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CLIMATE SOLUTIONS FROM COMMUNITY FORESTS

Lessons from Indigenous and Community-Based Forest Management

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Writers
Greg Mock
Joseph Corcoran

Editors
Charles McNeill
Alan Pierce
Dearbhla Keegan
Anne Virnig

Equator Initiative
Sustainable Development Cluster
Bureau for Policy and Programme Support
United Nations Development Programme
304 East 45th Street, 6th Floor
New York, NY 10017
Tel: +1 646.781.4023
www.equatorinitiative.org

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Bottom: A woman weaves using palm fronds, Preah Vihear Province, Cambodia. Photo: Tmatboey Community Protected Area Committee.
Back page: YUS Conservation Area, Huon Peninsula, Papua New Guinea. Photo: Tree Kangaroo Conservation Program.

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PREFACE

Without decisive action to save the world's forests, it is widely recognised that the world will not succeed in limiting global temperature rise to two degrees Celsius - the temperature rise understood to be a threshold for our ability to survive and adapt on this planet. Forest conservation represents one of the most cost-effective climate solutions available. Actions to conserve, sustainably manage, and restore forests also contribute to inclusive growth and poverty eradication, improved governance, food security, and biodiversity conservation.

When we look at how forests are managed and who is protecting them, we begin to understand that addressing local land rights and tenure security will be a crucial determinant of success for the new global frameworks on climate change and sustainable development.

While efforts by the international community to address deforestation have progressed significantly in recent years, for these efforts to achieve sustainable results, the needs and rights of the communities which live in and depend on forests need to be recognized and respected.

In September 2014, the launch of the New York Declaration on Forests saw more than 180 governments, companies, and indigenous peoples and civil society organizations commit to halving deforestation by 2020 and ending natural forest loss by 2030. The Declaration included a commitment to empower communities and recognize the rights of indigenous peoples. Now, it is time to examine how these ambitious targets can be reached.

This publication draws lessons from the experiences of the hundreds of indigenous and local communities which have been awarded the Equator Prize since 2002 for their achievements in reducing poverty, protecting nature, and strengthening resilience in the face of climate change. In particular, this book carefully reflects on the substantial proportion of these winning communities whose efforts have focused on protecting, managing, and restoring forests.

This vast body of knowledge drawn from a diverse range of communities around the world provides valuable insights into what works on the ground, and how indigenous peoples and communities can best be supported to continue and expand their vital efforts.

As we face the challenge of putting into action the goals and commitments agreed on in new climate and sustainable development frameworks, we need to recognize the potential of community-level efforts and invest in them as an integral part of the solution to climate change.

On behalf of the United Nations Development Programme, I express our sincere appreciation to the Government of Norway for their continued leadership in supporting indigenous peoples and local communities, particularly in the context of forests. The case studies on which this analysis is based would not have been possible without the generous support of the Government of Norway to the Equator Initiative.

Helen Clark
Administrator
United Nations Development Programme

FOREWORD

Forests will play a critical role in helping the world to achieve the Sustainable Development Goals and advance a new global agenda on climate change. Forests sustain more than one billion livelihoods, fuel one out of every three households worldwide, provide drinking water to a third of the world's largest cities, shelter 1.3 billion people, and serve as critical safety nets for some of the world's poorest and most vulnerable communities.

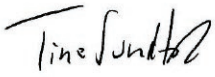
Forest ecosystems also capture and store huge amounts of carbon. For example, the carbon stored in the rainforests in Central Africa is equivalent to 2,000 years of Norwegian greenhouse gas emissions. Despite these global benefits, deforestation continues. If we change this trajectory – protecting and restoring tropical forests globally – we could deliver up to one third of the climate change solution needed over the next two decades.

The urgent need to achieve critically important goals in climate, biodiversity and sustainable development requires us to recognize the important role that indigenous and community managed forests can play in helping to achieve those goals. Indigenous and community-managed forests account for more than 15 percent of world's forests, and in some tropical countries, represent nearly 30 percent of the forest area.

The Equator Prize-winning communities profiled in this publication show how the protection, sustainable use restoration of forests by local communities delivers and sustains multiple local benefits, including food and water security, income generation, biodiversity conservation, increased resilience and social development, while simultaneously producing global benefits by helping to mitigate climate change. We are proud to support the Equator Initiative in recognizing the success of local and indigenous initiatives, and creating opportunities to share traditional knowledge and sustainable natural resource management practices.

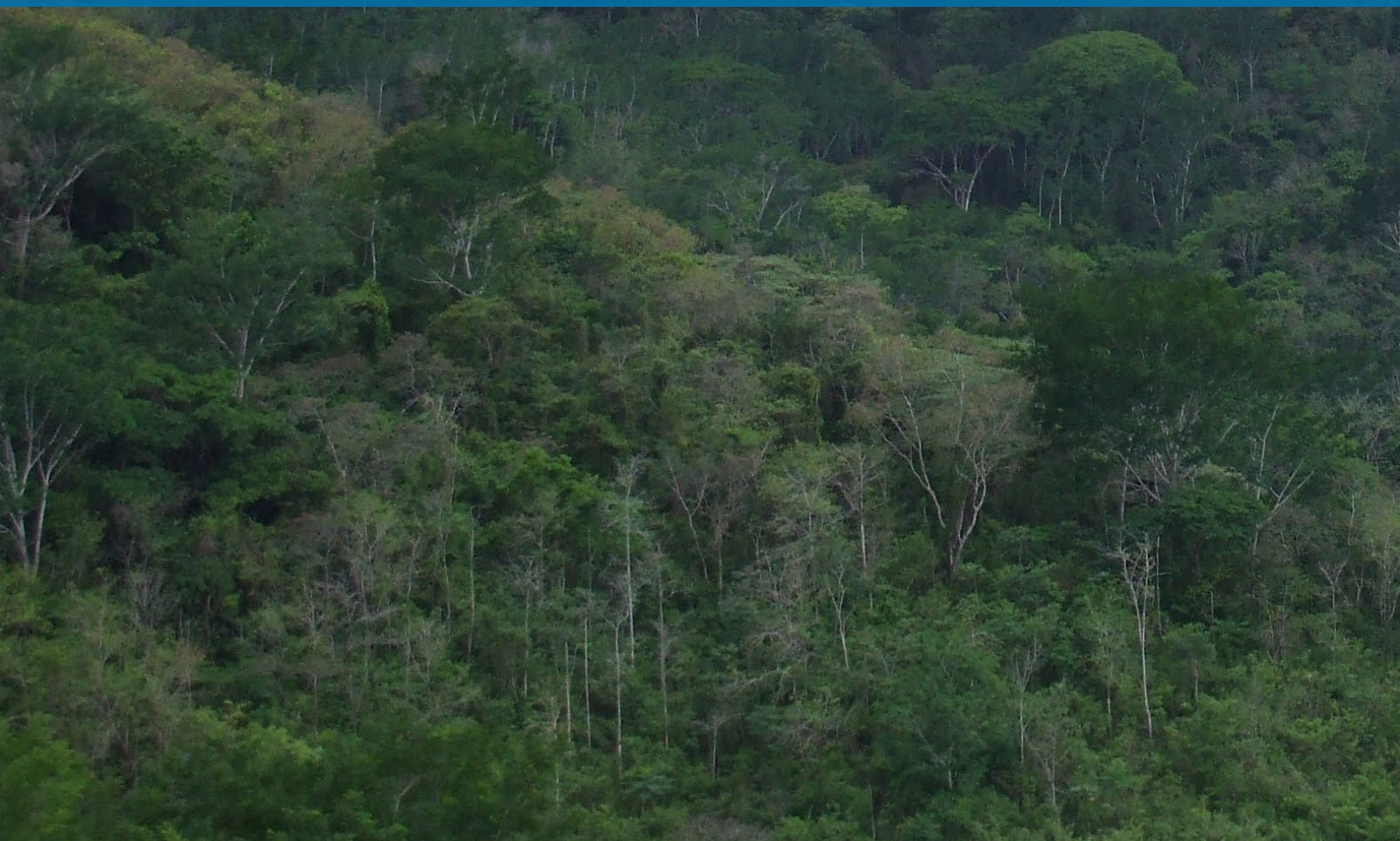
Norway continues to support action on forests as one of the most economical and effective ways to address climate change. The Norwegian International Climate and Forest Initiative (NICFI) invests up to 3 billion Norwegian kroner each year to reduce greenhouse gas emissions from deforestation and forest degradation. As part of this effort, we are also committed to supporting indigenous peoples and local communities to advance their valuable contributions to climate change mitigation and adaptation.

The challenge of protecting the world's forests and the services they provide is great and must be shared among diverse stakeholders. The international community, national governments and the private sector have major roles to play. But community-based action, as profiled in this publication, is a critical piece of the puzzle, catalyzing sustainable change in rural communities throughout the world.



Tine Sundtoft
Minister of Climate and the Environment
Government of Norway

Introduction



INTRODUCTION

Indigenous peoples and local communities have a vital part to play in the global effort to reduce greenhouse gas emissions and address climate change. They are the custodians of many of the world's remaining standing forests, which are essential in mitigating greenhouse gas emissions. Community-based forest management—an approach and land governance model that encompasses a wide range of forest protection, restoration, and sustainable use activities—can effectively reduce rates of deforestation, restore degraded forests, and allow local people to better adapt to climate change. It can achieve these global climate benefits even as it supports local livelihoods and indigenous cultures, conserves biodiversity, and increases ecosystem resilience and stability.

In this book, we consider case material from 22 examples of successful community-based forest management. These stories showcase the wide range of initiatives that indigenous peoples and other forest-dependent communities take to sustainably use, protect, and restore local forests through their collective action. Such community-based action has a well-documented record of delivering an array of local benefits. These include job creation and economic gains, greater social cohesion and community self-reliance, political and social empowerment, food security and water access, conflict resolution, wildlife protection, and ecosystem restoration.

While these local development benefits are amply demonstrated in the cases presented here, the case materials also demonstrate the global climate benefits that flow from these local actions. In short, community-managed forests offer an effective method to maintain and increase forest canopy, suppress illegal forest activities that degrade forests, and—through education and first-hand experience—build a lasting commitment among community members to sustainable forest use. All of these actions maintain and enhance the ability of the world's forests to mitigate CO_2 build-up in the atmosphere and to moderate the effects of this build-up on ecosystems and people.

Many of these local initiatives successfully scale up to become influential voices in the governance of entire ecosystems, forests, wildlife corridors, and agricultural landscapes, refuting the common but mistaken view that local solutions invariably remain small in scope and impact. They are often the foundation on which national progress towards climate and development goals are built.

A Climate Role for Communities?

The community-based forest management models profiled in these case studies—and many more taking place in rural communities around the world—represent an underutilized tool to meet global climate goals while serving rural development needs. As the cases show, local indigenous peoples groups, women's groups, and other community groups, when empowered to manage their ecosystems and natural resources, can become innovators in local development and climate action.

As the international community forges a new climate framework, it is an opportune time to reflect on the conditions that make community-based forest management successful, how such initiatives can be empowered and enabled, what climate and human development benefits are produced, and what role community-managed forests can play in a global framework to address climate change.

It is also crucial to ask how these local initiatives align with and support the aspirations of indigenous peoples and local communities to secure their land and resource rights and to pursue their own development goals. Aligning the global climate agenda with the movement to empower indigenous peoples and local communities will invariably strengthen both efforts.

The intent of this book is twofold:

- To examine the community dynamics, enabling policies and partnerships that are behind successful community-based forest management initiatives, and demonstrate the resulting climate and sustainable development benefits;
- To show how legal and social empowerment, such as strengthening land tenure security and resource rights, can meaningfully impact the ability of indigenous peoples and local communities to mitigate and adapt to climate change.

Our hope is that the case studies and the accompanying analysis in this book can help to clarify the important role of indigenous peoples and local communities in achieving global climate change goals. In addition, we hope the cases and findings presented here can provide the basis for practical guidance to communities coping with increasing pressures on local forests and agricultural landscapes and the growing threat of climate-related stresses; to donors and other partners wishing to catalyze, support, and scale up these efforts, whether through REDD+ or other similar initiatives; and to government officials and policymakers who want to provide an enabling environment of policies, resources, and knowledge to aid the kind of community-driven development these cases represent.

Cross-Cutting Questions

The case studies in this book have been assembled to consider the following cross-cutting questions:

- **Motivations and Scope:** What motivated these community-based forest management initiatives and what has been the scope of climate benefits achieved? How has community-based forest management improved local resilience?
- **Climate Potential:** What role can rural forest communities play in an international regime to combat climate change? How can this role be recognized and encouraged by national governments and the international community?
- **Empowerment:** What constitutes an enabling policy environment for indigenous and local community action? What are the policies, laws, and regulations that need to be in place for local action to thrive?
- **Partnerships:** What are the partnership models that add to local capacities and support effective local action? What is the role for private sector and other partners?

About the Cases

All of the community-based forest initiatives profiled in this book are recipients of the Equator Prize, awarded biennially by the UN Development Programme (UNDP) and its partners to recognize outstanding local solutions for people, nature, and resilient communities. Since its inception in 2002, the Equator Prize has been awarded to 208 indigenous peoples and local community groups from more than 70 countries around the world. Forest communities make up some 60 percent of all Equator Prize winners.

Detailed case studies have been compiled on each of the Equator Prize winners. This collection of case materials comprises a unique archive of best practices in community-based ecosystem management, and it is from this archive that the cases referred to in this book are drawn. For this work, the cases appear in brief summary only. Readers are encouraged to review the full-length versions of the cases, which can be found in the Equator Initiative Case Study Database.

The Equator Initiative: A Partnership for Resilient Communities

The Equator Initiative brings together the United Nations, governments, civil society groups, businesses, and grassroots organizations to recognize and advance local sustainable development solutions for people, nature, and resilient communities. The partnership arose from recognition that the greatest concentrations of both biodiversity and acute poverty coincide in equator belt countries, and the high potential for win-win outcomes where biological wealth could be effectively managed to create sustainable livelihoods for the world's most vulnerable and economically marginalized populations. The direct dependence of the rural poor on nature for their livelihoods means that biodiversity loss often exacerbates local poverty. But by the same token, action to sustain ecosystems and maintain or restore biodiversity can help stabilize and expand local resource-based economies and relieve poverty.

The Equator Initiative aims to recognize the success of local and indigenous initiatives, create opportunities and platforms for the sharing of knowledge and good practice, inform policy to foster an enabling environment for local and indigenous community action, and develop the capacity of local and indigenous communities to scale up their impact. The center of Equator Initiative programming is the Equator Prize, awarded biennially to recognize and advance local sustainable development solutions. As local and indigenous groups across the world chart a path towards sustainable development, the Equator Prize shines a spotlight on their efforts by honoring them on an international stage. The Equator Prize is unique for recognizing group or community achievement, rather than focusing on that of individuals.

A Range of Sustainable Forest Management Methods

A review of Equator Prize-winning initiatives shows that community groups use a wide range of forest management methods to protect their forest assets from threats and increase the range and quantity of benefits that local forests produce. These methods include applying better harvesting practices for timber and non-timber products; developing new forest-based products, medicines, and specialty crops; practicing ecotourism and cultural tourism; pursuing agroforestry and other sustainable forest agriculture; restoring and regenerating cleared and degraded forest areas; and protecting local forests in community conserved areas and restricted use zones.

To organize the case material, the book is divided into four sections that reflect the major activities that community-based forest initiatives undertake.

- **Sustainable Forest Livelihoods:** Case studies in this section consider the wide variety of strategies that communities have employed to use their forests to support local livelihoods while maintaining and enhancing forest ecosystems. This includes cases where communities have established substantial commercial forest enterprises, as well as cases where forest management has yielded more broad-based community uses and public benefits.
- **Forest-Friendly Agriculture:** Demand for agricultural land is a leading cause of deforestation, while poor farming practices can be a significant source of forest degradation. Forest-friendly farming practices, on the other hand, can maintain and enhance forest cover, food security, and local livelihoods. Cases in this section display the many ways in which forest communities have incorporated agriculture within their sustainable forest management regimes.
- **Forest Restoration:** This section profiles communities who have successfully restored degraded forests and deforested land as a pathway to sustainable livelihoods and ecosystem regeneration. Targeted efforts to improve forest quality in degraded local forests or to reforest cleared areas are often part of larger efforts to protect and improve watershed functions and regain ecosystem services that local forests once provided. Forest restoration is also an important element of community-based adaptation to climate change.
- **Forest Protection:** Cases in this section feature community-led intiiatives to protect forests through community conserved areas, sanctuaries, or other explicitly protected zones. This has become a potent strategy to maintain forest cover and its associated climate and livelihood benefits, as well as to maintain and even rejuvenate local cultural identity.

Examples of Community-Based Forest Management

Sustainable Forest Livelihoods

- Applying sustainable harvest practices for timber and non-timber products
- Drawing up forest management plans specifying location, timing, and intensity of forest uses
- Developing and commercializing new forest-based products and medicines and establishing forest-based enterprises
- Practicing ecotourism and cultural tourism
- Mapping community forest boundaries, monitoring forest conditions, and measuring forest productivity

Forest-Friendly Agriculture

- Pursuing agroforestry and other sustainable forest agriculture
- Replacing slash-and-burn agriculture with intensified crops systems in designated crop zones
- Better soil management through terracing, mulching, no-till planting, and other slope and forest-adjusted tillage methods
- Developing high-value specialty crops

Forest Restoration

- Restoring and regenerating cut-over and degraded forest areas through temporary closures and reforestation
- Establishing local nurseries to raise indigenous tree species for reforestation projects and augmentation planting
- Replanting and restoring mangrove forests

Forest Protection

- Establishing community conserved areas, reserves, and restricted-use zones within local forests
- Co-managing established parks and protected areas with state agencies
- Mixing forest conservation areas with agricultural zones and forest use zones within an integrated landscape management plan

The Unique Role of Forest Communities

For the 1.6 billion people living in or near forests, income from forest products such as wild foods, fuelwood, fodder, timber, medicines, and other non-timber forest products comprises a significant portion of total household income—an average of 22 percent, according to a World Bank review (Vedeld, et al, 2004:28-29). For many communities, dependence on forests for subsistence and income is much higher, particularly among the estimated 60 million indigenous peoples who live in forests. This dependence is not a matter of economy alone. Forests also provide the spiritual and cultural context for many rural communities and indigenous groups, a factor that plays an important part in motivating community action to sustainably manage local forests.

Unfortunately, threats to this critical resource base—from unsustainable forest management and land uses, extractive industries, climate change, and land grabs—are high. Forest loss from agricultural conversion, largescale timber removal, mining, and other extractive uses exceeds some 13 million ha per year, with an attendant loss of biodiversity. This represents an unprecedented loss of livelihood assets and cultural heritage for many forest communities, and an increasing source of economic and social vulnerability. One of the roots of this vulnerability is the widespread lack of legally recognized land rights in rural communities, meaning that many forest communities lack legal control over their local forests.

Nonetheless, Equator Prize-winning communities have shown that community groups—when properly motivated—can be highly effective in meeting these threats and protecting their economic and cultural assets through collective action. Indigenous peoples and local communities have a long record of forest stewardship, informed by generations of close contact with forest ecosystems and manifest in a variety of traditional forest management practices and accumulated ecosystem knowledge. The Intergovernmental Panel on Climate Change (IPCC) acknowledged in a recent report that the traditional knowledge systems of indigenous peoples and their holistic vision of community and environment are key resources in the effort to achieve global climate change mitigation and adaptation goals. These traditional forest practices are typically highly tailored to the local environment, friendly to biodiversity, and sustainable over time. At the same time, they have proven adaptable, with many communities augmenting their traditional practices with modern approaches such as forest monitoring and mapping techniques.

Rural forest communities also have a major incentive to manage local forests in climate-friendly ways. These communities are among those most likely to be adversely affected by—and called upon to adapt to—climate change, including severe weather, floods, and drought. These adverse conditions will likely bear directly on the health and productivity of forests, and thus on the economic and cultural well-being of forest communities. It is not surprising, then, that community action is often a key ingredient in slowing deforestation, restoring degraded forests, and increasing local climate resilience.

Making the Link: Community-Based Forest Management and Climate Benefits

Rural communities are often well-placed to mitigate greenhouse gas emissions from forests and fields because they live among and depend on these resources. As local forest users, their harvest and management practices can strongly affect whether local forests are degraded or maintained. Several lines of evidence have emerged that indicate the importance of community-based forest management in fighting global climate change:

- **Forest sector emissions are substantial, and deforestation remains a potent risk.** Emissions from deforestation and forest degradation are responsible for some 14-21 percent of global greenhouse gas emissions, according to a recent analysis of tropical forests (ISU, 2015:19). While there has been a decrease in the rate of deforestation in some countries in the last few years, global forest loss is still substantial—about 13 million ha per year—and pressure on forests remains high. Recent projections of global deforestation from 2016-2050 run to nearly 290 million ha—more than 8 million ha per year—in the absence of new forest conservation policies and agricultural practices (Busch and Engelmann, 2015:14). As a consequence, forest management has long been part of international climate negotiations, with the need to decrease forest emissions well-accepted by the international community. The potential for forest communities to contribute to this effort has been acknowledged internationally through the evolving effort to establish national REDD programs (Reduced Emissions from Deforestation and Forest Degradation) in which communities receive support for carrying out projects to sustainably use and restore local forests.
- **Community-based forestry solutions are effective at cutting deforestation rates.** The case studies in this book provide anecdotal evidence that community-based forest initiatives are effective at reducing deforestation rates in local forests. This is corroborated by a global-level analysis of deforestation rates in community-managed forests released in 2014 by World Resources Institute and the Rights and Resources Initiative (WRI and RRI, 2014). The results showed significantly lower deforestation rates in community-owned

forests compared to similar state- and privately-managed forests, particularly when the national government recognized and protected community rights to own and manage local forests:

- In Brazil, for example, the deforestation rate from 2000-2012 in designated Indigenous community forests was 0.6 percent, compared to 7.0 percent in adjacent forests—more than 11 times lower (WRI and RRI, 2014:4).
- In Guatemala's Peten region (in the Maya Biospehere Reserve), legally recognized community forests experienced a 0.02 percent deforestation rate from 1986-2007, while nearby Protected Areas of the Maya Biosphere Reserve experienced a 0.41 percent deforestation rate—that's 20 times lower (WRI and RRI, 2014:2).

The difference between the deforestation rates in community forests versus public forests can largely be attributed to the value communities place on their forest resources, the sense of ownership and empowerment they feel, and the incentive they have to actively manage their forests for productivity and police them to suppress illegal logging and forest conversion.

- **The area of community-owned or occupied forests is substantial at a global level, making potential climate benefits of community forestry globally significant.** Indigenous Peoples and local communities have legal title or officially recognized rights to at least 513 million ha of forests worldwide—about 15.5 percent of the global forest area (RRI, 2014:2). In lower and middle-income countries where most tropical deforestation occurs, the proportion of indigenous and community-controlled forests is higher—over 30

percent—reflecting an expansion of legally recognized indigenous and community forests in these countries since the 1990s. These community forests contain some 38 billion tons of carbon—about 29 times the annual emissions from all passenger vehicles in the world (RRI, 2014:3). Thus, the climate advantages of community-based forest management, when taken together, are potentially significant at a global level. Moreover, there is much room for expanding the area of recognized indigenous and community forests, and thus potentially expanding the global climate benefits of community-based forestry. The forest area officially recognized by governments as indigenous or community-controlled is far smaller than the area customarily claimed and occupied by indigenous peoples and communities.

- **Community-based forest solutions offer good value.** Reducing deforestation and forest degradation are low-cost strategies for addressing climate change. Recent research confirms that action to cut deforestation and forest degradation rates can cut global emissions at a cost that is quite low compared to other mitigation strategies such as reducing carbon emissions from industry, cars, and dwellings through greater energy efficiency or new energy technologies. Community-based forest management is a proven means to tap into this low-cost climate mitigation that can be deployed in rural areas at minimal government expense, with additional community benefits produced in the bargain (Busch and Engelmann, 2015:1, 14-18).

Acting on the New York Declaration on Forests and the SDGs

In addition to supporting a new global agreement to address climate change, encouraging community-based forest management initiatives will also be essential to achieving the goals of the New York Declaration on Forests (adopted at the United Nations Climate Summit in 2014) as well as the new slate of Sustainable Development Goals (SDGs) adopted in September 2015 by national leaders assembled at the United Nations.

The New York Declaration on Forests, signed by a diverse group of developed and developing nations, indigenous peoples organizations, private sector companies, NGOs, and other civil society organizations, calls for concrete action to halt global forest loss and restore degraded forest areas worldwide. While citing the important role forests play in regulating global climate and absorbing greenhouse gases, the New York Declaration also stresses the other crucial functions forests serve: supporting as much as 80 percent of terrestrial biodiversity, and providing food, water, fuel, and medicines for some 1.6 billion people, as well as supporting their traditional cultures and livelihoods (UN, 2014:3). To serve its goals, the New York Declaration sets robust targets. It calls for cutting in half the current rate of loss of natural forests by 2020, and restoring 150 million ha of degraded forest. By 2030, it calls for completely halting forest loss and restoring an additional 200 million ha of forests. Without the active participation of rural forest communities, it is hard to conceive of attaining such ambitious targets. Importantly, the New York Declaration explicitly calls for empowering forest communities and recognizing the land and resource rights of indigenous peoples.

Action Targets of the New York Declaration on Forests

Deforestation

- By 2020, cut in half the rate of loss of natural forests
- By 2030, strive to end natural forest loss

Forest Restoration

- By 2020, restore 150 million ha of degraded forests
- By 2030, restore an additional 200 million ha

Forest Governance

- Strengthen forest governance, transparency and the rule of law, while also empowering communities and recognizing the rights of indigenous peoples, especially those pertaining to their lands and resources

Likewise, the new suite of Sustainable Development Goals, adopted by the international community in 2015 as a follow-on and expansion of the Millennium Development Goals, will clearly require participation by rural forest communities if they are to be achieved. Sustainable Development Goal 15 specifically targets halting deforestation by 2020, restoring degraded forests, and implementing sustainable forest management, mirroring the language of the New York Declaration on Forests (UN, 2015:25).

Perhaps more important still is the ability of community-based forest initiatives to deliver on SDGs beyond those that are forest-specific. These community initiatives have shown in the past that they are effective in reducing poverty, improving food security and nutrition, and empowering women and other vulnerable and marginalized groups. Through their support of public infrastructure such as water systems, schools, and health clinics, they also contribute to the provision of safe drinking water, improved education, and greater access to health care. In essence, they act as efficient delivery platforms for a suite of services essential to meeting the new SDGs in rural forest communities.

Sustainable Development Goal 15

Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss.

SDG Target 15.2

- By 2020, promote the implementation of sustainable management of all types of forests, halt deforestation, restore degraded forests, and substantially increase afforestation and reforestation globally.

Sustainable Forest Livelihoods

The cases in this section profile community-based management intended to maximize and maintain the local forest as a substantive community asset, contributing to local livelihoods through subsistence and cash income, and generating revenue to fund community institutions and infrastructure. The first four cases emphasize a mixed-use approach, where subsistence and small-scale enterprises predominate, and broad-based public benefits are favored. The next three cases involve substantial commercial ventures that communities have developed from forest resources, hoping to evolve greater revenues while maintaining forest canopy and other non-cash forest benefits. In all of the cases, the nature of the community's forest access, ownership, and management rights plays an important role, as well as the community's market access and access to partners and capacity support. And in all cases, substantial climate benefits result from maintenance of forest canopy and improvement in forest conditions due to well-articulated community management goals, often in circumstances where deforestation pressures are high.

Cases in this section

- Ekuri Initiative, Nigeria
- Agency for the Development of the Mosquitia (MOPAWI), Honduras
- Association of Manambolo Natives (FITEMA), Madagascar
- Association For Research and Integrated Development (AIDER), Peru
- Sociocultural Association of Yawanawá, Brazil
- Ese'eja Native Community, Peru
- Indigenous Community of Nuevo San Juan Parangaricutiro, Mexico

Ekuri Initiative, Nigeria

Overview

Located in Nigeria's Cross River State, the Ekuri community manages a 33,600 ha community forest adjacent to the Cross River National Park. Community forest management began in the 1980s, when the villages of Old Ekuri and New Ekuri united in response to the proposed logging of their forest. The project would have included the construction of a road linking the villages to local market centers. Instead, the community decided to sustainably manage the forest as a community asset, generating income, subsistence materials, and food. Levies on the sale of non-timber forest products by community members financed a road that eventually reached both villages. In addition to allowing farm and forest products to reach new markets, the road has enabled the transport of construction materials for two schools, a health center, and a civic center.

Basic Facts

Founded: 1997

Location: Cross River State, eastern Nigeria

Beneficiaries: 6,000 community residents

Biodiversity: Cross River National Park

Key Impacts

- Revenues from the sale of non-timber forest products have funded a road, culverts, bridges, and other crucial community infrastructure.
- Communal ownership of the forest enables exclusion of logging concessions and facilitates equitable sharing of benefits from forest resources within the community.
- The success of the Ekuri Initiative has inspired the Cross River State government to include community forestry in its forestry strategy, ban logging concessions throughout the state, and nominate the Ekuri forests for inclusion in a REDD+ program.

Agency for the Development of the Mosquitia (MOPAWI), Honduras

Overview

For more than 25 years, the Agency for the Development of the Mosquitia (Mosquitia Pawisa Apiska – MOPAWI) has worked to engage local and indigenous communities in the integrated management of the Río Plátano Biosphere Reserve and other protected areas in northeastern Honduras. Located within the Mosquitia area, the reserve contains the largest intact rainforest north of the Amazon. The organization assists communities in obtaining legal title to indigenous lands and successfully blocked the construction of a dam project in the Mesoamerican Biological Corridor. In addition to promoting community forestry, the group's activities include sustainable agriculture, micro-enterprise development, and ecotourism.

Basic Facts

Founded: 1985

Location: Mosquitia Area, eastern Honduras

Beneficiaries: Local and Indigenous communities of Mosquitia

Biodiversity: Río Plátano Biosphere Reserve

Key Impacts

- Development of marketing outlets for batana oil provides jobs and income for more than 2,000 producers from 40 communities.
- More than 200 indigenous farmers have been trained to incorporate traditional cacao management with agroforestry, increasing local incomes and enhancing food security.
- Advocacy and lobbying for indigenous land rights has resulted in the protection of 68,000 ha in the Mocoron zone as well as the creation of the 230,000 ha Tawahka Biosphere Reserve.

Association of Manambolo Natives (FITEMA), Madagascar

Overview

The Association of Manambolo Natives (Fikambanan'ny Terak'i Manambolo - FITEMA) has used the reintroduction of an indigenous land use system to help conserve forests and wetlands in the 7,500 ha Manambolo Valley – a forest corridor which joins the Andringitra and Ranomafana National Parks – while improving food security for

local communities. The valley's forests are home to a high number of endemic species and also provide critical ecosystem services to the approximately 200,000 residents of five neighboring districts, including timber and non-timber forest products, water regulation, and watershed protection. The organization works on forest restoration through the establishment of nurseries with local tree species, including the native ravenea palm (*Ravenea madagascariensis*). The group has also constructed irrigation infrastructure and is guided in its work by a commitment to the full participation of its target communities.

Basic Facts

Founded: 1993

Location: Manambolo Valley, Madagascar

Beneficiaries: 12 communities, 1,300 households

Biodiversity: 7,500 ha forest corridor

Key Impacts

- Reestablishment of a traditional land management system (the Dina system) has enshrined community-based rules for forest use and facilitated devolution of state-owned land to community oversight.
- Provision of alternative livelihoods (e.g., fish farming and beekeeping), planting of off-season crops, and improvements in irrigation systems have increased crop production, local incomes, and food security.
- The project model has been replicated in eight additional sites across Madagascar, reaching 100,000 people, resulting in improvements in local livelihoods and biodiversity conservation.

Association for Research and Integrated Development (AIDER), Peru

Overview

The Association for Research and Integrated Development (Asociación para la Investigación y el Desarrollo Integral – AIDER) is a participatory initiative that provides capacity building and technology transfer to enable community-based conservation of forest resources across Peru. By providing technical assistance to forest-based communities in both the humid tropical forests of central eastern Peru and the tropical dry forest in the country's northern coastal region, the initiative has enhanced local capacity to improve livelihoods, protect the environment, and mitigate desertification. Much of this work has benefitted indigenous communities, helping them to secure autonomous control of their resources.

Basic Facts

Founded: 1986

Location: Five regions throughout Peru

Beneficiaries: Over 300 families

Biodiversity: Tambopata National Reserve

Key Impacts

- AIDER provides capacity building and technology transfer to five regions in Peru, enhancing local livelihoods and wellbeing.
- In 2011, AIDER implemented 18 community-based projects supporting certified, sustainable timber harvesting, participation in REDD+ schemes, and reforestation to recover areas affected by desertification.
- The group supported 209 indigenous communities to secure land titles for more than 2.5 million ha and established access rights to an addition 7.5 million ha of forest reserves.

Sociocultural Association of Yawanawá, Brazil

Overview

The Sociocultural Association of Yawanawá is a representative body of the Yawanawá indigenous people of Acre state in northern Brazil. The group works to create income-generating opportunities for its members through the conservation of the community's indigenous territory and the promotion of Yawanawá culture. Through the sustainable extraction of native agricultural products such as urucum (*Bixa orellana*), a local plant that produces a red dye, and a partnership with an international cosmetics firm, the initiative has been able to generate revenue for investing in local infrastructure. The community has secured the revision of the boundaries of the Yawanawá's indigenous land, extending their legal control over 187,400 ha of Amazonian forest. This achievement, coupled with the initiative's innovative use of their traditional culture – for instance, through a Yawanawá clothing brand – has made the group a model for indigenous sustainable forest management in Brazil.

Basic Facts

Founded: 1977

Location: Acre State, Brazil

Beneficiaries: Six villages, 750 people

Biodiversity: 187,400 ha of Amazonian forest

Key Impacts

- The Yawanawá were the first indigenous tribe in Brazil to successfully lobby for the revision of their recognized territorial boundaries and win title to 187,400 ha of Amazonian forest; since then, they have successfully fended off repeated attempts to appropriate their territory.
- An agreement to sell urucum seeds to the Aveda Corporation has provided the community with increased food security, healthcare, education, and infrastructure.

- Through marketing of a Yawanawá clothing line, ceramics, jewelry, CDs, and DVDs, the community is affirming and celebrating its cultural identity while supporting local development.

Ese'eja Native Community of Infierno, Peru

Overview

The Ese'eja Native Community was the first community to take advantage of Peru's law of native communities in the state of Madre de Dios, receiving legal title to 9,558 ha of land. As a condition of defending their lands in the 1980s, the community was obliged to set aside 3,000 ha as a reserve where hunting, logging, forestry, and any other type of resource extraction was prohibited. In partnership with a private sector company, the community jointly manages an ecotourism lodge. From 1997 to 2007, net revenues from the lodge totaled more than 250,000 USD. Profits are equally divided among the community's 500 members; in 2000, the community set aside 25 percent for investment in education, enabling the construction and operation of the only rural secondary school in the region.

Basic Facts

Founded: 1996

Location: Madre de Dios State, Peru

Beneficiaries: 500 community members

Biodiversity: Harpy eagles, giant otters

Key Impacts

- Between 1998 and 2007, the local ecolodge earned more than 250,000 USD, providing income for cooks, guides, innkeepers, and service providers; extra profits from ecotourism were invested in local infrastructure, schools, elderly care, and infrastructure.
- Disputing the creation of the Tambopata National Reserve resulted in a redefinition of Ese'eja indigenous lands and added 3,000 ha to the tribe's territory.
- Community initiatives, including a nest watching program and delineation of a special reserve zone in oxbow lakes, help to conserve populations of harpy eagles and giant river otters, respectively.

Indigenous Community of Nuevo San Juan Parangaricutiro, Mexico

Overview

The town of Nuevo San Juan Parangaricutiro is located in the western part of the Mexican state of Michoacán. Since 1982, indigenous Purépecha community members have engaged in sustainable timber and non-timber forest extraction and processing from the town's local pine forests. In 1991, a landmark national resolution led to the legal transfer of ownership of 18,138 ha of communal land to the 1,254 community members engaged in the project. In 1999, the project gained Forest Stewardship Council (FSC) certification for its forest practices. To date, training has been offered to more than 450 local people in technical aspects of sustainable forestry. The enterprise is currently active in more than 20 areas of production, the majority of which involve non-timber forest products, and generates an average of 900 permanent and 300 temporary jobs each year.

Basic Facts

Founded: 1982

Location: Michoacán State, Mexico

Beneficiaries: 7,500 indigenous community members

Biodiversity: Sustainable forest management

Key Impacts

- The Indigenous Community of Nuevo San Juan Parangaricutiro successfully appealed for recognition of their long-held property rights, gaining land rights over 18,138 ha in 1991; the organization continues to advocate for local tenure rights, successfully recovering more than 1,000 ha through agreements and legal measures.
- The organization nets 11 million USD from the sale of timber and other products each year, employs 14,000 local residents, and provides benefits such as retirement plans, life insurance, vacation time, and social security to employees; average monthly wages have increased to 516 USD per month.
- Community nurseries have supported reforestation of over 300 ha, with more than 750,000 saplings distributed; an additional 1,050,000 saplings were donated to the government for reforestation projects across the region.

WHAT DO THE CASES TELL US?

These cases represent only a small fraction of the Equator Prize communities practicing sustainable forest management, but they reveal many of the common motivations, community processes, achievements, and obstacles found in the larger archive of cases in the Equator Initiative database.

Considering the cases, the following lessons emerge:

1. **Climate Potential:** Community-based forest management can work over substantial areas and in situations where forest pressures are intense.

Although community-based forest initiatives vary widely in size, they can and often do encompass large areas of primary and secondary forest with considerable carbon storage. The seven cases in this section, for example, together cover more than 1 million ha of forest area. When communities succeed in their sustainable management goals, they maintain these community lands as working forests, with large areas of intact forest cover and high forest quality, and thus high potential to yield climate benefits.

Just as important as the area of forest under community management is the location and vulnerability of these forests. Most of these initiatives work in areas where pressures to remove or overuse the forest are intense. Studies of deforestation and forest degradation make it plain that without clear and attractive alternatives, such areas will eventually be deforested or substantially degraded. Community-based initiatives provide one of the only functional counterweights to these deforestation and degradation forces.

Indeed, the fact that there are any climate benefits at all associated with the vulnerable lands in these case studies is testament to the efficacy and necessity of these initiatives. Moreover, projects that address pressing community needs, as these examples do, have much prospect for sustainability over time. One of the key factors in their success is the mix of uses that these initiatives allow, and the alternative livelihoods that they work hard to support. This distinguishes them from large-scale afforestation projects, state-owned forests, or state-administered protected areas, which are often ineffective in countering deforestation and forest degradation because they can lack community support, and offer communities neither the legal standing nor economic incentive to engage in forest protection.

2. **Community Motivations:** The desire for alternative livelihoods that offer sustained economic benefits is an important factor motivating community forest management. But self-determination and social and political empowerment are just as important to many indigenous forest communities.

Community initiatives usually spring from a mix of motivations. They often involve an imminent environmental or economic threat, such as rapid loss of local forests and the cash and subsistence income they provide. The prospect of maintaining or increasing these economic benefits by conserving intact forest is certainly a prime motivating factor of community forest initiatives and a strong correlate of their success. Initiatives that offer well-developed alternative livelihood programs and revenues that can fund community infrastructure offer a powerful inducement for collective action.

The Ekuri Initiative, for example, involves a mix of different forest uses, each in a designated forest zone. Together, income from several non-timber and timber products, cash crops, and food crops provides a diversified income stream to families. A system of fees and taxes imposed by the community on the sale of forest products results in

considerable income to the community treasury, which in turn has funded a road providing access to the community, as well as two schools, a health center, and a community center. Community drinking water systems, irrigation systems, public granaries, and processing facilities for local forest products are other examples of community infrastructure investment in other initiatives. In most instances, these direct investments in community well-being would not have been made in the absence of these community-generated initiatives. Government services and public expenditures are often minimal in the rural areas in which most community-based forest initiatives take place.

As important as these economic benefits are, however, they are not the only factor motivating community forestry, and in many cases they are not the prime factor. Other social and political benefits offer as much or more inducement for community action, particularly for many indigenous peoples. Initiatives that empower communities to manage their resource base though local ordinances and rules, demark and control their forest borders, and reap the bounty of their stewardship through harvest and use rights offer a strong rationale for community action.

For many indigenous peoples, the desire to restore or retain their ancestral territory and revitalize their indigenous culture is a strong motivating force. Forest initiatives offer an effective way to channel this desire into both political action and actual forest control on the ground. Nearly every case in this section involves advocacy for recognition or expansion of the historical forest rights of the local indigenous groups involved. In the Yawanawá case, for example, advocacy for the expansion of the Yawanawá's legally recognized ancestral lands formed the foundation of the initiative. Meanwhile, the desire for local development that would support and renew traditional Yawanawá culture determined the shape of their commercial partnership with Aveda and the use they made of the resulting revenue.

3. **Forest Ownership:** Strong community land rights increase the chances for successful community-based forest management.

No factor is more central to successful community-based forestry than strong community land rights. Such rights allow the community to determine forest management goals, adopt and enforce forest use rules, and exclude those who flaunt these rules. Without this kind of secure and legally recognized forest tenure, a community's investments in sustainable forestry can be undermined by illegal forest users, commercial land grabs, or the granting of government forest concessions.

In every one of the cases in this section, issues of forest ownership play an important part. In Ekuri, the community's decision to forego commercial logging and establish its own sustainable forest regime was only possible because of the status of the local forest as community-owned. Indeed, one of the initiative's first actions in 1997 was a careful perimeter survey to document the community forest boundaries.

For many local initiatives, advocating for indigenous land rights and resource entitlements is an essential step that unifies and empowers the community and enables it to pursue forest interventions and commercial enterprises on the ground. For example, the commercial successes of the Indigenous Community of Nuevo San Juan Parangaricutiro, Ese'eja Native Community of Infierno, and the Sociocultural Association of Yawanawá were only possible after their indigenous land claims had been resolved. In Honduras, MOPAWI understands this dynamic and for the last 25 years has brokered negotiations with the government to secure community land rights, helping indigenous communities survey their native lands, document traditional land uses, and file land claims. One notable result was the eventual recognition of indigenous land rights over 68,000 ha of tropical forest in Honduras' Mocoron region that is now under sustainable management.

Although holding clear title to forest land is optimal for many communities, it is not the only route to secure forest tenure. Many Equator Prize-winning forest initiatives take place on public forest lands where forest management authority has been officially granted to the local community through a variety of devolution and co-management

arrangements. For example, in the case of the Association of Manambolo Natives in Madagascar, the government has devolved forest management and use rights over some 19,000 ha of forest to community-based associations in each of the 12 communities in which the initiative functions. This allows community members to participate in forest planning, monitoring, rulemaking, and patrolling. The sense of ownership this provides has translated into community stewardship, even while the forest remains in the public domain.

4. **Enterprise Development:** Community-based forest enterprises can be highly successful, but require considerable attention to developing business capacities and tackling market, transport, and regulatory obstacles, often with the help of commercial partners.

Forest enterprises are a prominent feature of most community forest management efforts—the vehicle for generating local employment and turning forest resources into local income. Such local enterprises not only provide the economic rationale for sustainable forest management, they also provide a center of gravity to the community's collective work and a platform for building social capital among community members and developing professional and organizational skills that will be useful beyond the enterprise itself.

Depending on the forest type and the community's business acumen and access to markets, a wide variety of enterprises can be found, from marketing non-timber forest products like rattan, forest fruits and essential oils, cocoa, and coffee, to the manufacture of local crafts and finished timber products. Service-based enterprises such as ecotourism, cultural tourism, and guide services are also increasingly common. While most communal forest enterprises remain fairly small, the cases in this section show that under the right circumstances they can grow into significant commercial ventures that generate substantial income. The Indigenous Community of Nuevo San Juan Parangaricutiro in Mexico, for example, produces 11 million USD in annual sales of its timber and non-timber products, and generates some 900 permanent and 300 seasonal jobs in a community numbering around 7,500 members. Similarly, the ecotourism lodge operated by the Ese'eja Native Community in the Peruvian rainforest netted over 660,000 USD between 1997 and 2007 for the isolated 500-member community.

Given their importance, it is not surprising that much of the work of community-based forest initiatives goes into building these local enterprises, especially in the beginning. This involves selecting an appropriate activity, acquiring the technical and business skills necessary, and tackling the many obstacles that rural enterprises face, including physical isolation, lack of market connections, inadequate finance, and unfriendly government regulations. The help of partners and support organizations is often essential in meeting these challenges. In Honduras, MOPAWI provides the technical training needed to isolate and harvest non-timber forest products such as batana oil—an ingredient in high-quality hair products. Just as essential, MOPAWI has established market supply chains that enable communities to export the oil to cosmetic companies in the United States and Canada. Establishing such value chains has allowed local batana oil production to increase from 1,000 liters per year to 88,000 liters per year, and to raise the price obtained per liter from 1.50 USD to 7 USD.

The work of MOPAWI is just one example of the vital role of partners in developing local enterprise capacities. In reality, community forest initiatives often make use of several different sources of support and training. These include government extension services, universities, and local and international NGOs that can provide select training, business planning, market development, and certification for products that are organically or sustainably produced. It also includes organizations such as cooperatives, producer groups, and federations that allow community groups to network, share information, and jointly market their products.

Private sector partners can also be beneficial—even essential—as several of the cases demonstrate. The timber enterprises of Nuevo San Juan Parangaricutiro, the ecolodge of the Ese'eja, and the Yawanawá's lucrative contract to produce urucum fruit were all dependent on the participation of commercial partners, at least in the early stages. These partners brought their technical and business expertise, as well as their markets, and invested considerable time to develop the capacities of their rural clients. In the case of Aveda (the commercial partner of the Yawanawá), it took six years and thousands of dollars of investment for the commercial relationship to become profitable.

Overall, these cases show us that when local enterprises are chosen carefully, supported consistently as they develop their capacities, and encouraged to link together in cooperatives, federations, and knowledge networks, they can become the foundation for a more sustainable and equitable rural economy—the leading edge of the "green economy" that generates jobs and income while it supports local indigenous culture and maintains the community's ecosystem assets. This kind of local green economy is vital if forest communities are to prosper when they choose climate-friendly forest management.

5. **Local Knowledge and Innovation:** Local knowledge is a key resource that makes community-based initiatives relevant and adaptive, while local innovation bridges between traditional practices and modern forest management.

The reservoir of traditional knowledge and local expertise that communities bring to bear on their forest management is a key asset in their success. Forest communities draw on generations of experience in managing local ecosystems, often codified into well-defined traditional resource management regimes with long records of sustainability. Although many of these indigenous practices have been modified or abandoned as communities have faced demographic and political changes in recent decades, this knowledge remains as a potent resource that can be called on to adapt community forest initiatives to local conditions and ground them in local culture.

Many Equator Prize-winning forest initiatives are dedicated to applying this indigenous expertise. The Association of Manambolo Natives (FITEMA) in Madagascar provides an example of where the initiative has made the most of its sustainable forestry traditions within a modern context. Prior to the French colonization of Madagascar in 1895, the use of natural resources in the Manambolo area was governed by a system of rules known as Dina, which determined how and by whom forest resources could be harvested. FITEMA reintroduced this indigenous land use system as a way to reign in uncontrolled forest use and reestablish a sense of local control and a method for social acceptance of the new forest use rules. While the forest is still officially under state control, the local Dina system has been formally recognized by the government, making it legally binding. The system is administered by elders working through forestry management associations in each participating community, and strives for equitable and sustainable sharing of resources by local residents.

Indigenous knowledge and traditional practices are not just a link with the past, but a bridge to the future as well, and a basis for local adaptation and innovation. In most cases, local forest initiatives draw on both traditional knowledge and modern practice to construct a hybrid management system that fits the community. In Honduras, MOPAWI meshed traditional cacao production with new agroforestry practices to yield a mixed system of fruit trees, timber species, and organic cacao. Likewise, the Yawanawá in Brazil used their knowledge of local plants to help solve their river transport problems. They are now processing seeds of the abundant jatropha plant, long used for medicinal purposes within the community, into biodiesel that can be used to power their boats—the most important transport link to the world outside their indigenous reserve. In another cross-over between traditional practice and modern culture, the Yawanawá have launched a line of clothing for sale in Brazil using traditional drawings and paintings as the design motif—an instance of adapting traditional culture to support modern Yawanawá identity and fund its social and alternative livelihood programs.

6. **Scalability and Sustainability:** Successful community-based forest initiatives have shown high potential to scale up through a combination of local advocacy, effective outreach, and the help of intermediary support organizations. Inclusive governance, consistent benefits, and continuous public education promote sustainability.

Community-based forest initiatives need not remain simply "local" solutions to isolated problems. Because many of the challenges faced by rural forest communities are quite similar, Equator Prize forest initiatives often have broad appeal as models, and have shown a consistent ability to scale up, sometimes quite rapidly and at low

cost. The Ekuri Initiative has expanded its activities beyond Ekuri itself to five other villages and another 10,000 people, while FITEMA has exported its model to eight other buffer zone communities within the rainforest region in which it works. Such growth often begins organically, driven by peer-to-peer communication and site visits by representatives from other communities anxious to see results firsthand. Documentation of local benefits by journalists, and dissemination of success stories by NGOs, donors, and even forestry department personnel also play an important part in promoting successful community projects and driving growth.

Scaling of community forest solutions can also be aided by intermediary support organizations that link communities through technical assistance and capacity building programs, and facilitate networking and information sharing. In Peru, the Association for Research and Integrated Development (AIDER) serves this function, working with communities in five different regions of the country to tailor alternative livelihoods to local needs, and transfer sustainable forest management methods and technologies. As it has helped community forestry efforts go to scale, AIDER has explicitly addressed climate concerns by promoting forest carbon trading in some of its projects and working to have the community forestry initiatives it works with recognized under the country's REDD+ program.

Beyond expanding their size and reach (quantitative scaling), community-based forest initiatives have also shown the ability to scale up in other crucial ways. For example, they may broaden their portfolio of activities, diversifying their forest enterprises and expanding the services they render to the community. They also tend to broaden their influence in policy circles, and thus their impact as examples of sustainable rural development and local empowerment. This functional and political scaling is essential to the maturation and organizational development of local initiatives, allowing them to multiply the benefits they bring to local communities and at the same time elevating them to the national stage where their innovations can be shared more widely and can influence forest practices on a larger scale.

Of course, to create lasting impact, community-based forest initiatives must not only grow and expand, but must also mature and demonstrate sustainability over time. This is particularly relevant when considering climate benefits such as carbon storage, whose value lies in longevity. In this respect, Equator Prize forest initiatives have an impressive record of sustainability, with all but one of the initiatives that appear in this section established more than 20 years ago, and some much more. The Indigenous Community of Nuevo San Juan Parangaricutiro, for example, began its sustainable timber harvesting initiative in 1982.

The sustainability of these and other forest initiatives is a product of changing the incentive structure around forest use through the consistent delivery of income and social benefits. But it also depends on changing—through education and information—the local perception of what forests can provide, so that the community endorses the initiative's forest management goals and enforces its rules on forest use. The governance structure of the community initiative is also critical. An organizational structure that empowers community members and gives them a continuing voice in forest management decisions provides an incentive to remain involved in the initiative's work and claim its successes as their own.

Forest-Friendly Agriculture

The cases in this section highlight the importance of agriculture to rural forest communities and the ways in which communities have incorporated agriculture into their sustainable forest management regimes. Agriculture is the most important source of income and employment in rural communities. Even in forest communities, smallholder farming is generally essential for food security and household income. Unfortunately, poor farming practices are a common source of forest degradation and outright forest loss.

As these cases reveal, many forest communities have found ways to reconfigure their smallholder agriculture so that it is both more productive and less harmful to local forests. This may involve applying agroforestry techniques, adopting new cropping systems and farm technology, or experimenting with alternative agricultural products. It also usually entails a serious reorientation of local thinking and a substantial investment in training in new farming practices and marketing approaches. The local benefits can be profound: increased food security and income, and reduced pressure on local forests – which translates to less forest conversion and greater climate benefits.

Cases in this section

Adidy Maitso Association, Madagascar

Overview

Adidy Maitso Association was established in 2005 with the aim of conserving the natural resources of Didy Forest – a dense moist forest in the Alaotra-Mangoro region of eastern Madagascar. The forest lies within the Ankeniheny-Zahamena Corridor, which is renowned for its high species endemism and biodiversity. The Association works through 16 local community associations to manage and restore the forest corridor, educate local communities on the economic benefits of biodiversity conservation, and provide training to local farmers and women's groups on agricultural and income diversification. The group is actively engaged in maintaining an indigenous tree nursery, patrolling and surveying local forests to regulate against unsustainable forest use, radio programming, training on improved agricultural practices for greater crop yields, and running a demonstration and training center for local farmers.

Basic Facts

Founded: 2005

Location: Ambatondrazaka, Alaotra-Mangoro Region, Madagascar

Beneficiaries: 218 members in 16 villages

Biodiversity: Ankeniheny-Zahamena forest corridor

Key Impacts

- Devolution of management rights to the Didy Forest has resulted in the creation of participatory forest management plans (based on ancestral boundaries and local knowledge) that employ forest zoning to create strict protected areas, mixed-use areas, and settlement areas.
- Agricultural extension officers build local capacity and expertise by disseminating improved agriculture and animal husbandry techniques to communities via a training center, in person, through workshops, by radio, and at model farm demonstration sites.
- Greater rice yields and livelihood diversification (e.g., fish farming, livestock, and home gardens) have improved nutrition and local incomes and dramatically reduced the use of slash-and-burn agriculture, which posed one of the greatest threats to the Didy Forest.

Farmer-To-Farmer Program (PCaC), Nicaragua

Overview

The Farmer-to-Farmer Program (Programa de Campesino a Campesino - PCaC) has operated throughout Nicaragua since the post-war period of the early 1990s, as part of the worldwide Via Campesina movement, which advocates for food sovereignty, agrarian reform, and democratic governance of food production systems. The Farmer-to-Farmer Program in the northern municipality of Siuna is one of 65 such programs in Nicaragua which provide technical assistance to small-scale agricultural producers. The network began its work in 1992 with the goal of controlling the rapidly expanding agricultural frontier within the Bosawás Biosphere Reserve, while aiming to enhance food security, increase household incomes, and strengthen regional governance throughout Nicaragua's newly designated North Atlantic Autonomous Region. Three hundred volunteer extension officers work in over 80 communities and serve more than 3,000 subsistence-farming families.

Basic Facts

Founded: 1992

Location: Siuna Municipality, Nicaragua

Beneficiaries: 3,000 families

Biodiversity: Bosawás Biosphere Reserve

Key Impacts

- Through workshops, photos, radio, music, plays, and one-on-one interactions, 300 expert farmers disseminate innovative farming techniques to 80 communities and more than 3,000 families.
- Adoption of cover cropping with velvet bean, contour plowing, the use of organic pesticides, and farm diversification has increased farm yields and reduced slash-and-burn agricultural encroachment into the Bosawás Biosphere Reserve.
- Agroforestry activities have created more than 1,000 ha of "farmer biological corridors" that provide communities with food and timber while simultaneously serving as a buffer zone to the Bosawás Biosphere Reserve.

Farmers Association for Rural Upliftment (FARU), Philippines

Overview

The Farmers Association for Rural Upliftment is an initiative of the Chananaw indigenous people of Kalinga Province in the Philippines. The initiative aims to protect the environmental integrity of the Chananaw's ancestral domain through improved land management and more efficient agricultural techniques. Catalysts for the formation of the initiative included large-scale mining and geothermal projects, as well as local slash-and-burn agricultural practices. In response, FARU revived an indigenous community conserved area – the Chananaw Ullikong – and improved farm productivity through the introduction of locally-appropriate technologies and agricultural practices. Since the initiative began, rice production has increased by 36 percent, significantly reducing poverty rates.

Basic Facts

Founded: 1990

Location: Kalinga Province, Philippines

Beneficiaries: Chananaw indigenous people

Biodiversity: Chananaw Ullikong Conservation Area

Key Impacts

- The initiative established the Chananaw Ullikong, a nine km2 indigenous conserved area in which 40 percent is protected forest, 30 percent is reserved for rice terracing, 20 percent is for sustainable farming, and 10 percent is for pasture land.
- Customary laws and traditional knowledge systems employed in the ancestral domain have increased food security, ensured continuous water supply for consumption and irrigation, and reduced forest fires by 75 percent and slash-and-burn agriculture by 50 percent.
- Improvements in agricultural production (e.g., the use of traditional crop varieties, drought-resistant rice, and use of indigenous knowledge systems) have increased rice yields by 36 percent and led to a 27 percent reduction in the number of community members living below the national poverty line.

Riba Agroforestry Resource Centre, Cameroon

Overview

Riba Agroforestry Resource Centre is a community-based organization working in mountainous northwest Cameroon, close to Kilum-Ijim Mountain Forest. The Centre promotes sustainable tree-based farming to rehabilitate watersheds and degraded land, and to generate income for the local community. A rural resource center provides training in agroforestry and nursery management, watershed protection, beekeeping, microfinance, and marketing of tree seedlings and farm produce. The initiative's tree-based farming system has successfully halted deforestation and improved soil fertility, while sales from tree nurseries and honey are supporting sustainable livelihoods. The initiative is guided by a self-help ethos, which has served to empower members of the community, promote gender equity, and instill a belief in the community's collective capacity to achieve positive change and a sustainable future.

Basic Facts

Founded: 1995

Location: Bui Division, northwestern Cameroon

Beneficiaries: 26 satellite farmer groups

Biodiversity: Bamenda Highlands

Key Impacts

- The Riba Agroforestry Resource Centre covers seven hectares of land, including a woodlot, a system of tree hedges, a tree nursery, apiaries, and fertile agricultural fields, and serves as a training and demonstration site for 26 satellite farmer groups.
- Agroforestry activities are improving soil fertility and farms yields, and reducing pressure on surrounding forests; the planting of 16,000 trees in riparian strips has also increased the availability of water to communities during the dry season.
- Introduction of beekeeping and superior varieties of native fruit trees such as African plum (*Prunus africana*) and bush mango (*Irvingia* spp.) has increased farmer income and reduced dependency on cash crops like cacao and coffee, which are often subject to dramatic price fluctuations.

Muliru Farmers Conservation Group, Kenya

Overview

Muliru Farmers Conservation Group is a community-based organization located near Kakamega Forest in western Kenya. The group generates income through the commercial cultivation and secondary processing of African blue basil (*Ocimum kilimandscharicum*), a native medicinal plant, to produce the Naturub® brand of medicinal products. The enterprise reduces pressure on the biodiverse Kakamega Forest by offering an alternative to the exploitation of forest resources, while the commercialization of the medicinal plant has heightened local appreciation of the value of the forest's biodiversity. Over half of the project participants are women and 40 percent rely entirely on this initiative for their income. A portion of the enterprise's revenues is invested in forest conservation and biodiversity research.

Basic Facts

Founded: 1997

Location: Western Province, Kenya

Beneficiaries: 360 households

Biodiversity: Kakamega Forest

Key Impacts

- To reduce pressure on the Kakamega Forest and improve local livelihoods, Muliru Farmers Conservation Group has trained 360 households in the cultivation of African blue basil, a native medicinal plant used to treat colds and respiratory problems.
- Over 770 tons of African blue basil have been processed, yielding 700 kg of essential oils, or 400,000 units of Naturub® products, worth more than 70,000 USD; initial successes have spurred an increase in cultivation from 2.5 ha to 20 ha.
- Muliru Farmers Conservation Group participates in the collaborative management of the Kakamega Forest with the Kenyan Forest Service, assisting with afforestation efforts (10,000 seedlings planted in 2010 alone), monitoring of biodiversity, and forest policing.

WHAT DO THE CASES TELL US?

These cases show the major impact that small-scale agriculture has on local forests, and the need to accommodate the legitimate food security needs of local communities within any sustainable forest management plan. They also indicate that improving the efficiency of local agriculture and thereby reducing pressures on local forests is not just a matter of identifying new farming practices and technical fixes, but of developing the willingness and capacity to use these new means through education and training programs. Ultimately, adopting an integrated approach to land use that recognizes the link between local farming and forest use, and accommodates them both within a larger framework of landscape management, is the best way to create a sustainable working landscape that delivers continuous climate benefits.

Considering the cases, the following lessons emerge:

1. **Food Security and Forests:** Smallholder agriculture is a bulwark of local food security, but also a primary source of pressure on local forests. Successful community-based forest initiatives address this essential forest-farm connection.

Agriculture is the cornerstone of the rural economy, essential to household subsistence and income. Even in communities where forest-related income is substantial, local field crops, livestock, and produce from home gardens are the basis of community food security. But small-scale agriculture is a source of forest conversion as well. While large-scale forest clearance for palm oil plantations and commodity crops is a major source of deforestation in many areas, smaller-scale forest clearance by smallholder farmers is still a significant source of forest pressure at the community level, and, along with fuelwood collection and other forest extractions, is an important driver of the degradation of local forests.

Low farm productivity, a lack of sufficient agricultural land to meet local demand, and continued reliance on traditional slash-and-burn farming techniques are common in many forest communities, driving the clearance of local forestland for additional crops and livestock. In Siuna in northern Nicaragua, for example, declining soil fertility from poor farming practices drove local farmers to invade the Bosawás Biosphere Reserve, using slash-and-burn to open up new farm tracts deep within the Reserve. Likewise, in Kalinga Province in the Philippines, traditional use of slash-and-burn led to a loss of biodiversity and degradation of the forest and watershed within the Chananaw people's indigenous lands. Invasion of agriculture into forest areas due to population increase was also a major source of forest pressure in the Didy forest in Madagascar, combined with illegal logging of valuable rosewood timber.

The cases in this section demonstrate the effectiveness of dealing directly with the food security needs of the local population as a first step in sustainably managing community forests. In fact, the vast majority of Equator Prize winning forest communities have incorporated local agriculture in their community forest management plans, understanding that forest use and agriculture are inevitably intertwined, and that failing to account for local agricultural patterns and food needs will undermine their community forestry goals as farmers turn to local forests as a land bank for farm expansion.

2. **Forest-Friendly Options:** Agricultural intensification, agroforestry, and adoption of alternative crops and markets can increase the productivity of local agriculture and integrate it into the forest structure, easing the pressure for forest conversion and overuse.

Successful programs to decrease the pressure from agriculture on local forests usually begin with efforts to intensify local agriculture, often with a combination of new, more suitable crop varieties, new methods and farm technology, and better water management. These strategies address the low productivity that typifies most smallholder agriculture, allowing local farmers to make better use of existing farm plots to generate more income and a better local food supply without turning to the conversion of forest lands.

In the Adidy Forest in Madagascar, local farmers have abandoned slash-and-burn cultivation in favor of a rice intensification program that has doubled and even tripled local rice yields. This is complemented by a farm diversification program that includes potato and bean processing, livestock rearing, fish farming, and establishment of home gardens. In addition, farmers have added off-season crops such as onions, bananas, soybeans, and corn that can earn premium prices and improve the variety of foodstuffs available locally, resulting in better household nutrition.

Similarly, in Siuna in northern Nicaragua, alternative farming practices championed by the Farmer-to-Farmer program transformed local subsistence agriculture based on slash-and-burn to a sustainable system based on planting legumes as cover crops to improve soil fertility, practicing contour plowing and minimum till practices to reduce erosion, using plant-based organic pesticides, and diversifying their crop mix and livestock rearing. This has enabled families to meet their basic food needs and sell their excess produce at market, reducing the impetus for new forest clearance.

Encouraging agroforestry that utilizes tree species with high agricultural value is another strategy frequently used to address local food supply and farm income issues in a way that maintains forest canopy and strengthens the bond between farmers and the forest. The Riba Agroforestry Centre in Cameroon promotes tree-based farming systems in which leguminous trees are interplanted in local fields to fix nitrogen and improve soil fertility, typically resulting in a doubling of crop yields. The cultivation of indigenous fruit trees such as African plum and bush mango is also encouraged to diversify farmer income. Likewise, in Siuna, farmers have planted some 25,000 allspice trees and other useful species that can yield income without tree felling. In fact, many of these trees are being planted on "Farmer Biological Corridors"—buffer zones around the Bosawás Reserve consisting of land contributed by individual farmers to protect the park, resulting in a net increase in forest canopy.

The Muliru Farmers Conservation Group in Kenya offers another approach to supporting local farmers with forest-compatible activities. In this case, the community has commercialized the production and sale of an extract from a medicinal plant indigenous to the adjacent Kakamega Forest. The extract is purified and formulated into products under the brand Naturub®, and used to treat flu, colds, aches, and insect bites. Rather than collect the plant from the forest, it is cultivated by area farmers on a contract basis, providing a secure income source for nearly 900 smallholder farmers, and avoiding any forest impact. The Muliru Farmers Conservation Group works under the auspices of the Mwileshi Community Forest Association, to which the Kenyan government has devolved local forest management rights.

In all of these cases, it is critical to understand that these farm-focused programs are not undertaken on their own, but in concert with forest restoration and protection measures, so that the two activities are linked in farmers' minds as one effort, emphasizing the supportive relationship between farm and forest.

3. **Education and Training:** Locally adapted training programs, demonstration sites, and community education efforts are essential to build the capacity and willingness to change local agricultural practice.

Education drives the change to forest-friendly agriculture. Changing ingrained local practices requires both a convincing rationale and an effective program to develop the technical and business skills required. For this reason, successful community forest initiatives spend a good deal of effort crafting farmer education and training programs and developing demonstration sites and model farms.

The cases in this section showcase several different models of agricultural extension, demonstration, and farmer-to-farmer learning. In Madagascar, Adidy Maitso has established a cadre of farming facilitators and extension agents who travel to local farms to conduct trainings, workshops, and face-to-face demonstrations of farming techniques. This is complemented by a group of model farmers who act as best practice exemplars, and a training center for larger group classes and coordination of the extension agents and facilitators. To insure widespread dissemination of both farming news and environmental conservation information, Adidy Maitso also uses radio broadcasts produced by the farming facilitators, extension agents, and model farmers.

The Riba Agroforestry Resource Centre is a community-funded training facility offering courses in agroforestry, nursery management, watershed protection, bee-keeping, and marketing of farm produce and tree seedlings. The Centre itself spreads over seven ha, with a nursery, demonstration fields, a training hall, and dormitories for visiting farmer groups. The Centre oversees 26 satellite farmer groups in the surrounding area, acting as a knowledge-exchange platform for these farmers to share their experiences on a one-to-one basis.

In Siuna, the Farmer-to-Farmer Program uses a "horizontal" learning approach based on direct information sharing between participating farmers. It employs a number of different communication strategies, including workshops, photo exhibits, radio programs, folk music, and plays, and has morphed into a broad agricultural movement through which farmers are adapting to the challenges of rural forest agriculture.

All of these programs are distinguished by their direct and personal appeal to local farmers, with trainings, facilities, and communication methods tailored to the local audience, and delivered by farmers and trainers with local roots and credibility. In addition, all are embedded in larger programs that relate the agricultural techniques and marketing approaches to broad community goals that link food security and forest care.

It should also be noted that training programs for Adidy, Riba, and Siuna were not confined to a single project or village, but were designed to create impact over a wide area, creating a network of "local experts" that were linked throughout the landscape in a joint effort to upgrade the prevailing agricultural practice. As such, these programs act as a primary tool in scaling up successful community-based programs so that so that they can effect landscape-level change.

4. **Integrated Landscape Management:** Sustaining local forests can be helped by adopting an integrated approach to land management that sees the interdependence of local agriculture, forestry, and other land uses.

While forests and forest management is the focus of this Reader, these cases show that a simple focus on forests alone is too restrictive and ultimately ineffective. In the village and community context, forests fit into a larger landscape in which several different land uses occur simultaneously that support the community's well-being, resulting in a mosaic of forests, fields, pastures, waterways, dwellings and other physical infrastructure. Sustainably managing community forests requires integrating these sometimes-disparate activities so that they are compatible within the landscape, and sustainable when taken together. Successful community forest initiatives tend toward

this whole-landscape approach to land management, and incorporate technical and educational programs that link these land uses and attempt to manage the trade-offs that may be required for them to coexist.

The Farmers Association for Rural Upliftment in Kalinga Province in the Philippines explicitly adopted this kind of landscape approach in its program to manage the Chananaw's indigenous lands. Their program addresses local forest degradation by revitalizing their traditional land management system, in which protected forest areas are integrated with designated zones for rice culture, pasture land, and vegetable crops, all governed under a detailed system of customary law that specifies land uses and harvest practices. The landscape is looked upon—and governed—as a single integrated system from which many benefits are produced that, while clearly differentiated, are nonetheless interrelated and mutually supportive.

The FARU program is also a good reminder that communities themselves are part of the landscape, with their social and economic cultures as important to landscape dynamics as the ecosystems and natural processes at work on the land. The Chananaw social system provides the backdrop and platform for their successful land management scheme. Successful forest initiatives in general reflect local cultural values and the community's social and economic context. This helps to explain the heavy emphasis that most community-based forest initiatives have on creating economic and social opportunity and empowerment, rather than just transferring technology and management systems to address technical forestry and farming issues.

Forest Restoration

The cases in this section examine the motivations, means, and benefits associated with community-initiated restoration activities in local forests. These restoration efforts vary from simple augmentation plantings in standing forests, to full-scale regeneration of forests in logged over areas and on converted agricultural lands. The fact that restoration is so common among community forest initiatives indicates the widespread nature of local forest degradation. But it also speaks to the determination of forest communities not just to halt forest decline, but to return their forests to health.

Restoration is generally driven by the goal of increasing forest productivity to better support local livelihoods, or to regain ecosystem services that forests delivered in the past, such as watershed management or coastal protection. Because of its ability to increase local forest resilience and regain ecosystem functions, forest restoration is also a common strategy for local climate change adaptation. Both of these strategies are on display in the cases that follow. No matter what the motivation, restoration efforts often become a defining activity for local forest initiatives, allowing local people to refine and act on their vision for the community forest resource.

Cases in this Section

Kijabe Environment Volunteers (KENVO), Kenya

Overview

Kijabe Environment Volunteers (KENVO) has worked with rural communities on the Kikuyu Escarpment in Kenya since 1996, with a primary focus on forest conservation and reforestation in response to human pressures on the escarpment's forests. The organization has evolved beyond this initial focus, however, into a flexible vehicle for holistic local development. Current activities include selling affordable fuel-efficient stoves to poor farming households; distributing mosquito nets to combat increased incidences of malaria; encouraging beekeeping and aquaculture as alternative livelihood activities; facilitating conflict resolution over water access between local tribes; environmental education; and developing ecotourism.

Basic Facts

Founded: 1996

Location: Kijabe, Kiambu County, Kenya

Beneficiaries: Rural communities of Kijabe

Biodiversity: Kereita Forest

Key Impacts

- KENVO established three tree nurseries which produce 100,000 seedlings every year that are sold to villagers at below cost for reforestation activities in Kereita Forest, as well as for agroforestry projects in communities.
- Beekeeping, aquaculture, and ecotourism provide communities with alternative livelihoods, replacing livelihoods based on logging and charcoal burning, which are harmful to Kereita Forest.
- Distribution of 300 fuel-efficient stoves has reduced local needs for firewood, improved health conditions in homes, and reduced time spent gathering wood, giving women more time to devote to childcare, gardening, education, and other activities.

Village Development Committee Of Ando Kpomey, Togo

Overview

After a devastating bush fire in 1973, the village of Ando Kpomey created a "green belt" buffer around its community that has since grown into a 100 ha forest. A participatory management committee has been established to monitor the forest and its resources, and to regulate its use. The community authorizes limited resource extraction to meet livelihood needs and manages revenues generated from the sale of forest-based products. Local women are authorized entry to the community forest to access firewood, significantly reducing the average time needed to forage for cooking fuel. Various crops are grown in the forest, including medicinal plants which contribute to local healthcare needs. Neighboring communities have been enlisted to protect the forest, and have benefited from knowledge sharing on natural resource management, participatory planning, and forest conservation. The village hosts peer-to-peer learning exchanges to share lessons learned, and has done so with communities and organization across Togo and Burkina Faso.

Basic Facts

Founded: 1973

Location: Maritime Region, southwestern Togo

Beneficiaries: 1,000 residents of Ando Kpomey

Biodiversity: Community forest

Key Impacts

- A 100 ha green belt surrounding the village of Ando Kpomey protects endangered and threatened species in this largely deforested region and provides important ecosystem services, including the suppression of bush fires, the recharging of wells, and the establishment of a microclimate that produces regular rainfall.
- Forest-friendly, alternative livelihoods, such as snail farming and apiculture, provide reliable income and food while reducing pressures on forest resources.
- The community forest enhances the village's land tenure by clearly delineating the extent of Ando Kpomey land and protecting it from "land grabs;" the forest also strengthens community pride and identity as it relates to stewardship of communal land.

Integrated Forestry Enterprise of Bayamo, Cuba

Overview

Integrated Forestry Enterprise of Bayamo is a state-run forest enterprise operating in Granma Province, Cuba. In 1999, Granma was one of two pilot sites for an ecological forest farms (Fincas Forestales Ecológicas) initiative, which put reforestation of the Cauto River Basin in the hands of smallholder farmers. The working model saw plots of land assigned to interested households for concession periods of 30 years. These households were given responsibility for managing and reforesting plots of between 12 and 25 ha, and were encouraged to plant timber-yielding trees, fruit trees, and medicinal plants. Over 3,000 ha of land along the banks of the Cauto River were reforested, improving local livelihoods and wellbeing. The initiative was later replicated in three hydrological regions of the country in 2004.

Basic Facts

Founded: 1999

Location: Initially, Granma Province; later, throughout Cuba

Beneficiaries: Rural communities

Biodiversity: Cauto River ecosystem

Key Impacts

- Reforestation of 3,000 ha of land along the banks of the Cauto River has reduced erosion and flooding, and restored local biodiversity.

- Socioeconomic benefits of the ecological forest farms project include the construction of nine solar power stations and 79 windmills to provide renewable energy, the rehabilitation of 1,000 ha of farmland to enhance food security, and the creation of 1,206 jobs (921 which went to women). Average salaries and agricultural production in the region increased by 17 and 38 percent, respectively.
- Granting land to families for 30 years has incentivized interest in maintaining forest plots, with a 95 percent survival rate. The project has been so successful that it was replicated in 3 hydrological regions of the country and across Latin America.

Abrha Weatsbha Community, Ethiopia

Overview

Once on the brink of resettlement due to desertification, soil degradation, and lack of water, the Abrha Weatsbha community in northern Ethiopia has reclaimed its land through the reforestation and sustainable management of over 224,000 ha of forest. Tree-planting activities have resulted in improved soil quality, higher crop yields, increased groundwater functioning, and flood prevention. The organization has constructed small dams, created water catchment ponds, and built trenches and bunds to restore groundwater functioning. Environmental restoration has led to livelihood improvements through crop irrigation, fruit tree propagation, and apiculture. Local incomes have increased and food security and nutrition have improved through the integration of fruit trees onto farms.

Basic Facts

Founded: 2004

Location: Abrha Weatsbha, Tigray Region, northern Ethiopia

Beneficiaries: The community of Abrha Weatsbha

Biodiversity: Restoration of degraded land

Key Impacts

- Forest restoration activities have transformed the area, bringing about the return of vegetation, a reduction in soil erosion, an increase in soil water retention, and the replenishment of springs and streams (rainwater recharge of groundwater stores is estimated to have increased by 50 percent).
- Increased access to water has improved agricultural productivity; many villagers using shallow wells are food self-sufficient for nine months of the year, while 27 percent of users are food self-sufficient year round.
- The initiative is deeply embedded in local life, culture, and identity, with self-sustainability and self-reliance being hallmarks of the organization as well as the village at large.

Trowel Development Foundation, Philippines

Overview

Trowel Development Foundation is a community-based organization employing climate-adapted aquaculture technology to replant mangroves. Mangrove reforestation efforts have focused on planting native tree species in strategic areas, resulting in restored marine biodiversity, food security, and protection of coastal areas. The

initiative also works to increase local incomes and improve livelihoods through a value-chain system to market tie-crabs. The group has established five community-managed tie-crab farms that benefit 250 subsistence fishing households. This innovation has been implemented in idle fishponds, where mangrove-friendly and climate-adapted tie-crab fattening technology has been employed to double the income of fishing households.

Basic Facts

Founded: 2004

Location: Northern Samar Province, Philippines

Beneficiaries: Over 250 families

Biodiversity: Mangrove ecosystems

Key Impacts

- Restoration of 20 ha of mangrove ecosystems has led to the reappearance of local fish stocks and other marine fauna, improved local economies, reduced erosion, and protected shorelines against climate-related natural disasters.
- Tie-crab technology – securing crabs to set bamboo poles with attached buoys – improves crab feeding and harvesting, and allows farmers to quickly collect and shelter crabs before severe storms.
- The tie-crab project has doubled the income of 250 participating households, enabling families to pay for school fees and healthcare, as well as improving food security.

WHAT DO THE CASES TELL US?

Community-based approaches represent some of the most effective and sustainable avenues to genuine forest restoration and recovery. They tend to be more sustainable than large state-sponsored afforestation efforts because the benefits they deliver to communities are substantial and increase over time, rewarding continued stewardship by local people. They not only increase forest productivity and support forest livelihoods, they inspire local collective action, transforming community perceptions of what can be accomplished in local forests, especially among the young. Community-based forest restoration is effective even in areas that large-scale afforestation projects avoid, such as drylands, coastal mangrove forests, village forest patches, and other areas where forest degradation has eroded local forest benefits even though standing forest remains. Thus, it offers a way to take advantage of mitigation and adaptation opportunities that might otherwise be ignored.

Considering the cases, the following lessons emerge:

1. **Motivation and Results:** Communities undertake forest restoration primarily to support local livelihood goals or regain lost services such as water regulation or coastal storm protection. But restoration has social benefits and teaching value as well, inspiring local participation in forest activities.

The immediate goal of most community-based restoration is to regain forest structure and augment productivity to support forest livelihoods, often by introducing agroforestry species. In Kenya, the Kijabe Environment Volunteers works with communities to plant some 100,000 seedlings per year of indigenous species to rehabilitate the Kereita Forest. Additional seedlings are sold below cost to local households for agroforestry use in their home plots, to reduce the need for tapping forest resources. In the Kereita Forest and in many communities, local nurseries produce the seedlings used in augmentation plantings, and often become substantial forest enterprises themselves, and another source of forest-friendly income.

In addition to boosting forest productivity, restoration activities allow degraded forests to regain healthy ecosystem functions and recover the many ecosystem services they formerly provided. Prominent among these is better watershed regulation, with local communities such as Abrha Weatsbha and the residents of Bayamo experiencing more regular water supply, and diminished erosion and flooding. In Ando Kpomey, the establishment of the community greenbelt resulted not only in better water recharge of local wells, but in suppression of bush fires, which had become common after the disappearance of the original forest. In Northern Samar in the Philippines, replanting of mangroves under the guidance of the Trowel Development Foundation brought back both the rich marine habitat and the coastal protective function associated with mangrove forests.

Community-initiated forest restoration is rarely a stand-alone activity as it is in large state-sponsored or private sector afforestation projects. In the community context, it is part of a mutually reinforcing suite of activities that include developing alternative livelihood and agricultural options to ease forest pressures, and adopting and enforcing rules to regulate forest and land use. In Abrha Weatsbha Community in Ethiopia, Bayamo in Cuba, and even the Trowel Development Foundation in the Philippines, for example, tree planting was only part of a larger, integrated plan to restore the land and resource base and stabilize the local economy.

Whatever the original motivation for restoration activities, they often take on greater importance within the community as time goes on, acting as a source of inspiration for what can be accomplished, and a corroboration of the community's initial vision for local forest management. In some cases, restoration can be transformative in the life of the community. In Ando Kpomey Community in Togo, original ambitions for the newly planted community greenbelt were modest. But as time went on and the greenbelt began to function as a real forest, the community's vision expanded to embrace this larger function. The forest became a community focus—a contributor to the village

economy and a source of pride and recognition within the largely deforested region—and the village began to see itself as a forest community again. The transformation has been so impressive that five neighboring communities have adopted the community's forest regeneration model. Similarly, restoration activities in Abrha Weatsbha in Ethiopia have transformed the village landscape markedly, and with it, the community's view of its future.

Forest restoration is also commonly used as a teaching opportunity. Ando Kpomey encourages educational visits from other communities and regularly conducts awareness raising workshops on its methods, even going out to other villages to share their experience. Because raising and planting seedlings are jobs that even young people can do, restoration efforts frequently become a platform for environmental education and a way for local schools to contribute to the community endeavor. In the Kereita Forest, for example, the Kijabe Environment Volunteers carries out extensive mentoring work with local youth groups, including enlisting their help tending tree seedlings at local nurseries.

2. **Mitigation Potential:** Community-led forest restoration has considerable global mitigation potential because it is widespread, is especially suited to restore degraded forests, is applicable in areas where large-scale reforestation projects are not, and is sustainable due to community buy-in.

Community-led forest restoration has several attributes that make it flexible and widely applicable, and that give it great potential to contribute to the global forest restoration goals of the New York Declaration on Forests and the newly adopted Sustainable Development Goals. First, it is well-suited for degraded forests—areas where standing forest remains, but where forest quality is low. While these areas are not fully deforested, their ecological functions, productivity, and carbon storage are impaired. The Kereita Forest where the Kijabe Environment Volunteers works is a good example, with selective timber felling, charcoal manufacture, and uncontrolled grazing all contributing to the forest's degraded condition. The restoration effort there was effective because it not only augmented the forest with new seedlings, but at the same time acted to discourage destructive behavior through education and development of economic alternatives.

This ability to reverse forest degradation is especially important today, because such degradation is increasingly common, and its significance to the global climate is increasing rapidly as well. While global greenhouse gas emissions from deforestation dropped somewhat from 2001 to 2015, emissions from forest degradation increased some 150 percent over this period, according to a recent UN Food and Agriculture Organization estimate. Thus, the need to target degraded forests in restoration efforts is urgent. Community-based initiatives are one of the only strategies proven to successfully target these areas, which are difficult to address with large-scale reforestation regimes.

In a similar vein, and for similar reasons, community-led restoration is applicable in many other situations where large-scale afforestation and reforestation programs are not well-suited. These include drylands, coastal mangrove forests, village forest patches, and areas where agriculture and other land uses are closely integrated with the local forest. The labor-intensive and locally tailored approach of community-led restoration works well in these demanding situations, as in the dryland environment of Abrha Weatsbha and the coastal swamps of Northern Samar in the Philippines.

Another critical attribute of community-based forest restoration is its sustainability. The return on the investment in time and energy that the community initially makes grows significantly over time as the forest's productivity is restored, providing an inducement to stay involved and protect the restored forest from renewed degradation. In Ando Kpomey, community commitment to the forest restoration gradually grew alongside the new greenbelt, first planted in 1973, and residents have evolved a system of byelaws, local taxes, and training to protect their investment and assure the forest's future. In the Integrated Forestry Enterprise of Bayamo in Cuba, 95 percent of the households participating in the land restoration program have maintained their forest plots—a sharp contrast with the record of previous large-scale reforestation projects in the area.

3. **Restoration and Adaptation:** Forest restoration is a powerful climate adaptation tool. It rebuilds landscape resilience, supports a transition to climate-adapted livelihoods, and restores protective functions such as flood control, erosion prevention, and coastal buffering.

Forest restoration is not only a way to repair the damage of the past, but to adapt to changing conditions today and in the future due to a changing climate. Many communities are using forest restoration as a way to adapt to disruptions in seasonal rainfall patterns, increasing risks from severe weather, and other environmental stresses related to climate change. In fact, a number of Equator-Prize winning forest initiatives have been recognized for their best practices in community-based adaptation. Trowel Development Foundation in the Philippines focuses on mangrove reforestation, replanting native mangroves in abandoned aquaculture ponds. The goal is two-fold: restore the natural coastal protection that mangrove forests had provided before their replacement with fish farms, and regenerate the original productivity of the nearshore marine environment that is a mainstay of the local subsistence and cash economy. A critical part of the community restoration work has been establishing a new local livelihood option in the form of crab raising. The restored mangrove swamps have provided a perfect environment for a new climate-adapted system of raising and fattening crabs by tethering them to bamboo poles set among the mangroves with a buoy. The bamboo tethering system encourages rapid weight gain, makes harvest easy, and yet is storm resistant, since the crabs are easy to remove when storm-related flooding hits. The combination of mangrove restoration and high-value crab farming has revitalized the local fishing economy while better protecting vulnerable coastal villages from storm surge.

In the drought-prone Tigray region of northern Ethiopia, adaptation has taken a different form. The Abrha Weatsbha community was on the verge of abandoning their village due to severe land degradation brought on by near complete deforestation of the region and poor grazing and farming practices. Climate patterns in recent years, with even more irregular rain cycles, have only made conditions worse. In response, the community launched the Abrha Weatsbha Natural Resource Management Initiative, which combined a comprehensive tree-planting campaign with grazing and soil management restrictions, and the construction of small dams, wells, and ponds. The result was the rapid return of vegetative cover to the surrounding common lands, reduced erosion, and increased water infiltration and storage. This greatly increased the quantity and reliability of the community water supply. While return of a mature forest will require many more years of community diligence, the planting of fruit trees and other agroforestry efforts has already brought gains in income and food security.

The experiences of the Trowel Foundation and Abrha Weatsbha demonstrate that the adaptation benefits of forest restoration are far reaching and go beyond a response to climate change alone. Community-based forest initiatives help forest communities become "adaptive" in the widest sense. Forest restoration and the return of ecosystem functioning translate to healthier, more resilient forests, which in turn support forest community resilience, with more economic opportunities, and less vulnerability to natural disasters and environmental threats, whether from climate change or other sources. In this sense, it is a precursor and key ingredient of a wider landscape resilience, where both communities and natural systems can continue to thrive in the face of change.

Forest Protection

Cases in this section feature community initiatives to protect forests in indigenous and community conserved areas (ICCAs), sanctuaries, reserves, or other explicitly protected zones. They also examine instances where local communities take a lead role in managing state-protected areas adjacent to or encompassing the communities. These community-protected forests vary widely in size from a few hectares to many thousands of hectares, and also vary in the kinds of use permitted within their borders. Regardless of size or use, the intent for all these areas is to protect them from degradation. They therefore represent areas with both high biodiversity value and high climate mitigation potential.

As these cases reveal, communities have compiled an impressive conservation record in protected forest areas that they have designated themselves. They have also proved to be engaged and committed conservation partners in state-designated protected areas when given the chance. Indigenous and local people create community conserved areas for many different reasons—to preserve forest areas or species of special cultural relevance, to protect watershed functions, or to guard the integrity of their traditional lands, to name a few. Whatever the specific local reason, and although the efforts often produce benefits far beyond the local community, these areas represent conservation done on the communities' terms. For this reason, these local conservation efforts are often more sustainable and effective than top-down government programs.

Cases in this section

Monks Community Forest, Cambodia

Overview

Monks Community Forest is an 18,261 ha of community conserved forest in northwest Cambodia. In response to widespread deforestation, the monks of Samraong Pagoda acquired legal protection of the forest, established patrol teams, demarcated the forest's boundaries, and raised environmental awareness among local communities. The monks developed unique approaches to law enforcement based on Buddhist principles, demonstrating the power of linking conservation with traditional customs and beliefs. A co-management committee of villagers, government authorities, and NGOs has been developed to manage what is now Cambodia's largest community forest. Although logging and hunting are prohibited, villagers may use traditional fishing methods, collect fallen timber for construction, and harvest non-timber forest products like bamboo, wild ginger, fruit, and mushrooms.

Basic Facts

Founded: 2001

Location: Northwestern Cambodia

Beneficiaries: More than 3,700 people from six villages

Biodiversity: 18,261 community conserved forest

Key Impacts

- Creation of the community forest provides environmental services, subsistence resources, and commercial products for 3,700 residents of six economically marginalized villages.
- Local villagers who collect mushrooms in the Monks Community Forest earn as much as 150 to 200 USD per month (Cambodia's average annual income is 700 USD).
- Monks Community Forest is one of thirteen community forests involved in Cambodia's REDD+ (reduced emissions from deforestation and forest degradation) program, which could provide sustainable financing for protection activities and livelihood support to local communities over the long term.

Serraniagua Corporation, Colombia

Overview

Serraniagua Corporation works to ensure the connectivity of protected areas throughout Colombia's Cordillera Occidental mountain range, a key component of the Chocó-Manabí Conservation Corridor. The group connects the conservation corridors of the Tatamá National Park and Serranía de los Paraguas through a series of 60 community-managed and seven state-managed nature reserves, and encourages the participation of local and indigenous communities in environmental planning processes. Working through a broad stakeholder base, including cacao, coffee, and sugar producers, ecotourism operators, environmental groups, rural schools, and women's associations, this dynamic social network protects the biodiversity of the surrounding region in a way that respects the livelihood needs of the local population.

Basic Facts

Founded: 1996

Location: El Cairo, Valle del Cauca Department, Colombia

Beneficiaries: Rural communities, farmers, and producers

Biodiversity: Network of 60 community nature reserves

Key Impacts

- As an intermediary support organization, Serraniagua Corporation has forged links among community practitioners, government authorities, and the scientific community, resulting in landscape level conservation planning that is informed by sound science and local needs.
- The initiative created a biodiversity database for the region which identifies priority species and conservation interventions; the database was also responsible for the designation of the region as an Important Bird Area.
- Serraniagua Corporation has steadily expanded community protected areas, integrating more than 3,000 ha of community nature reserves into the Tatamá-Paraguas regional network of private nature reserves.

Wechiau Community Hippo Sanctuary, Ghana

Overview

This community-managed wildlife sanctuary occupies of a 34 km stretch of riverine forest, floodplain, and savanna woodland along the Black Volta River, in northwestern Ghana. Created in 1998 in response to the decline of hippopotami due to high levels of hunting, the sanctuary uses revenue from ecotourism to deliver infrastructure investments to the residents of its 17 member communities. Through a balancing of ecological and social needs, the sanctuary delivers substantial conservation and socioeconomic benefits: poaching has been eliminated and the hippo population has stabilized, while investments in schools, health facilities, solar lighting, and water infrastructure have improved the wellbeing of approximately 10,000 local residents. The initiative was used as a model for the design of Ghana's Community Resource Management Area legislation.

Basic Facts

Founded: 1998

Location: Upper West Region, Ghana

Beneficiaries: 720 local households

Biodiversity: 237 bird, 50 mammal, and 32 reptile species

Key Impacts

- Local leaders rejected government proposals to establish a hippopotamus reserve in the region, opting instead to create a community-managed sanctuary with the aims of protecting hippopotami, restoring habitat, and generating revenue for local villages.
- Collection and sale of organic and fair trade certified shea nuts from the hippo sanctuary provides employment for 1,445 women and has generated 52,000 USD to date.

- Profits from ecotourism and partner donations have been invested in local infrastructure, providing communities with potable water (through boreholes), solar lighting, two primary schools, student bursaries, and the regular delivery of medical supplies to three health clinic.

Sisi Initiative Site Support Group, Fiji

Overview

Sisi Initiative Site Support Group manages natural resources around the periphery of the Natewa Tunuloa Important Bird Area. The organization has established a 6,000 ha community-protected forest and developed alternative livelihood options for the area's indigenous landowners. Developed in response to illegal logging, forest fires, overgrazing, and agricultural encroachment, the organization uses an innovative incentive scheme to protect flora and fauna in Natewa Tunuloa. Communities signed a Memorandum of Understanding in which they agreed to protect the community forest and refuse logging concessions. The initiative provides alternative livelihood training and projects in beekeeping, poultry-raising, handicraft and jewelry-making, baking, pastry-making, and sustainable agriculture. The group's model farm and tree nursery also help to reduce deforestation. The initiative has been used as a learning model for community-based conservation and forest management across Fiji.

Basic Facts

Founded: 2005

Location: Island of Vanua Levu, Northern Division, Fiji

Beneficiaries: Traditional clans (mataqali) of Natewa

Biodiversity: Natewa Tunuloa Important Bird Area

Key Impacts

- The Memorandum of Understanding which underpins the 6,000 ha community-managed forest is based on traditional knowledge and local customs and gives 11 traditional clans (mataqali) authority over land management decisions on their respective parcels.
- The initiative is providing local communities with sustainable sources of income that do not rely on felling local forests, including apiaries and a poultry farm that earned 550 USD in two months from the sale of chicks (average daily income in the region is 11 USD).
- The Sisi Initiative Site Support Group is a "bottom-up" approach that has brought needed attention to the importance of community-managed areas and the legal obstacles they confront in Fiji, a country which currently lacks national protected area legislation.

Nam Ha Ecotourism Project, Lao PDR

Overview

Located in the remote northern province of Luang Namtha on Lao PDR's border with China, the 222,400 ha Nam Ha National Protected Area includes some of the country's most significant wilderness areas. Altitudes range from river valleys and plains to highland peaks, supporting a broad range of habitats and biodiversity. Since 1999, conservation efforts in the area have been linked to improving ecotourism, which now underpins the economy for the area's 57 villages and 3,451 households. Community members are trained as eco-guides and operate village-

based lodges and forest camps. They are also trained to monitor threats to biodiversity in the protected area, supporting the work of the under-resourced Protected Area Management Unit. The project has provided a model for co-management of Laos's protected areas.

Basic Facts

Founded: 1999

Location: Luang Namtha, northern Laos

Beneficiaries: Over 21,000 people in 57 villages

Biodiversity: 222,400 ha Nam Ha National Protected Area

Key Impacts

- The organization has created "Integrated Conservation and Development Initiatives" that provide revenue sharing mechanisms, income, and infrastructure for the villages in exchange for improved local environmental management.
- Since 1999, community eco-guides and associated ecotourism providers have earned more than 600,000 USD, a significant sum in an impoverished province where GDP per capita is 389 USD (compared to 678 USD nationally).
- Based on the success of Nam Ha's Eco-Guide Service model, guide services have been initiated in two additional districts in Luang Namtha Province, whereas three services were opened in three separate provinces in Lao PDR between 2004 and 2006.

WHAT DO THE CASES TELL US?

Indigenous and community conserved areas (ICCAs) demonstrate that forest conservation is not just the province of state-designated protected areas, but is an important community priority as well. The forests designated as ICCAs represent some of the highest-quality forests under community control. Their successful protection is important not just to community conservation goals, but to global biodiversity goals and global climate goals as well.

Community-protected forests offer a powerful complement to state-designated protected areas. They are flexible and responsive to local demand, and often occur in areas that state protected areas would tend not to encompass. They are rooted in local culture and demonstrate the power of linking conservation with traditional knowledge and customs. Community participation in their management is often high, increasing their effectiveness and sustainability. Emerging experience shows that linking these vital community protected spaces together in dynamic networks across the landscape can magnify their local benefits and scale up their biodiversity and climate benefits.

Considering the cases, the following lessons emerge:

1. **Conservation and Local Culture:** Community-protected forest areas reflect local cultures, express local conservation values, and respond to local environmental pressures. Their strength is that they are designed with the community in mind, making them more effective and sustainable than state-managed protected areas.

Community-protected forest areas reflect the cultural values and conditions on the ground in individual communities. These ICCAs are tailored to meet local needs and express local autonomy, rather than to follow the conservation mandates of others.

Levels of protection differ among ICCAs, with some precluding local access altogether, but many others allowing some forms of local use, such as collection of non-timber forest products. Forest ICCAs may also be integrated in traditional land management systems, in which areas with stricter protection are interposed with other forest areas where greater community use is permitted, including agriculture.

The immediate reasons for creating forest ICCAs differ widely among communities and may include protecting valued species and sacred sites, preserving watershed functions, supporting traditional cultures, and contributing to the local economy. In the Monks Community Forest in Cambodia, a Buddhist monk disturbed by the rampant destruction of forests in his region inspired residents of six villages to declare the surrounding forest a protected area. With the goal of preserving the forest for future generations and retaining access for local people for sustainable forest use, volunteers from the six communities marked forest boundaries, formed forest patrols, conducted local awareness campaigns, and ultimately convinced the government to grant the forest legal protection.

Similarly, the Sisi Initiative Site Support Group in Fiji was formed when continued forest degradation threatened a local forest area known for its bird diversity. A group of local residents on the Natewa Tunuloa Peninsula convinced the 11 indigenous clans that are the principal land owners in the area to prioritize conservation and put in place a 10-year moratorium on logging in exchange for a suite of alternative livelihood projects directed at local villagers. In the Wechiau Community Hippo Sanctuary in Ghana, the continued decline of the local hippo population due to poaching and habitat degradation inspired the creation of the sanctuary, which sharply restricts resource use along a 34-km stretch of the Black Volta River. Hippos are highly respected in local culture, and are featured in local creation stories and puberty rites. Before the local designation of the sanctuary, Ghana's Wildlife Division had proposed establishing a government-controlled hippo reserve in the same area, but the offer was rejected by the Paramount Chief of the Wechiau Traditional Area in favor of the community-managed sanctuary.

In each of these cases, the ICCA sprang organically from the community, reflected the desires of the local stakeholders, and was carried out and enforced by community members themselves. Because each of these ICCAs evolved from and fit within local culture and practice, local adherence to any use restrictions imposed was high. These cases provide convincing examples of the power of practicing conservation on local terms, for local purposes. Their strength is that they are locally adapted and designed with the community in mind, and therefore more effective and sustainable than many state-managed protected areas, whose primary aim is preserving habitat and conserving biodiversity, with community concerns often only a secondary consideration.

Designating and managing ICCAs are not the only way in which communities participate in forest conservation. The Nam Ha Ecotourism Project in Laos is an example of how communities can become effective forest stewards when authority for state protected-area management is devolved to the local level. In this instance, 57 communities surrounding the 240,000 ha Nam Ha National Protected Area have been given responsibility for providing ecotourism services such as tour guides and local lodging, and for managing and protecting natural and cultural tourist sites within the protected area. Additionally, communities have established small village-based sanctuaries to encourage regeneration of forest wildlife and plants within the village environment. Although this is a state-managed project, it effectively mobilizes the local knowledge and pride of the surrounding forest communities, and increases the financial resources of these communities through revenue sharing and employment.

2. **ICCA Effectiveness:** The conservation value of ICCAs is high. Because they are embedded in local culture and arise from local demand, community compliance with use restrictions within the ICCAs is good and local participation in their management is strong, boosting results.

Community protected areas can be highly effective in conserving local biodiversity and protecting resources of high value to the community, even though they often permit some forest use by local people. In the Wechiau Hippo Sanctuary, there have been no recorded cases of hippo poaching since the sanctuary's founding in 1998, and the hippo population has stabilized. Logging in the 6,000 ha community declared protected area associated with Fiji's Sisi Initiative has ended and restoration activities have begun. In the Monks Community Forest in Cambodia, illegal forest activities have declined sharply and the forest has now become Cambodia's largest community forest.

One obvious factor in the effectiveness of these community conservation efforts is the level of community participation in the formation and governance of local forest ICCAs. Typically, land use plans are derived through community consultation and protection activities such as monitoring and enforcement fall to community members to perform. The result is that the majority of local people are aware of the initiatives and accept their basic philosophy and practice.

Another important factor is that most of these conservation efforts exist within traditional social systems where local customs carry great weight, respect for traditional authority runs deep, and social enforcement of community norms is common. In the Monks Community Forest, for example, the fact that Buddhist monks are leading the effort is a principal reason why the community has thrown its support behind the project, and one reason why local compliance is so high. Monks are greatly respected by the local populace, and acting against them is considered improper. As part of the forest protection process, the monks conduct tree ordination ceremonies to bless the oldest trees, wrapping their trunks in saffron robes. For the local Buddhist population, cutting trees or killing wildlife within these ordained forests is seen as morally wrong. In close-knit rural communities, such social enforcement can be a powerful force.

The effectiveness of forest ICCAs has also benefitted from the decision by many communities to not apply too rigid a standard of "protection." Rather than set a standard of not allowing any community use of protected forests, the ICCAs in these cases generally accommodate some level of local use. In Monks Community Forest, for example, community members are allowed to collect fallen timber as building materials, fish using traditional methods, and harvest mushrooms, wild ginger, and other non-timber forest products. This flexibility stands in sharp contrast to

many state-managed protected areas where local use is forbidden. The looser standard applied in many ICCAs is another example of maintaining community members as allies rather than alienating them, in order to sustain their involvement in protection efforts.

3. **Beyond the Local Level:** Forest ICCAs can create wider impact through community–based networks that increase connectivity of ICCAs and state protected areas across the landscape.

Community conservation efforts don't need to remain disconnected islands of local forest protection. Emerging efforts to create connectivity among the ever growing number of forest ICCAs and to link them to state-managed protected areas in order to create regional networks have already demonstrated that largescale coordination is possible. The Serraniagua Corporation's work in Colombia is indicative of what can be done. This consortium of community-based organizations promotes community nature reserves and links them together through coordinated land management plans to ensure habitat connectivity and to support sustainable livelihoods. The group's main work is to connect the conservation corridors of Colombia's Tatamá National Park and the Serraniagua de los Paraguas National Park through a series of 60 community-managed protected areas and seven state-managed nature reserves. In addition, Serraniagua Corporation also works with cacao, coffee, and sugar producer groups to harmonize the activities of these land users with the management plans of the community and state protected areas. The intent is to create a fully interlinked network of land users who can increase the functionality and sustainability of the larger conservation corridor while supporting the rural economy.

Creation of this kind of dynamic and interconnected network of ICCAs and other land uses is one way to magnify the conservation value and climate mitigation potential of community-protected forests. As with community-based forest management in general, the strength of forest ICCAs is their flexibility and grounding in local needs and experience. Connectivity across the landscape between local groups, however, is a way to add value and create synergies that are necessary for sustainability and resilience to emerge at a landscape scale.

Findings

A Community Route to Global Climate Goals

The case studies presented in this book provide an overview of both the local development benefits and the global climate benefits of community-based forest management, and the link between the two. The case materials also reveal what motivates communities to organize and carry out local forest initiatives, and the enabling conditions—the resource rights, partnerships, and capacities—that help them to succeed. Below is a summary of the principal findings that emanate from the cases and the associated analysis.

1. **The scope of potential climate benefits from community-based forest management is large.** These global climate benefits are significant for several reasons:

   - ***Significant in area.*** Community-based forest initiatives work at a local level, village by village and forest by forest, but their aggregate impacts are much larger in scope. The territories and communal lands claimed by indigenous peoples and local communities encompass millions of hectares of forest. Community-based forest management already extends over larger areas than many realize, and could expand considerably under the right policy conditions and with adequate support. The case studies represented in this book alone cover well over 1 million ha. Community-based forest management goes well beyond the local, and is unmistakably a global phenomenon with high potential for scaling up.
   - ***Significant in the quality and sustainability of benefits.*** Successful community-based forest management generates mitigation and adaptation benefits of high quality. In terms of mitigation, these efforts maintain and increase carbon storage in local forests by reducing forest pressures and deforestation rates, preserving intact canopy, regenerating cleared areas, and restoring degraded forests to a healthier state. What distinguishes this mitigation is its sustainability—reinforced by a continuing stream of benefits and accumulated experience—amid the rural environment where conversion and extraction pressures on forests can be intense. But mitigation accounts for only half the climate benefits that community forest initiatives deliver. Adaptation benefits are also substantial. By increasing forest productivity and restoring ecosystem functions to degraded forests, community-based forest management generates new economic opportunities for climate-impacted communities and reduces their vulnerability to drought, flooding, storm surges, fire, and other natural disasters. At a systemic level, these initiatives increase the baseline resilience of the landscape, making communities and ecosystems more adaptive and climate-proof.
   - ***Significant for where it can be applied.*** Community-based forest management is marked by its wide applicability and ability to generate local benefits and regenerate vital forests in situations where other interventions fail. It can be effective in areas where the pressure to overuse or clear local forests is strong, as well as in areas of degraded forest. It can be applied in drylands and mangrove swamps, in hilly regions, and in forest patches adjacent to settlements—all areas where the success of top-down reforestation programs has been limited. In other words, it can protect forests that would not otherwise be protected, restore forests that would otherwise remain degraded, and reduce the vulnerability of rural communities that would otherwise be ignored. It is a mechanism to generate climate benefits that would otherwise be missed.
   - ***Significant for the change in local thinking it engenders.*** Community-based interventions work because they change the way communities think about and act toward their local forest resources. This change in thinking is often a prerequisite for community willingness to adopt and even innovate new management practices, establish new sustainable forest enterprises, and persist through obstacles and over years. The evolution in local norms about what is appropriate forest use and what forest management should aspire to is a hidden but important climate benefit that community forest initiatives are uniquely able to deliver. Community education and outreach is key to producing this change in attitude, and it is no coincidence that successful community forest initiatives invariably have a strong education and communication component to stress the link between sustainable forest management and local wellbeing.

2. **To generate global climate benefits, community-based forest initiatives must deliver on local development priorities.** Communities are motivated more by local benefits and empowerment than by global climate goals. Indeed, respecting these local motivations is the only route to achieving the significant

climate benefits associated with community-based forest initiatives. A central lesson of the cases is that achieving climate benefits through community-based forestry is not simply a matter of quickly increasing the acreage under forest canopy. It is about creating a convincing rationale for sustainable forest use and protection that brings forests into the active lives of community members and provides economic, social, cultural, and spiritual benefits substantial enough to motivate the community over the long term. Community-based forest initiatives do this by supporting local livelihoods, generating new enterprise opportunities, and changing the economic circumstances of the community. They also do this by empowering the community, increasing its sense of self-determination, pride, and cohesion, and revitalizing local culture. For indigenous and local communities, this empowerment aspect is often pre-eminent and determines whether the community will embrace the forest initiative.

3. **Empowerment begins with secure land rights.** No single factor provides a greater motivating force for the adoption of community-based forest management, or plays a more central role in its success, than secure land rights. Many of the cases show the power of combining advocacy for indigenous lands rights with sustainable forest management practices to safeguard community forests. Such rights are needed to effectively control illegal forest incursions, fend off land grabs, and provide the stability and incentive to make long-term investments in the recovery and maintenance of forest health. Since the quest for land rights and the self-determination and control such rights allow is a defining issue for so many communities, providing such rights is a key strategy for enabling local forest action and capturing global climate benefits.

4. **An integrated, landscape approach maximizes the potential of local forest management.** In the rural setting, forests, farm fields, pastures, protected areas, and villages all coexist in a mosaic of land uses. When these land uses clash, the forest often suffers, as when forests are cleared for agricultural expansion. Adopting an integrated approach to forest management, in which a variety of forest uses—including agriculture—may take place within the forest landscape, is the best way to maximize local forest benefits, including climate

benefits. This is part of a larger "landscape approach" to land use management, in which these land uses are planned together in ways meant to reinforce each other and manage inherent trade-offs, as part of a sustainable landscape. Many of the communities profiled here already practice this kind of integrated land use management, incorporating forest-friendly farm practices, buffers zones, and community protected areas into their management schemes. Emerging experience from Equator Prize winning communities and others shows that adopting this kind of landscape approach can help tackle the governance challenges inherent in rural ecosystem management, with its many stakeholders and land uses. It can also help scale up local successes beyond a single community by encouraging communities to coordinate their efforts within a given landscape to take advantage of synergies and to share resources and support.

5. **Partnerships are vital.** Partnerships—both at the community level and beyond—have been vital to the success of every Equator Prize-winning forest initiative. Partners provide an array of support services—from technical and business consultations to political organizing and outreach—that communities may not be able to provide for themselves. The absence of these management, business, and organizational capacities is one of the fundamental obstacles that local groups must overcome. Most community initiatives have many partners, including NGOs, universities and research institutes, private sector companies, and government agencies. These alliances give isolated communities access to specialized skills, appropriate technology, and networks for communication and learning. They are also essential to the development and growth of the forest enterprises at the heart of many forest initiatives, giving communities access to markets beyond their normal outlets, and sometimes developing into significant business relationships with private sector companies. The cases clearly indicate that such partnerships, if thoughtfully designed, do not diminish the autonomy of the community groups undertaking forest initiatives. Rather, they connect these groups to a wider audience and expand their reach beyond the community borders. Supporting and participating in dynamic partnerships with communities is one of the best ways that donors, governments, NGOs, and the private sector can encourage the expansion of local forest initiatives and the scaling up of the climate benefits they produce.

Supporting Community-Based Forest Management in a New Global Climate Regime

Indigenous and local communities already play an important, although under-acknowledged, role in safeguarding the global climate through the sustainable management of communal forest land. But they can and should be supported to play a more prominent role in the new international climate framework. Community-based forest initiatives undertaken by indigenous peoples and local communities can make unique and timely contributions to the goals of reducing deforestation and restoring degraded forests, thereby reducing emissions. Indeed, with an enabling policy environment and the right partnerships, community efforts can be an important factor in achieving the international goal of keeping global warming to 2°C. Likewise, community-based forest management, because of its effectiveness in restoring degraded forests, could undoubtedly play a substantive role in achieving the forest restoration targets set by the Sustainable Development Goals and the New York Declaration on Forests. Just as importantly, community-based efforts have a record of sustainability that will be critical to maintaining progress on climate change and poverty reduction targets in decades to come.

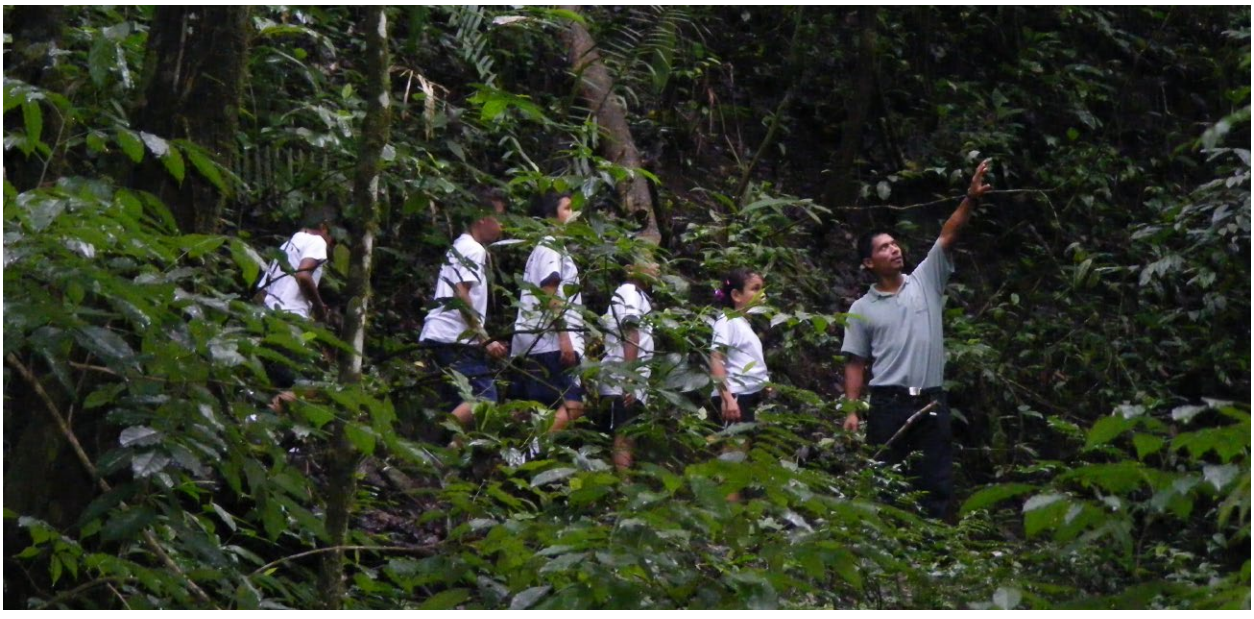
But to play this role, forest communities require the recognition, land rights, resource access, and support to enable them to scale up their efforts and create landscape-level change. To facilitate this, the international community and national authorities should take action in three areas:

- **Acknowledge the contributions and potential of community-based forest initiatives.** A first step in advancing the forest management efforts of indigenous peoples and local communities is for the international community to acknowledge their current achievements and potential contributions to mitigating forest emissions and adapting to climate change. One tangible expression of this would be to integrate community-based mitigation potential in the national carbon commitments that countries make—their Intended Nationally Determined Contributions. In addition, it is essential for policymakers to acknowledge the

importance of the "non-carbon" benefits that community-based forest management yield. This involves embracing the fundamental logic of community approaches—that achieving climate benefits involves delivering community development benefits.

- **Recognize and respect indigenous territories and community land rights.** There is a huge unmet demand for secure land rights in forest communities. According to a recent analysis, indigenous peoples and local communities lack legal title to nearly three-quarters of their traditional lands. This mismatch between the forest area that communities claim and the area to which they hold legal title represents one of the prime obstacles to scaling up the development and climate benefits of community-based forest management. Action to greatly expand the official recognition and legal protection of community land rights is thus a first order of business. Such tenure reform can capitalize on technological improvements in mapping, demarcation, and land titling that have recently decreased the costs of legally recognizing indigenous and community lands.
- **Provide an enabling environment of policies and support.** Land and resource rights by themselves are not enough. They are only one element of an enabling environment that can facilitate local empowerment, develop local governance and business capacities, provide financial and capacity support where needed, and remove regulatory obstacles to the growth of small rural enterprises. Providing these enabling factors requires the participation of many actors. Governments can build local capacities though extension services, revise tax policies to encourage forest enterprises, encourage the formation of cooperatives and associations to link communities and foster knowledge transfer, and help with forest monitoring and enforcement. NGOs and other service providers can partner with communities to transfer technical skills, help draft forest management plans, conduct research, and help with education and advocacy. Private sector companies can contribute product development and market research, and donors can provide reliable and well-timed finance, strategic thinking, and communication of local achievements. While forest communities are resourceful and self-reliant, these contributions from outside actors can be vital in removing obstacles, and promoting up-scaling of local successes.

Addressing global climate change in a way that honors the sustainable development aspirations of indigenous and local communities is one of the defining rural development challenges of our day. Community-based forest management offers a route to meeting this challenge by generating a range of economic and social benefits for local people while reducing global carbon emissions, and helping rural communities to adapt to the unavoidable impacts of climate change. Embracing this approach requires listening to forest communities, empowering them with sufficient land rights and political access to carry out their management plans, and partnering with them to provide the technical, financial, and political support they need. The results can go well beyond climate mitigation and adaptation benefits and lead to more resilient rural landscapes where communities, local economies and natural systems can thrive.



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EQUATOR INITIATIVE

Equator Initiative
Sustainable Development Cluster
Bureau for Policy and Programme Support
United Nations Development Programme
304 East 45th Street, 6th Floor
New York, NY 10017
USA

Tel: +1 646.781.4023
E-mail: info@equatorinitiative.org
Web: www.equatorinitiative.org