues are critical to USAID development programs. Experience from the focus countries clearly demonstrates that the flow of people and resources across borders impacts each country profoundly. It also shows that when shared landscape resources (forests, lakes, watersheds) are managed differently, this too directly impacts livelihoods of communities and their abilities to develop as a society and a nation. While a thorough understanding of transboundary issues can help the mission provide assistance more effectively, this information is also invaluable in relation to analysis of conflict possibilities and resolution. Unfortunately, more often than not, personnel in one mission are often not aware of related activities in a neighboring country (that may even have a mission program).

Within each mission, the forestry office should take the lead in developing a transboundary program (with regional and EGAT assistance). Although it would be developed in forestry, the program should fall under one of the missions general development objectives (since transboundary issues affect economic growth, democracy and governance, health and education programs as well) and be closely coordinated with a regional office (who would be responsible for regional coordination).

4 USAID missions should improve systems to monitor the health and productivity of target forest areas.

Baselines need to be improved at the mission level so that progress and impact can be more effectively evaluated and monitored and activities appropriately designed. Two specific sets of activities are recommended:

- Continue to compile the best available information in terms of type, size, condition, growth, health, and services (including their values) associated with target forests. EGAT should help establish this system for country programs through a grant or contract with an appropriate institution.

- Research priorities for mission programs should include: indigenous knowledge and management systems; tree improvement; and forest management systems. EGAT, in collaboration with local research institutions, and CGIAR members (ICRAF and CIFOR) should help missions establish a research priority list for forestry within landscape management parameters.

5 The focus of USAID forestry resource assistance needs to be targeted at field-level activities (communities, local government, and the private sector)

Since the late 1980s, USAID forestry assistance has been heavily targeted toward policy reform. As a result, forest policy research has made great progress and the national policy frameworks have significantly improved in virtually all focus countries. However, field-level policy and application lags behind. Whereas the fieldwork of the 1970s and 1980s laid the groundwork for meaningful policy development and reform of the 1990s, the time has come in most countries to refocus energies and resources to locally applied development activities and policy. This in turn will lead the way in fine tuning national level policies needed to sustain productive activities. Obviously, the needs of each country vary to a degree, but the following guidelines are presented as a good starting point for USAID forestry program/project design at the mission level.

- For ground-level activities and depending on the site in question, use an integrated development approach that stresses demonstration work, on-farm trials, training and education, and pilot community enterprise activities with private sector linkages and demand driven extension services.

- To the greatest extent possible, integrate project work into the local government and/or community development plans.

- The majority of project/program funds should be directed toward field-level work.

6 USAID forestry activities should build upon local organizational capacity and traditions. Special consideration should be made to assess the capacity to manage enterprise activities.

This recommendation addresses issues related to cohesion/strength of communities and their capacity to manage activities. As indicated in the main body of the report, indigenous communities that have built upon their collective experience and shared cultural bonds have been able to progress more rapidly when forest access is secured and markets tapped. That said, it should be kept in mind that not all communities can or should try to internalize all management activities required to successfully manage forests as well as participate in complex forest product markets. Some points to remember in relation to capacity include:

- While requiring a considerable amount of time and patience, efforts to incorporate indigenous knowledge in program design will enhance the effectiveness of activities in the long run.

- Special development strategies need to be developed for marginalized groups;

- When working with forest groups, build on traditional resource access methods rather than supporting groups or policies that would exclude them from their forests.

- While communities may be the focus of development, often it is an actual forest enterprise - which may not necessarily include the entire community - that is the real engine of economic growth in a particular area.

- Communities will almost always need some level of technical assistance for activities that are difficult to undertake (i.e., use independent forest certification as an outsourcing option for some of the management considerations).

7 Increase knowledge sharing and field-level implementation of activities between forestry and democracy and governance programs.

In virtually every focus country, the links between the two sectors were obvious, and field-level conditions are well positioned to foster development in both areas. The ways and means of forest resource exploitation are invariably linked to either the resolution or prevention of conflict conditions and oftentimes are the driving forces behind conflict itself. However, apart from the Philippines and Nepal missions, the links and synergy between the two programs are underappreciated and underutilized.

Specifically, forestry program managers need to develop in collaboration with the democracy and governance office short "governance profiles" of key groups, organizations, and local government agencies in their target areas (ongoing projects) that can be shared and analyzed with the mission. The democracy and governance programs would take the lead in establishing the procedures and outline for the profiles. This information will ultimately benefit both programs and the exercise will bring coordination of the programs closer together. Also, ENR programs need to be directly involved in the mission level Conflict Vulnerability Assessments and should perhaps be conducted simultaneously with FAA Section 118/119 during strategic planning requirements.

8 Whenever possible, USAID programs should encourage greater community access and outright ownership to the forest resources

This could include transferring or sharing public equity through leasing, concessions, contracts and outright transfers; assuming community capacity is prepared for the transfer, are all vital to successfully jumpstarting sustainable CBNFM. Arrangements also should include greater community access to protected areas through stakeholder participation in planning and enterprise development (controlled utilization zones, ecotourism development, etc.). When forest resources demonstrate limited direct value initially to communities (e.g. timber, NTFPs, wildlife), endowments should be considered, and more attention to creating markets through longer investment cycles are required

9 Design and implement forestry programs within more realistic time frames.

Relative to other donors involved with international forestry programs, and despite the considerable progress to date, USAID has among the shortest time frames for committing resources to a program. Budgeting constraints and political realities allow most programs no more than a four- or five-year commitment. Fortunately, some programs are renewed after the initial phase, and in some cases, other donors have picked up where USAID has left off. Even so, careful attention needs to be paid to the design of all forestry-related programs so they can either be supported through a second phase of USAID funding or can be picked up by another donor.

10 Continue to develop the forestry information database through retrospective assessment and continued communications/collaboration with mission programs.

The fact that much of the documentation that was collected in the field came from personal libraries (because the mission no longer had copies of reports and studies) illustrates how quickly past experience and information is being lost. In this regard it is recommended that USAID undertake the following activities.

- Continue the work initiated in this study by archiving USAID experience and gleaning lessons learned from other missions to update this information regularly. Other countries recommended for a second round would include ongoing programs and places USAID no longer has an active program. Suggestions: Asia - Thailand, Sri Lanka, India, Africa - Ghana, Togo, Cameroon, Madagascar, DRC (and possibly one of the eastern/southern/ Miombo woodland countries: Zambia or Tanzania); LAC - Honduras and Ecuador or Peru.

- Develop forestry information dissemination plan. By quickly and effectively providing key partners with information (reports, maps, educational materials), they not only feel that they are getting valuable feedback from the donor agency but they also feel part of a mission team as well.

11 Increase USAID internal capacity to design and manage forestry by hiring more professionals with forestry and resource management backgrounds.

This is another recommendation from the 1985 six-member panel that is still relevant today. The list of specific recommendations from that same report includes crucial areas:

- Forest resource economics, policy, and management (policy largely completed, management needs additional attention);

- Soil and watershed conservation (not enough accomplished here, need to continue building on this); and

- Forestry education and training (formal education has shown to be effective, while training and awareness development still need to be refined).

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QUESTIONNAIRE

The following questions are structured around the four elements/components suggested during the Advisory Group meeting. There are other thematic divisions within each element/component.

Elements/Components and Associated Questions

I. Environment

A. Natural Forest Area

1. What is the total land area for the country by major ecosystem types?

2. What was the extent of the nation's forest estate in or around 1980?

- Total km² _____

- Km² by forest biome (list all forest biomes and estimated coverage);

- Km² by administrative classification (national parks, reserves, etc.);

3. What is the current extent of the nation's forest estate (or most recent estimate - note date)?

Total km²_____

- Km² by forest biome (same as no.1);

- Km² by administrative classification (same as no. 1, but note changes over this time)

4. What was the extent of the forest estate in 1980 where the Mission has implemented NFM-related activities?

- Total km² _____

- Km² by forest biome (list all forest biomes and estimated coverage);

- Km² by administrative classification (national parks, reserves, etc.);

5. What is the current estimate (or most recent) of the forest estate where the Mission has implemented NFM-related activities?

- Total km²_____

- Km² by forest biome (same as no.1);

- Km² by administrative classification (same as no. 1, but note changes over this time).

6. Which forests that have received USAID support have outstanding regional, national or local value and have been identified as critical parts of a larger landscape in relation to:

- Watersheds;

- Wetlands;

- Grasslands;

- Soil conservation;

- Biodiversity;

- Other feature.

List these forests (by name) and indicate what percentage (approximately) they represent of the total forest estate? Have they received a special national or international classification due to their value (Nature Reserve, World Heritage Site, Biosphere Reserve, etc.)?

7. Have there been natural events or catastrophes that have had a direct impact on the forestry sector? Explain.

B. Forest Conversion and Restoration

8. Please indicate the reasons for natural forest conversion (national basis) to other land uses (over the past 20 years) and list them in relative order of importance.

9. Estimate the total km^2 of natural forest that have been converted since 1980?

10. Estimate the total km^2 of natural forest restoration that has taken place since 1980?

11. Please indicate the reasons for any natural forest conversion in the USAID target forests to other land uses (over the past 20 years) and list them in relative order of importance.

12. Estimate the total km^2 of USAID supported natural forests that have been converted since 1980?

13. Estimate the total km^2 of USAID supported natural forest restoration that has taken place since 1980?

C. Biodiversity and Ecological Services

14. Have national research priorities adequately addressed USAID NFM activities? Explain.

15. Please note what biodiversity inventories (which floral and faunal groups) have been completed for each forest. Note gaps, if any.

16. Is there a system of permanent national forest inventory plots? If yes, are the plots associated or located within the USAID target forests? Please indicate the number of plots in forests supported by USAID.

17. Has there been a multi-dimensional assessment of forest carbon stocks? Explain what was measured and what still needs to be completed.

18. Has the water quality and quantity in USAID target forest areas changed in the last 20 years? Why?

19. Have NFM activities affected soil conservation in the USAID target forest areas during the past 20 years? How?

II. Social

Disaggregate all questions, whenever possible, by gender, age and ethnic group.

A. NFM Systems and Communities

1. Are there certain ethnic groups more likely to be associated with NFM than other groups? Indicate which ethnic groups, their relative population numbers (in general as well as density and distribution near forested areas) and associated forests.

2. What are the predominant traditional and historical NFM systems? Please list the NFM system, its major characteristics, geographic location and the time period(s) when it was (is) used

3. How have more "modern" NFM practices and technologies affected these systems? Please describe each example in terms of the modern practice/technology, the geographic area it was applied, impact on the forest, human group reaction (if any) and impact on group or group members.

4. Are traditional NFM systems negatively viewed by Government institutions responsible for forest management? Explain.

B. Tenure, Access and User Rights

5. What type of tenure exists for natural forest areas? Are the tenure systems clearly defined, and if so, by whom?

6. Is tenure for natural forests well documented? Where is the source of this documentation?

7. Are access and user rights to natural forest areas clearly defined? How is this done?

8. What are the systems/structures used to monitor and maintain access and user rights?

9. Is customary tenure and traditional access rights for natural forests clearly indicated in policy and legislation?

C. Awareness and Communications

10. What is the general level of understanding at the community level of national policies concerning natural forest management?

11. Is customary law concerning natural forest management (if and where it exists) reflected in the national legal system?

12. What is the general understanding at the community level of national laws concerning natural forest management?

13. Do communities understand the mandate of national institutions responsible for the management of natural forests?

14. Are there mechanisms/structures in place that promote communications between communities and institutions responsible for the management of natural forests? Are these mechanisms/structures working? Please explain.

D. Uses, Benefits and Capacity Building

15. What are the current community uses of natural forests? (differentiate by individual forests)

16. For consumptive uses, what kind of information is available for the current off-take rates (include estimates whenever available)?

17. In communities where NFM is practiced (at the USAID target forest level), what percentage of the community members are directly employed in forest related activities? Please list by forest and communities.

18. What kind of work are these people doing? Estimate the range of incomes from forestry-related work, and the percentage of the household income this represents.

19. For USAID target forests, what groups or individuals outside of the community have had an impact on NFM for that particular area? Please list by impact, forest and community.

20. How has AIDS affected communities involved in NFM?

21. What initiatives have been taken to strengthen the capacity of communities in NFM? Which ones have been more successful and why?

22. Have all USAID projects/programs in NFM related work contained the development of community capacity as an objective? In what ways has it been implemented? Which groups/individuals in the community have participated?

23. Indicate the most significant changes that have taken place (negative or positive) during the past 20 years to encourage community participation in NFM.

E. Conflict

24. Has there been a significant period of in-migration or out-migration into the project area over the past 20 years? If yes, how did this impact project implementation, and how did project implementation adapt or adjust to accommodate this (if at all)?

25. Has there been conflict over forest resources that have received USAID support? Explain. What groups are involved? How has this changed over the past 20 years?

26. Have forests receiving USAID support been used as a center or base for rebels, assailants or others promoting civil unrest? Explain.

III. Economics

Disaggregate by gender, age and ethnic group whenever possible.

1. How have macro economic factors affected the NFM project/program? (What are the impacts, if any, from hyperinflation, exchange rates, trade agreements - national and international, economic diversification, etc.)

2. Have there been trade agreements or embargoes that have directly affected the forestry sector during the past 20 years? Explain.

3. Provide the current estimated value to communities of forest products from forests receiving USAID support. Do this on individual forest and community basis. How has this changed over the past 20 years?

4. Have there been forest valuations carried out for any of the USAID target forests? Please explain what was assessed. What was the cost of the valuation and was it conducted by the public or private sector?

5. What are the gaps in the valuations carried out to date?

6. Have any forests in the country received a total value estimate (market, non-market values of goods and services)?

7. Has the recreation value of USAID target forests been assessed?

8. How has the flow of products and services from the USAID forests changed during the past 20 years? What are the main reasons for these changes? Please list for each forest.

9. Has there been an assessment of other potential products carried out in USAID forests?

10. Have there been feasibility analyses of the transport, marketing and processing of forest products from USAID target areas? Where are the gaps?

11. Have there been enterprise development activities initiated in association with forest products from USAID target forest areas? Please explain for each forest.

IV. Institutional

A. Management Plans

1. Have USAID supported forests used management plans? What kinds of plans were developed for each forest?

2. Were communities involved in the development of the management plan?

3. Are the plans comprehensive? Do they contain provisions for environmental impact assessment and mitigation; monitoring and evaluation; and conflict mitigation?

4. Did USAID project/program documents supporting NFM activities include provisions for community participation?

B. Management Technologies

5. What were the main NFM technologies utilized by USAID supported forests? (buffer zone establishment, research and inventory, soil conservation, agroforestry, conservation education, improved protection systems, enterprise development, ecotourism, etc.)

6. What are the chief strengths and weaknesses of technologies used for NFM programs, projects and activities supported by USAID? Please list by technology.

7. What other technologies could improve NFM activities on USAID supported projects/programs?

8. Have plantations and agroforestry initiatives been part of natural forest management strategy? How have communities been involved?

C. Monitoring

9. What are the principle threats to natural forests where USAID provided support?

10. How is the off-take of goods and services monitored for these forests? What data are used? How is it collected? Please list for each forest.

11. What is the overall assessment of boundary demarcation for the USAID target forests?

12. Are these forests zoned for different uses and protection levels?

13. Are any of the USAID supported forests part of a lager trans-boundary resource? If yes, please list the issues that are related to the management of each forest.

D. Policies, Laws and Institutions

12. Has there been civil unrest (war, civil war, disturbances in neighboring countries, etc.) during the past 20 years? If so, how (if at all) has the forestry sector been impacted?

13. Have political changes over the past 20 years had a direct impact on the forestry sector? Explain.

14. Has the government embarked on a decentralization of authority program during the past 20 years? How has this affected NFM?

15. Does the country have an approved and operational "poverty reduction strategy" or similar overarching development initiative? If so, is the forestry sector adequately addressed? Explain.

16. Do the current laws and policies allow or encourage communities to become involved in the management of natural forests? Explain.

17. Do the institutions responsible for forests have the capacity to enforce the law? Does this contrast with the situation 20 years ago?

18. Identify the principle strengths and weaknesses of institutions responsible for forest management. How has this situation changed over time (past 20 years)?

19. Do the institutions have a sufficient number of trained professionals to effectively carry out its mandate? Explain.

20. How has the AIDS epidemic affected the ability of institutions concerned with NFM from carrying out their mission?

21. How is community involvement in natural forest management generally viewed by professional natural resource management specialists at all levels (headquarters, regional offices, project level)? Please indicate if there are differences among these groups.

22. What impact has corruption had on the project, if any?

23. How is transparency promoted or practiced in government?

E. International Community

24. What has been the level of donor assistance to the forest management sector over the past 20 years? Have there been efforts by the donors to promote the participation of communities in forest management?

25. Are there any international treaties or agreements signed by the government that promote the participation of communities in natural forest management?

V. USAID Project/Program Management

1. List the name of the projects/programs, key implementing agencies/organizations, time frame, level of financial support and main goals or objectives of all NFM related activities supported by the Mission during the past 20 years. Indicate significant changes of any of these factors during the life of the program/project.

2. What were the main criteria used to select the target forest(s) for USAID support? Please list for each project.

3. What were the principle strategies used during the design process (i.e., community development, capacity building, buffer zone work, research, incentives, subsidies, etc.)? Did they change during the lifetime of the project?

4. Was the program/project design process participatory? (Did it include host government officials, local representatives, NGO representatives, etc.)

5. Did international agreements, treaties or conventions effect the design of the program? Explain.

6. Was the design work for each program/project well coordinated with other donors? Explain.

7. Was the project/program deliberately integrated into a larger national development program or priority for the forestry sector?

8. Note any significant problems with implementing organizations that negatively impacted the projects/programs development.

9. How has staff turnover or attrition affected project/program implementation? Please address for each project/program.

10. Did the project/program result in any changes in forestry law or policy?

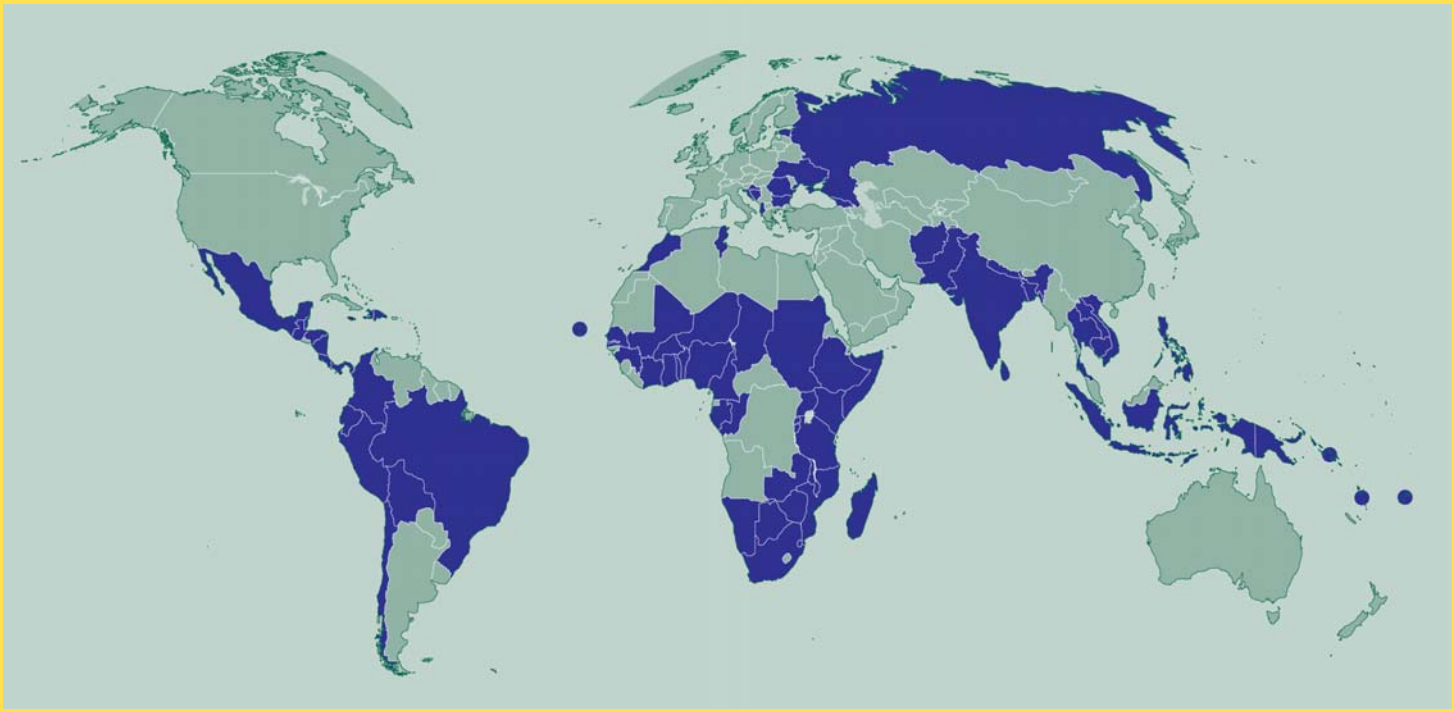
11. Were the projects/programs linked to other Mission programs? If yes, during design, implementation or both?

12. Was the level of support from USAID Washington technical offices and Regional offices adequate? Explain.

13. List by project/ program, the key finding of all final evaluations.

14. Did any project/program lead to any replication attempts? What kind? Were they effective?

USAID Forestry Experience



USAID Forestry Program

25 Years of Progress Toward Sustainable Forestry

The Forestry Team
U.S. Agency for International Development
Ronald Reagan Building
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