SHIFTING THE POWER:

Decentralization and Biodiversity Conservation

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SHIFTING THE POWER:

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IN THE LAST FEW DECADES, conservationists and natural resource managers have moved away from trying to keep people out of protected areas and toward developing productive relationships with resource users. Conservationists now study and vigorously debate the extent to which other human activities should be included in conservation programs and sites. Most new conservation plans call for local participation in natural resources management and many advocate shifting power to the local level as a way to promote conservation-oriented decision making about natural resources management and benefits and, by extension, about biodiversity.

Simultaneously, global economic trends and democratization have fueled a decentralizing trend in policy making and management, a tendency evident in

issue areas ranging from education to land-use regulation. Some proponents argue that decentralization fosters efficiency and broadens participation. Conservationists often assume that decentralization furthers conservation goals by transferring environmental responsibilities and regulation to experienced, knowledgeable, and conservation-oriented local people. Now it is time to unpack and assess this bundle of assumptions about decentralization and take a closer look at whether decentralized resource control is more likely to yield better environmental stewardship, a predatory free-for-all, or something in between.

Wild passionflower in rainforest, Kuna Yala, Panama.

BACK

WHY STUDY DECENTRALIZATION AND CONSERVATION?

Our study set out to understand how decentralization of decision making and management authority affects biodiversity conservation. At the heart of our research are two questions: whether decentralization empowers the people living in most direct contact with natural resources, and, if this power shift does occur, whether it is likely to result in environmental policies and management practices that reduce threats to biodiversity.

In this document, we use the terms "Conservation" and "Natural Resources Management" to mean two different things. Conservation primarily represents the state of species, habitat, and ecosystem function in a specific area. Natural Resources Management is a set of actions taken to ensure the long-term conservation of an area.

We wanted to examine the experiences of governments, local communities, and conservation organizations in negotiating new relationships when decentralization has changed the political context for environmental management. We wanted to examine these experiences through a focus on the institutional arrangements created, the balances of power among stakeholders, and the capacities of institutions to undertake their newly defined roles and responsibilities.

We employed a working definition of decentralization as any process that increases the fiscal, institutional, or political autonomy of part of a country in relation to the country as a whole. Broadly speaking, decentralization processes are understood to move the locus for decision making and management from a central institution to institutions or organizations closer to the places those decisions affect. In addition to decentralization from higher to lower levels of government, this process can also involve the transfer of authority to community organizations, resource user groups, the private sector, or nongovernmental organizations (NGOs).

Our Central Assumptions

At the outset of our study, we articulated our two central questions as assumptions reflecting the positive expectations many conservationists have about decentralization and decentralized natural resources management.

- **Assumption One:** The devolution of authority, responsibility, and funding capability (i.e., power) by central government to regional and local institutions and organizations will give greater power over natural resources management to those people in most direct contact with the resources.
- **Assumption Two:** When those people most directly in contact with natural resources have the power to decide how to manage them, and have viable economic alternatives to overuse, they will promote the conservation of those resources and, thus, reduce threats to biodiversity.

To assess the validity of these assumptions through on-the-ground investigation, we chose a cross-section of six cases — in Bolivia, Botswana, Guatemala, Mexico, Panama, and the United States. These cases were chosen to illustrate a broad array of primary levels of decentralized authority over natural resources and a similar diversity of case study units, operating arrangements, and countries. For five of these studies, we contracted case study authors and provided them with a standardized research topic guide to give the study a consistent framework for comparison. The Bolivia case study, which also fits this framework, was donated to our project by its authors after they wrote it. The research topic guide outlined a framework for addressing key elements.

- History of decentralization in the case study country
- Description of the management area
- Reference to special qualities of and threats to the dominant biodiversity/ecosystem that would affect the type(s) of institutions needed
- Description of institutional arrangements involved in decentralization, including institutional accountability
- Analysis of where the institution governing conservation fits in relation to the state-level institutions that influence conservation behavior
- A political economy of the institutional arrangement, including an analysis of the relationship between state/public, and individual/private interests in biodiversity conservation
- Assessment of institutional capacities to meet conservation goals
- Conclusions regarding the two assumptions

In This Publication

This publication summarizes the findings that emerged from our analytical synthesis of the six case studies. In the following section, we provide a table organizing our case studies according to primary level of decentralized authority over natural resources, followed by summaries of the six case studies. In the third section, ***Decentralization and Conservation***, we discuss the promise of decentralization and some pitfalls in its practice that can undermine conservation aims. This is followed by ***What's at Stake?***, in which we examine the stakeholders, power relations, and considerations about conservation-oriented alliances in decentralized natural resources management. The following section, ***Institutions and Conservation***, presents the institutional conditions that can contribute to effective decentralized natural resources management and biodiversity conservation. In ***Putting the Findings in Perspective***, we address how the assumptions we stated stood up to the case studies. We also discuss lessons from our findings, presenting several conservation principles gleaned from this research, and then briefly discuss suggestions for patterns and variables around which further inquiry might yield interesting results. We conclude with ***To Learn More***, where you will find a complete reference list and recommended readings. Throughout, we supplement our analytical overview with cases-in-point and other details and illustrative examples drawn from our six case studies. The full text of all six case studies can be found online in the **publications** section of the BSP Web site at **www.BSPonline.org**.

BACK

CASE STUDY SUMMARIES

The six cases chosen for this study illustrate a broad array of levels of decentralized authority over natural resources and a similar diversity of case study units, operating arrangements, and countries. This section includes a table, below, that organizes the case studies according to primary level of decentralized authority, followed by summaries of the cases themselves.

DECENTRALIZATION CASE STUDY LISTING

Level of Decentralized Authority, Unit, Operating Arrangement, and History

PRIMARY LEVEL of Decentralized Authority over Natural Resources	CASE STUDY UNIT *Case Study Country*	OPERATION of Post-Decentralization AUTHORITY OVER RESOURCES	DECENTRALIZATION HISTORY
COMMUNITY	/Xai/Xai Community *Botswana*	Community management authority. Funding possible from commercial operator payments or NGO/government project funding. Centralized rulemaking authority, wildlife quota system co-managed.	Centuries of *de facto* decentralized community-level resource management authority modified by central appropriation of rulemaking authority. New Ju/'hoansi San/Mbanderu community wildlife trust establishment involved government cooperation, international donor funding, and traditional local conflict resolution practices.
COMMUNITY	Quintana Roo Forest *Ejidos* *Mexico*	Community-level management authority. International agency funding, some direct timber revenues. Rulemaking, enforcement authority divided among state and federal government entities.	Private stakeholders coalition replaced commercial timber monopoly, reorganized local timber production and commercialization through *sociedades* (societies) of *ejido* (community property) members and associations. Developed community, government, NGO, and bilateral funding agency support.
MUNICIPALITY	Lowland Region Municipalities *Bolivia*	Municipal (county) government authority over forestry resources. Financing from timber royalty concessions. Some central oversight.	Central government initiated broad decentralization process linked with democratizing efforts, with international influences. Forestry arrangements influenced by long-time grassroots agitation for financial benefit from regional forest resources.
PRIVATE NGO	Sierra de las Minas Biosphere Reserve *Guatemala*	Private national Guatemalan NGO management authority. Financing from international conservation NGOs. National government responsible for law enforcement.	Broad decentralization process initiated by central government, influenced by international interests, accompanied by strengthening of country's environmental measures. Congress approved NGO proposal for reserve creation; government assigned reserve management to NGO.
INDIGENOUS AUTONOMOUS DISTRICT	Kuna Yala Comarca *Panama*	Indigenous management authority retained by indigenous congress. Financing from international conservation NGOs.	Inhabitants of Kuna autonomous district formed alliance with international NGOs and donors for project to translate *de jure* autonomous control over district territory into *de facto* jurisdictional control, planning, and management.
FEDERAL-STATE COLLABORATION	South Florida Ecosystem *United States*	Federal-state task force with management and rulemaking authority within an ecologically defined ecosystem area. Federal and state funding. County governments retain authority over land-use planning, development concessions.	Economic and political interests in Florida, backed by Federal law, led to new federal-state collaboration targeted at protection, restoration, and management of an ecosystem of national and international conservation significance.

Decentralization, Development, and Natural Resource Management in the Northwestern Kalahari Desert, Botswana

(Decentralized Authority: Community)

Ju/'hoan San (!Kung) woman, resident of /Xai/Xai. In the traditional San social system, policy decisions rely on extensive public discussions in which all female and male adult community members have an equal say. There are about 300 Ju/'hoansi in 23 households living in /Xai/Xai today, and about 50 Mbanderu (Herero), in 4 households.

For centuries, local Ju/'hoansi San populations in Botswana's remote areas have *de facto* independently managed wildlife and plant resources, bolstered by a religious system emphasizing safeguarding of resources for future generations. The area is also occupied by Mbanderu. Legislation passed in the late 1980s allowed for community wildlife trusts to be established and granted *de jure* recognition of local management autonomy for some customary rights and responsibilities. The central government's interest and legislation have focused on wildlife for hunting and tourism, providing for conditional rights over the use and management of wildlife, contingent on resource sustainability, and not for ownership or autonomous control. Local wildlife trusts can oversee activities such as safari hunting, tourism, resource collection, and craft marketing and manage funds generated by exploiting resources under their management. The case study focuses on a wildlife trust, the /Xai/Xai Tlhabololo [Wildlife] Trust, in one small northwestern Botswana community, where decentralization has sometimes meant limited acknowledgement more than empowerment.

All adult community members belong to the /Xai/Xai Wildlife Trust, established in 1997 and officially registered with the government. The Trust receives technical assistance from the /Xai/Xai Community-Based Natural Resource Management Project, a joint effort of the Botswana government and the Netherlands Development Organization that began in 1994. The Trust concentrates on preserving cultural traditions and on enhancing the organizational capacity of the community to utilize and manage its natural resources. It engages in income-generating activities and works to diversify the local economy by expanding craft production and marketing, tourism, small-scale vending businesses, and food production. Trust members participate in training activities sponsored by several national and international agencies and development projects.

While recognizing local customary rights and responsibilities in law, the district councils and central government have actually increased their own authority, retaining control over most funding capacities. The central government

The complete Botswana case study, authored by Robert Hitchcock, is available online in the publications section of the BSP Web site at ***www.BSPonline.org.***

still sets the off-take quotas for wildlife and the wildlife management species lists. Central government delineations of protected areas, communal lands, or institutional jurisdictions have often conflicted with local ones, limiting local access to land and resources. /Xai/Xai community members have sometimes perceived these differences as a means to exclude them from areas of traditional use, and have become concerned about their lack of legal title or usufruct rights to the land they still occupy and use. The present situation has also sparked internal community concerns. Some have seen the shift toward a community quota system not as a restriction on environmental destruction, but as an abrogation of their fundamental rights to hunt under traditional customary law. Others in /Xai/Xai have been concerned that local elites would take over the board of the Trust and thus control revenues from wildlife and natural resources management, though as safeguards community members are authorized to recall board members or call for a new election.

The Forest Ejidos of Quintana Roo, Mexico

(Decentralized Authority: Community)

This case study outlines an initiative for community-based management of harvesting and sales of mahogany and other economically valuable timber species in the tropical forests of Quintana Roo state, in Mexico's Yucatán Peninsula. This initiative grew out of an early-1980s local movement to break away from a (bankrupt) state-owned timber monopoly and provide for timber revenues to go directly to local communities. With the political backing of then-governor Pedro Joaquín Coldwell, and extensive technical and financial support from a joint Mexican-German program, the *Acuerdo Mexico-Alemania* (AMA), in 1983 this initiative developed into the *Plan Piloto Forestal* (PPF—Pilot Forestry Plan), involving a partial transfer of powers to about 50 *ejidos* with considerable forested areas. *Ejido* refers to a legally recognized form of common property. By 1986 these *ejidos* had formally banded together in *sociedades* (societies), recognized under Mexican law as community enterprises dedicated to sustained-yield forest exploitation and joint sales. Prior to a

Mexican foresters measuring wood. In 1986, the Acuerdo Mexico-Alemania provided the impetus for the creation of formal associations of ejidos *known as* sociedades civiles, *(civil societies), for-profit non-governmental organizations. Each* ejido *designates two* ejiditario *representatives for the delegate assembly of the* sociedad *to which it belongs. Each* sociedad *has a technical directorate staffed by professionally trained Mexican foresters, who work with* ejidos *to carry out forest inventories to determine species volumes and subsequently produce* ejidal *management plans that are approved by that* ejido.

1992 amendment of the Mexican Constitution, *ejido* property could not be parceled off, mortgaged, or sold, and *ejido* members had usufruct rights. Since the constitutional amendment, these may now be transformed into individual land titles, except in forested *ejido* land. This confusing situation sometimes leads to threats to forests near agricultural *ejido* land.

An early sociedad civil *in Mexico was the* Sociedad de Productores Forestales Ejidales de Quintana Roo, S.C. *(SPFEQR).* Sociedades *often connect* ejido *members with timber buyers and consumers, with most* ejidos *forming crews to harvest and transport timber.* Ejidos *with significant mahogany endowments have also sometimes formed communal enterprises to saw roundwood or even manufacture value-added products such as rustic furniture, promoted and supported by the* sociedades, *with assistance from the Acuerdo Mexico-Alemania.*

Without a single coordinating institution, this community forestry initiative has been managed via continuous negotiation among stakeholders from state and federal government, foreign funding agencies, and local *ejidos* and regional forest *ejido sociedades.* Responsibility for forest policy and regulatory and enforcement authority have remained with Mexico's federal government, divided among several ministries. Unfortunately, with each new presidential or gubernatorial regime, land-use rights and regulations are dispersed anew across several federal and state ministries, often hindering enactment and enforcement.

Under this community forestry initiative, harvesting quotas for mahogany were reduced and some direct timber revenues remained at the local level. *Ejidos* have paid for and received technical assistance for forestry management, relying heavily on outside agencies, particularly the AMA, for both technical and financial support. Local and regional *ejido* organizations have worked together and with forestry experts to set harvesting limits, determine forestry and conservation techniques, and explore marketing options such as value-added processing. While partial decentralization has provided greater opportunities in timber harvesting, other social and economic issues have made it difficult for *ejidos* to translate this assistance into development of other long-term land-use alternatives.

The complete Mexico case study, authored by Michael Kiernan, is available online in the publications section of the BSP Web site at ***www.BSPonline.org.***

Local Government and Biodiversity Conservation: A Case from the Bolivian Lowlands

(Decentralized Authority: Municipality)

As part of a broader reform process initiated in the first half of the 1990s and influenced by pressures from abroad as well as from within the country, Bolivia's central government gave municipal governments unprecedented formal authority over local forest resources, including the right to benefit from commercial timber concessions. Viewed as part of a general progression toward democratization, decentralization of forest management followed decentralization in other sectors, with schools, health facilities, roads, and sections of water systems also coming under local auspices. This case study focuses on decentralized forest management in Bolivia's tropical lowland regions, covering about three-quarters of the country.

Transporting wood in Tarija Department, Bolivia.

Under the decentralized arrangement, municipalities are supposed to receive 25 percent of the royalties from forest concessions and clearing, to be used for forest management and for developing local social infrastructure. Up to 20 percent of the municipalities' public forests are to be used by local community groups. Since decentralization, municipal governments also have a role in making sure timber concessions and sawmills comply with forestry regulations.

The authors found that the short-term effects of these transfers of timber royalties often depended on prior conditions of local power distribu-

tion. Popular participation and the forestry reforms did open some new opportunities for local governments, indigenous people, small farmers, and foresters. Indigenous people and other local actors have not always been able to organize effectively to consolidate their gains, often allowing the already organized local elite to consolidate more power for itself instead. Politically or socially influential groups residing outside municipalities usually seem to have been net losers of power, though these outside elites have also continued to exercise decisive influence in many localities.

The complete Bolivia case study, authored by David Kaimowitz, Gonzalo Flores, James Johnson, Pablo Pacheco, Iciar Pavéz, Jackson Roper, Cristian Vallejos, and Roger Vélez, is available online in the publications section of the BSP Web site at ***www.BSPonline.org.***

Local governments have also been constrained by limited funding, legal ambiguities, and local politicians' lack of interest, and at least initially the central government's forestry superintendent had proven hesitant to turn logging revenues over to municipalities. Often lacking human and financial resources, local governments had by the time of this study mostly confined themselves to drawing up plans to use the funds for local forest management, rather than making and enforcing new forest policy.

Delegating Protected Area Management to an NGO: The Case of Guatemala's Sierra de las Minas Biosphere Reserve

(Decentralized Authority: Private NGO)

As in Bolivia, decentralization of Guatemala's natural resources management followed decentralization in other governmental sectors. The winding down of Guatemala's long civil war and the country's strengthening of its environmental policy measures both facilitated the early-1990s establishment of Sierra de las Minas Biosphere Reserve, the focus of this case study. The Guatemalan government assigned reserve management authority to *Defensores de la Naturaleza* (Defenders of Nature), a national NGO. *Defensores* and the government have a shared stated goal of biodiversity conservation and ecological services protection.

Guatemala mountain vista. Most of the annual budget for Sierra de las Minas Biosphere Reserve is raised by NGO Defensores de la Naturaleza, from a wide array of international public and private sources, and, to a lesser extent, from national private sources and trust funds. The National Protected Areas Council, CONAP, funds the salaries for some reserve guards.

A considerable population lives within the boundaries of the reserve, which contains a core zone,

buffer zone, sustainable use zone, and recovery zone. Some private landowners, cattle ranchers, and Guatemalan timber companies, concerned about limitations on their own use of the reserve's natural resources, have opposed *Defensores'* management regime. Soon after the reserve's establishment, Guatemala's Constitutional Court upheld *Defensores'* legal management authority and dismissed a landowner suit objecting to restrictions on certain economic uses of privately owned reserve lands.

In administering the reserve, *Defensores* often works in association with resident local communities and leaders, local government, and other NGOs. *Defensores* raises money abroad to maintain the reserve, while the national government remains responsible for law enforcement in the region. *Defensores* staff are also involved in advisory bodies — called municipal technical units — formed by governmental agencies and NGOs that have assisted municipalities in integrated planning, policy, and technical matters related to the reserve area.

The complete Guatemala case study, authored by Estuardo Secaira, Andreas Lehnhoff, Anne Dix, and Oscar Rojas, is available online in English and Spanish in the publications section of the BSP Web site at ***www.BSPonline.org.***

Defending Kuna Yala: PEMASKY, the Study Project for the Management of the Wildlands of Kuna Yala, Panama

(Decentralized Authority: Indigenous Autonomous District)

PEMASKY director Guillermo Archibold, standing at Nusagandi. Commanding a view from the Continental Divide toward the islands of Kuna Yala, Nusagandi, near the Kuna Yala Comarca's mainland border with Panamanian territory, became the project center for PEMASKY in the early 1980s.

This study examines the internal strengths and weaknesses of an indigenous initiative, the *Proyecto del Estudio para el Manejo de las Areas Silvestres de Kuna Yala* (PEMASKY), undertaken by the Kuna to defend their autonomous region within the Republic of Panama from outside encroachment by non-Kuna. Decentralization in this Panama case study involved not a shift in power, but national acknowledgement of rights that already existed, and a process of intensification of prior Kuna control.

As provided for in the Panamanian Constitution, the Kuna Yala *Comarca*, or District, is under semi-autonomous management by the Kuna people. Kuna Yala encompasses an archipelago of coral islands paralleled by a long and mountainous strip of mainland rain forest. To protect their largely uninhabited mainland territory from outsider colonization and extractive activities, the Kuna created PEMASKY. International conservation organizations and research institutions interested in preventing deforestation of the intact tropical forest in this boundary area subsequently embraced the project, helping the Kuna establish a designated protected area and gain outsider recognition of Kuna management control over it.

Unfortunately, the large-scale expectations and funding heaped on PEMASKY by outside organizations rapidly outgrew the project's capacities, hastening its demise. The case study contends that PEMASKY was never apportioned the time or training it would have needed to adapt to its new role as intermediary between Kuna and non-Kuna Panamanian interests.

The complete Panama case study, authored by Mac Chapin, is available online in the publications section of the BSP Web site at ***www.BSPonline.org.***

PEMASKY did result in many positive outcomes for the Kuna and for biodiversity conservation. Kuna territorial boundaries were marked and a protected area established, unregulated land use by outsiders was reduced, and several spin-off Kuna NGOs and environmental education programs were developed. The traditional Kuna worldview encompasses spirit sanctuaries, a kind of extractive reserve. PEMASKY further raised Kuna awareness of ecological issues and led the Kuna General Congress to pass its own environmental legislation, defining sovereign Kuna rights to the natural and mineral resources of their territory, and providing oversight for the conservation and sustainable use of those resources.

Institutional Arrangements for Ecosystem Management: The Case of South Florida, United States

(Decentralized Authority: Federal-State Collaboration)

The Florida Everglades is an endangered ecosystem of both national and global significance, only partially encompassed within Everglades National Park. The Everglades' component resources are of local, state, and federal interest for both conservation and development. This case study details how decentralization for the restoration of the South Florida ecosystem has resulted in an unusual partnership of the U.S. federal government and state agencies, along with some participation by tribal and local governments. Recent U.S. policies, including the 1996 passage of the Federal Water Resources Development Act, have favored decentralization. Stemming from this act, the establishment of the South Florida Ecosystem Restoration Task Force

The complete Florida case study, authored by Barbara Wyckoff-Baird, is available online in the publications section of the BSP Web site at ***www.BSPonline.org.***

Water, land, and sky in Everglades National Park. Land and water in the South Florida Ecosystem are owned by federal, state, and local governments, as well as by private landowners; the ecosystem ranks second nationwide for percentage of land owned by the federal government.

and Working Group brought about unprecedented horizontal and vertical interagency collaboration. The task force has seven federal, three state, two tribal, and two local government representatives, and a large budget provided by federal and state funding.

This version of decentralization has increased collaboration across jurisdictional and sectoral boundaries. The new organizational framework has set up mechanisms for inter-level and interagency communication and oversight. Despite criticism and controversy, participants have generated and acted upon a shared vision accommodating different stakeholder concerns. These include Native American (Seminole and Miccosukee) concern over sovereign rights to traditional lands and resources, federal interest in protecting an ecosystem of international biodiversity significance, and state interest in safe, sustainable water quality for public and business use.

Local government and community involvement remain the weakest links in the framework for this ecosystem restoration process, though it has developed mechanisms for increasing regional and local involvement in decision making and implementation. The case study specifically asserts that the federal government should guard against deregulation, pointing to instances in which local interests, particularly county governments or constituencies, have proven suspicious of any federal involvement or favored private or commercial development that runs counter to conservation goals.

BACK

DECENTRALIZATION AND CONSERVATION

In this section we discuss first the promise of decentralization and then some pitfalls in its practice that can undermine conservation aims.

The Promise of Decentralization: High Hopes

Many conservationists have come to believe that when people who live in close proximity to natural resources help to manage them, there is a better chance that the resources will actually be protected. In the 1980s, bringing local people into conservation meant creating education programs for people living on the outskirts of protected areas. It then came to mean the formation of stakeholders' councils, in which competing claims could be debated and negotiated. By the 1990s, it made sense to conservationists to encourage local participation in management. Today, many conservationists hold the expectation that the people whose livelihoods are bound up with sustainable access to natural resources might be in the best position to make decisions about their use. Many conservationists also see something fundamentally just in this concept and recognize it as the basis for productive partnerships.

Also during the 1990s, public management experts in industrialized countries (in Western Europe, Australia, New Zealand, and the United States) became convinced that centralized states were, by nature, inefficient managers and began to work to get the state out from a wide variety of administrative areas, either through privatization of services or through decentralization. Their conviction was that local governments or agencies would be more responsive to the needs and concerns of the consumers of services, and would have more flexibility to network and develop partnerships both with other state organizations and with private actors. This partnership and networking combination was the core of what — in short — came to be called governance.

If decentralization of state functions would improve efficiency in the advanced industrial countries, many felt it could do even more for developing countries. Where state sectors demonstrated weak technical capacity and stifled initiative, with central state institutions portrayed as top-heavy and riddled with corruption, divestment of services held high promise for greater effectiveness. In addition, although in the industrialized world decentralization has not necessarily been expected to democratize policy making, in developing countries this has been promoted as one of decentralization's advantages.

Thus, decentralization fits with very different political and socioeconomic agendas. The historical absence of state accountability to citizens, and in many cases recent experience with harsh dictatorial regimes, has convinced many

that transparency and trust require proximity. Since state-promoted development schemes have been among the worst culprits in environmental destruction, many conservationists have been particularly inclined to subscribe to a point of view in which the centralized state is the problem.

The Practice of Decentralization: Unforeseen Pitfalls

Whatever the impetus toward decentralization in a given country, a number of complications can undermine the assumptions of state reformers and conservationists alike about the promise of decentralization in regard to their aims. For one thing, the potential results of any decentralization effort do, understandably, have a lot to do with the breadth of the process itself. As several case studies illustrate, political boundaries often do not correspond to the ecologically determined boundaries of interest for natural resource use or biodiversity conservation. As the case studies also show, decentralization rarely transfers power as a single package of responsibility, authority, and funding capacity for natural resources management. Instead, the elements of power are usually broken up and transferred (or appropriated) piecemeal. Central government may grant management or decision-making authority over a resource but retain enforcement authority. For example, in Mexico's Quintana Roo, community property (*ejidal*) organizations may set timber harvest limits, explore market options, and determine conservation methods, but the central government retains enforcement authority and federal or state agencies still issue the extraction permits.

Also, those who favor placing more responsibility in local hands often assume that local hands are prepared for it. But which local entities can or will take on new responsibilities, and to what end, actually depends on factors largely beyond the control of the reformers themselves. Often it may even prove difficult to predict, from the shape of legislation alone, which groups decentralization will favor to receive and exercise power, and which it will not. As our six case studies indicate, new power alignments and institutional arrangements are built on terrains already traversed by pre-existing networks of relations, by cultural traditions and conflicts old and new, and by the memories of past successes and failures. Decentralization, including decentralizing natural resources management, is path-dependent: where you start and where you come from strongly influence where you end up.

Prior patterns of state-society relations don't just disappear when decentralization reconfigures decision making in a particular area. Subnational political relations often turn out to correspond closely with national ones. This cues us to investigate those patterns closely, including the state's prior role in a given policy area. It also directs our attention to local history, to explore the centers of power and kinds of cross-cutting social networks already existing in local civil society. Decentralization does not make socioeconomic relations more equitable. In fact, frequently it may give the local elite more power *vis à vis* national entities and enhance the power of the local elite relative to that of less privileged sectors of the population, as some of the cases illustrate. We need to comprehend the particular conflicts and accommodations that characterize decentralization in a specific region or locality.

Decentralization's Many Paths in Bolivia

In Bolivia, regional movements have struggled for nearly 40 years to obtain greater participation in policy formulation and allocation of timber royalties to regions with substantial logging activities. The social forces behind these movements cannot be easily characterized. In Beni Department, many community, trade, social, and professional organizations with no material interest in logging participated in protests directed at the national government during the 1970s. Other key participants, representing the traditional Benian ranching elite, may have been partly motivated by a desire to increase their own access to Beni's timber and limit outside competition. The movement in Beni and elsewhere eventually led to the 1982 creation of an 11 percent timber royalty to be used for regional development.

In 1994, the government of Bolivia, influenced by the ongoing social protest about timber profits and by international pressures, initiated a far-reaching decentralizing process that greatly strengthened municipal governments, changed the role of departmental governments, and created new opportunities for popular participation in decision making.

Nursery worker at a community tree nursery in Bolivia, started as part of a watershed management, flood control, and reforestation project.

By the time of the case study, this decentralization process was already marked by distinct outcomes in different municipalities and indigenous communities, tempered by their different histories of power relations. Sometimes the local elite captured the process, either by gaining even greater access than before to government positions or by setting up government structures catering to their concerns. Often these elite included individuals with direct access to natural resources but little interest in long-term conservation management. In some predominantly agricultural municipalities, small farmer federations were able partially to displace town-dwelling traditional elite from the municipal governments. These farmer groups have often been willing to participate in small-farmer forest management or agroforestry projects, although they have not always been equally enthusiastic about creating indigenous territories or protected areas.

In communities under indigenous governance, the conservation benefits of decentralization have also varied. In some, local governments have sold logging rights with little concern for sustainable production. In others, they have organized patrols to deter encroachment by logging companies, ranchers, or agricultural colonists, the only cases where local governments were making significant monitoring efforts by the time of this case study.

The chances for establishing resource management institutions and practices that are decentralized and responsive to local needs and views depend a great deal on the prevailing political climate, both locally and nationally. Situations of intense conflict complicate efforts to introduce or consolidate decentralized management. When there is political instability or acute political strife, it is difficult to build decentralized institutions that are insulated from the conflict — in fact, any kind of institution building at all is significantly disrupted, although the Mexico and Guatemala case studies, in particular, indicate that decentralization may ultimately become a result of such conflicts. Further, effective conservation cannot take place while land and resources are seen only as bargaining chips, and are not accorded integrity as ecosystems or sources of environmental services.

Even in the absence of civil war or major civic unrest, politically motivated turnover of bureaucratic personnel can disrupt the continuity of decentralized management efforts. Political turnover in democracies is a given, and some political manipulation is also inevitable if the stakes are worth it, so conservationists should be strategic about taking these into account.

Prevailing Political Conditions in Mexico

In Mexico, as in many other countries, the relative weight of government ministries changes with each presidential election, often resulting in cycles of confusion as to who is responsible for what, and, in turn, ineffective enforcement. New presidential and gubernatorial regimes redistribute authority over land use — including land tenure, harvesting quotas and permits, livestock permits, and regulation of environmental protection — across several federal and state ministries, often using them as bargaining chips. The same occurs with state governments when new governors take office. Local reverberations of higher-level jurisdictional confusion intensify contention over the existing tangle of claims and counterclaims. No wonder, then, that the mere mention of delimitación *(boundary demarcation) can prove inflammatory.*

Many state reformers and conservationists expect that decentralizing management of natural resources is and should be a democratizing force. This expectation implies their readiness to accept that democratic processes have uncertain outcomes. Democracy is "institutionalized uncertainty" (Przeworski 1983). This can present conservationists with a serious dilemma. If full decision-making authority rests with a community body, it is undemocratic to restrict beforehand the decisions it makes (unless the restrictions are imposed by a democratic process). Yet for conservationists, the commitment to maintaining natural areas comes first; supporting the placement of decision making in local hands is contingent on the expectation that they will produce environmentally correct decisions. This expectation is justified in the name of values that attribute rights to the natural world, and to an ethic of stewardship. From this standpoint, democracy in natural resources management is not an end in itself, but rather a means to making a particular end — commitment to biodiversity conservation — develop deep roots in local communities. Although natural resources management is geographically bounded (unless it is dealing with fugitive resources, such as certain kinds of wildlife), the notion of conservation speaks to universal values. But do people identify as their own concerns natural resource issues if the consequences may not affect them immediately or directly?

WHAT'S AT STAKE?

Protecting biodiversity means paying attention to the very different interests of the stakeholders involved. To the conservationist, biodiversity has value for itself alone. It is the "stake." All six of our case study areas are of interest to conservationists specifically because they encompass notable biodiversity resources that merit conservation. All six are of interest to many other stakeholders because they too recognize these regions and their natural resources as possessing important attributes. What all stakeholders, including conservationists, share is what makes them stakeholders: they can identify themselves as having interests in these particular territories, interests that draw on their historically and culturally formed understandings of appropriate resource use. In decentralized situations that involve a commitment to fair or democratic decision making regarding natural resources management, or even just for effective negotiations among adversaries, some pooled or common understanding of what is at stake must be established, or conflict will ensue.

A Range of Possible Elements at Stake

The destiny of a single hectare in the middle of the forest, swamp, or veld can motivate a variety of claimants, each with different goals, expectations, and degrees of socioeconomic influence. The stakes may include

- *local cultural, historical, or religious meanings of particular species or sites;*
- *basic subsistence issues;*
- *access to raw materials (and market position) for large-scale timber or industrial interests;*
- *land for rural colonization or urban development;*
- *nationally valued economic or environmental resources;*
- *land for large-scale agriculture or ranching; or*
- *international investment in conservation and in economic development.*

Many once-common larger mammal and bird species are now rare, threatened, or in danger of extinction across the entire Yucatán Peninsula. Sian Ka'an International Biosphere Reserve, designated in 1986, protects some of the forest habitat of Quintana Roo State. Principal threats to the remaining Quintana Roo forests include agricultural conversion, overharvesting of timber and other plant species, and periodic devastation from hurricanes and forest fires.

Kuna farmer Jose Diaz carrying manioc roots from his mainland farm back to his home on the island of Kagandi, 1968. For many generations Kuna farmers have traveled from the Kuna villages on the Comarca's islands to their mainland farms. Traditional Kuna farming practices result in a farmscape that many outsiders would mistake for natural forest.

In practical terms, this means that competent natural resource managers in particular must always be cognizant of who, within the web of interests at stake, benefits most, and least, from any resource management choice. They need to understand exactly what is at stake and its meaning and value to the local resident and landholder, to the downstream user, to the urban dweller, to the national public, to the government, to the industrialist, or to interests in another nation. Conservationists, who may or may not be the resource managers, must keep themselves apprised of the same thing, if they hope to locate possible allies and squarely face likely opponents.

Conservationists especially have to face the fact that conservation practices may conflict with the values that stakeholders attribute to natural areas. Although maintaining biodiversity is a top priority for conservationists, it is not often a key concern for other actors in the decentralization process. Policies promoting biodiversity conservation may place injunctions on natural resource use that probably represent a loss to these stakeholders, whether purely economic or involving changes in longstanding cultural or social practices and relations. This loss almost certainly needs to be offset by meaningful benefits if these stakeholders are to become willing to find common ground with the conservationist perspective on biodiversity, or even to stand down from conflict with that perspective.

Local stakeholders often have numerous incentives — cultural, political, or economic — in relation to a natural area. Local is rarely a homogenous category. Territorial access issues can go both ways, since conservation measures can restrict indigenous access to traditional territories, or help to restrict outsider access. Even when economic considerations associated with loss of land access or land use are at stake, local people are often willing to assume short-term costs in exchange for long-term benefits to themselves, their children, or their community. However, if community members believe they are being expected to assume costs they consider excessive in the name of the "global environment," conservationists may find themselves subject to considerable hostility or even personal and political risk. Individuals in localities are especially reluctant to commit themselves to a resource management process associated with benefits to people or institutions they see as enemies, which might include local political bosses, foreign economic interests, or repressive governments.

National-level stakeholders also have a variety of interests in the kinds of areas studied in this research. National-level corporations, as well as national governments, may see these lands in terms of economic interests. National governments may also consider their role in promoting security interests, or regarding foreign relations, social

equity, or government commitment to conserve lands in the public domain for the public good. What constitutes the public good is politically contested; whether the public is better served by economic exploitation of natural resources or by biodiversity preservation will always be a discordant issue. Thus, most national government actions are propelled by a combination of quite distinct motives that may or may not have much to do with the environment.

The South Florida Ecosystem: A Variety of National Government Motivations

The U.S. government is charged with protecting the Florida Everglades both as a globally significant environment and as a watershed whose environmental services are crucial to a large segment of Southern Florida and of inestimable economic value to agriculture and industry. Significant economic and political interests in Florida got behind the campaign to rescue the Everglades because the costs of not doing so were both concentrated and growing. It was only after this happened that the federal government moved on the issue. The U.S. government bears a special responsibility in this case because errors in the watercourse management approach the U.S. Army Corps of Engineers had taken for many years had significantly exacerbated the degradation of the ecosystem.

International stakeholders are usually interested in the economic development or conservation potential of a given natural resource or resource area within a country. For large-scale agricultural, logging, or industrial interests (international or national), the stakes are access to the raw materials that sustain them. Although pursuing these often gives rise to predatory behavior, it does not always do so. Under some circumstances, far-seeing firms will support conservation activities that keep valuable resources from being depleted (mahogany and cedar, for example, in the Mexican case), as long as they do not risk losing market position to competitors as a result.

Stakeholders and Power

Along with the different stakeholder interests in natural resources come very different socioeconomic conditions, degrees of power, and power relations. The case studies provide us with a view of the politics of natural resources management and conservation as a matter of who can make decisions about what, and who can make their decisions stick. Natural resource users and extractors range from hunters and gatherers of forest products to giant agrochemical or petroleum companies. All may see conservation efforts as an economic threat, but their power, and thus their options for responding, vary widely. Large corporations routinely employ political and economic pressure to resist restrictions that will cut into their profits. Unless convinced that they will not lose market share as a consequence of controlling production levels, such economic actors are unlikely to voluntarily cooperate with a conservation project — unless adequate compensation is negotiated at the same time.

Subsistence users of natural resources often feel more threatened than other actors, because their ability to protect their interests or to extract other compensation from either governments or conservationists is correspondingly

less. Previously intact ecosystems often have become frontiers of new colonization, either because of population pressure or because commercial agriculture has expelled people from other land. Settlements of untitled subsistence farmers often occupy the fringes of ecological hot spots, on land that is the least economically viable in modern market economies and the least ecologically appropriate for agriculture. At the margins of survival, with no security of tenure and on land incapable of sustaining them, these small stakeholders have little incentive to invest effort or financial resources in sustainable land management. Sometimes they are even offered needed cash by outside companies to extract resources quickly. When squeezed between conservation edicts and the imperative of eking a livelihood from the soil, these settlers are likely to see conservationists as yet another impediment to their survival.

Confusion regarding property and usufruct rights underlies many of the conflicts in the case study areas and hinders conservation efforts, no matter where the authority lies. Resource managers are not equipped to resolve competing property claims, yet these can make negotiations among stakeholders nearly impossible. Moreover, in many countries, especially in Latin America, landholders must show that they are using their land productively in order to retain title or use rights. These criteria pose a dilemma for conservation organizations working with local landowners or land-based communities to set aside land for environmental protection, though some precedent exists in claiming that non-use constitutes productive use in terms of actively protecting national patrimony. In some countries, conflicting land claims and unclear jurisdiction confound efforts to distinguish legal rights from the strong *de facto* claims of actual possession and use. By the time government agents or anyone else appears to monitor the situation, it may be too late: the roads are cut, the timber is cleared, the land is tilled, or the pastures fenced and grazed. A similar problem arises when local communities and indigenous groups, although the rightful stakeholders, do not maintain enough of a presence to monitor or control land use by outsiders.

Although conservationists constantly run up against the problems that disparities in power pose for conservation efforts, these obstacles can't be addressed through a conservation agenda alone. Conservationists have very little power to influence economic alternatives, poverty, foreign demand for raw resources, unresponsive political structures, political corruption, and ignorance. Poverty and inequality are not administrative problems, and it is not coincidental that the voices of corporate leaders usually speak louder in political life than do those of poor farmers. Inconvenient aspects of social structure and political-institutional arrangements may be outside the control of con-

The Disenfranchised Stakeholder

Ethnically or economically marginalized groups are at a disadvantage in all of the case studies. The studies describe local populations that suffer from endemic poverty, lack economic and educational opportunities, and do not have organizational capability to force changes on a powerful opposition. For example, in many places indigenous groups have been treated as second-class citizens. Although they may have much at stake in natural resources management, and perhaps even practice an effective form of common property resources management, they are often ignored when new arrangements are designed. As a result, they may not be privy to the potential opportunities available in decentralization processes.

Exclusion of marginalized populations — especially when traditional territories, practices, and resources are at stake — may create deep resentment and exacerbate the very conflicts resource management is intended to prevent, such as illegal colonization, poaching, fires, and overexploitation and extraction of plant resources (Lusigi 1981). Although none of the studies describe this degree of open conflict, a long history of exclusionary practices makes local people suspicious of government-supported resource management projects, however decentralized.

Algal bloom in South Florida Ecosystem (Florida Bay). The Everglades Forever Act, 1994 Florida State legislation, requires that phosphorus levels in runoff from agricultural lands flowing into the Everglades will reach an interim level of 50 parts per billion (ppb) by 2003, at which time Stormwater Treatment Areas are supposed to be in place to reduce phosphorus levels further. The Miccosukee argue that the phosphorus limit should be ten ppb, to be reached by 2002. Whether the technology currently exists to achieve these levels is debated.

Indigenous organizations have lately become more adroit at asserting their rights. Tribal governments now sometimes ally with conservationists to achieve common goals.

- *In Kuna Yala, PEMASKY drew on the Kuna heritage of a common property resource management system and their already-established legal rights to manage Kuna autonomous territory. The Kuna wanted PEMASKY for territorial defense; conservationists wanted it to halt deforestation and preserve biodiversity. Clearly there was a convergence of interests and pursuing these interests together served local and conservation goals.*
- *In Florida, the Miccosukee have joined conservationists in suing the state to reduce the levels of agricultural runoff phosphorous in the Everglades ecosystem. With increasing skill at working within the U.S. legal system and with the media, the Miccosukee now have the organizational and negotiating skills to factor themselves into the decentralization process. Indigenous involvement with the South Florida Ecosystem Task Force provides a new opportunity to work directly with U.S. government agencies on issues of common concern.*

servationists, but as our case studies clearly show, they cannot be left out of the analytical frame. The success or failure of a proposed action likely depends heavily on these very elements. Elements that appear irrational from the outside are not always accidental. Jurisdictional overlap may reflect difficult political compromises, and bureaucratic turnover in one area may be a side effect of efforts to preserve stability in another. Territorial claims are not only confusing; they are contested. Unresolved boundaries may be politically convenient. They may involve tacit agreements negotiated informally, sometimes long ago. Without understanding the power relations involved, even the best-intentioned government agencies or conservationists will fail to sustain an integrated effort to protect natural resources.

Decentralization affects the interests in play and the balances of power in the local political arena. In some cases, it may help to even out opportunities among stakeholders; in others, it may do the opposite. Paying attention to the interrelations among policy areas may yield positive results for conservation goals. Natural resources management ultimately depends upon many aspects of regional and community life. Decentralization of resource management may not be reinforced by similar power shifts in other relevant areas. Disparities of political and economic power are consequential for conservation strategies. By altering the locus of control over natural resources management, decentralization should directly affect the capacity of environmental organizations, community conservationists, and local governments to carry out conservation programs. With decentralization, some local interests have more scope and others less to influence policy, and these often small shifts must be factored in to any calculations of the support available for conservation alternatives.

Alliance Options

Who benefits and who loses out from a decentralization process is not dictated by the act of decentralization itself, but emerges in the ways the process provides opportunities for different local actors to develop and realize new strategies to achieve their goals. Decentralization does not create alliances by itself. It opens up the possibility of creating new alliances that bring a range of local actors into constellations of players representing global, national, and local interests in natural resources.

For an in-depth study of the role of alliances in conservation, see Margoluis, R., C. Margoluis, K. Brandon, and N. Salafsky. 2000. In good company: Effective alliances for conservation. *Washington, D.C.: Biodiversity Support Program.*

For conservation, a key issue is how to construct a viable local alliance with the social and political resources to promote sustainable natural resource use or biodiversity protection and to counter opposing interests. The case studies indicate that availability of local allies for conservationists depends on the history of state-society relations in a place, and, increasingly, on the history of local relations with past conservation and land use projects. It depends as well on the kinds of relationships that exist among local people, the density of local institutions, and the contentiousness of local conflicts and identities.

Often decentralization can benefit conservation by providing opportunities for alliances between proponents of different aims who share common practical goals. Local goals such as territorial sovereignty, local economic gain, and protection against outsiders are often readily paired up with conservationist concerns about deforestation, colonization, or the global market for a threatened species. For example, delimiting a protected area within legally defined indigenous territory can encompass a local community's primary goal of demonstrable land tenure control while also benefiting biodiversity conservation.

Local organizations may choose to commit to or collaborate with an outsider conservationist strategy because outside organizations can strengthen the position of local ones. In turn, such alliances may elevate environmental concerns among decision makers in the private sector. An outside organization can act as a facilitator among business, agricultural, and environmental interests, and may have a particular capacity to ensure that minority or otherwise marginalized groups are not excluded from decisions that can affect their well-being. Regular interaction among community members, government officials, researchers, activists and environmentalists can enhance local and marginalized stakeholders' research, organizational, and communications skills, making them better able to articulate their goals and engage in fruitful discussions and negotiations and potentially increasing local environmental awareness.

When conservationists from outside a local area choose allies on the basis of affinities for conservation goals, they do well to pay attention to the position of those allies in the community as a whole. The greater the repository of pre-existing community ties and trust, or social capital, the greater the possibility of developing creative, community-based alternatives to resource degradation. Well-organized communities, however, are also likely to put forward well-organized coalitions opposed to conservationists' projects. The sustainability of a decentralized resource management model depends on creating a viable coalition of actors behind it, capable of recognizing and either persuading or neutralizing opponents. This last task is crucial, and requires sophisticated coalition-building skills. For economic actors to be persuaded to forgo short-term gain for long-term protection, they have to believe in the overall capacity of the resource managers to control competitors and potential free riders.

Chicle production in the Yucatán Peninsula, Mexico. In Quintana Roo, with direct assistance from the Acuerdo Mexico Alemania, the Sociedad de Productores Forestales Ejidales de Quintana Roo, S.C. *(SPFEQR) designed and promoted a new system of production and distribution for chicleros, modeled after the* Plan Piloto Forestal. *In 1994, several cooperatives were regrouped into a new organization called the* Plan Piloto Chiclero *(PPC).*

Watersheds: Economic Interests and Alliance Opportunities

Rushing stream in Guatemala. Both large- and small-scale farmers, located on hillsides and in the surrounding valleys, depend on the rivers of Sierra de las Minas for raising cattle and growing an array of crops, including corn, beans, grapes, melons, cardamom, bananas, potatoes, and broccoli — products key to Guatemala's food supply and revenue. The rivers also provide a resource for industry, including sawmills, transnational soft drink manufacturers, and paper-recycling plants, which employ local people and help supply the internal market.

The water and watershed issues present in the United States and Guatemala case studies demonstrate the presence of many nonlocal stakeholders whose ecological and economic interests are not necessarily conservation-oriented.

- *The Biscayne aquifer fed by the Florida Everglades serves as the drinking water source for three Florida counties and supplies water for agriculture and industry.*
- *Sixty-three rivers originate in the Sierra de las Minas, providing water to downstream communities for drinking, irrigation, hydropower, and industry.*

Building participatory processes that encompass all these interests can be quite challenging. Still, thinking at the watershed level can increase the number of potential partners for conservation efforts; these efforts could be focused on the fact that availability, quality, and quantity of water and other raw resources ultimately define the limits to economic development for agriculture, industry, and urbanization.

BACK

INSTITUTIONS AND CONSERVATION

The case studies undertaken for this project describe a variety of institutional arrangements. Insofar as they have been effective, in terms of allocating power to local levels and in terms of promoting effective and conservation-oriented resource management, these cases of decentralization appear to have shared some common institutional characteristics, relating to institutional power and institutional capacity, funding and fundraising, leadership, collaboration, breadth of participation, and accountability in the balance between national and local interests. Overall, the case studies suggest that a strong institution is required to mediate the relationships involved in a decentralized management structure. Such institutions walk a fine line between encouraging local participation and protecting a diffuse public interest.

Whether empowerment of those closest to natural resources promotes biodiversity conservation probably has more to do with the development of their institutions, and the nature of the relationships those institutions develop with conservation interests, than it does with something inherent in a given community's relation to the natural world. The case studies indicated that the effectiveness of conservation initiatives within decentralized situations largely depends on the institutional framework within which negotiated governance arrangements can be realized. So what kinds of institutions are necessary to promote conservation outcomes? The case studies note a variety of options for managing the power relations, leadership challenges, and commitments involved in conservation efforts. How can resource management institutions facilitate these processes, and develop the political savvy to coordinate the complex of inter-institutional relations generally involved in any conservation effort?

Institutional Power

Judging from these six case studies, decentralization may foster, but not ensure, the transfer of some natural resources management power. An institution with such power demonstrates the following characteristics.

Authority to make decisions and implement actions, regardless of the arrangement for managing natural resources.

Legitimacy as signified by the institution's legal recognition. In all the case studies, local management authorities had been recognized through policy and legislative reform, recognition that helps provide managing institutions with legitimacy in the eyes of other stakeholders as well.

Connections with national or international entities, giving the institution access to information and to higher levels of decision making.

Institutional Capacity

Institutional power, while necessary, is not sufficient to guarantee effectiveness in realizing conservation goals. Institutions must have the capacity to implement policy and the requisite financial and human resources, including technical and management skills, along with scientific expertise. Adequate institutional capacity includes the following.

Administrative skills. As the institutional arrangements become more complex, technical, business, and management skills must keep pace along with scientific expertise. Institutions on which decentralized authority devolves are often unprepared to assume new responsibilities, handle personnel and funding increases, or negotiate conflicts with local residents, other organizations, or agencies. Common difficulties across the case studies included insufficient administrative structure, inexperience with applying for and managing funds, small pools of trained personnel, low salaries, and high rates of staff turn-over.

Two Kuna park guards at the Comarca border, early 1980s. Despite the demise of PEMASKY, the project accomplished the demarcation of the mainland territorial limits of Kuna Yala Comarca and significantly raised Kuna awareness of ecological processes, from both the Western scientific and traditional scientific perspectives, reflected in part in the incorporation of conservation provisions into internal Comarca legislation.

PEMASKY and Institutional Capacity

In the Kuna Yala case, PEMASKY endeavored to capitalize on the heritage of a community property resource management system within the Kuna governance system, in the context of their already-established legal rights to manage the territory in their Comarca. Yet PEMASKY, the project created to implement their interests, was built on blueprints conforming to the institutional models of outside agencies acting as advisors to the Kuna. Because this advice and the outside funding that accompanied it were often inappropriate, and since the Kuna lacked the experience, technical skills, or other institutional capacity to carry it out, the PEMASKY project became overwhelmed and disintegrated. PEMASKY simply had not had the time or training to adapt to its new role of intermediary between Kuna and non-Kuna Panamanian interests, or to adjust to the scale of funding and planning expected. Significant secondary benefits did occur later, however, when selected PEMASKY programs were implemented by other Kuna endeavors that had benefited from the PEMASKY experience and from their own capacity strengthening experiences with international NGOs.

Political savvy. Organizations also need political skills to operate in bureaucratic structures, form strategic alliances, and influence higher policy levels. In some cases, weak strategic planning skills meant that planned activities were never completed.

Adaptability. Over time, different roles and capabilities are demanded of institutions. Visionary leadership is different from management. The skills necessary for program promotion and initial implementation must be complemented by the management expertise needed for its continuation. Without a system for recruiting and incorporating new people, and infusing them with the commitment to the program's goals, personnel turnovers can quickly strip organizations of both their driving force and their management capacity.

Funding and Fundraising

Funding considerations necessarily constrain decentralized resource management processes. Identifying sources of funds is integral to any organization's institutional capacity, and sustainability of funding is crucial. Finding sources of start-up money may affirm a program's promise, but these must soon be replaced with long-term operating funds derived from dependable sources. Three funding profiles, each with distinct possibilities and limitations, emerged from the case studies.

Private, bilateral, and multilateral funds, in which part of an organization's budget is funded from international public and private sources, with the remaining amount coming from in-country private sources and trust funds. Funding secured from such sources often comes in big denominations, significantly widening the scope of possible conservation actions directed at an area. This type of funding can also cause jealousies and raise tensions with other protected area institutions unable to raise similar amounts of money.

Public funds may principally come from either central or local budgets, or result from joint financial planning by both central and local governments. Such funds can be generated through taxes or other levies. In some countries, however, taxation has proven a highly inefficient way to raise monies, whether for conservation or for anything else.

Revenues from natural resources management, in which, for example, establishment of a community trust allows local people to generate income for local projects through direct payment. As in some of these case studies, opportunities may exist to apply for project funds from government agencies and NGOs. Unfortunately, few people have experience writing proposals to donor agencies. Sometimes the benefits generated from wildlife are primarily invested in social infrastructure or distributed among the population, not earmarked for natural resources management activities or capacity building. Especially in poor countries, some may ask whether revenues from high-value resource extraction should flow in large measure to those who live near those resources, whether timber, oil, or minerals. If resources in the public domain are to be used for the public good, what public are we talking about?

Issues in Funding

- *In Botswana's /Xai/Xai case, the established community trust allows local people to generate income for local projects through direct payment from safari or tour companies. The benefits generated from wildlife are primarily to be invested in social infrastructure or distributed among the population, not earmarked for natural resources management activities or capacity building. Opportunities exist to apply for project funds from government agencies and NGOs, though scant experience with proposal writing is presently an impediment to this fundraising method.*

- *In Quintana Roo, Mexico, an infusion of funding and technical services from international and bilateral agencies (most notably the Acuerdo Mexico-Alemania) has helped build that region's community forestry initiative. Funding for forestry activities related to the Plan Piloto Forestal was to have been coming in from local timber revenues. Some local revenues have been collected, but for the most part this income has been directly distributed among the individual* ejidatarios. Ejidatarios *are those who hold usufruct rights within an* ejido. *Despite the original intention, very little of the revenue has been invested in forestry-related plans and equipment.*

Village adjacent to Amboro National Park, Bolivia. Intensive use of soils and high population pressures on land near the park can pose threats to the park itself.

The proceeds from tourism activities and craft sales bring benefits to the population of the /Xai/Xai Community, such as bicycles for village children, but they don't necessarily get plowed back into natural resources management activities.

- *Bolivia offers a case of intentionally well-funded decentralized management, but the study demonstrates that the revenue flow to municipalities has been quite variable. Actual payment and use of timber royalties, intended to benefit regional development, have varied depending on which level of the government has controlled the royalties' collection and dispersal. In one regional department, Beni, foreign logging companies began paying an 11 percent timber royalty soon after its decree in 1982. Local offices in Beni's timber-producing provinces collected the revenues and used them to finance provincial infrastructure and services. In other Bolivian departments, including Santa Cruz, payment did not begin until several years later, and even then control over funds was centralized in departmental capitals. Funds often were not used for provincial and community development, and local inhabitants continued to complain of insufficient benefits from logging. Tellingly, communities within Beni Department had been centers of the social activism that had originally compelled the establishment of a timber royalty. Protests centered in localities in Santa Cruz Department resulted in the 1993 agreement that logging companies would pay 80 percent of their timber royalties directly to provinces of the department in which they were extracting timber. Difficulties still remain regarding how entities at the local level cooperate to manage and disperse the funds and how those arrangements relate to conservation interests. At the time of the case study, only one to two percent of the funds were going to natural resources management, although the amount appeared to be increasing.*

Leadership

All of the cases demonstrated some reliance on the leadership of an individual or organizational head at a critical juncture of the decentralization process, followed by development of wider support. Making decentralization work for environmental protection calls for leadership by individuals with dedication and vision, by government officials and institutions with political power or clout, and by community or environmental organizations with determination and public legitimacy. Effective and enduring biodiversity conservation requires both components: leaders and a broad constituency, i.e., a critical mass of organizations and individuals who ascribe to the leaders' vision.

Leadership is a tricky issue. When outside organizations attempt to identify local collaborators, they risk making mistakes, perhaps selecting articulate individuals who claim to represent either local people or particular stakeholders but who, in fact, represent only themselves or a single faction within the community. It takes a long time to recover from the loss of trust that may result. To be effective locally, management institutions and conservation advocates must make both their ideas and their procedures resonate with existing cultural norms, while also functioning as influential liaisons with those at higher levels of decision making.

Reliance on strong leadership eventually needs to give way to a reliance on strong organization. Especially in government, leaders come and go. If a leader's acts do not become part of an institutional or organizational mandate, management policies and environmental initiatives can disappear with the individual who introduced them.

Collaboration

As discussed earlier, none of the case studies illustrated complete transfer of the power for natural resources management from national to regional or local levels. That is, central governments did not hand over responsibility, authority, and funds and then wash their hands of the matter. The natural resources in each case were of national and global significance. The majority of the case study sites demonstrated a distribution of powers in some partnership or other type of collaboration, either between national and lower levels of government and local communities, or among various governmental levels, tribal councils, NGOs, and local communities.

Even given dynamic leadership by a few key individuals or a single dedicated group, it is not likely that one organization or institution will possess the expertise, jurisdiction, funds, or legitimacy to carry out existing and new conservation policies for ecological management units. These case studies demonstrate the necessity for — and the difficulties of — active cooperation among all those individuals, organizations, and institutions or agencies having a vested interest in the area needing protection.

Several kinds of collaboration were evident in the case studies.

Horizontal or lateral collaboration among organizations and/or governmental agencies at the same level, whether local, state (regional), or national. These kinds of partnerships allowed conservation initiatives to address a wider set of social factors that affect environmental management. A conservation organization is focused primarily on biological and ecological aspects of the environment; people and communities are often secondary considerations. Even when a conservation organization does recognize the need to address social issues like poverty, health, transportation, or education, its personnel seldom have the training to do so. On the other hand, community development organizations are ready and willing to work in localities, regularly talk to people, find out their needs, and support efforts to find solutions to their problems. But their members generally have little training in environmental and biological sciences or in assessing the impact of community activities on the environment. However logical it may be for such groups to work together, they rarely do, deterred by mistrust, perceived competition for funds or technical assistance, or inability to find a common vision.

Vertical collaboration among entities at the local, regional, and national levels. The best example of this among our six cases is found in the Everglades restoration effort in the United States. Establishment of the South Florida Ecosystem Restoration Task Force and Working Group, with its federal, state, tribal, and local government representatives, brought about previously unseen interagency collaboration. Each party can contribute different assets toward formulating a solution, with the result that decisions have a better chance of being fully implemented.

Transnational collaboration among local-level entities and international funding agencies or conservation organizations. While such collaborations can certainly be fruitful, they require some delicacy because often the money is on one side and biodiversity is on the other. Among these six cases, transnational collaboration was particularly evident in Guatemala, Panama, and Mexico; it was also a factor in Botswana.

The increased complexity that collaboration entails has implications for the institutional and leadership capacities required to promote effective decentralized management. Interest groups need to comprehend the interdependencies among their aims and activities while maintaining authority to implement and enforce conservation — and other — decisions once they are made. In addition, managing entities will likely discover the advantages of becoming proficient in negotiation and conflict resolution, since as the numbers and diversity of participants in resource management grow, so will the potential for conflict. Optimal collaborations foster mutually beneficial relationships among parties. In these relationships the parties share authority and accountability and employ joint strategies to address mutual concerns and seek common goals beyond the reach of any one party.

A Constellation of Institutions in the /Xai/Xai Community

Often, resource management takes place not through a single institution but through a network of closely linked institutions, both juridical and customary. The /Xai/Xai community in Botswana's northwestern Kalahari Desert presents a situation where a community, facing a subsistence crisis, weighed its options and decided to establish more formal channels among state agencies and community bodies than had hitherto existed.

Located in a region zoned as a national wildlife management area, the /Xai/Xai community makes intensive use of some 2,000 square kilometers out of its total allocation of 16,966 square kilometers from the regional authority, the Northwest District Council and Administration. Within the community, land is allocated to families or individuals by customary practices. The land-use plan is agreed upon by the community, then ratified by the district council.

Most of the nearly 400 residents of /Xai/Xai community are Ju/'hoansi San people, primarily foragers. The others are Mbanderu, mainly pastoralists, who have traditionally been wealthier then Ju/'hoansi. Until the mid-1990s, Mbanderu dominated local institutions, including the Village Development Committee. Ju/'hoansi often felt they were not being heard in policy discussions. Mbanderu, in turn, resented the fact that the Ju/'hoansi, designated as remote area dwellers by the Ministry of Local Governments, Lands, and Housing, got special game licenses on favorable terms, generally above the quota set by the Department of Wildlife. Both ethnic groups regularly practiced conservation strategies, such as rotating hunting and grazing, and voluntarily putting threatened species off-limits.

Ostrich eggs, shown here (from Struthio camelus*), are very important to people in the /Xai/Xai, who use them as canteens, make beads of them, and eat their contents. Ostrich eggs also underwrite and reinforce social alliances, for shell bead items are exchanged among family, community members, and people far away in a reciprocal exchange system known as* hxaro.

In 1994, prompted by international NGOs and the Botswana Ministry of Local Government, Lands, and Housing, the community began to consider setting up a quota management committee. In 1995, the Agriculture Ministry

Broad Participation

Leadership and community support are only first steps for effecting decentralized conservation management. The case studies indicate that in a decentralized process active engagement of the major stakeholders, and not just their inclusion, is required if conservation goals are to be attained. Unfortunately, people often are perceived as the problem, not as part of the solution, and, when these are people who are in other ways marginalized by the politi-

destroyed all of the community's cattle after an outbreak of contagious bovine pleuropneumonia. This public health measure unfortunately devastated both livelihoods and protein consumption levels in /Xai/Xai. Concerned about outsider encroachment, especially during this period of food scarcity, the community began to consider establishing the institutional framework required to negotiate the wildlife quota. The District Council, the regional land board, and the Department of Wildlife and National Parks all recommended going this route. Though previously reluctant to set up a quota management committee and relinquish their special game licenses, some Ju/'hoansi thought moving to a management committee would now give them greater overall resource control and protection from outsiders.

The quota management committee was set up in 1996, leading to establishment of the /Xai/Xai Wildlife Trust a year later. The Trust is able to control wildlife resource management and use, but the wildlife remains the property of the state. The National Department of Wildlife determines the species and number of animals in the quota, in consultation with community and district authorities. The Trust may elect to use its quota or lease it to others — for example, to safari companies, who must receive Trust permission to visit the area.

In the process of establishing the Trust, conflict surfaced between the two ethnic groups over Village Development Committee leadership and other matters. Conflict resolution in the community follows recognized traditional practices, which were used to good effect. In light of these conflicts, special efforts were made to ensure a broad distribution of the expected Trust benefits, both direct and indirect.

/Xai/Xai community members treated the decentralization of state functions as part and parcel of their effort to gain access to more of the benefits an official relationship could provide, which also included development assistance, institutional capacity building, more land from the land board, and a share of tourism proceeds.

Though the community is remote, by 1997 several outside connections had helped /Xai/Xai residents shape their expectations about potential institutional arrangements. Community members knew that once the Trust was established, they could access more international donor funding for projects and training, and trade wildlife quotas for cash with safari companies. The state promotes tourism in the region, and at one point the community asked the National Museum to allocate to /Xai/Xai some of the proceeds from visitors to a nearby monument.

Through tourism and contact with outside resource management specialists, community members knew the power of the media and were familiar with human rights and environmental organizations. They appealed to these when they felt their area was threatened, for example, by a proposed nearby military base. Some community members have attended meetings of the Working Group on Indigenous Minorities of Southern Africa. Kinship linkages also give access to a wider world. Relatives in Namibia belonged to a farmers' cooperative, which provided /Xai/Xai with a useful model of an evolving community organization.

cal process, it is all too easy to assume that they have nothing to say. The very groups whose views are not in line with environmental goals are the ones that must be approached, not only to avoid "preaching to the choir" but also to understand the reasons behind resistance to conservation and the possibilities for compromise. Broad participation builds a local base of interest and experience and allows small groups to have significant effects. In addition, participation engenders the kind of personal commitment that takes people beyond diffuse support for conservation goals to an active role.

Participation involves risks as well. When conservationists support broadening the circle of actors involved in decision making, they cannot control the outcome. There is always a danger that those stakeholders with the most professional expertise and money take control of the process, that decentralization enables local elites to consolidate their power. Once again, higher levels of authority can play a key role in mediating power relations and holding local actors accountable for the conservation measures they are charged with pursuing. The case studies indicate several factors that resource managers can profitably consider when working to develop new institutional arrangements with broad and substantive community participation.

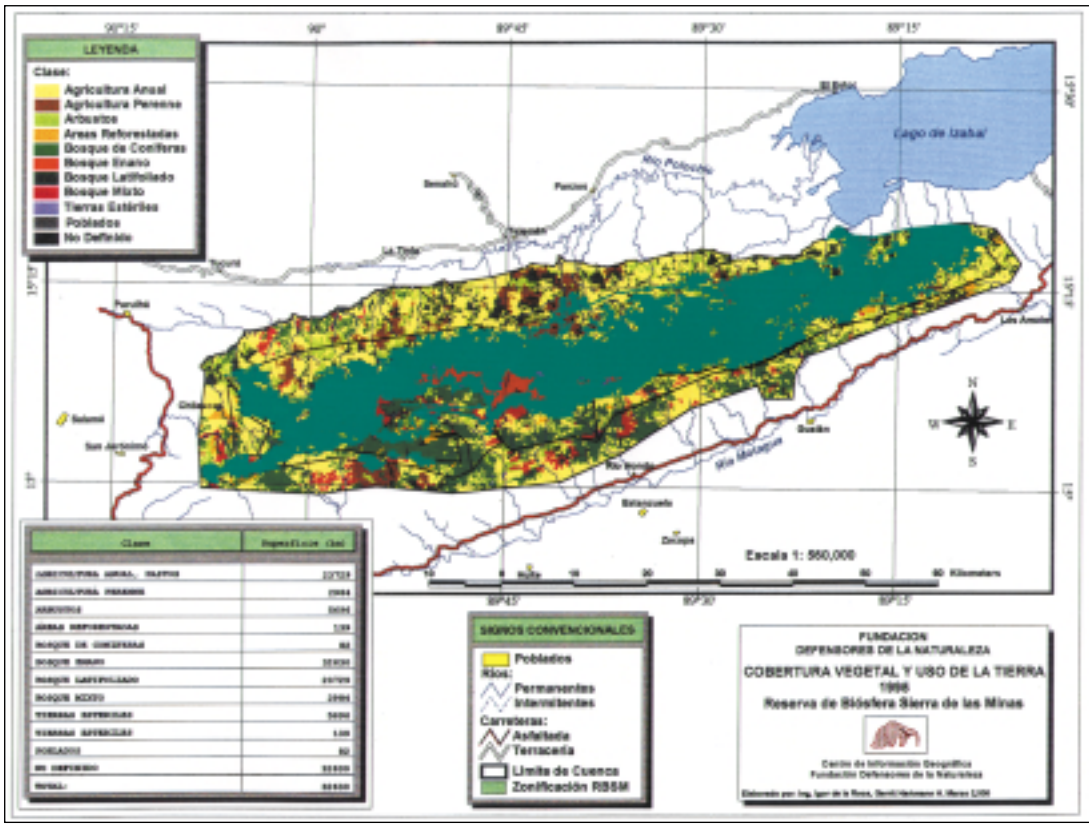
Culturally appropriate interventions by conservation organizations working in a given area would include staff members who speak the local language(s), and who are prepared to build on local institutions. In many countries, rural populations speak indigenous languages different from the country's dominant political and print language, decreasing communication and understanding between local populations and conservation organizations. Even where this is not the case, conservationists need to take care not to fall into jargon incomprehensible to ordinary people.

Training and technical assistance in both the process and content dimensions of resource management is necessary for community members to become full participants in deliberations.

Strengthening of community organizations and institutions often needs to take place before stakeholders learn to identify and express their interests and explore mechanisms for collaboration.

Shared practical goals among stakeholders provide common ground upon which to build partnerships and alliances.

Culturally and economically viable alternative resource uses should be encouraged. By offering direct benefits for changed environmental behavior, these can encourage people to exercise restraint in harvesting of valuable natural resources. People are unlikely to participate in conserva-



Map of land use and vegetation cover in Sierra de las Minas Biosphere Reserve, 1995, prepared by Defensores de la Naturaleza's Geographic Information Center. The reserve is divided into four management zones — core, sustainable use, buffer, and recovery zones — designed to optimize management activities. An estimated 40,000 residents living in 140 rural communities, averaging 40-45 families each, are widely scattered throughout the sustainable use and buffer zones surrounding the core area of the reserve. These two management zones cover 126,400 hectares, or 53 percent of the reserve.

Some Defensores de la Naturaleza community programs in the buffer zone of Sierra de las Minas Biosphere Reserve are focused on assisting with compatible economic development. Activities include integrating a strategy of providing technical assistance in sustainable agriculture, community forestry, and other income-generating activities.

tion when the conservation objectives threaten their livelihoods. Most of the case studies chronicled instances where local communities hoped to see increased revenues from natural resources. The fulfillment of those hopes encourages their continued participation.

Participatory activities or mechanisms need to be fully functional in order for all stakeholders to get involved. In a given area, local involvement will certainly be limited unless there are such activities and mechanisms. In some of the cases, local government and NGO initiatives have tried to make the issues more accessible to communities.

Connections between the environment and people's lives must be perceived and acknowledged. People must also believe that their involvement will make a difference. In many cases, older residents who remembered the area when it was more intact became some of the more active supporters of conservation efforts. In some cases, local entities had maintained or revived traditional conservation-oriented practices.

Accountability

Responsible institutions need formal channels of accountability and monitoring. Being accountable is complicated when an institution is dealing with local and general interests, both current and future, which may demand different institutional procedures. Conservationists portray biodiversity as a public good, and, as such, they see themselves as primarily accountable to nature, and not to a particular constituency, however broad. This same biodiversity is to local populations a collection of discrete resources with specific meanings and values. Making these two perspectives compatible is not easy.

Our research suggests that building in reciprocal forms of accountability between local and national levels is optimal. In the push for local empowerment, decentralization should not compel national authorities to abdicate accountability for natural resources. Central governments must be able to hold state or municipal governments accountable to national policy and civil society. This is most likely to occur when central government officials do not themselves benefit from the mismanagement of local resources. In turn, national governments are ultimately to be held accountable by civil society — their constituencies — through elections, oversight bodies, courts, and threats of civil unrest, or by international agreements and pressures.

When we examine the variety of institutional forms present in the case studies, it appears that a simple dichotomy between centralized and decentralized natural resources management misses important dimensions of the process. Instead, the kinds of linkages that exist, or develop over time, among diverse local interests and between local and national or local and foreign institutions are central components of natural resources management. Without mechanisms to ensure oversight and accountability, any policy path can be derailed. Leadership requires that followers accord legitimacy to it. Broad participation requires organizational skills that may need to be taught. Program viability requires funding, which demands active linkages with other public and private institutions.

When local people or their organizations lack the skills to make and implement natural resource policy, can — or should — institutions from outside the community step in to make up the shortfall? Where is the boundary between assisting local initiative and taking its place? If empowerment of those closest to the natural resources would mean decisions antithetical to conservation, how should conservationists proceed?

Kuna cartographer marking reserve boundaries along the continental divide, Kuna Yala, Panama.

BACK

PUTTING THE FINDINGS IN PERSPECTIVE

In this section, we summarize what we have learned from our findings, outline principles for effective conservation practice, and propose steps for future research.

What Have We Learned?

Our study set out to understand how decentralization of decision making and management authority affects biodiversity conservation. In doing so, we proposed to subject the positive expectations that many conservationists have about decentralization to some on-the-ground investigation. We put together a cross-section of cases intended to illustrate the broadest possible array of decentralized resource management arrangements. Although most of these decentralized arrangements are quite new, a factor that recommends caution in assessing them, both their commonalties and some of their differences were suggestive. In each case, we asked: *Does decentralization place control over natural resources management in the hands of those people closest to those resources, and, if so, does that in turn lead to better environmental protection?*

Assumption One

> The devolution of authority, responsibility, and funding capability (i.e., power) by central government to regional and local institutions and organizations will give greater power over natural resources management to those people in most direct contact with the resources.

Central governments decide to transfer decision-making power to lower levels of government or organization for reasons that extend from a desire to democratize to a desire to shed onerous responsibilities. Improving natural resources management, *per se*, is often far down on the list of motivations. Such transfers can take forms ranging from complete devolution (extremely rare) to partial delegation. The cases we studied did not involve devolution of resource management authority; instead, somewhat to our surprise, they often revealed continuing, complex associations between national and local authority with respect to both management and financial responsibility.

Decentralization's impact on natural resources management depends a great deal on who gets more authority as a result — whether state or municipal governments, NGOs, or community organizations — and on their perceptions of resource management needs. It also depends on people's loyalties; communities, even small and remote ones, are not homogeneous entities. Decentralization increases the opportunities and power available to some community members and decreases those of others, all of whom are local. Transferring the power to decide how resources are to be used (or not) to localities may even exacerbate, rather than resolve, conflict over them. Thus, the meaning of local empowerment depends on the local balance of power.

Natural resource managers may have to become involved with a variety of interrelated issues, authority for which is likely to be disbursed widely. Working with otherwise unrelated institutions and organizations to track the ways interlocking decisions can affect biodiversity requires creative governance arrangements. The case studies show how fragile the balances achieved often are.

Assumption Two

> When those people most directly in contact with natural resources have the power to decide how to manage them, and have viable economic alternatives to overuse, they will promote the conservation of those resources and, thus, reduce threats to biodiversity.

The case studies show that, at best, the response to this second assumption is *sometimes*. While decentralization often gives local people greater opportunity to shape resource management decisions, it does not determine *a priori* that the local people in question have a particular kind of relationship with the land or the resources.

Communities vary, as do the interests of their members. Even knowing the locale and the available economic alternatives, it is hard to predict the choices that real people will make if presented with an opportunity to manage resources. Other factors mediate their preferences, including community ties, links with institutions and individuals outside the community, cultural attitudes about appropriate relations with and uses of nature, and the ability of conservation advocates to promote alliance opportunities convincingly.

The case studies were not designed to establish causality, but rather to map a range of possibilities. Although in many cases conservation improves *with* decentralization, it may not be improving *because of* decentralization. Sometimes, both decentralization and conservation may be responding to the same sets of pressures, without one causing the other. Still, when a policy of decentralizing resource management encounters a local movement pushing for sustainability, at the very least it may improve the chances of that movement's goals being met.

Lessons Learned

What kinds of relationships do the cases suggest can support the emergence of efforts to conserve biodiversity in local communities?

When there is strong local interest in collaborating with conservation efforts, partnerships and participation are possible. Environmental concerns are losing their abstract and distant quality, becoming critical components of rural livelihoods, urban well-being, and the viability of industrial and commercial enterprises. These linkages are central to making decentralization work for sustainable natural resources. The cases indicate that communities take steps that promote biodiversity conservation when conservation efforts are associated with economically viable land use. These interconnections suggest the potential for even more linkages among issues, increasing the number of

potential alliances and their impact on natural resource conservation. This can happen even while the stake in biodiversity, *per se*, may remain one that interests conservationists alone.

Where pro-conservation forces have the interest, skills, organization, and political will to further the resource management process, decentralization sometimes gives them a greater voice in it. Past community experience in sustainable natural resources management, reflected in continuing or revived traditions, helps to identify local partners for conservation efforts. Yet traditional community governance systems, sometimes including common property resource management, may not have survived intact into the present, so appropriate management structures need to graft onto what exists now.

Meaningful local participation appears critical for conservation efforts to succeed, not only by reducing conflicts on the ground but also by ensuring that such efforts are appropriate for the natural and social environments. Ecosystems, watersheds, and other natural territorial definitions are often not just local. A key challenge for those who believe in decentralized management is to devise mechanisms to resolve management problems for these resources without compromising the goal of promoting local participation or abrogating local rights. Decentralization should not eliminate local-national linkages. Local conservation efforts usually rely on institutional backing from higher levels of government, which can grant or recognize territorial rights, resolve conflicts, access funding, and act as a counterweight to powerful anticonservation interests. These linkages must lay the groundwork for partnerships working within ecologically defined boundaries.

Although multilevel coordination is a source of tension, our research suggests that such tension actually enhances the prospects for mutual accountability. Without the tension, decentralization can produce deregulation of natural resource use and abdication of responsibility at the national level for those environmental concerns that are, at least in some measure, logically national in scope. Local empowerment alone is clearly not enough — and may even be counterproductive. Decentralization can increase the power of local economic elites to "capture" decision-making bureaucracies, either through persuasion because their local influence is so great or through outright corruption. Instead of becoming overly concerned about how much power is transferred, we should focus on how the tensions arising from shared and sometimes competing authorities can be made to work for long-term biodiversity conservation, by promoting transparency in decision making and accountability of decision makers.

Ju/'hoan San woman stringing beads for later sale. In 1995, a committee of sixty people in the /Xai/Xai Community, mainly women, established !Kokoro Crafts to pool knowledge and resources and produce enough handicrafts to sell to large outlets. They began to run training sessions for both craft and business skills. Creation of the /Xai/Xai Wildlife Trust has also signified more control over the area's resource base for members of !Kokoro Crafts, who utilize wild species.

Case Studies: Positive Results for Natural Resources

Community

*Members of the !Kokoro crafts group in /Xai/Xai, **Botswana**, have taken steps to protect resources needed for their crafts, out of concern for the sustainability of the resource base. They have taken some measures to postpone further collection of certain species, such as the fan palm. Reduction of the wildlife quota by the /Xai/Xai Quota Management Committee reduced the number of animals killed in recent years. A corresponding increase in ungulate and predator populations was recorded.*

A Ju/'hoan San explains the traditional territory system (the n!ore system) to young people and visitors to the /Xai/Xai Community.

Community

*Resource managers involved in the Plan Piloto Forestal in Quintana Roo, **Mexico**, have appreciably reduced authorized volumes of harvestable mahogany and other timber species. At some point, however, it could become no longer economically viable for the* ejidatarios *to participate in forestry at all. Forestry is a long-term process, and 10- to 20-year harvesting cycles can appear too long to local producers if other forms of land use, including those detrimental to biodiversity conservation, can provide more immediate benefits. The emerging promotion of value-added processing might help increase the incentive for* ejidos *to protect their forestry resources over the long term.*

Mule train used for transporting chicle, Yucatán Peninsula, Mexico.

Municipality

*In **Bolivia,** changes in the forestry law gave increased consideration to the local costs resulting from timber extraction by outside logging companies. As part of these changes, volume-based timber taxes were replaced with area-based royalties for timber, and, at a lower rate, for non-timber forest products, such as Brazil nuts. This gives loggers an incentive to reduce their concession size and largely explains why, since the law was passed, the area controlled by timber companies has declined from 21 million hectares to less than 6 million hectares.*

Landscape in Central Valley, Tarija Department, Bolivia.

Private NGO

*In **Guatemala**'s Sierra de las Minas, forest clearing for agriculture has declined, and community members now patrol their lands for encroachment by loggers and colonists. Comparative analysis of satellite images indicates that deforestation due to advance of the agricultural frontier is slowing in most of the area's watersheds.*

View of a valley in Sierra de las Minas, Guatemala.

Indigenous Autonomous District

*In the Kuna Yala Comarca of **Panama**, PEMASKY did not survive, though a project with the same acronym does now exist. (The new project is the Programa de Ecologia para el Manejo de Areas Silvestres de Kuna (Ecological Program for the Management of the Wildlands of Kuna Yala).) The original PEMASKY project left a positive legacy. It reduced intrusion and unregulated land use by outsiders, blocking creation of a military base, a tourism operation, and mining operations. It gave rise to several new NGOs and built skills and raised local awareness of ecological issues to the point that conservation provisions were incorporated into the internal legislation for the Kuna Yala Comarca. The new Comarca legislation defines the Kuna's sovereign rights to natural and mineral resources within their own territory, and provides oversight for the conservation and sustainable use of these resources.*

Construction of PEMASKY administrative headquarters at Nusagandi, Kuna Yala, Panama.

Federal-State Collaboration

*In the U.S. Everglades, hydrological restoration efforts have begun to take effect. Although such measures do not equal either ecological restoration or biodiversity conservation, the first results appear positive. Land has been purchased and put under protection and sections of the Everglades once made bereft of their water supplies have been "re-plumbed." Beneficial effects for biodiversity are visible in the Kissimmee River, Everglades National Park, and Florida Bay. Landowners and agricultural producers had once squarely opposed previous efforts to restore these areas. Today it may be fairly stated that the **South Florida** ecological restoration effort has built up enough of a political and public constituency to ensure its continuation, despite some ongoing contention.*

Each of the case studies notes some positive environmental changes, though the causal chains are not always clear. The decentralized programs described in the case studies increased environmental awareness and local understanding of the benefits of long-term natural resources management. While these are important steps, they are not sufficient to reduce the threat to biodiversity, given the continuing existence of powerful factors and incentives on the other side.

Population pressures, global market demands, and development needs still threaten to overwhelm the ecologically significant sites described in the case studies. Not only have these factors led to increased demand for and depletion of natural resources, they have also made resource management more complex. At the same time, the need for organized, enforceable, and long-term resolution of land and water rights is ever more apparent. The cases show that organized civic action, along with the development of cross-sectoral and multilevel institutional arrangements, can be a formidable counter to environmental threats, particularly when such threats had gone unnoticed and unchecked. While it takes so little time to destroy a habitat, eliminate a species, or deplete a natural resource, reversing the pattern may take many generations and even complete ecological cycles. Decentralization occurs within political cycles, none of which are long enough to regrow a forest, rebuild a watershed, or reestablish wildlife populations.

The studies demonstrate that decentralized processes demand a set of skills and sensitivities that conservationists have not always valued but must begin to learn. Paramount among these skills and sensitivities are facility at conflict management, the ability to stimulate participation and institutional development, and an understanding of the political and socioeconomic context in a given locale.

Principles for Effective Conservation Practice

Based on our analysis of the six decentralization case studies, we propose principles for effective conservation practice in situations where decentralization has occurred or is being contemplated.

Know the meaning, value, and existing rights to the natural resources for all stakeholders in a given setting, and know who benefit most and least from conservation actions. These resources are the "stake" in natural resources management, and this stake represents very different cultural, political, and economic values to different stakeholders. Knowing what value the resources hold for each stakeholder, including their existing rights to these resources, and whether resource conservation benefits a given stakeholder, is crucial for conservationists to understand the local potential for conservation-oriented alliances and for opposition to conservation action.

Identify local nonconservation goals and their relationship to conservation goals. Often, decentralization can benefit conservation by providing opportunities for alliances between proponents of different aims who share common practical goals. Local goals such as territorial sovereignty and protection against outsiders are often readily paired

up with conservationist concerns about deforestation and biodiversity destruction. Local organizations may choose to commit to or collaborate with an outsider conservationist strategy because outside organizations can strengthen the position of local ones. In turn, such alliances may elevate environmental concerns among decision makers in the private sector. Sometimes, conservationists can develop locally based partnerships with those who have maintained or revived traditional resource management practices.

Research and address underlying social factors behind environmental threats. Limited economic alternatives, poverty, foreign demand for raw resources, unresponsive political structures, and political corruption all factor into the development of direct environmental threats. To be effective in decentralized settings, conservation-oriented natural resources management must pay attention to these social factors. This is often best achieved by developing management structures involving partnerships among organizations and governmental agencies at the same level, whether local, regional, or national. Through such collaboration, personnel trained to address the wider social factors can add their strength to conservation-related initiatives.

Identify institutional partners with authority and legitimacy. Decentralization may foster but does not ensure transfer of natural resources management rights and power. For conservationists operating in decentralized contexts, finding local partners with legitimate, legally recognized management authority is crucial. In strategizing to influence natural resources management activities, conservationists need to be aware of how much decision-making and implementation authority and legitimacy their institutional partners possess, whether they are acknowledged by other stakeholders, how their authority functions, and whether it is shared among institutions.

Pay attention to the position any potential conservation allies hold within the local community as a whole. When choosing allies on the basis of their affinities for conservation goals, conservationists should also understand where those allies already stand in the community as a whole. The greater the repository of pre-existing community ties and trust that potential allies hold, the greater the chances for developing creative, community-based alternatives within decentralized situations. Sustainable decentralized resource management depends on creating a viable coalition of actors capable of recognizing and either persuading or neutralizing opponents.

Find institutional partners with capacity. Institutional power alone is not sufficient to guarantee effectiveness in realizing conservation goals. Institutions must also have the capacity to implement policy. This capacity includes the requisite financial and human resources, including technical, management, and administrative skills, as well as scientific expertise, political savvy, and adaptability.

Where feasible, help build the capacity of existing local resource management structures instead of working to create new ones. In newly decentralized situations, authority and funding often may outstrip institutional capacity. Conservationists must be prepared to recognize when their institutional partners need capacity strengthening and to help them find training and other opportunities to get it. Working to build capacity of existing resource management structures allows conservationists to build on and profit from pre-existing community ties and trust.

When working to facilitate stakeholder participation, consider groups normally marginalized from the public arena. An outside conservation organization can act as a facilitator among business, agricultural, and environmental interests, and may have a particular capacity to ensure that minority and other otherwise marginalized groups are not excluded from decisions that can affect their well-being. Regular interaction among community members, government officials, researchers, activists, and environmentalists can enhance the research, organizational, and communications skills of local and marginalized stakeholders so they become better able to articulate their goals and engage in fruitful discussions and negotiations.

Encourage local-national linkages, and discourage mere divestment of functions and authority, to ensure mutual accountability and protect the public interest. To realize long-term goals for the public good, such as biodiversity conservation, helping to build reciprocal forms of accountability between local and national levels of authority is key. Responsible institutions need formal channels of accountability and monitoring. Central governments must be able to hold state or municipal governments accountable to national policy and civil society. In turn, national governments should be held accountable by civil society — their constituencies — through elections, oversight bodies, and courts, or by international agreements and pressures.

Ju/'hoan San woman in Botswana, smoothing a long string of ostrich eggshell beads. In late 1999 the regional land board (Tawana Land Board), which oversees land allocations, sanctioned the people of Dobe and four other communities north of /Xai/Xai in western Botswana to have formal rights over their own ancestral territories. A local San NGO is now helping establish a community trust for each of these areas, thus extending to other locations in Ngamiland (North West District) the process begun some years earlier in /Xai/Xai.

Next Steps

Our study grouped very diverse situations under the rubric of decentralization. Its results suggest that we pay more attention to the mechanisms through which, and the conditions under which, decentralized natural resources management may foster biodiversity conservation. The choice of path to decentralized management may be an important factor. Whether a decentralized management process is a response to local initiative or arose elsewhere likely affects prospects for and patterns of local participation.

Complex Relationships

One reason it is so essential to understand complex relationships is that communities with strong intracommunity networks can organize more easily for other collective purposes than can communities that lack such networks. Some of the questions to keep in mind include the following.

- What makes some communities more likely to respond to new participatory opportunities than others?
- Why is stewardship an important value for some and not for others? Either environmental awareness, especially among long-time residents, or a reverence for nature that has deep cultural or religious roots, could create a sense of stewardship. But beliefs cannot explain a propensity to act on those beliefs.

- Beyond relationships among community members, what kinds of extracommunity ties exist or have existed? These relationships establish the context within which local residents view the entry of outsiders into their communities. Understanding the relationships better requires an investigation that is simultaneously more historical, recognizing changes over time, and more sociological, recognizing the importance of networks and identities.

Community Members

Researchers and practitioners must decipher and respect the standpoint of community members. To assess the likelihood of community participation in biodiversity conservation, the appropriate question is not how people feel about preserving biodiversity, but, more broadly, how they see the alternatives for themselves and their community, if they see any. If a concern for biodiversity is to be framed in a way that is meaningful from the perspective of the people who live near or with it, it's important to understand what they identify as important.

Politics and Power

Protecting biodiversity means paying explicit attention to politics and power. It means keeping the following issues in mind.

- How are the interests of different community members represented or expressed?
- What roles do government agencies, NGOs, or private sector groups play?
- Where does information come from? How has the community — and any given community sector — attempted, at other times, to get what it needed?
- What kinds of relations do its members maintain with political parties, agricultural associations or unions, or well-connected individuals?
- How do resource managers and conservationists fit into the web of other relationships this community maintains, both internally and with a wider world?
- How are political leaders chosen, and what are the sources of political power?

Patterns of Interconnection

To map these interactions, we also need to have a sense of the relationships among formal and informal institutions, rules, and sanctions in determining people's behavior. These patterns of interconnection set the stage for collaboration and partnership. What are the essential components for a collaboration sufficiently strong to support biodiversity conservation? Our research suggests that conservationists pay attention to cultural contexts, be sensitive to local power relations, and address social factors that precipitate environmental threats. Partnerships take time to develop and require shared responsibility, as well as the building of civic capacity and trust. With a better understanding of the factors that make communities more or less apt to participate in such collaborations, conservationists would be better prepared to negotiate their formulation and functioning.

TO LEARN MORE

The authors of this study encourage others to continue learning more about how decentralization affects biodiversity conservation. These resources can help support that learning.

Recommended Reading

The six BSP case studies for *Shifting The Power: Decentralization and Biodiversity Conservation* are published on BSP's Web site, at **www.BSPonline.org**.

Defending Kuna Yala: PEMASKY, The Study Project for the Management of the Wildlands of Kuna Yala, Panama. Mac Chapin.

Decentralization, Development, and Natural Resource Management in the Northwestern Kalahari Desert, Botswana. Robert K. Hitchcock.

Local Government and Biodiversity Conservation: A Case from the Bolivian Lowlands. David Kaimowitz, Gonzalo Flores, James Johnson, Pablo Pacheco, Iciar Pavéz, J. Montgomery Roper, Cristian Vallejos, and Roger Vélez.

The Forest Ejidos of Quintana Roo, Mexico. Michael J. Kiernan.

Delegating Protected Area Management to an NGO: The Case of Guatemala's Sierra de las Minas Biosphere Reserve (also in Spanish, as Delegando el Manejo de un Area Protegida a una ONG: El Caso de la Reserva de la Biosphera Sierra De Las Minas, Guatemala). Estuardo Secaira, Andreas Lehnhoff, Anne Dix, and Oscar Rojas.

Institutional Arrangements for Ecosystem Management: The Case of South Florida, United States. Barbara Wyckoff-Baird.

An ejidal farmer in Quintana Roo standing beside a fruit tree he has grown.

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About the Biodiversity Support Program

The Biodiversity Support Program (BSP) is a consortium of World Wildlife Fund, The Nature Conservancy, and World Resources Institute, funded by the United States Agency for International Development (USAID). BSP's mission is to promote conservation of the world's biological diversity. We believe that a healthy and secure living resource base is essential to meet the needs and aspirations of present and future generations. BSP began in 1988 and will close down in December 2001.

A Commitment to Learning

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Robert K. Hitchcock. *Decentralization, Development, and Natural Resource Management in the Northwestern Kalahari Desert, Botswana.*

David Kaimowitz, Gonzalo Flores, James Johnson, Pablo Pacheco, Iciar Pavéz, J. Montgomery Roper, Cristian Vallejos, and Roger Vélez. *Local Government and Biodiversity Conservation: A Case from the Bolivian Lowlands.*

Michael J. Kiernan. *The Forest Ejidos of Quintana Roo, Mexico.*

Estuardo Secaira, Andreas Lehnhoff, Anne Dix, and Oscar Rojas. *Delegating Protected Area Management to an NGO: The Case of Guatemala's Sierra de las Minas Biosphere Reserve (also in Spanish, as Delegando el Manejo de un Area Protegida a una ONG: El Caso de la Reserva de la Biosphera Sierra De Las Minas, Guatemala).*

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